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Understanding the food choice reasoning of nut allergic consumers

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EXECUTIVE SUMMARY

INTRODUCTION

Peanut and other nuts are the foods most commonly implicated in fatal allergic reactions. Strict avoidance of trigger foods is essential. Avoidance of food allergens requires constant dietary vigilance and is complicated as the presence of nut allergens is not always obvious and information about them may be hidden or misleading.

In February 2009 a programme of qualitative research was commissioned by the UK Food Standards Agency (FSA). The aim of this was to understand how nut allergic consumers make choices about what food to eat and buy. The secondary research objectives were:

- To understand how people with nut allergies use labels and other pack information
- To understand what rules of thumb they may use when purchasing or consuming food.
- To understand what their main criteria are for food choices and what strategies they use when selecting food, including their approach to risk assessment

This research was conducted in order to inform the development of policy and practice in this area and, specifically, for assisting the FSA in improving current labelling and to improve the quality of the dietary advice given to those with nut allergies.

METHOD

Thirty two volunteers with a peanut or tree nut allergy were recruited to the study via letter or email from 5 sources in the UK (Southampton Allergy Clinic, GP practices in London and Surrey and the University of Surrey campus). To be eligible to take part in the study participants had to be aged over 16, have doctor-diagnosed IgE mediated allergy to peanuts or tree nuts, have no other food allergies (except for Oral Allergy Syndrome to fruit or vegetables) and have good fluency in the English language. To be assessed for eligibility, participants initially completed a screening questionnaire and consent form which was inspected by the study allergist (JSL). The participant sample comprised 23 females and 9 males, with an age range of 16-70 (median = 31). Five individuals reported peanut allergy only, 9 reported tree nut allergy only and 18 reported both tree nut and peanut allergy. Eighteen participants described severe nut allergy reactions, 12 moderate and 2 mild (severities were classified based on

symptoms from participants' worst ever reaction using Hourihane *et al.*'s (1997) classification).

Three different qualitative methods were used to address the research questions in order to explore actual as well as reported food choices; to access detailed exploration of the reasoning of nut allergic consumers; and observe actual, as well as reported, purchase behaviour. Each participant therefore took part in an accompanied shopping task, an in-depth interview and the Product Choice Reasoning Task (PCRT) (Chapter 2, Page 25).

During the **accompanied shopping task** participants were observed by the researcher as they conducted their weekly shopping in their usual supermarket. Accompanied shops took place in Hampshire, Surrey, London, Devon, West Sussex, Berkshire and Wiltshire. Participants were asked to talk aloud about what they were thinking with regard to the products they were choosing. The researcher did not enter into conversation with the participant during the shop, except to offer standard prompts such as 'what are you thinking?' The accompanied shop task was recorded and the resulting data were fully transcribed.

An in-depth semi-structured **interview** was conducted with each participant in their own homes, following on from the accompanied shop. The first part of the interview explored any particular observations made by the researcher during the accompanied shop process. The second part explored how food choices were made in situations when the participant was not personally responsible for food preparation. Finally, participants were asked for their views of product labelling including 'may contain' and allergy advice warnings. The interviews were recorded and fully transcribed.

The **PCRT** was a method designed specifically for this research programme. Each participant was asked to 'think aloud' in relation to a 'shopping basket' of 13 food products and say if they would be happy to eat each of these. The products were chosen on the basis that allergy experts believed that they would pose particular dilemmas for nut allergic consumers. The aim of the PCRT was to reveal participant reasoning about how decisions about purchase and consumption are made and the sorts of dilemmas and difficulties that may be encountered in doing this. The PCRT task was also recorded and the resulting data were fully transcribed.

Participant reasoning from each method was recorded and transcribed. These data were analysed by considering the key themes. For each theme we captured the key points, positions and opinions that were expressed. The portfolio of qualitative methods we used has, we believe, enabled us to address all of the research questions.

RESULTS

Initially we sought to provide an overview of some of the issues that impact upon the quality of life of adults with a history of allergic reactions to nuts (Chapter 3,

Page 39). Quite apart from the serious and often life threatening physical symptoms themselves, we noted their emotional impacts and the way in which they are embedded in, and indeed may be triggered by, routine social interactions. Managing a severe nut allergy requires considerable vigilance although this occurs in ways that are often taken for granted by allergic individuals and their friends and families. At one level the passage of time means that individuals accrue experience and become better at managing risk and the emotional impact of this. The concerns and frustrations and the practical challenges that having an allergy presents clearly remain an ongoing part of day to day life.

We found that participants used a range of strategies (rules of thumb) in choosing which foods to buy and eat (Chapter 4, Page 49). We propose that they are situated in three domains. First, people routinely locate their reasoning around acceptance or rejection of a product in relation to their own experiences, sensory judgements and preferences – these are rules of thumb located in relation to participant based characteristics. Second, product based characteristics are a vital heuristic in making food choices. These are primarily based around high and low risk foods but also include the way in which people integrate a range of food characteristics within their food choice agendas. Third, characteristics of the food producer routinely informed food choices. The trust accorded to both brands and supermarkets was central here. We go on to explore the ways in which these rules of thumb are prioritised and are used to make sense of labelling practices.

We argued that allergy labelling information was referred to where the rules of thumb for food choice did not allow for confident decisions to be made (Chapter 5, Page 70). Where participants use allergy labelling, the rules of thumb are used to inform its interpretation and the amount of confidence that is invested in it.

Although the ingredients list was used by some as their primary product checking strategy, it was more often the case that the allergy advice box fulfilled this role. Expressed and revealed preferences for ingredients lists or allergy advice boxes did not seem to relate in any systematic way to allergy severity. Some reservations were articulated regarding allergy advice boxes but they were considered by most people to provide trustworthy and valuable information in a useful format. The absence of an allergy advice box tended to be seen as an indicator that the absence of nuts could be confidently assumed. This was not the case where a rule of thumb suggested that an allergen could be present.

Participants had a complex and detailed range of views about ‘may contain’ labelling (Chapter 6, Page 83). Although many participants chose to respond in consistent ways to may contain labelling, they did not believe that the underlying message of may contain labelling was a desirable or credible one. The rules of thumb for guiding food choices clearly guide the interpretation of ‘may contain’ labels. A minority of participants avoided products with may contain labelling altogether; others ignored the label and justified their decision to consume these products in a range of ways.

Many participants discounted the 'may contain' message. Sometimes pragmatism demanded that it be ignored to avoid an unfeasibly limited diet. On other occasions it was a lack of trust in the motives of the messenger that led to the message being discounted. On yet other occasions the hairs of the 'may contain' message were split: the juxtaposition of 'may contain nuts' and 'may contain traces of nuts' became a reason for rejecting one of them. Finally it was the location of 'may contain' on wholly implausible products that led to the message being discounted. Where rules of thumb were unable to offer a confident way forward, and when faced with a potentially problematic product, the absence of 'may contain' labels was regretted.

The Product Choice Reasoning Task proved itself useful as a tool to examine (a) detailed participant reasoning in real time and the linking of these reasons with decisions about particular products (b) expert generated 'hypotheses' about likely responses to particular products (Chapter 7, Page 102). The PCRT facilitated a clear view of the way in which the rules of thumb that we identified came into play in making assessments of particular products. Rules of thumb around familiarity, experience, sensory judgements, liking, images of the product, and trust in the producer all emerged as key determinants of the way in which the details of labelling are interpreted and indeed whether or not the labels are even referred to.

When exploring eating outside the home (Chapter 8, Page 145) some restaurants were considered unsafe because of the prevalence of high risk ingredients, the likelihood of cross contamination and the possibility of communication problems based on language differences. The most helpful scenario for eating out in restaurants was when staff were responsive and when the allergic consumer was recognised and known by restaurant staff. It is thus social processes that make for a positive eating experience rather than a simple technical communication of the likely presence or absence of allergens. Many participants reported that the default position of many restaurants was that no guarantees could be given about the possible presence of allergens. Many consumers reported being embarrassed to draw attention to their allergy in the setting of the restaurant.

The study findings around eating in other people's houses highlight the importance of social interactions and relationships in the way in which safe eating is negotiated. Familiarity with the other people and their homes was highly desirable. A lack of familiarity brought a range of challenges around whether, when and how to inform the host of the allergy requirements. The potential for embarrassment again loomed large although many participants anticipated the embarrassment of the host rather than their own. It was often reported that, in turn, the host was more concerned about the possibility of an unsafe meal than the allergic consumer was.

Issues of language and unfamiliarity were key issues in discussions of eating abroad. Several participants that went abroad on a regular basis drew attention to the value of written translation cards. Poor communication was the main source of huge concern where there were language difficulties. Concerns about

eating abroad did not simply affect food choice – they also drove choices of destinations and airlines.

CONCLUSIONS

1. Participants use a range of strategies (rules of thumb) in choosing which foods to buy and eat.
2. The first strategy was based on characteristics of participants. Strategies for making food choices were based on previous experiences; on sensory information, and on preferences for the product.
3. The second strategy for food choices was based on the characteristics of the product. Products were assigned as either being high risk 'problematic products' or as unproblematic low-risk products. Another product based strategy was to integrate the constraints imposed by the allergy into decisions that were consistent with other valued product characteristics (for example around nutrition or price).
4. The third rule of thumb for making food choices was located around assessments of how trusted sources of product information were. Establishing how much information providers were trusted was a key metric for deciding which foods could be safely consumed and which labels could be relied on.
5. Allergy information on product packaging was referred to where the rules of thumb for food choice did not allow for confident decisions to be made. Even where participants did use allergy information, the rules of thumb are used to inform its interpretation and to determine the amount of confidence that is invested in it.
6. The ingredients list was used by some as their primary product checking strategy but it was more often the case that the allergy advice box fulfilled this role.
7. Expressed and revealed preferences for ingredients lists or allergy advice boxes did not seem to relate in any consistent way to allergy severity.
8. Some reservations were articulated regarding allergy advice boxes but they were considered by most people to provide trustworthy and valuable information in a useful format.
9. The absence of an allergy advice box was seen as a reliable indicator that the absence of nuts could be confidently assumed unless – as was often the case - a rule of thumb suggested that its absence was a matter of concern.
10. The improvement that participants with a history of severe allergic reactions most wished to see was an increase in the amount of 'nut free' labelling. Participants also wished to see greater detail in labelling that helps people effectively identify appropriate action.
11. Although many participants chose to respond in consistent ways to 'may contain' labelling, they did not believe that the underlying message of this type of labelling was a desirable or credible one.
12. The rules of thumb for guiding food choices also guide the interpretation of 'may contain' labels.
13. A minority of participants avoided products with 'may contain' labelling altogether, others were happy to consume products and ignore the 'may contain' message.

14. Participants used four clear lines of reasoning to discount 'may contain' labels: pragmatic discounting, distrustful discounting, differentiated discounting and implausible discounting.
15. Where there were no applicable rules of thumb (e.g. the participant had no experience of a potentially problematic product) an absence of 'may contain' labels was disconcerting for participants.
16. The Product Choice Reasoning Task - a method developed for this programme of research - proved a very useful way of exploring (a) linking participant reasoning with decisions about particular products (b) the dilemmas people actually face in making decisions about particular products.
17. It is social processes that make for a positive eating experience in restaurants (e.g. being listened to, recognised and known by restaurant staff) rather than a simple technical communication of the likely presence or absence of allergens.
18. Anticipated embarrassment around communicating allergy related needs was an issue in relation to eating out in restaurants and other people's houses. This was compounded in other people's houses as participants felt that they also had to minimise and manage the concerns of their hosts.
19. Concerns about eating abroad did not simply affect food choices – they also drove choices of destinations and airlines.

IMPLICATIONS

We think that there are significant implications of the conclusions of the research outlined above for the Agency, for manufactures and retailers, and for the consumer groups that are active in improving the lives of people with severe allergy. For example

- It is vital to recognise that the actions and choices of nut allergic individuals are often grounded in legitimate everyday social considerations around embarrassment, choice and spontaneity. Education, training strategies and policies that recognise and take account of this are needed.
- Policies and communication strategies designed to support nut allergic individuals should be more clearly attuned to the dilemmas that nut allergic individuals are likely to face. For example, acknowledging that nut allergic individuals may feel embarrassed to question restaurant staff or friends about food content.
- Communications designed to assist nut allergic individuals with awareness, understanding, and use of product based allergy information should take account of the strategies that they are likely to use in making food choices. For example, whilst familiarity and experience with particular products are useful ways of making quick decisions, care should be taken where there is any indication that the allergy-relevant product composition has changed.
- There would be value for nut allergic consumers in increased availability of 'free from' foods
- The value of refining guidance around the voluntary provision of 'may contain' labelling could usefully be considered. The wide variety of formats for providing cautionary information currently leads to nut allergic

individuals choosing or rejecting foods on the basis of minor (and meaningless) variations in wording.

- It would be valuable to ensure that the text in allergy advice boxes was clear (i.e. acceptable size with appropriate contrast of text and background colour).
- It is valuable to recognise that some nut allergic individuals routinely eat products with 'may contain' warnings.
- It would be valuable for supermarkets and manufacturers to consider the implications for their practice of (a) the strategies that individuals use to make food choices and the way in which the interpretation of labels fits with this, and (b) the range of ways in which consumers interpret 'may contain' labelling and the consumption patterns this is related to.
- There are particular challenges for consumers around airline travel and the dissemination of the results of this report could have a useful role in highlighting these to airline companies.

This research has provided a wealth of information to provide insight into consumer views about all aspects of food choice, labelling, and most particularly around 'may contain' labelling. These insights into participant reasoning around food choice can be applied by the FSA, by manufactures and retailers, and by consumer groups that are active in improving the lives of people with severe nut allergies.

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GLOSSARY

A list of abbreviations used in the main text with definitions of key terms that readers may not be familiar with.

Allergen	A substance, usually a protein, capable of inducing an allergic reaction.
Anaphylaxis/Anaphylactic Shock	Acute form of allergy characterised by urticaria, swelling of the lips, shortness of breath, and rapid fall in blood pressure. Without immediate treatment which consists of intramuscular injection of adrenaline, anaphylaxis can be fatal.
Cross-Contamination	The unintentional presence of another substance in the final product. In the context of allergens, it usually refers to trace amounts of allergenic foods which, whilst not of themselves unwholesome, may be problematic for those suffering from particular allergies.
Food Allergy	A reproducible adverse reaction to a food or food ingredient that involves the immune system, for example, allergy to peanut, nut, fish, shellfish, egg or milk.
MMNA	Mild or Moderate Nut allergy
Nut	For purposes of this report any reference to nut includes peanut (groundnut) as well as the tree nuts (hazelnuts, brazils, walnuts etc)
Own brand	A product sold under the retailer's name
SNA	Severe Nut Allergy

CHAPTER 1 – INTRODUCTION

1.1 Background to the project

In February 2008 the Food Standards Agency (FSA) issued a call for research under the Food Intolerance Research Programme which aims to investigate the causes and mechanisms of food allergy, particularly severe food allergy, in order to reduce its incidence and severity.

Robust scientific evidence was sought to underpin the development of sound evidence based policies and advice on food allergy and intolerance. The aim of this was to ensure the safety of food allergic and food intolerant consumers by helping them to make informed choices.

The stated research requirements were to ‘investigate the diet of people with a food allergy to understand their dietary patterns and food choices, to inform food allergen risk assessment models’.

As part of this, qualitative information was required in order to assist the FSA with understanding how allergic customers make food purchasing choices and how difficult they find it to avoid allergens. This information was required to enable the FSA to improve the quality of the dietary advice given to those with specific food allergies.

To address these aims a programme of research was commissioned to conduct a qualitative exploration of the ways in which food allergic consumers make choices both in relation to purchasing food and consumption of food prepared by others. Thirty two participants with IgE mediated allergies to peanuts and tree nuts took part in the resulting study.

The research used three methods: an accompanied shopping trip, a semi structured interview, and the Product Choice Reasoning Task (PCRT). The PCRT was designed specifically for this programme of research to complement the other two methods and to enable the research questions to be comprehensively addressed.

1.2 Scientific rationale

Food allergy is a significant problem, effecting approximately 6% of children and 3% of adults (Bock 1987; Jansen, Kardinaal, et al., 1994; Kanny, Moneret-Vautrin, et al., 2001; Young, Stoneham, et al., 1994; Rance, Grandmottet & Grandjean. 2005) Twenty years ago peanut allergy was considered rare, with only a few case reports, but the prevalence appears to be increasing. By the age of 4 years, 0.5% of children born on the Isle of Wight in 1989 had suffered an allergic reaction to peanut (Tariq, Stevens, et al., 1996) but of those born in 1994-6, 1.6% had been diagnosed as peanut allergic at 4 years (Grundy, Matthews, et al., 2002). The severity of allergic disease also appears to be increasing, as demonstrated by a 700% increase in hospitalization for anaphylaxis (any cause) in the UK from 1990 to 2003 (Gupta, Sheikh et al., 2007)

Peanut and other nuts are the foods most commonly implicated in fatal allergic reactions (Pumphrey 2004; Pumphrey & Gowland, 2007) and there is no cure. Current best practice dictates that people with nut allergy should be looked after by a specialist team and should all be given a management plan (Burks, 2008; Muraro, Roberts, et al., 2007). The treatment for anaphylaxis is prompt intramuscular injection of epinephrine (Simons 2008). Delayed administration can be associated with death and patients are educated in the use of epinephrine auto-injectors which they are required to carry at all times. However, auto-injectors do not always save lives (Pumphrey, 2008) and therefore strict avoidance of trigger foods is essential.

A number of studies have found that nut allergy is associated with increased levels of stress and anxiety in both mothers and children (Bollinger, Dahlquist, et

al., 2006; Gillespie, Woodgate, Chalmers & Watson, 2007; Lyons & Forde. 2004; Sicherer, Noone & Munoz-Furlong., 2001; Teufel, Biedermann, et al. 2007; Cummings, Knibb, et al., 2010; Cummings, Knibb, et al.. 2010), whereas fathers' anxiety and stress levels are more in line with established population norms (King, Knibb & Hourihane, 2008). It has been suggested that the constant need to check the safety of food to be consumed and the continual concern that an accidental ingestion may lead to a severe reaction, causes anxiety and reduced quality of life. Avery et al. (2003) used a food-allergy specific Quality of Life (QoL) scale and found that children with peanut allergy reported lower QoL scores than children with insulin dependent diabetes mellitus (IDDM) (Avery, King, et al., 2003). Children with peanut allergy were more afraid of accidentally eating peanuts than children with IDDM were of having a hypoglycemic event. A recent study of nut allergic children and their mothers by Cummings et al. (2010), reported better allergy specific QoL in mothers and children who reported eating products labeled 'may contain nuts' than those who strictly avoided all nuts.

Avoidance of food allergens requires constant dietary vigilance (Primeau, Kagan, et al., 2000), and is complicated as the presence of nut allergens is not always obvious and information may be hidden or misleading (Gowland, 2001). A study by Joshi, Mofidi and Sicherer (2002) showed that in a group of parents avoiding peanuts, only 54% were able to correctly identify their presence on a label. Parents have described how they will read labels up to three times before giving their child the food and this has been justified by parents reporting that they notice the allergen only on the third attempt (Munoz-Furlong, 2003). Sixty percent of participants in a study of community allergic reactions to foods were aware that they had a food allergy, yet over 50% were unaware that the food they were consuming contained the allergen (Uguz, Lack, et al., 2005). A recent study of 1454 food allergic Canadians attributed accidental ingestions to both food producer and consumer errors (Sheth, Waserman, et al. 2010). Forty eight percent of the study population had experienced accidental exposures, of whom 47% claimed that this was due to inappropriate labeling, 29% said they failed to read the label, and 8% ignored a precautionary statement. This reflects the

difficulties associated with total allergen avoidance; constant checking of food labels makes purchasing and preparing food at home time consuming, and potentially reinforces anxiety (FSA, 2002). European legislation decrees that all processed food which intentionally contains peanuts or tree nuts is labelled accordingly but does nothing to address the ‘may contain traces’ warning that is highly frustrating for many allergic patients. The legislation has been met with mixed feelings by patients, health professionals and the food industry (Anandan & Sheikh, 2005; Boden, Dadswell & Hattersley 2005; Cornelisse-Vermaat, Voordouw, et al., 2008; Warner, 2005). The current policy landscape for allergy labelling in the UK is outlined below

1.3 Current policy position for allergy labelling in UK and Europe

Small amounts of some allergens, such as nuts, can cause adverse allergic reactions in people with food allergies. This makes it critical that pre-packaged food products are labelled clearly and adhere to industry regulations and guidelines to ensure food allergic consumers are able to make informed choices about food purchases if the food may contain allergenic ingredients. A summary of the current main regulations and guidelines are described below.

1.3.1 EU legislation on food allergy labelling

The European Directives for labelling rules (*2003/89/EC* and *2006/142/EC*) ensure that retailers and manufacturers provide a full list of ingredients on their pre-packed food packaging to help consumers with a food allergy identify ingredients that they should avoid. Food labels must therefore list all the ingredients, and ingredients that are derived from ‘allergenic’ foods must be clearly identified in the ingredients list. The rules state that for pre-packed food, if any of 14 identified food allergens are used as an ingredient, then they must be mentioned on the food label. The 14 foods are: cereals containing gluten, crustaceans, molluscs, eggs, fish, peanuts, nuts, soybeans, milk, celery, mustard,

sesame, lupin and sulphur dioxide and sulphites at levels above 10mg per kg or per litre.

Labels must also provide clear information about ingredients made from these listed allergenic foods, such as a glaze made from egg. This now means that a previous '25% rule' is no longer valid. This previous rule meant that labels did not need to list individual ingredients if they were part of a compound ingredient, if this compound ingredient made up less than 25% of the finished product. So therefore, under the revised rules, product ingredients have to be listed on the label even if they only make up a small proportion of the final product. The exception to this is if an ingredient made from one of these 14 food allergens has been highly processed and is therefore not able to cause an allergic reaction. If this is the case then these ingredients do not need to be specifically labelled provided their non-allergenicity has been specifically assessed and approved by the European Food Safety Authority (EFSA). An example of this could be refined soya bean oil and glucose syrups made from wheat or barley. A list of permanent exemptions of products that are exempt from the labelling requirements of 2003/89/EC was published in *Directive 2007/68/EC* in November 2007.

The above rules do not apply to any foods sold loose or non-prepacked or those pre-packed for direct sale, although they do apply to foods sold to catering establishments.

1.3.2 Food legislation in Great Britain

The *Food Safety Act 1990* (as amended) provides the framework for all food legislation in Great Britain. This Act makes it an offence to falsely describe or present food. In particular, it is an 'offence for food labelling to be falsely or likely to mislead as to the nature, substance or quality of the food' (Section 15 of the Food Safety Act 1990).

1.3.3 Guidelines regarding 'May Contain' advisory labelling for nut allergic consumers

In addition to the regulations described above there are many circumstances where food products do not contain actual allergen ingredients, but there could be a small amount of nut in a food product due to the fact that nuts have accidentally entered the product during the production process (cross contamination). This cross contamination may occur during the production of the raw ingredients or during the manufacture or transportation of the food. In these circumstances, the use of 'may contain' labelling is often viewed as helpful to the nut allergic consumer. Whilst there is no legal requirement in the regulations to provide 'may contain' or nut trace warnings on pre packaged food labels, many manufacturers and retailers provide this information on a voluntary basis. The Food Standards Agency (FSA) has been working with the food industry and public interest groups to help manufacturers conduct appropriate allergen risk assessments when deciding whether or not to use such forms of labelling and to provide informative 'may contain' labelling to indicate where possible cross contamination may have occurred in a food product.

1.3.4 General guidance for food producers and retailers on advisory labelling

The FSA has also published 'voluntary best practice guidance' on the most suitable use of label warnings to the consumer regarding the risk of cross contamination with any allergen.

The *Guidance on Allergen Management and Consumer Information (Food Standards Agency, July 2006)* suggests that consumers should be 'advised always to refer to the ingredients list, and the labelling generally, for detailed information about the composition of the product and the presence of particular allergens'.

The guidance also suggests that advisory labelling such as 'may contain nuts' or 'may contain nut traces' is placed close to the ingredients list on the label. It is also recommended that 'there is a clear distinction in the labelling information

provided between ingredients that are deliberate components of the food (whatever the level of incorporation) and any possible allergen cross-contamination arising from production of the raw ingredients or during the manufacture or transport of the food.'

According to the *Guidance on Allergen and Miscellaneous Labelling Provisions (Food Standards Agency, October 2009)* nut allergic consumers have expressed concerns that there is often inappropriate use of nut trace warnings and this may sometimes restrict their food choices and undermine valid warnings. The FSA guidelines aim to encourage more appropriate use of label statements to warn allergic consumers of any cross contamination risk.

1.3.5 Advice to allergic consumers

The FSA has produced a guidance booklet for allergic consumers to help them when they are making choices regarding purchasing food (*Buying food when you have a food allergy or food intolerance, Food Standards Agency, 2009*). This guidance advises consumers to always read the label on pre-packaged foods and check the ingredients list and look for any other allergy information. If there is not an allergy warning on the label, consumers are advised not to assume that the product is free from the food or ingredient that they are allergic to. Consumers are also advised to always take seriously any 'may contain' warnings on the label unless they have been advised otherwise by their allergy consultant.

1.4 Aims and objectives

This research explores the ways in which individuals with a nut allergy (peanut and / or tree nut) make choices both in relation to purchasing food and consumption of food prepared by others. The results of this research will help clinicians and government bodies understand the ways in which people with a nut allergy make food choices and the types of information that are most helpful to them. The data have been analysed by considering the key themes that emerge from the transcript of each task.

The secondary research objectives are:

- To understand how people with nut allergies use labels and other pack information
- To understand what rules of thumb they may use when purchasing or consuming food.
- To understand what their main criteria are for food choices and what strategies they use when selecting food, including their approach to risk assessment

1.5 Overview of report structure

This report is structured as follows. **Chapter 2** outlines the methods used in this research and describes the sample. Descriptions of the protocols for each of the methods are provided and referenced to the Appendices. The next six chapters report the results of the research. **Chapter 3** provides a general overview of the ways in which having a nut allergy affected the everyday experiences of study participants. **Chapter 4** characterises the main strategies or ‘rules of thumb’ that participants adopted in order to make choices about which foods to buy or eat. This is followed by two chapters that particularly focus on product labelling. **Chapter 5** explores the role of product based information in contributing to food choice decisions and **Chapter 6** brings together all the results relating to ‘may contain’ labelling. In **Chapter 7** we specifically focus on the results of the Product Choice Labelling Task providing a detailed analysis of participant responses to each product in the carefully chosen ‘basket’ of products. In the final set of results **Chapter 8** details the strategies that participants use to make food choices when eating out. Finally, **Chapter 9** outlines the conclusions of the research and reflects on their implications for the FSA aim to improve the quality of the dietary advice to consumers with nut allergy.

CHAPTER 2 – MATERIALS AND METHODS

This Chapter will provide an overview of the methods that were used to address the aims and objectives of this programme of research. First we provide a rationale for the methods we used to address the research questions. Details are then provided of recruitment procedures, eligibility and the sample characteristics. Following this the three methods used in the research - the accompanied shop, the semi-structured interview and the Product Choice Reasoning Task (PCRT) - are described in detail. The way that the resulting data were analysed is also outlined. The penultimate section of the chapter describes problems encountered in the research process and the ways in which these were resolved. Finally, we describe the conventions observed throughout the report for reporting quotes from participants.

2.1 Rationale behind our choice of approach to the project

This project builds on the work that the Food Standards Agency has conducted in this area (e.g. FSA, 2005) and focused specifically on participants with IgE mediated reactions to peanuts (ground nuts) and tree nuts. In line with FSA requirements for the research the project has only recruited such participants with IgE mediated reactions and not those whose symptoms are best characterised as other types of food hypersensitivity (WHO, 2006).

Importantly it uses methods that allow consideration of actual as well as reported food choices and allows detailed exploration of the reasoning of nut allergic consumers and actual, rather than reported, purchase behaviour.

The accompanied shop method is uniquely suited for exploring shopping behaviours. It has been used to consider the usage of food labels in the general population (Higginson et al., 2002). Furthermore, other European researchers

have explored shopping by asking those with food allergies to buy particular products (Cornelisse-Vermaat et al, 2007; Voordouw et al, 2009). However, in the current research, participants conducted their own normal weekly shop and thus their reasoning around products that they are actually buying regularly could be explored.

Additional information about nut allergic consumers' food choices and decision making has been gained through a follow up interview and Product Choice Reasoning Task (PCRT). Based around a 'basket' of 13 products, the PCRT requires participants to say whether they would be happy to consume each product and to talk through their reasoning about this. Each product was chosen to exemplify particular dilemmas that nut allergic consumers are likely to face when shopping. To the best of our knowledge, this is a unique method for exploring reasoning of nut allergic people. It allows us to describe in detail the outcomes for each product – whether or not they would be purchased and the reasons for this. It also allows consideration of the strategies used by a range of people as well as across a range of products.

The interview was designed to allow further exploration of issues raised in both the accompanied shop and the PCRT. Additionally it allowed for detailed examination of participant strategies in relation to eating out at restaurants and with friends and family, managing allergies abroad and on festive occasions.

In total, the study has been designed to examine nut allergic consumers' strategies from a variety of perspectives: not only when they are in control of the food they purchase and consume but also their experience of managing their allergy in situations when they are not responsible for food selection and preparation. This research is thus uniquely placed to inform the development of policy and practice in this area and, more particularly, for assisting the FSA in improving current labelling and information provision practices.

2.2 The sample

2.2.1 Ethical review and permissions

Prior to recruitment of participants an extensive ethical review process was undertaken and permissions were gained from the National Research Ethics Service (NRES) and the University of Surrey Ethics Committee. Research and Development Approval was obtained from the Surrey and Sussex Research Consortium.

Permission to carry out the accompanied shops was gained from 9 well known supermarket chains. In line with the routine shopping practices of our participants, accompanied shops were actually undertaken in 6 of these chains. Additionally, one participant shopped in her local village store and permission was gained for this separately.

2.2.2 Recruitment

Volunteers were recruited from three sources:

- Letters to patients with a doctor-diagnosis of peanut or nut allergy from the paediatric and adult allergy clinics at Southampton University Hospitals NHS Trust (SUHT)
- Letters to patients within a primary care setting who were prescribed adrenaline auto-injectors by their GP
- Email to all staff and students of University of Surrey

Participants were eventually recruited from 5 centres (the Southampton Allergy Clinic, 3 GP surgeries and the University of Surrey campus). Participants from all sources were sent an initial recruitment letter and screening questionnaire, including a consent section (see Appendices 1 and 2). Participants were informed about 2 studies – Study A and Study B and invited to return the questionnaire and indicate if they would be happy to take part in either or both studies.

Study A

This study is the subject of this report. It involved 3 data collection tasks: an accompanied shop, an in-depth interview, and the PCRT.

Study B

This study involved completing a Nut Allergy Quality of Life Questionnaire, and was added in to the research design simply to ensure that participants who were not able to take part in Study A could still take part in the project. This study will not be reported here.

The returned screening questionnaires were inspected by the study allergist (JSL). Participants that fulfilled the eligibility criteria for Study A (see below) were sent a detailed information sheet and a study consent form (Appendices 3 and 4). After receiving the consent form¹ the researcher made telephone contact with the participant to set up a date and time – initially for the accompanied shop and then for the interview and PCRT.

2.2.3 Eligibility criteria

To be eligible to take part in the study, participants had to:

- Be aged 16 or over
- Have a clinical history of reaction to peanuts or tree nuts which was compatible with IgE-mediated allergy.
 - Volunteers recruited from SUHT had skin tests and/ or specific IgE measurements supportive of IgE mediated nut allergy
 - Volunteers from University of Surrey and from Primary Care reported being seen by their GP or a hospital specialist, who had diagnosed nut allergy and advised a rescue treatment for accidental ingestions.

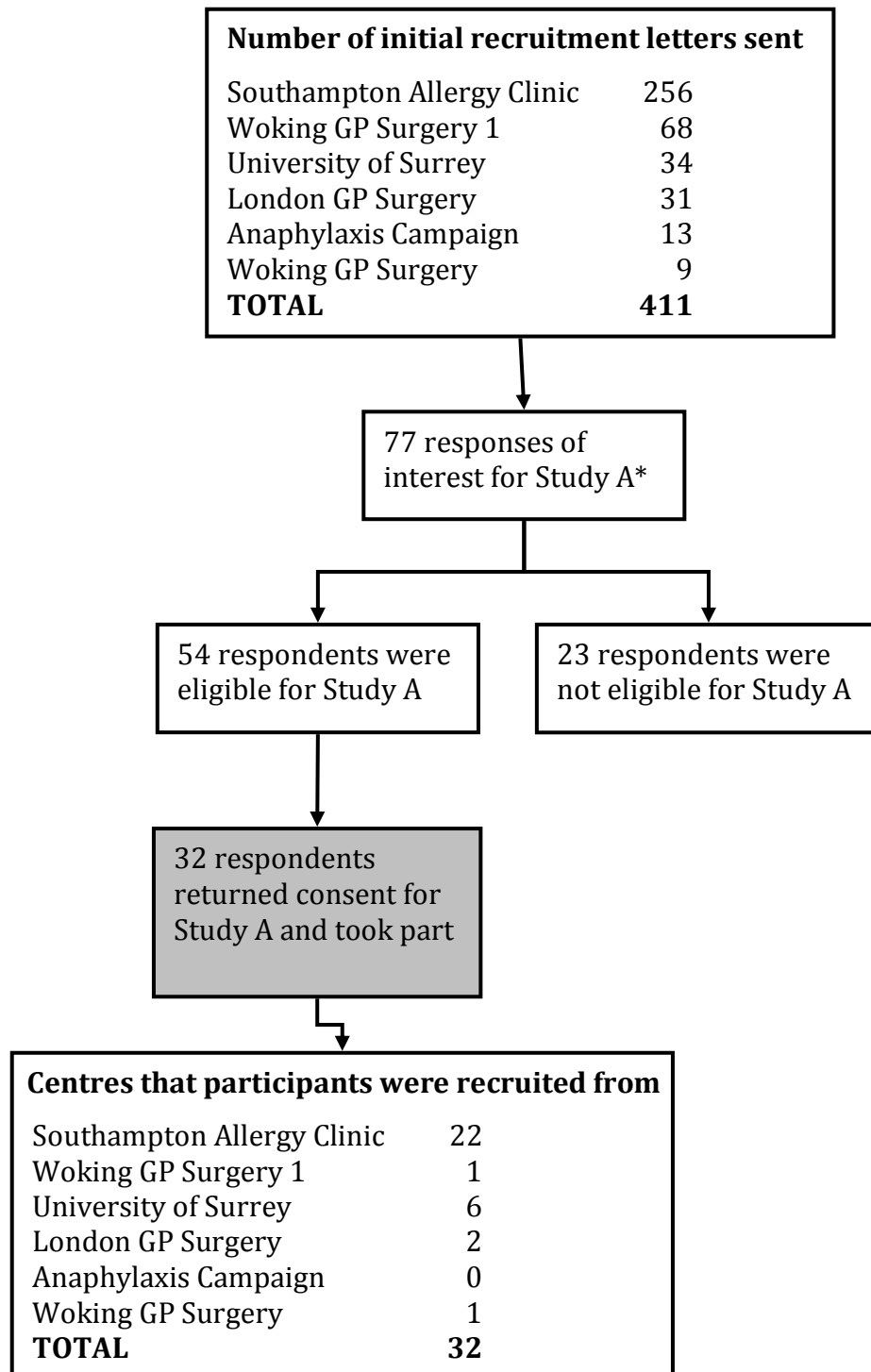
¹ The initial consent form enabled clinic participants to indicate their willingness for their contact details to be passed out of the NHS to the University Research team. In the second consent form participants gave their consent to take part in the research programme.

- Have an IgE mediated peanut or tree nut allergy only – individuals with other food allergies or intolerance were not eligible except for oral allergy syndrome (OAS) to fruit and/or vegetables. It was considered that OAS would not influence any of the components of the accompanied shop or the PCRT.
- Conduct their own food shopping
- Have good fluency in the English language

2.2.4 Sample characteristics

Four hundred and eleven participants were initially invited to the study. Thirty two people with allergy to peanut and/or tree nuts took part. The flow chart below details when and why other potential participants were not recruited to the study.

Figure 1 - Flow chart of recruitment numbers



* 37 participants returned the screening questionnaire and indicated that they would like to take part in Study B only, and were therefore not eligible for inclusion in Study A (the shopping study).

A summary of participant demographics is provided in Table 1 below.

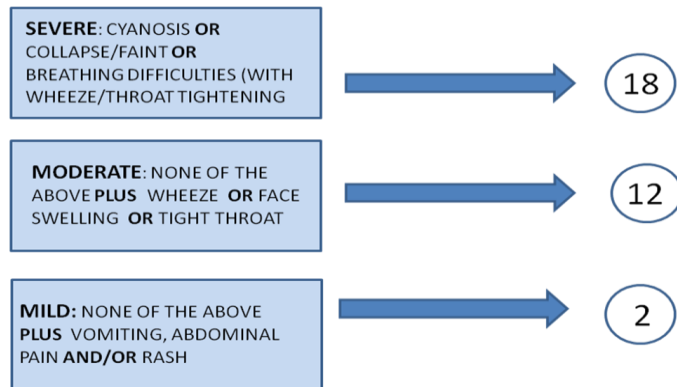
Table 1 – Summary of participant demographics

	Participants with previous mild/moderate reactions	Participants with previous severe nut reactions	Total number of participants
Gender			
Male	4	5	9
Female	10	13	23
Ages			
Range	16-70	16-50	
Median	33	28.5	
Type of nut allergy			
Peanut only	2	3	5
Tree nut only	6	3	9
Both peanut and Tree nut	6	12	18
First reaction to nuts			
Within last 6 months	3	5	8
6 months – 1 year ago	5	2	7
1-2 years ago	3	4	7
Over 2 years ago	2	7	9
Time since last reaction			
Within last 6 months	3	5	
6 months – 1 year ago	5	2	
1-2 years ago	3	4	
Over 2 years ago	2	7	
Years since diagnosis			
Median	15	17	

For a Table of all participant details, including information about their allergy see Appendix 5.

The severity of their worst-ever reaction was graded into mild, moderate or severe using a classification previously used for peanut allergy (Hourihane, Kilburn et al. 1997) (Figure 2 below). Eighteen described severe reactions, 12 moderate and 2 mild.

Figure 2 - Severity of participants' reactions



2.3 Methods

Three different qualitative methods were used for this study:

2.3.1 Accompanied shop

A workshop was set up and undertaken in early March 2009 to establish the state-of-the-art in the accompanied shop method. The aims of the workshop were; to learn from researchers who have used the accompanied shop method themselves and to have discussions relating to (1) the preparation for accompanied shops (2) the conduct of the shops themselves and (3) to the analysis of the think aloud material that the accompanied shops generate. The information collected at the workshop was valuable in the development of both the design and materials for the current study. Following piloting, the accompanied shop protocol was finalised (Appendix 6).

The accompanied shop task involved a researcher in accompanying participants to the supermarket they generally chose to shop at². Before commencing the shop, a training procedure was carried out to familiarise participants with the 'think aloud' methodology (Appendix 6 as above). The think aloud methodology

² Two of the men (one mild/moderate and one severe) did not take part in the accompanied shop as they never did any shopping. They therefore only took part in the interview and the Product Choice Reasoning Task.

was used to explore what information participants were using to inform their decision making and what information – if any – they were attending to or searching for on product labels. During the shop, participants were observed by the researcher as they conducted their shopping and asked to talk aloud at all times about what they were thinking with regards to their shopping. The researcher did not enter into conversation with the participant during the shop, except to offer standard prompts such as ‘what are you thinking?’. The researcher recorded any noteworthy behaviours or non behaviours concerning the participants’ allergy (e.g. mentions of allergy or avoiding sections of the supermarket) that could be followed up at the beginning of the interview. Participants were not questioned at the time so as to not break the flow of the think aloud methodology. The accompanied shop task was recorded with a discreet recorder and the resulting data were fully transcribed.

Till receipts were provided by 23 participants and these indicated that the average size of shop was 48 items and the average cost was £58.36.

2.3.2 Semi-structured interview

An in-depth semi-structured interview was conducted with each participant in their own homes, following on from the accompanied shop. The first part of the interview involved a discussion of any particular observations made by the researcher during the accompanied shop process, such as food products avoided or items that the participant had paid particular attention to. Given that the interview was conducted shortly after the accompanied shop this turned out to be a particularly useful way of gaining further insight into the accompanied shopping process. The interview then explored how food choices were made in situations when the participant was not personally responsible for food preparation – for example when eating in restaurants, at other people’s houses, on festive occasions and abroad. Finally, (and after completing the PCRT), participants were asked for their views of product labelling including ‘may contain’ and allergy advice warnings. These interviews were recorded and fully transcribed. The full interview schedule is included in Appendix 7 of this report.

2.3.3 Product choice reasoning task

During the interview the participant was asked to 'think aloud' in relation to a 'shopping basket' of 13 food products that we believed may pose allergy relevant dilemmas to participants. The identification of dilemmas and the choice of products that best embodied these dilemmas was informed by our discussions with an allergy dietician (KG) and the project advisor from Allergy Action (and food advisor to the Anaphylaxis campaign) (HG). During this task the participant was asked to explain whether or not they would eat each item of food. They were asked to do this with reference to their allergy; where possible setting aside considerations of whether they thought they would actually like the product.

The aim of the PCRT was to reveal participant reasoning about how decisions about purchase and consumption are made and the sorts of dilemmas and difficulties that may be encountered in doing this. The PCRT task was also recorded and the resulting data were fully transcribed. A full list of the PCRT products and the associated dilemma is included in Appendix 8 of this report.

2.4 Analysis

The transcribed material from all three methods provided a rich, detailed source of information for analysis. The interview transcripts were coded by two members of the research team (JoL and KM) using NVivo qualitative data analysis software. In the light of the initial codes, further manual analysis was conducted to develop the themes in more detail (JB). The three sources of material were coded within a single data base but the use of method codes enabled us to be clear about which material comes from each method. Established techniques of thematic coding (Braun & Clarke, 2006) were used to capture the key points, positions and opinions that were expressed. Interpretations were developed looking at both converging and diverging views within the themes.

The initial codes for the accompanied shop material were developed on the basis of all direct and indirect mentions of allergy that were made during the

accompanied shop. One key focus of the analysis across all three methods was to identify the strategies or 'rules of thumb' that were used in making food choices. This was based on data from a range of situations where the participant has more or less responsibility for, and control over, food preparation. The analysis also explored barriers to confident and effective decision making as well as factors that enabled this. This analysis was also informed by the PCRT, however this material was also analysed separately as it provides unique insights into the reasoning that a range of participants use around each of the 13 particular products that were included. This analysis was also informed by the initial framework of anticipated dilemmas that had been identified by the project team.

The PCRT also lends itself to a basic level of quantification. Whether participants would eat each product was classified into the categorical responses of 'yes' or 'no'. Each response was also classified in relation to whether or not this decision was expressed in terms of certainty or not. These responses are linked with the qualitative exploration of participants reasoning around each product.

2.4.1 Reporting participant quotes

Where direct quotes from participants are included, the conventions for reporting these are as follows:

- Brackets with dots (...) will indicate where any speech has been omitted
- Square brackets containing text [] are used to provide any information that is required for clarification purposes
- All quotes will be followed by a reference (e.g. **1000, PCRT, M, Severe**) which will include the participant number, the method from which the quote is drawn, the gender of the participant and the severity of their previous reactions
 - Participant number - The 4 digit participant number e.g. 1000 denotes from which centre the participant was recruited: 1 = Southampton; 2= GP Surgery, Woking; 3 =GP Surgery, London; 4= University of Surrey ; 5 = GP Surgery, Woking

- Method from which the quote is drawn: AS = Accompanied Shop;
I = Interview; PCRT = Product Choice Reasoning Task
- Gender of participant: M= Male; F= Female
- Severity of previous nut allergy reaction: Severe ; Moderate; Mild

2.5 Problems encountered in the research process

It was originally anticipated that 48 participants would be recruited to this study (24 from the Southampton Allergy Clinic and 24 from GP practices). Recruitment started slightly later than planned due to delays with obtaining ethical approval and the consequent R&D procedures. Once started, recruiting participants was much more difficult than had been anticipated for the following reasons:

- It was challenging to recruit GP practices to the study. After the initial contact with practice managers there was then a lengthy delay as the agreement of all practice partners had to be sought after the initial contact with practice managers agreement.
- The swine flu epidemic placed considerable extra demands on GP surgeries which slowed down the participant recruitment process.
- There were numerous postal strikes during the recruitment stages of the study.
- Despite contacting GP surgeries with large practice populations, the surgeries had few patients registered with autoinjectors. Initial mail out numbers were therefore low and of course only a small proportion of those that were registered with an autoinjector had a nut allergy.
- A significant percentage of possible participants had other food allergies or intolerances and were therefore not eligible to take part.
- Some of those that were technically eligible were not willing to take part in a study with a fairly substantial time commitment
- Overall there was approximately a 10% recruitment rate from being initially invited to the research study to actually taking part.

2.6 Changes to the original aims and objectives with the rationale for the changes

The original recruitment strategy was to recruit half the participants via the Southampton clinic and half through GP surgeries. The reasoning behind this was to access participants who had received more or less information from medical experts as well as to get a range of participants with mild/moderate and severe allergies. However, despite extensive activity and around 108 invitations via GP surgeries only 4 from this route have proceeded to the study. We therefore agreed with the FSA to concentrate our recruitment strategy on the allergy clinic whilst adding other recruitment routes as follows:

- An email was sent out to all staff/students at University of Surrey looking for volunteers with a nut allergy
- An advert was placed on the website of the Anaphylaxis Campaign looking for volunteers. Although this generated some interest (13 people contacted us) no-one proceeded right through to taking part in the study,
- A variation to the ethical approval that we had obtained was applied for (and granted) to enable the study team to send out follow up letters to patients following the initial clinic invitation letter.
- The Southampton Allergy Clinic increased their initial recruitment activities as this was the most fruitful avenue of recruitment to the study.

In qualitative studies sampling is purposive and theoretical (Kuper, Reeves and Levinson, 2008) and thus there are no rules such as power calculations about the numbers of participants needed. In line with the recruitment strategy noted above a key dimension of the original analysis would have been a comparison between clinic and GP participants. Clearly this was not possible and thus fewer participants were required as this comparison was no longer required.

It was agreed with the FSA that we would recruit at least 25 participants to the study. In the event, 32 participants took part.

2.7 Project extensions

Due to the recruitment issues discussed above, the project timescale was extended by 2 months at a cost of £34,172.

CHAPTER 3 – THE EXPERIENCE OF NUT ALLERGY

I think it dawned in me in the last few minutes like a lot of the decisions that we make are based upon our allergies. I don't think that's abnormal or strange. It's just normal for us. It's just what we do. Whereas if you put us up against someone else in the general population, and said, "You do what?! Why?!" It's very, very different. I wouldn't say, I mean - I wouldn't say it's a problem even. It's just...it's just there and we just get on with it. I don't wake up in the morning and think,

'Oh my God, I've got a nut allergy!'

(1069, I, M, Severe)

This chapter sets out to provide a general overview of the ways in which having a nut allergy affected the everyday experiences of study participants. The ways in which people with a history of allergic reactions often have a reduced quality of life is a common theme in the literature (Avery, King et al. 2003; King, Knibb et al., 2008). However the aim of our focus on this issue here is simply to set the scene for the next four Chapters that address our key research questions. We present an overview of three main themes from the qualitative data. These focus on (1) the range of allergic reactions that people had experienced (2) the impact of allergy in their everyday lives, and (3) the ways in which their allergy relevant behaviours had developed and changed over time. Finally, we present some data from the screening questionnaire that asked participants about how much they had used a range of information sources.

3.1 Nature of reactions

When discussing the nature and severity of their allergic reactions, participants described a range of symptoms: itchy mouth, swelling of lips and tongue, full body rash and hives through to diarrhoea, vomiting, breathing difficulties and collapse.

It started off as a skin reaction and then it still is a bit...like I get like blisters...not blisters, but like a blistered look, but it goes to my throat and it makes my throat itchy and tight.
(1112, I, F, Severe)

I can tell immediately from eating, like just the back of my throat starts sort of burning and itching, and my lip starts swelling up and stuff, but [apparently I had] some very impressive...(at the hospital) they called it 'very impressive facial swelling', just kind of like all over the place.
(1017 I, M, Moderate)

Participants not only described the symptoms themselves but the emotional reactions that often accompanied what were very serious and often life threatening allergic reactions.

It was a box of cookies, and I had this tiny cookie, and my mouth and throat and tongue just swelled up. It was terrifying actually. I was trying to get water down my neck to make the swelling go down. I just didn't know what was going on really.
(1068 I, F, Moderate)

That's what's quite surreal about having a reaction, is that you go from this really extreme – one minute, you're absolutely fine, then you're sort of on the verge of...dying basically, and then, eight hours later, they're like, "Okay, don't do it again – bye!" you know, and you just go home and everything's normal again! I think...it's quite surreal and it's quite hard to get your head around.

Does it actually feel normal when you get home, or do you feel like it's just...?

Yeah, it feels a bit weird for a while, and I know both times I was really tired for two days and felt kind of quite fatigued. I don't know if that's... I guess, physically, my body must be quite fatigued from having gone through such extreme things, but I think, emotionally, it's quite tiring as well, because you're sort of trying to get your head around what just happened and...

(1116 I, F, Severe)

The sorts of events that occasioned reactions to nuts also varied widely with allergic reactions being triggered by being in the same room or sitting next to people who were eating nuts, or having localised reactions from someone else having eaten nuts and then touching or kissing them. Others had reactions only if they ingested part of or a whole nut.

Like I've had reactions before now from... we were playing cards at the table, and there were peanuts on the table, and because the cards were getting shuffled, I'd end up with a card that someone else who's touched peanuts had had, and I got a reaction off that. So I am actually quite sensitive and I think I've – last year, I had a reaction, and I think it must have been off a door handle in a house that I shared with other people.

(1112, I, F, Severe)

It is informative to note the ways in which allergic reactions were triggered in relation to normal social practices: a goodnight kiss, sharing a taste of a partner's meal, as well as by intentional risk taking, by unanticipated risks or the faulty practices of third parties such as restaurants or food producers.

The majority of nut allergic individuals reported early onset and diagnosis of their nut allergies, although some participants had developed their allergies in adulthood. Even if participants had not received a formal diagnosis in childhood they often reported having disliked or had an aversion to nuts as a child. Several participants reported that in early childhood, or when they first experienced symptoms, other people didn't always believe them or thought that they were a fussy eater, and on a few occasions, this led to parents putting nuts into a dish (secretly) to test whether the child was really allergic.

In terms of the frequency of allergic reactions, some participants reported having had numerous reactions over the time since being diagnosed. For others there was a single serious episode. Participants did not assume that the severity of past reactions was necessarily a good predictor of future reactions; indeed many were fearful about having more severe reactions in the future. The first quote below is from a participant aged 58 who had been diagnosed with moderate allergic reactions for only 3 years.

My concern is, and I got this from (name of wife), she said sometimes once you've stimulated a reaction, your second attack can be worse, and... Like I had no breathing difficulties, but I thought if I did have something and it was much worse than that, it could be pretty unpleasant, you know.

(1067 I, M, Moderate)

I don't tend to have too many reactions, which is the best way, because you never know how serious the next one's going to be.

(1112, I, F, Severe)

As part of my reactions, fear is a big part of it, and it's possibly ...I'm scared of it happening rather than actually being scared because it is happening to some extent.

(4001, I, F, Severe)

3.2 Day to day allergy impact

Individuals reported differing impacts of nut allergy on their lives. Many participants had first had reactions to nuts when they were children and often did not recall ever having *not* been allergic to nuts (and could not remember some of their early allergic reactions). These individuals reported that avoiding nuts was a normal way of life. There was a sense then in which some participants did not claim that the allergy had a huge impact on their ongoing daily life.

It's just kind of like part of my natural daily life. I do forget about it, and I know what I can and can't do, so...it's just everyday life really.

(1008, I, F, Moderate)

How would you say, in general terms, that your allergy affects your life?

I would say, because I've always lived with it, then it's just something I've got used to, but I do just have to check everything, but then that just becomes a part of your life. Going, I suppose, on holiday and things like that, then I've always had to find places where they can – if it's abroad, they can understand what I'm asking, if they've got nuts in or... So it does...it has impacted my life, but I kind of...just have to live with it ! Just get on with it!

(1042, I, F, Severe)

For others, their nut allergy had a bigger impact on their quality of life both in a practical and emotional sense. From a practical viewpoint, individuals reported that their nut allergies affected situations such as eating out, holidays and generally going to places away from home. Many of these situations meant that participants need to take extra care, or plan in advance –and several people said that having to manage a nut allergy took away the possibilities of spontaneity

around social practices where this is often a taken-for-granted and valued part of the experience (for example around eating out). For one participant (see 1069 below), who also had two nut allergic children, the planning went as far as ensuring that when away from home they were aware of where the nearest hospital was.

So is there any other areas of your life that it kind of affects, because obviously you've touched a bit on holidays and...?

Going to places – I mean going to places not at home, that's probably the biggest one. We have to be careful about thinking about things. We just can't do sort of random adventures here, there and everywhere. We plan things quite meticulously from that perspective, even down to where's the nearest hospital. Generally, we know where the nearest hospital is, so if there's something up, we know where to go.

(1069, I, M, Severe)

From an emotional viewpoint, participants reported feelings of fear of having reactions, and always being aware that their nut allergy was there.

I'm always aware of it. I'm always aware. It doesn't...it doesn't hamper my – it doesn't impede my life in any way because I know what I can do and what I can't do, but I'm always aware...yeah, always aware of it, always careful.

(1179, I, F, Moderate)

Furthermore it was often the impact that the nut allergy would have on other people that was cited as being troublesome. Participants often found situations where managing their allergy involved making demands on other people to be difficult and sometimes embarrassing. Indeed part of the experience of managing allergic reactions was about managing other people's concern and other reactions.

You know, people in the office that I shared knew that I had a nut allergy, and knew they weren't supposed to eat nut products in the same room as me because of it, in case something happened, and em, I had this one woman who still – and it's completely – she still did, knowing that, and thinks I wouldn't notice, because she didn't do it while I was in the room, but I can...you know, peanuts in the air! The protein gets in the air. I know it's there! And it's like, oh, right, I have to get out and take another antihistamine just in

case, you know. So it's very, very stressful. So yeah, it's a pain – I have to worry about what other people do

(1068, I, Moderate)

Quite apart from monitoring food choices, participants reported various strategies to manage risk in everyday life. The importance of carrying their adrenaline/ epinephrine autoinjectors was discussed by many participants who had a history of severe allergic reactions although others admitted that they often forgot to carry it on a day to day basis. One participant said that if they forgot to take their autoinjector with them they would not eat.

Yeah, always. I always make sure, and there's also one at college. Yeah, it's just always in my bag.

Is that like a daily routine – keys, wallet, EpiPen?!

Yeah! It's just natural, yeah, just comes along with everything. If I did ever forget it, then I wouldn't eat anything, just because of that risk.

Okay. So if you were at college and you just realised you'd left it at home, you'd just wait until you got home to get some food?

Yeah, yeah, I wouldn't risk it.

Anything, even with...something with not nuts in?

No, because it's still... I don't know. Maybe like even if you...because you could have touched a peanut and then eat normal food, so it's still that risk, so you don't want to like risk your life potentially

(1008, I, F, Moderate)

In terms of managing allergic reactions, participants frequently talked about using antihistamines at the first sign of a reaction (e.g. in response to suspecting that something had nut traces in it or having a reaction to someone else eating nuts) or as precautionary measure (e.g. when eating out abroad). More severe reactions usually involved attending A & E or calling an ambulance. Some participants talked about 'riding out' allergic reactions that they had subsequently considered were severe enough to have warranted medical help. It appeared that sometimes this judgment was difficult to make and individuals were reluctant to call for 'unnecessary' help.

3.3 Changing behaviours over time

Participants spoke about how their allergy management strategies had changed over the course of time. A few of the younger participants (aged 16-18) talked about times when they had felt quite 'paranoid' about their nut allergies and had substantially reduced the foods that they were willing to eat for fear of a reaction. These participants also reported that with age they had gained more confidence with new foods, and had broadened what they were prepared to eat.

Maybe, because I didn't understand it as much then, and now I can go into new places... Well, no, I think I probably peaked a few years ago on my fear. Now, I'm kind of just...getting a bit more lenient on things again.

(1003, I, F, Mild)

I got – about year eight or nine, I went through like a funny phase where I was, em, really cautious. It was kind of like an OCD³ – it was a bit weird. I wouldn't like touch door handles. I would never eat with my hands. It was really weird. I would always have to like pour food in. It was really, really strange. But I grew out of that by like year 10. It was really OCD-ified and it was not very nice really.

Was that linked to your allergies, do you think?

Yeah, well, I reckon it probably is, because that's when I went through the most cautious stage of like I wouldn't want to sit next to someone who was eating nuts. Even the tree nuts, which weren't...which probably, well, they wouldn't react if I probably ate them, but I was, "Oh, don't go near me!" and I used to be really, really funny about it. As you get older, you kind of mature and...I'm fine with anything now.

(1008 I, F, Moderate)

Other participants reported that as they had grown older they had become more cautious with their nut allergy, and this was linked to being afraid of having a serious/ or fatal reaction. Many participants reported increased cautiousness with their food allergy over time due to having experienced a bad reaction or following receiving a formal diagnosis, and likewise the reverse situation of this was reported where some participants felt that they had relaxed their behaviour over time as they had not had a reaction.

³ Obsessive Compulsive Disorder

And in what ways, if at all, has your behaviour about what you buy changed over time since your diagnosis?

It's completely changed, yeah. I mean, before I was diagnosed, it wasn't...you know, I wouldn't check the ingredients of anything. Now, I always do, anything processed. So yeah, it's had a massive influence.

And why do you think it's changed?

Because I don't want to die! And having had reactions from foods, you know, from way back to that first Brazil nut cookie, it's...that swiftly made me realise that I had to check, check ingredients in things, and you can't make any assumptions about processed food.

(1068, I, F, Moderate)

Some participants talked about having a cyclical relationship with their nut allergy which was characterised by periods when they were more or less relaxed. The cycle would involve a period over which the individual became more relaxed towards their nut allergy, and then would experience a reaction, which would be followed by a period of increased awareness and cautiousness towards what they were eating.

And do you feel like you've got more or less cautious or anything like that or is it just...?

Peaks and troughs. If I have a scare, I'll suddenly get a lot more paranoid.

(1029, I, F, Severe)

It's sort of like learning from - each reaction, I've sort of learnt a lesson from I guess, so I think it gets to a stage ...you go through and then you find that you haven't had a reaction for years, and you're sort of into a routine of like eating stuff which you know is fine, because you've eaten it before, and then you maybe have a reaction, and then you're sort of a bit more like...on edge kind of thing...and then you sort of get back into...so maybe you become a bit more cautious again, start checking things, being a bit more thorough. It's probably just complacency again, and then you sort of slip back into the old routine I guess.

(1017, I, M, Moderate)

3.4 Key information sources

In theory at least, being informed about various facets of allergic reactions is likely to assist with developing effective management strategies. Exploring this was not part of the remit of this qualitative research. However, in the initial

screening questionnaire, participants were also asked about the people, places and sources they had used to find out about their nut allergy. They were asked to rate whether they used each of 11 sources and then asked to indicate how much they used them (not much [1], a little [2], quite a lot [3] and a great deal [4]). Table 2 below indicates how many participants used each source and, of those that did, how much they used it.

Table 2 - Amount participants used information sources (n= 32)

	PARTICIPANTS WITH PREVIOUS SEVERE NUT REACTIONS		PARTICIPANTS WITH PREVIOUS MILD/MODERATE NUT REACTIONS	
	Number that used source	Mean amount of use	Number that used source	Mean amount of use
GP	16	2.4	12	1.5
Hospital Allergy Specialist	14	2.9	11	2.7
Magazines	7	1.9	5	1.4
Newspapers	7	1.7	7	1.6
Books	5	2	4	1.3
TV	4	1	5	1.4
Family and friends	8	2.1	7	2
Other person with nut allergy	8	2.3	5	1.4
NHS Direct	3	1	3	1
FSA	4	1.3	3	1
Websites	11	2.3	10	2.3

It is clear that the sources used by most participants (with both mild/moderate and severe reactions) were GPs, Hospital Allergy Specialists and websites. These sources were also amongst those rated as the most used. GPs were rated as less used by those with moderate allergies. For those participants with severe allergies, ‘friends and family’ and ‘others with nut allergy’ were also key sources of information. 20 participants were asked as part of the interview whether they were part of an allergy support group: only one person was.

3.5 Conclusion

This chapter has sought to provide a brief overview of some of the issues that impact upon the quality of life of adults with a history of allergic reactions to nuts. Quite apart from the serious and often life threatening physical symptoms

themselves, we have noted their emotional impacts and the way in which they are embedded in, and indeed may be triggered by, routine social interactions. Managing a severe nut allergy requires considerable vigilance although this occurs in ways that are often taken for granted by allergic individuals and their friends and families. At one level the passage of time means that individuals accrue experience and become better at managing risk and the emotional impact of this. The concerns and frustrations and the practical challenges that having an allergy presents clearly remain an ongoing part of day to day life.

CHAPTER 4 – WHAT STRATEGIES DO INDIVIDUALS WITH A NUT ALLERGY USE FOR CHOOSING FOOD PRODUCTS?

In this Chapter we will characterise the main strategies or ‘rules of thumb’ that participants adopted in order to make choices about which foods to buy or eat. We will identify the ways in which different strategies that were used and, where applicable, indicate when and why different strategies were traded off against each other. These rules of thumb form the back drop against which participants made sense of product labelling in general and ‘may contain’ labelling in particular. These issues are discussed in Chapters 5 and 6 respectively.

By way of an overview, participant rules of thumb for guiding food choice were located in three areas:

(1) The characteristics of participants:

The primary participant based strategy for making food choices was to make judgements based on previous experiences – both in terms of previous allergic reactions and, more commonly, with reference to their familiarity with the product. Another important participant based strategy was to form judgements as to whether the product was suitable to eat on sensory information, using either the ‘look’ of the product or its taste to help discern whether or not it was safe to eat. A third participant based strategy was based on preference and liking of the product. Participants were willing to take greater risks around a product they liked.

(2) The characteristics of products:

There were two strategies for food choices that were based on the characteristics of the product. The first was to assign products as either being high risk ‘problematic products’ or as unproblematic low-risk products. The second product based strategy was to integrate both the constraints of the allergy and

other valued product characteristics (for example around nutrition or price) in making food choice decisions.

(3) The characteristics of producers: The final rule of thumb for making food choices was located around the characteristics of sources of product information – producers or supermarkets. The main characteristic that was relevant to food choices and risk assessments around allergy was trust. How much information providers were trusted was a key way in which decisions were made about which foods could be safely consumed and which labels could be trusted to enable safe decisions.

4.1 Participant based strategies

4.1.1 Experience

Arguably the most pervasive rule of thumb used to ground product choices was previous experience of the product. Familiarity borne of experience cut down the amount of product checking that was needed although participants were well attuned to the possibility of ingredients and recipes changing and thus recognised that continued vigilance was required. Another effect of prioritising experience was that participants tended to seek out, and be most comfortable with familiar products. Novel products on occasions were rejected simply by virtue of their novelty and if they were considered for purchase their novelty often triggered more detailed examination of the information on the product.

a) Experience based assurances of safety

During the accompanied shop participants frequently referred to having purchased an item before and therefore knowing that it was 'safe' or that it had not previously caused a reaction. A previous positive experience enabled participants to make confident and speedy food choice decisions and was seen as grounds for legitimately bypassing the need to check product information and labelling.

Biscuits... there we go... I don't bother checking the (brandname) ones because I know that I'm safe with them. I've had them lots before.

(1016 AS, F, Severe)

I get this Balti cooking sauce, only because I haven't learnt how to make curry yet! I have bought this one before. It does have almonds in it, but I've been okay with it and I've had it for a few years, so I tend to eat that anyway, just because I always have.

(1161 AS, F, Mild)

Would you say – we've talked quite a bit about it actually, but would you say there's any other rules of thumb that you use when you're purchasing foods?

Em, no. The first one is I stick to what I know. I will try other stuff, but I will have to check it, properly more thoroughly than I would stuff that I looked at today. I mean, I buy a varying range of different pizzas (brand names 1, 2 and 3). Again, I check them occasionally just in case they put on there "This does contain nuts because we've changed our factory" or something. I think that's the only rule of thumb I sort of stick to, is go with what I know.

(4004 I, M, Moderate)

Whilst this strategy enabled selection of 'safe' foods and ease of shopping, it was also acknowledged that this placed restrictions on overall diet.

Yeah, it's kind of like a weekly shop I do, so I quite often sort of stick to the same brands and the same kind of things. It means that have a bit of a limited kind of diet probably, but at least I know if I've eaten it before and I haven't had a reaction, then it's almost certainly going to be good for the next time round.

(1017 I, M, Moderate)

Do you think that when you're shopping you have any other sort of rules of thumb that you use as you go round the shops?

It's difficult. Because I've had it my whole life, it's hard to... I don't generally...I do so much of it without thinking, I think. Well, things like biscuits, you have to be careful with, so don't...I really...I think the main thing is sticking to what I know is safe and what I've had before. So, if I'm going to get biscuits, it'll probably be chocolate digestives. I probably wouldn't get a new type of biscuit because it means checking it and...

(1031 I, F, Moderate)

Participant 1031 mentions that buying new products means checking them and suggests that the extra effort involved in this was prohibitive. This theme was mentioned by a number of participants and was part of their rationale for sticking to familiar purchases.

b) Avoidance of novelty

Participants frequently talked about the issue of trying new food products in making food choices. With novel products, participants by definition do not have experience to call on. Many participants acknowledged that they were generally reluctant to try new products.

I don't normally try new things as well. I normally stick with things that I know I'm okay with.

(1016 AS, F, Severe)

So how would you say your nut allergy affects you?

Not too much I don't think really. I don't think – like we were saying, I don't think it really affects my shopping that much. It probably limits what I'm eating, my diet. I mean I'd probably be more inclined to try new things, like food-wise, if I didn't have the nut allergy, so it kind of restricts me a little bit there.

(1017 I, M, Moderate)

Furthermore trying new products potentially brought (a) practical costs and (b) negative emotions.

From a practical viewpoint, selecting new and unfamiliar products involved expending particular effort in checking the product to ensure it would be suitable and 'safe' to consume. This was also more costly in terms of time than limiting purchases to those that were known and familiar. In the quote below the participant explicitly notes that extra time is required for the checking needed to purchase 'adventurous' new products.

The other thing that I noticed in the shop is that, as you were going around, you said quite a few times, "Oh, I've bought this before," you know, "I know this is okay – I've bought it before." Is that kind of fairly common practice for you when you're shopping?

Normally, I'm a lot more adventurous. If I haven't just had a new baby, I'll be a lot more adventurous, and then I would be checking labels and everything like that a lot more. At the moment, I just don't have the time, so it's easier just getting things that are familiar.

(1031 I, F, Moderate)

Trying new products also came with some emotional cost. Participants were nervous or afraid of trying new products in case they elicited an allergic reaction. Participants often expressed resistance to taking risks and diverting away from products that were tried and tested choices.

You also commented that you eat a lot of the same things...

Yeah, I do. I like to mix it up, but what I mean is I can't try anything new really, because if I try something new that has...like "May contain traces of nuts" or whatever, I have had reactions off stuff like that before, so I'm scared to try anything new, because if I do and it's like... Most of the food that I eat is okay for me – all of the food I eat is safe for me to eat, but if I get anything...like I have kind of looked into it, and there isn't really much, other than what I do eat, that I can. Does that make sense...?!

(1112, I, F, Severe)

For some participants cautiousness around trying new products was rooted directly in a negative previous experience of consuming a novel food.

And the other thing that you said to me that I thought was interesting was you said "I often buy things I usually buy and I don't often try new things."

Yeah.

Can you just tell me a bit about that?

I normally...when...I've kind of got into a routine where I know what I can have and what I can't, so when...when there's new...like maybe biscuits come out or something, I'm a bit more reluctant to try them, because I feel safer with what I normally have because I know that I have can have it and that I'm fine. I am getting a bit better at trying new things, but it's just having that 100% security I think.

Yeah. What do you worry about?

I had quite a nasty reaction, and that was because I ate something that said "May contain". Well, it said on there "traces of" and I didn't think anything of it, and I had a really nasty reaction just because of the traces, so I am quite funny now about...

(1016 I, F, Severe)

The practical implications of familiarity or uncertainty with products were clearly evident during the Product Choice Reasoning Task. Where participants were familiar with the products they were presented with, this formed their primary line of reasoning to justify their willingness to consume it. When presented with the box of oat based breakfast cereal the immediate and simple response of one participant (1031 PCRT, Female, Moderate) was “Yes. I would – I’ve had these. They’re nice”.

Although product acceptance based on familiarity was a key ‘rule of thumb’, participants were also keenly aware that the composition and the labelling of products could change and thus that vigilance was required.

And then, chocolate bars – I would check them but... Well, I’m familiar with what I can eat now, so it’s just like natural for me to go pick something up. Again, you’re thinking, if you don’t check it, they may change their factory. You never know. It could have nut traces, and you just haven’t checked it. But just because I’m so like familiarised with it, I just kind of pick it up and think, oh yeah, this is fine, so I don’t feel that I need to check it. But I think that’s about it.

(1008 I, F, Moderate)

In practice some participants acknowledged that as they did not check foods they bought habitually, cues to enable re-checking the product information, such as changed packaging, were required.

And then you sort of said...obviously there were some things that you said you buy a lot, so you don’t look at those...

No, not normally, when I know. If I haven’t had it for a long time, I’ll normally double check that it’s still fine, or if they’ve changed the packaging, but if I know that it’s something I’ve had quite recently, then I’m not bothered about it. I’ll just have it straightaway, pick it up without reading it.

(1016 I, F, Severe)

I’ll get a malt loaf while I’m in front of it because I love it. I don’t worry about this having...might having nuts in because I’ve had it for years. I kind of...I know that one’s safe. They don’t change the ingredients. If they said they’d changed the ingredients, then I’d obviously look, but it’s a sort of staple that I’ve had for years, so I don’t worry about that. If I buy something regularly, then I tend not to worry about it, but say like the pasta

sauce, I wouldn't buy that regularly, so I can't remember whether I've checked or not or whatever so...

(1068 AS, F, Moderate)

4.1.2 Sensory Judgments

The second participant based rule of thumb for judging risk and making safe food choices was to use sensory information. Each of the three methods we used in the study provided evidence of situations where participants relied on their senses to help them come to a decision that foods were, or were not, suitable for consumption. There were two key sensory strategies (a) basing judgements on images of the texture of the product and (b) using taste to help discern whether or not the product contained nuts and was safe to eat.

a) Images of texture

Inferences about the texture of the product – and thus the presence or absence of nuts – were made either by looking (at the packet or at the food itself) or by imagining the product. The accompanied shop and particularly the PCRT method provided numerous examples of participants using sensory information to inform judgements about whether or not they would be happy to consume the product. In the following examples, participants were looking at the products themselves:

I'm still look...I'm finding myself looking at the brownies, just to...even though I know they haven't got nuts in, I'm still looking at them to see if I can see nuts in them, because it's habit. Whenever I go to a restaurant or something like that, you know, I'll want the chocolate brownies, but I'm always looking to see if they've got chunks in. When they've got white chocolate chunks, sometimes it looks like nuts, so I always have to ask, you know, ask if they've got nuts in or not

(1068 AS, F, Moderate)

Nice, yeah...good...I'm already scared looking at it! You know what I was saying about flat bits of bread earlier on? This isn't flat, so the alarm bells are going off just looking at the picture.

(1069 PCRT, M, Severe)

Pumpkin wouldn't bother me, but the first, just the look of it, would suggest. – I haven't even looked at the ingredients – would suggest that it contained nuts to me, so I would avoid buying that or eating it, yeah.

(1023 PCRT, M, Severe)

The pictures of products on the food packaging were also used by participants to inform their food choice decisions. For example, participant 1067 judges cake bars as suitable to eat due to the portrayal of a smooth textured cake in the picture on the packet, as opposed to seeing 'bits' which could be indicative of nuts. He claims that if there were nuts present in the product they would be obvious.

And finally, Cake Bars...

Yeah, I'd probably just pick them up and...yeah, yeah, absolutely no problem again.

And again, your judgement's just made on...?

Yeah, there's a visual image, so obviously it's a sponge cake, it's got chocolate in, covered in chocolate. If the texture of this was a bit granular, slightly like the...like that, if the image had shown that there was other bits in, you'd think, oh hang on, there might be more in there than is obvious, but, you know, that's a fairly...

(1067 PCRT, M, Moderate)

b) The taste test

The second way in which people used their senses to make food choices was to try the product to adjudge the likely presence of nuts. Several participants justified trying the product as being a legitimate strategy for food choice. It was seen as an acceptable way of resolving uncertainty as to whether nuts were present.

Yeah, I suppose one area that we are careful with is freshly baked bread, because that doesn't have any ingredients on it, and it's quite hard to tell what actually might be in it, so we have to be very careful with that, and especially abroad again, but even at home. The sort of thing I do is if I buy something that I'm not sure about, and I decide I'm going to eat a bit, I take one mouthful and I sort of wait a couple of minutes and do something, and then, if I'm okay and I can't feel anything, then I'll just eat it and not worry about it. But I do a little sort of taste test first and then come back to the food afterwards.

(1069 I, M, Severe)

The products I haven't tried before or new brands I'm a bit more wary around and will do sort of...you know, it's like – I think (supermarket name) do it when they're doing the deliveries, they'll drop off free products. I'll try the free products, but I'll do a very small sample test on my lips, and if it's tingling, then, you know... It's very much on the sample testing.

(4013 I, F, Severe)

4.1.3 Preferences

Participants were willing to take greater risks in the context of a preferred taste. The promise of the greater enjoyment led for some to greater risk taking – in participants with a history of both severe and moderate allergic reactions.

(Brand name), there you go...that's a bit of a different sounding one. See, now I'm thinking would I eat (brand name) ones, and I'm thinking they sound pretty good, so...whereas the white chocolate – I'm not a particularly big fan of white chocolate, so I probably wouldn't bother risking it...I might be more willing to take the risk if I was a little bit unsure. If I knew it was going to taste, or I thought it was going to taste good, I might be a bit more...a bit more sort of risk...open to taking a risk, which is probably a bad thing, but you know, that's the way it goes.

(P1017, AS, M, Moderate)

I would say, personally then, if I really liked the product, then I would take the risk and eat it.

(1042 I, F, Severe)

Generally I would (avoid products where it says they are made on machinery used for nut products) Apart from in the case of the soya nuts because I like them so I take the risk!

(1042, I, F, Severe)

Yeah, without hesitation, I'd eat (these chocolate buttons). I mean, I know (brand name) do a range where they– or they used to, when I was a kid - they used to do this brazil nut chocolate, which was a nightmare, because I'd still... I remember taking it off friends and thinking I really want to eat this and trying to nibble around it but ...you still get an allergic reaction even if you don't eat a nut, just the fact that it's in there somewhere. That used to be really disappointing!

(3008, PCRT, F, Moderate)

4.2 Product based strategies

4.2.1 Assigning risk to product categories

A key strategy that participants used to make food choices involved identifying high risk product categories. This assignation served as a way of indicating that food choices within that product category warranted extensive attention. The converse of this was that some product categories – primarily fresh fruit and vegetables – were generally unproblematic and therefore posed little risk to the participant. A low risk food strategy was to prepare foods from fresh ingredients rather than relying on pre cooked/ packaged foods.

a) High risk / problematic foods

Whilst doing the accompanied shop, participants mentioned products or categories of products that were particularly problematic for their nut allergy. Frequently mentioned problem products were pre-packaged ready-to-cook meals, ready-to-cook sauces, chocolate, biscuits, breakfast cereal and fresh bakery produce. In some instances, participants spontaneously mentioned products as ‘problematic’ foods without elaboration as though the reasons for them being problematic were self-evident. Where these spontaneous mentions were made in the accompanied shop, these were followed up at the beginning of the interview, to ask the participants what it was they found problematic about the products.

Participants referred to two types of problematic or high risk products that could be distinguished from each other in terms of how obvious or hidden nuts were expected to be. In some products such as bakery products, biscuits, breakfast cereals the presence of nuts was considered – in theory at least - to be visible and obvious.

So I've got some bread, and so I'm just looking for some bagels from the bakery, and I'm looking for...onion bagels...which I've found...and then I'm also looking for a cake, which would be probably the next aisle. I'm looking for flapjacks, which is also their own bakery range.

Is that for you?

That's for me, and...although I must say that I can always be a bit wary on...this area is my most...like would be my most nervous area as far as allergy, because there's always lots of nuts in things.

(3008 AS, F, Moderate)

So in general, I find biscuits are quite tricky because they... you know, you've got so many nutty varieties that it just...

(4013 I, F, Severe)

Well, it's just almost all cereal has nuts in of some description or another, and although I'm very allergic to peanuts, I'm allergic to walnuts to a certain degree, so it's...it's very difficult. You know, it's all your very bland cereals that we can have - yeah, (brand 1) or (brand 2), you know.

(1060 I, M, Moderate)

I mean, with cereals, I think...I wouldn't say it causes me problems because I think cereals are very, em, like...em...what's the word...they state, very obviously, where they've got nuts in or not, so I don't really find it very like hidden. Like you wouldn't - and generally, if I get - I don't eat cereal that much, but if I do, I'll get like a very plain thing, like Bran Flakes or something. You can buy things like Corn Flakes or Rice Krispies or something and know they won't have nuts in. I mean, a lot of cereals do actually have nuts in, but I find they're very - I think they use it more as a marketing thing, like something has got...with nuts or something, and then you know...you know not to go there.

(2049 I, F, Severe)

Many of these visible high risk products were strongly linked with the potential for cross contamination. The fresh bakery counter was frequently cited as an area where cross contamination would be likely to occur either in the production process or in the process of purchase (for example, by using the same tongs to handle different products).

I really don't go anywhere near the bakery section where it's sort of your Danish pastries and your doughnuts and stuff, and it's all put out on a big tray, with the sort of tongs, ...and people picking them up with the tongs, and then they pick up the other ones, and there's just much higher risk I think of contamination with that, rather than when I bought the cookies, they were sort of contained, weren't they, they were sort of packaged

up, so... So really, I'd say I definitely avoid that part of the bakery section anyway.

(1017 I, M, Moderate)

Oh yeah, most bakeries in supermarkets, they always.. say, in terms of making them in a factory, they're making it in their own like environment, and they may have – they make cakes and stuff which probably have nuts in.

So do you avoid all the kind of fresh bakery stuff?

Yeah, which is a shame, because it all looks really nice [laughing]! Yeah, just go for the packet stuff.

(1008 I, F, Moderate)

In the second type of problematic product the likely presence of nuts was less obvious, hidden and less easy to detect, for example in highly processed products such as cooking sauces (e.g. curry sauces and pasta sauces) and chocolate.

The other thing that I noticed is that you .. said you don't trust jar food in particular.

No, not any sauces.

Any sort of reasons that you can explain...?

Just because I've had such bad experiences with them in the past, because their ingredients are quite – there's a lot of ingredients, and it takes a long time to check it, and even when I've checked it, sometimes I've made mistakes because I've missed something, because I haven't read it thoroughly enough, or something's been listed in quite a vague way. .. Sometimes they'll put "Herbs and spices, a selection" or whatever, and if they don't put what they actually are, you don't know.

(1031 I, F, Moderate)

Right, coming into cooking sauces now, which is always a bit of an issue. A lot of them, you wouldn't expect that they have nuts in, so we always have to look at the ingredients for these.

(1060 AS, M, Moderate)

And then, also, when we were in the chocolate aisle, you said something about, "Oh chocolate is the nut allergy bit" or you said something like that. Can you just elaborate a bit on...?

Well, because chocolate is...they're secret. They – manufacturers secretly put nuts in, and not even bits of nut, like paste and stuff like that. I mean, for years, I didn't know what praline was, and it's hazelnuts. Where does it say hazelnuts? Nowhere! I didn't know that. I just knew that I didn't like them when I was a kid. But there's so many things...like chocolate spreads, so many chocolate spreads have nuts in.

(4015 I, M, Severe)

b) Low risk products

We have seen that a key rule of thumb by which people assess the likelihood of having an allergic reaction is to assign some products as being problematic high risk products. Conversely, participants also made categorisations of low risk food products as a strategy in making food choices. Assigning a product as low risk meant it was not necessary to check product information in order to make a food purchase decision. These products were often talked about as simple foods and were considered unlikely sites of cross contamination.

And then, some of the other things, em...I had somewhere there were some things that you didn't really check, such as cheese or the cheese strings. Are they just things you usually buy or...?

Yeah, they're just pretty much 100% - well, I don't - cheese, obviously, we just buy all the time, and it's very rare to have like nut traces on it, so that's just fine, and obviously like milk and all the dairies, they're all just normal.

So it's almost like there's some groups that you expect to...

Yeah, and obviously meat, you don't need to check, or we assume you don't have to check.

(1008 I, F, Moderate)

It's like fruit and veg, so it's kind of...I know there's no nuts in because they're obviously not being processed at all.

(1017 AS, M, Moderate)

Yum! Just cauliflower in cheese sauce, I wouldn't even normally bother to read the ingredients on something as simple as that. "Recipe - not nuts. Ingredients - cannot guarantee nut-free." But I would have...that would have no impact on me. I would just...if I would eat it - no, if it's something that I would buy, then I would eat that, and I wouldn't bother to read it.

(1029 PCRT, F, Severe)

I need some peas. Again, this sort of thing, I just assume is okay. Yeah, because you wouldn't...they wouldn't produce peanuts in the same place they would frozen peas, so I just...don't even bother looking.

(1161 AS, F, Mild)

Part of the strategy around low risk foods involved a focus on using raw ingredients. This allowed participants to be confident about what was in their food. Another important dimension of this was that it allowed participants to cope by being strongly in control of avoiding allergic reactions.

First of all, I think my overall comment about your shopping is that you don't comment very much on your nut allergy. Could you just talk about that a bit?

It's more around I always go for the same things. I tend to eat a lot – or I'll cook a lot myself from the raw ingredients, because then I know what's in them. I very, very rarely buy a ready-meal [...] But, as I say, generally, I either cook from raw ingredients or it's stuff that I buy all the time, and so it doesn't get scrutinised.

(1029 I, F, Severe)

Firstly, when we were walking around, you were buying quite a lot of raw ingredients for snacks and you said you often cook things from scratch ... Is that quite normal for you?

It is, yes. I mean, I've always enjoyed baking things, but more so now, with having a number of allergies in the family and friends with allergies, so then at least I know what goes into it and I'm happier doing that.

(1042 I, F, Severe)

I have always cooked, but maybe we would have bought more packaged things before, but over the last few years, it just feels safer to be more in control of what I'm cooking, what I'm eating.

(1198 I, F, Moderate)

A lot of the food we cook is...we'll make it up from scratch, like a spaghetti sauce. I've started doing curries now as well. I suppose there are two main reasons: one is because we prefer the taste – it's fresher and we know there's not so much sugar and salt and it's healthier and that kind of thing, and it's fun to cook; but also, I know what's in it, so there's not going to be any risk of any, you know, additional spices that they've put some cashews in or something like that. For me, I much prefer to make my own food than have a ready-meal because there's always that slight risk that...because you don't know what they've put in it.

(4001 I, F, Severe)

4.2.2 Balancing allergy considerations with other food characteristics

A further participant rule of thumb pertaining to particular food products was the need to integrate the demands of the nut allergy within other food choice considerations. Decisions about allergy and avoiding allergic reactions were just one dimension of food choice decisions; participants also considered price, special offers and a range of nutritional considerations. Strategies around integrating particular food products with other valued food characteristics were particularly evident within the accompanied shop method. This method provided an ideal context within which to explore the way in which shopping involves balancing and integrating multiple food choice agendas.

Prices and special offers were one key dimension of influence in participants' food choices. In both examples below, having established that the product was 'safe' from a nut allergy perspective, the participant then took account of these product characteristics.

I'm probably going to get some of the fresh soup stuff. (Brand name) food, which I tend to buy quite a few of, so I know they're usually quite good with their description if it has nuts in or not. And the Carrot & Coriander is going cheap, so I think that one...that one will be a good one.

(1017 AS, M, Moderate)

Right... I've got cereals, jam, flour... I need some raisins... Just having a look at the raisins... I'm looking at the difference of the (Brand name1) or the (Brand name2). These are for the party and also for lunch box. And...they don't have any warnings...and neither do those, so then we look at price, which is...they're cheaper.

(1042 AS, F, Severe)

Participant 1060's quote below demonstrates that as well as special offers influencing purchasing decisions, nutritional content was an important consideration. Having established it was a 'safe' product a decision could then be made as to whether to buy a lower fat version of the same product.

I'm looking at a (supermarket brand) Jalfrezi cooking sauce, [...] I've just found a lower fat version, so I'm just looking to see what the difference is... It's got almost half

everything in, so we'll have the lower fat version, and since it's three for £2, we'll have three of them. I'll stay away from the Korma, but I'll get the Tikka Masala. Two so far... I need another one. Tikka Masala .. looks quite safe... Just checking that one for any nuts, and it's just got the "May contain traces of". We need a third, so I'll have another Tikka Masala.

(1060 AS, M, Moderate)

Sometimes products may pass the scrutiny required to avoid allergic reactions, but may then fail in relation to nutritional considerations.

I'm thinking about what I want to eat for dinner tonight, because I've been very lazy and haven't organised myself at all. So I was going to have a pizza or something like that, so I'm looking for a small one...which will involve me reading the back, because I don't like particularly buying processed food, it kind of takes a while, but I'm being very lazy and can't be ***** to cook so...The problem is, you start reading the label for nuts, and you start reading the fat content as well and it kind of puts you off! So I might just go and grab a jacket potato.

(4013 AS, F, Severe)

4.3 Producer based strategies

4.3.1 Trust in brands or supermarkets

Finally participants also had rules of thumb for guiding food choice considerations which are located in the characteristics of the producer. Participants drew confidence about product choices where they felt that either the producer or the supermarket was reputable and trustworthy. Participants were often more inclined to choose brands that they knew and trusted. We will return to this issue in Chapter 6 as trust in the producer (or lack of it) provides an important context for interpreting labelling, particularly 'may contain' labelling. Citing the trustworthiness of the brand or the producer was a key way in which the credibility of 'may contain' labelling was established or discounted.

In line with what we have already noted about familiarity, one key strategy for participants was to identify and align product choices around trusted brands, producers or supermarkets.

The trust accorded to the brand or supermarket forms the backdrop for guiding food choices and for interpreting labelling. Preferences for supermarkets were expressed in terms of the confidence that participants had in the labelling system they used. For some confidence in the labelling system was anchored to approval of broader qualities of supermarket practice such as care, safety and quality. There was also evidence that people moved between supermarkets in order to get particular products that came with particular allergy-relevant guarantees and assurances.

Other than that...like I always shop at (Supermarket 1⁴) as well because other supermarkets just aren't as good at labelling. I get a bit frustrated with (Supermarket 2's), like it's a bit...how would they feel if like all the food....? Like, on salt, they put "May contain traces of nuts" or "Factory, no nuts, ingredients, nut-free" or "Cannot guarantee nut-free" or whatever it is

(1112 I, F, Severe)

They're quite good, (supermarket name) – they break it up, so you've got the recipe which has no nuts and then ingredients...can't guarantee...and then factory...but I'm usually okay with that. I mainly look at the recipe, to be honest. The factories they're made in, they get cleaned so thorough, I assume, that it shouldn't really be an issue.

Yeah, so you don't worry if it was on the same line type thing?

No, not really. As long as it's sort of a decent company

(1017 I, M, Moderate)

Also in the shop, you bought some fresh bread from the Bakery section, and said that you thought I might be quite surprised by that because it was the multigrain, wasn't it, yeah...

Multigrain, yeah. I won't buy anybody else's other than (Supermarket 1's) multigrain, because I know I'm alright with (Supermarket 1's), but I won't go to (Supermarket 2) or to somebody else. I mean, I do shop at (Supermarket 2) and other places, it's not just there, but I – no, I only use (Supermarket 1's) multigrain because I know I'm fine with it. I've never ever had a reaction to it at all, so I'm fine. So anybody else's, I'm not sure about.

(1179 I, F, Moderate)

So (Supermarket 1), for me, is very good labelling and I trust them – that's why I shop

⁴ The terms 'supermarket 1' and 'supermarket 2' are simply used to distinguish between two supermarkets being referred to within a single quote. They are not consistent across quotes, i.e. in different quotes 'Supermarket 1' may well be referring to different supermarkets.

there. I think some of the other places, like (Supermarket 2), I wouldn't trust them as much, which means it's probably snobbery, but also I think (Supermarket 1) goes with very good products and very careful with what they do. So (Supermarket 2), if it said it's been made in a factory that contains nuts, I wouldn't go near it, while (Supermarket 1), I might. It comes down to the brand, you know, marketing and brand safety I think on it.

(4013 I, F, Severe)

Yeah, I think that this should be fine, because em...this is one of these sort of (Supermarket 1) things. (Supermarket 1) I think are quite trustworthy with it, but I would have a check for their little allergy advice section. So..."Recipe no nuts" – that's one of the main things which I look for. Em..."Ingredients – cannot guarantee nut-free", so by that, I basically take that to mean they've been given...some of the ingredients in here they've been provided with by another company, who's basically saying, well, we can't guarantee it, and then (Supermarket 1) are saying, well, we can't guarantee it. So...I would ignore that. And then factory...was used...to make products containing nuts... But, again, rightly or wrongly, I would have (Supermarket 1) down as, em, being a company who is going to be thorough enough to like seriously wash their machines out before they change over to a new production line, just because I think they're quite...they should be quite thorough I think, and I think they would be quite thorough because, obviously, being such a big company and everything... So, I would eat that, yeah, yeah.

(1017 PCRT, M, Moderate)

Brands as well as supermarkets were distinguished in relation to their trustworthiness. Well known brands were often a trusted focus in relation to 'problematic products' both in terms of experienced and anticipated quality and in relation to the trust accorded to the allergy labelling.

There we go... (brand name)...just read the back, because I'm quite fussy with sauces, because I don't always know what's in them, so I normally go for well-known makes because they're a bit more reliable. That one's okay.

(1016 AS, F, Severe)

When it comes to confectionary – I don't eat a lot of confectionary, but when it does come to that, I will always go for the same thing. There's certain brands I won't buy.

(1029 I, F, Severe)

Yeah. With this, with (brand), again, I suppose because it's a company, for right or wrong, I kind of trust, then when I see them mentioning about something like "Not suitable for peanut allergy sufferers" I'm more inclined to think then...they're not covering their backs, which is ridiculous because they're probably more likely to cover

their backs! But I am more willing to sort of listen to their words of caution, so I would probably not eat them.

(1017 PCRT, M, Moderate)

Yeah, absolutely love them. I love oats. I know that's very strange, even though that they can sometimes look a little bit like...like nuts. Also...it's that thing, isn't it, of ...feeling safe with a product, because grew up eating (product) as a kid, always had (product) as a cereal. It's a well-known fact that everyone eats (product) when you're a kid, everyone knows the brand... It looks nice...

(4015 PCRT, M, Severe)

Reservations were sometimes expressed around a brand that produced well known 'nutty' products as well as 'safe' products. It was harder to visualise the safe products as being entirely free from the risk of cross contamination under these circumstances.

Oh, one of the other rules of thumb is, when it comes to cereal, again, I'll always eat the same ones, but sometimes, when I do try something new, there's brands that I won't eat if they make another flavour that contains nuts.

(1029 I, F, Severe)

I avoid all of the...if I do buy sauces, like the balti one, I tend to avoid the branded ones, because a lot of those have, em...like the (brand name) one, they make one that does have peanuts in it, so I tend to avoid the brand completely. I do need some sauce. I'll just get the normal (supermarket) one because I've just always had that.

(1161 AS, F, Mild)

Yeah, yeah, because it doesn't make any sense. The (product name)...surely all (Brand name/product name) are made in the same factory, and then so therefore peanut (product name) would be made in the same factory, so therefore like I shouldn't be able to eat it, but it doesn't say on the label, so... (1112, I)

Where brands were untrusted this was often related to a bad experience which was then generalised to other products within the brand.

You said something like "Oh I avoid certain brands" or...?

Yeah, anybody that puts Brazil nuts in their chocolate! Like I won't eat (brand name). They put chips of Brazil nuts in the toffee. That's what put me in hospital.

(1029 I, F, Severe)

Do you look at anything on the packets to help you make decisions about food purchases?

Brand. So, it's generally not a positive thing to do with brand. It's certain brands that I look at and go, oh, I know I don't like them. See, the (brand name1) here, my wife has instantly gone, "I wouldn't touch (brand name1) with a bargepole," yeah? Well, you see, that's a brand oriented thing from her, that she said that. Now, I said that with (brand name2), yeah, but I can't really...I haven't got any evidence for it. It's just like, "Oh, I remember once I felt a bit ill after eating..." It was actually some (brand name2), Oxtail Soup and it just made me feel ill, so I just avoid (brand name2), soups like the plague now, just in case they make me ill for some reason. So there's brands with negative connotations to them.

(1069 I, M, Severe)

Supermarkets too could be avoided on the basis of previous bad experiences.

I kind of trust (supermarket 1) and I haven't had a bad experience from them. I have from (supermarket 2). It's just easier to shop at the same place as well because I know the foods I can eat, and although I just have a quick glance, I kind of know...

(1112, I, F, Severe)

4.4 Conclusion

In this Chapter we have explored the main rules of thumb that nut allergic individuals use when choosing which foods to buy and eat. Drawing on all three data sets we have proposed a framework that characterises these strategies. We propose that they are situated in three domains. First, people routinely locate their reasoning around acceptance or rejection of a product in relation to their own experiences, sensory judgements and preferences – these are rules of thumb located in relation to participant based characteristics. Second, product based characteristics are a vital heuristic in making food choices. These are primarily based around high and low risk foods but also include the way in which people integrate a range of food characteristics within their food choice agendas. Third, characteristics of the food producer routinely informed food choices. The trust accorded to both brands and supermarkets was central here. In the next three chapters we will go on to explore the ways in which these rules of thumb are prioritised and used to make sense of labelling practices. The way in which

people make sense of 'may contain' is particularly fertile ground for exploring the ways in which these rules of thumb are applied in practice.

CHAPTER 5 - HOW IS INFORMATION ON PACKETS USED TO HELP MAKE FOOD CHOICES?

My parents got me a birthday cake and they forgot to check the packaging this year, and it said “Not suitable for nut allergy sufferers” on the back, but I thought, “Who makes a cake that has got peanuts on?” If it was a cake, it was going have sort of traces of almonds on, like marzipan or something. So I did actually have a bit, even though, really, by my rules I set myself, I wouldn’t have eaten that normally, but because it was my birthday cake, I felt a bit guilty! I felt on edge as I was eating it, but I still ate it, whereas I wouldn’t have done when I first found out. I think, when I saw the consultant, he sort of drummed it into me about being really careful, and I don’t think I needed to be as careful as he implied I did.

(1161, I, F, Mild)

In the previous Chapter we outlined the main strategies - or rules of thumb - that were used to make decisions about food choices and that contributed to assessments of risk. In this Chapter we build on this to specifically explore the role of product based information in contributing to these decisions. We will initially address this by exploring how allergy advice boxes, ingredients lists and other packaging information are used. We will explore when and why participants were satisfied with the information provided on packets and how confident in it they were. In the final section we will outline ways in which participants suggested that packaging information could be more helpful. The question of ‘may contain’ labelling is a substantial issue in its own right and will be dealt with fully in Chapter 6.

5.1 Allergy advice boxes and listed ingredients: How satisfied are participants with allergy labelling?

Participants sought out and used the information provided on the packet when the basic rules of thumb outlined in Chapter 4 did not lead them to a confident decision as to whether to consume a particular product. For example, packet information was used when participants were unfamiliar with the product, did

not have relevant experience or when the product category was problematic or the producer or supermarket was not trusted.

5.1.1 Allergy advice boxes

In general allergy advice boxes were trusted as being a reliable and relevant guide for assessing risk, making decisions and taking action. All participants except one were very familiar with allergy advice boxes and most participants used them as a key part of their decision making. Participants with long standing allergies acknowledged that the inclusion of allergy advice boxes was a welcome improvement from previous practice.

Allergy advice boxes were generally the first reference point on the packaging. The following quotes illustrate this but also make clear that allergy advice boxes were often also used in conjunction with the ingredients list.

I do look for the boxes that have got allergy information – hopefully they've got them. If not, then I have to look through the ingredients list, but again, if it's too busy, you know, if the packaging is too busy, with lots of writing, I just won't even bother. It just puts me off.

(1211 I, F, Severe)

Well, I never normally look at the ingredients. Normally, it's coloured and it's just like a box, allergy information, and that's the first place I look to. Where I'm used to look at like so many products, I can like scan it really quickly and just see straightaway. If there isn't any like...like it doesn't say anything about nuts, then I usually scan the ingredients, just to like double-check that it just hasn't been put in.

(1008, AS, F, Moderate)

And what are your general views on allergy advice boxes?

They're getting better. Years ago, they weren't, but they're getting better and I use them all the time now.

In what way would you say they're getting better?

Well, people are getting more and more aware of nut allergies and other allergies, like gluten and stuff, and like (supermarket name) do their own aisle for wheat-free now, don't they? So they're getting better, and I think people use them, or certainly I use them

more. And they're getting wiser too, you know, on the ingredients, and also (supermarket name), like where they put "No nuts", you know, I tend to trust that.
(1023, I, M, Severe)

Can you tell me a bit about what you look at when you're...?

I normally look straight at the allergy box, so that's normally...it can be, like some packaging is quite good, and it'll say like whether it's got nuts in and about the factory and things, but I normally just look at what it contains. It normally gives an allergy box, so I'll normally look there, in there, and then just briefly read over the ingredients myself to make sure

(1016, I, F, Severe)

Yeah, definitely (useful), because... I guess that's why they were sort of invented, to save you having to trawl through all the ingredients and... Well yeah, it immediately flags it, so you can tell straightaway if you look there. Even then, I still quite often check the ingredients – go back through the ingredients away, but...em... it definitely sort of speeds things up, and it's also quite reassuring to see.

(1017, I, M, Moderate)

Visibility and standardised format and speed of access were noted as being helpful characteristics of allergy advice boxes. Conversely the relatively small size of the text for communicating allergy information was problematic for some participants – this was evident in the PCRT and was also reported by participants within the interview.

I think that they're helpful. I think they're much more helpful than...than just "May contain". I think because...the problem as well is that sometimes it's so hard to accurately read all of the ingredients, and sometimes they're printed – the ingredients are printed so small. Sometimes you're just scanning over it. If you're looking at so many, you can easily miss something, so I think allergy boxes are really helpful, and it's helpful when they sort of...they're a bit bigger and they stand out a bit more. That's good.

(1116, I, F, Severe)

If I'm looking specifically for nuts, I will try and see and find if they have a big...bigger bit that says 'allergy advice', and a lot of things do now, and that's great. I mean, I will always look through the list of ingredients, but it just speeds things up for you. But what I'll do is, if it says contains gluten and wheat or whatever, I'll probably still read through the ingredients anyway, just to be sure, but that's what I look for, that big label

(5009, I, F, Severe)

Yeah, they are really helpful, and it does help when they're like big and bold, if they've got a .. colour, because you know exactly where to look for, whereas, if they're not there, it is quite unclear, and it all just blends in. It's just like a whole load of nutritional information, ingredients, and it's just...it kind of like all blurs, and you're like, "Am I looking at the right thing or not?" so the allergy boxes definitely do help, and they are really useful, yes"

(1008, I, F, Moderate)

I take my glasses with me, because everything – all ingredients are written obviously in really extremely tiny print, and my eyesight is such these days that I can't read it. So if I go into a shop, for instance, without my glasses, I'm seeing something and I can't read it, my default is I won't buy it because I can't take the chance.

(1069, I, M, Severe)

Other reservations were expressed about particular aspects of allergy advice boxes. For example two participants noted that sometimes they contained too much information. Too much detail was seen as threatening what they saw as the 'unique selling point' of allergy boxes which was to be a concise and accurate summary of the main categories of allergens. Too much detail led to it being seen as an abbreviated ingredients list. Interestingly, for those that preferred to use ingredients lists, it was the lack of detail in allergy advice boxes that was problematic. There was often a simultaneous recognition though that important information could be inadvertently 'hidden' or too general in the ingredients list.

Importantly, the absence of the allergy advice box was often considered to be a signal that there was nothing to worry about and that no allergy relevant action was required.

We're going to try go for the (brand name) with no warnings or anything on, so that's good

(1042, AS, F, Severe).

It doesn't mention anything to me about...about nuts, apart from coconut, so I'd actually buy that. No mention of any allergy advice, so I tend to buy that then.

(1023, AS, M, Severe)

I like the chocolate (brand name), but they don't have them here, but they're something again that's free from...they don't have any nut warnings on, which is good
(1042 AS, F, Severe)

There was a clear exception to this. Participants were concerned about the absence of labelling when this conflicted with another important rule of thumb for assessing risk. In the example below, participant 1017 is thinking aloud around the choice of a pasta sauce. This is a product category that he clearly bought regularly but around which there was some uncertainty as to whether particular flavours were suitable. For him pasta sauce was clearly designated as a 'problematic product'. The lack of allergy labelling was thus confusing and worrying and he is understandably reluctant to interpret no mention of allergy as indicating no risk.

"Pasta sauce... This is actually quite...a nut issue, [or it is for me]. I'm always tempted by the ones which are – they obviously have different ones on offer each week so... These (product name)...I think I bought them once before, but I'm always a bit hesitant because... I think it's something about what they say on the back. These ones are on offer this week, by the looks of it. See what they say... Em... Yeah, I'm just looking for the sort of allergy advice part of it, and...I'm sure it has one somewhere, because they all do... I'm being completely blind here I think. I can't believe that! How have I not..?! I think I haven't spotted it, because there's no way in the world it wouldn't have one! That's ridiculous – I'm sure I used... Well...now it doesn't say anything, I'm a bit suspicious as to... For some reason, I'm a bit suspicious that they might just have left it off, but if it doesn't have an allergy advice, usually you probably just follow the ingredients and see that there's nothing in there which has nuts, but...I'm sure I'm missing it still, because literally, I've never seen...I've never seen one of these without allergy advice written on it.

(1017 AS, M, Moderate)

As a postscript here the reader may be interested to see that the accompanied shop method allows us to see the conclusion to his reasoning process and his subsequent behaviour; he did in fact go on to purchase it!

I'm sure I looked at it before, in the past, and not gone for it, but...all the other ones on offer are...well, there's a buy one, get one free on that one, but...Tomato & Chilli... I think, well, I shall have to trust them. (Product name) ...we'll see, so I'll go for their Basil,

Parmesan & Cherry one and go for a Mediterranean Vegetable one as well. And I'm shocked – never seen that before! Right, anyway, that's a good thing I guess, unless I keel over!"

(1017 AS, M, Moderate)

5.1.2 Ingredients lists

Some participants expressed reservations about allergy advice boxes and expressed an explicit preference for using the ingredients list as a basis for checking and decision making.

Yes, the ingredients really. I do notice the allergen labelling second, but I don't – I don't trust it, because what they pick out might not be...em...you know, relevant to me, so I like to check for myself, and because I know some of the...some of the sort of, you know, Latin names for nuts, I sort of look for that as well, because it's – not everything has got that allergen labelling. So yeah, I look at the ingredients, and if they're ambiguous, like with that pesto, not explaining what that means, which I think is really poor practice actually, then... You know, red pesto, what the hell's that, you know? It doesn't mean anything! Then I won't buy it, full-stop.

(1068, I, F, Moderate)

To be honest, for me, there's no point in putting a warning on there. As long as the ingredients are listed clearly, big enough that you can read them, and they're not ambiguous, so like "a selection of herbs" – that's not very helpful, because if pesto is in there as a herb or something, then I wouldn't know. So yeah, the most helpful thing for me is to have all the ingredients listed as clearly as possible, as simply and as clearly and completely as possible. That's the best thing for me. The warnings are not usually helpful and I don't trust them anyway.

(1031, I, F, Moderate)

Even those that preferred to use the allergy advice boxes as their primary product information source noted the value of the ingredients list for resolving uncertainties regarding the suitability of an unfamiliar or novel product.

If it's a totally new product, then I'll go through all the ingredients as well, and then I look at everything on the packet to see if there's something hidden somewhere or within the ingredients.

(1003, I, F, Mild)

If it was a new product that I've not eaten, I will read every ingredient in the full ingredients list and not just the "contains" section, but when it's a brand that I get comfortable with, I'll just scan it quickly in case they've changed – just the "contains" section, in case they've changed an ingredient, but because it's one I've eaten all the time, just to keep my own sanity, I'll just read the highlights.

(1029, I, F, Severe)

5.2 Did participants use other packet information to inform food choice?

We noted in Chapter 4 that people may rely on their senses to surmise about the likely presence of nuts. Inferences are made on the basis of texture and taste which are then used to inform product choices. In a similar way we see that participants sometimes linked packet information to particular images and then made inferences about the likely presence or absence of nuts. In the quote below participant 1017 is thinking aloud in the accompanied shop about what he will buy for some friends who are coming to his house. The image evoked by the word 'Oriental' on the product makes it more difficult for him to be confident that the crisps would be free of nuts as the allergy labelling suggests it is.

I think I might splash out and buy them some (product name) because they're a bit posher! Unless there's anything on offer....which there...isn't really, by the looks of it, so I think I will just go for...mm... I bet those have got nuts in. Anything which sounds Oriental is more likely to have nuts in, so... I don't know... It says "Made in a factory using shrimp and egg ingredients" so it probably would be fine actually but...

(1017, AS, M, Moderate)

The product name thus serves as an initial filter for inferring the likely presence of nuts under some circumstances.

Product name is first filter - I'll look at the general description. Like, on a pizza, if it says Pepperoni Pizza with Pesto or something, then obviously I wouldn't buy it. That's the quickest way is if it's in the main description.

(1031, I, F, Moderate)

Several participants commented on a brand of bread that had nutty in the title alongside a clear explanation that the product did not contain nuts.

5.3 How can nut allergy labelling be improved?

Views about what improvements to allergy labelling would be most helpful clearly coalesced around two particular areas: more 'nut free' labelling and greater detail in labelling. A third option, considered useful by some was for greater standardisation in labelling. It is important to be clear that these were not options that were suggested to participants on which they were asked to comment. They arose spontaneously as participants discussed their experiences and in response to the question as to what changes in labelling, if any, participants would find helpful.

The greatest consensus - particularly by those with a history of previous severe reactions - was around the value of using labels to specify products as 'nut free'.

5.3.1 'Nut free' labelling

Categorical claims that a product did not contain nuts, was nut free or suitable for people with a nut allergy were highly valued – and where they occurred - were trusted. No one expressed any lack of confidence in the truth of such claims.

The participant quotes below give an indication of the strong affirmation of the value of 'nut free' labelling.

And this side, we want...eh...(product name)... I generally get one of the big packs. One of these, and these are always good for parties because they...generally usually have on them that they're free from...they're usually free from dairy and gluten and nuts. Here we go..."Gluten-free, nut-free, milk-free, soya-free", so that's good labelling!As I say, with things...some of the things that we've looked at, the things that they tick are "free from", it's much easier to identify than then having to look at the warnings and make a decision from there.

(1042 AS, F, Severe)

This tends to be quite an interesting section because my Dad's got a gluten allergy so he usually has stuff from here, and like, Christmas puddings and stuff, usually they do like ones that are free from everything, like this one. That one, last year, was nut-free as well; whether it will be this year or not... Ah yes! That's really good! You never find that on anything – "Made to a nut-free recipe in a nut-free environment". That's the first time I've ever actually read that on a product. Yes! Nut-free would be amazing, but no one...realistically, no one's ever going to do that because then it leaves them wide open to stuff, but that would be brilliant. Like if it's nut-free, then it's okay to say it's nut-free! That would be really – yeah, definitely. Like seriously, it would be so good.

(1112 AS, F, Severe)

These pretzels were produced in a nut-free factory, so that's fine. ... So I'm definitely taking the (brand name) pretzels, and we're giving them a gold star for actually sensible labelling. So the (brand name) one is really good, and I particularly like the pretzels that we bought, that I bought, that actually said "Made in a nut-free environment". That is just superb. When you see that, you want to go – you actually want to write to them, and in fact, I did, because I wrote to the (company) that make the (brandname) flapjacks. They actually put – they've got a little picture of a nut with a big cross through it, saying "This is made in a nut-free environment".

(4013, AS, F, Severe)

Yeah, I'm just very anti that. I think it should say whether it does or it doesn't. I mean, taking this in between line is all very helpful to the people producing it, but not to the person who's having to make the choice of whether to eat it or not. That's my view, yeah. Either it does or it doesn't, and I think anybody that could come up with a product and say "My products do not contain nuts", I think they can make a killing, simple as that!

(1194, I, M, Severe)

In the supermarket, I would love it if everything said exactly what was in it, if factories were able to separate things, because nut allergies, there's more and more and more people are getting them – obviously I did a bit of research into it when I was younger. More and more people are getting it and it's going to start getting a nuisance for the supermarkets, let alone the individuals. So if the supermarkets could start finding a way to distinguish, so people then could have a good experience at supermarkets instead of having a pain in the a**** time, that would be so much better.

(4008 I, M, Severe)

'Nut free' labelling was clearly the preferred option for those with a history of severe allergic reactions. Unquestionably nut free labelling was seen by them as the gold standard of nut allergy labelling. None of the participants expressed any reservations about the value of this system.

5.3.2 Greater detail in labelling

Participants pointed out particular ways how more improved information would be information that enabled them to adjudge the likely risk more effectively and thus make them more confident in diagnosing which actions were most appropriate.

Two areas where greater specificity would be valued were noted. First, in relation to the production process, and second, in relation to types of nuts.

a) Process

Participants suggested more information about the reason behind the nut warnings would be useful and would lead to more informed decisions being able to be taken about whether to avoid the product or not. In the first example below participant 1029 gives the risk assessments that she would attach to different processing scenarios. The implication is that she would take different courses of action, or at least have different degrees of confidence about each of these options. The two following examples further illustrate the value that is attached to understanding the 'why' that lies behind the warning.

Okay. So you like that kind of information about...it's almost like about breaking down into sort of elements of...

Yeah, risk categories. A factory that doesn't use nuts at all – absolutely perfect scenario! A factory that handles seeds and nuts, probably I'd say low risk. A line handling these nuts would be medium risk, and then high risk would be obviously if it actually contains nuts.

(1029, I, F, Severe)

What would you rather it said? Is there something that would be helpful?

I'd rather it would say why, why they thought it wasn't suitable, what's the reason. You know, is that because they're handling nuts in the factory? Is that because the production line previously made something with nuts? Or is it just because they're worried that something might go wrong?

(1116, I, F, Severe)

Where it says about the factory, it was "Recipe doesn't have nuts", the ingredients, we can't guarantee they're nut-free, and the factory, and then explained the nut connection, and I think that's really good. I like that.

(1068 I, F, Moderate)

What would be more helpful is... Like this (supermarket name) one is really clear on the reason why they think you shouldn't eat it as a nut allergy sufferer. I think then you can make an informed decision. So, for me, that is really clear ...you know, this might contain nuts, but the reason it might contain nuts is because...it's going down the same thing. You know, if it said "This has been made in a factory that uses nuts but is on a different conveyor belt," you know, the possibility of cross-contamination is a lot less, so then you can make an informed decision of, oh, it's in a factory that uses nuts, but it's not in the same area. Okay, there might be one or two dust particles that get in. That type of thing. I mean, that (supermarket name) one, I give them 10 out of 10 for their labelling.

(4013, I, F, Severe)

b) Type of nuts

Participants also explained how greater detail about which nuts the product contains would assist with making decisions about which products should be avoided. Unsurprisingly this was considered particularly valuable by people that were allergic to particular nuts.

If you buy just the (brand) biscuit on its own, the packet says, lists the ingredients, and then it says "Produced in a factory handling..." whatever, "Produced on a line handling..." whatever, so then you can manage. So, if it's produced in a factory handling hazelnuts, you might think, okay, I'll risk that, but if it's produced on a line handling Brazil nuts, I wouldn't go near it

(1029, I, F, Severe)

It's that when I...when you go shopping and they say...i.e. like my cereal - it says it's got almonds in it and it says it's got hazelnuts, so I trust it, because I know I can eat them, but

I really do think that the companies that make things that have got nuts in, or even make things where a nut could be in it, that they should state what actual nuts it is. Because if everybody knew, you know, this product's been prepared by something where there's pecans and walnuts, then I wouldn't touch it at all, whereas if they said this has been produced near where there could possibly be peanuts in it, I wouldn't worry.

(3008, I, F, moderate)

5.3.3 Greater standardisation in labelling

It was clear that participants were often aware of variation between supermarkets and brands in the way in which they provide nut allergy information. Unsurprisingly bearing in mind the importance of experience of, and familiarity with, particular products, participants tended to have a preference for (or - more often - against) particular labelling practices. Within this a number of participants drew attention to the value of standardising labelling so that, for example, allergy advice boxes were of a particular size or colour with the information presented in the same order. The other possibility mentioned by several participants was of a visible single symbol on the front of the packet which would constitute an initial general warning and act as a prompt to seek out further information from elsewhere in the packet. In the quote below, participant 1069, who had a history of severe allergic reactions and had two daughters with severe nut allergies, links the need for a recognisable nut warning with its potential value in educating and training.

This is allergy advice, so it should be in a recognisable symbol, consistent across all products because then you know what you're looking for before you pick it up. I know there's a war going on out there, isn't there, about these things here? The big supermarket chains haven't agreed on what this sort of...this sort of information should look like. There's different ways of signifying it. So what would be good is an allergy equivalent of something ... but let's just have one and not several, because then you could drum it into people at an early age and they know what they've got to look for and they could do it.

(1069 I, M, Severe)

5.4 Conclusion

This Chapter has explored participants' views about the allergy information located on product packaging. The way in which people interpreted the information contained within allergy advice boxes, ingredients and in other packet information has been explored. We have argued that allergy information was referred to where the rules of thumb for food choice did not allow for confident decisions to be made. Even where participants do use allergy information, the rules of thumb are used to inform its interpretation and the amount of confidence that is invested in it.

Although the ingredients list was used by some as their primary product checking strategy, it was more often the case that the allergy advice box fulfilled this role. Expressed and revealed preferences for ingredients lists or allergy advice boxes did not seem to relate in any systematic way to allergy severity. Some reservations were articulated regarding allergy advice boxes but they were considered by most people to provide trustworthy and valuable information in a useful format. It was also the case that the absence of an allergy advice box tended to be seen as a reliable indicator that the absence of nuts could be confidently assumed. This was not the case where a rule of thumb suggested that an allergen could be present.

Three improvements to nut allergy labelling were suggested. The option which was clearly preferred for those with a history of severe allergic reactions was for 'Nut free' labelling. Their focus was thus on the desirability and value of being able to identify and remove allergens during food production processes. A second option that was called for was enhanced detail in labelling. This does not mean more detail *per se* but rather, information that helps people diagnose which actions are most appropriate. Thirdly, a standard single front of pack allergen warning (as a prompt to look at the back of pack allergy information) was noted to be potentially useful.

CHAPTER 6 - HOW DID PARTICIPANTS RESPOND TO 'MAY CONTAIN' LABELLING?

"At the risk of repeating myself for the hundredth time, I could shoot the man who wrote it. "May contain" is the vaguest expression I've ever heard. "May contain", "Produced in a factory..." How are we...how are people with serious allergies supposed to know what to buy if it says "May contain"? What happens if you're proper paranoid about something and there's nothing...you've got no one to help, you're on your own? I've always been hoping over the years that "May contain" would change into "Contain" and "Doesn't contain", but "May contain" is so vague that I could get so angry at it! As I said before, I'm starting to get annoyed just talking about it. It's so frustrating".

(4008, I, M, Severe)

"Cannot guarantee nut-free" is just a get-out clause I find completely useless. It doesn't give you any real information

(4004, I, M, Moderate)

This Chapter brings together the range of participant views that were expressed around 'may contain' labelling. After delineating the various expressions of 'may contain' labelling that participants drew attention to, by way of introduction we outline some of the general issues that arose. We describe the ways in which participants drew on the rules of thumb outlined in Chapter 4 in making food choices under the uncertainty that they considered was implicit in, and induced by, 'may contain' labelling. The next section outlines the actions people take in the light of 'may contain' labels. This spans a range of responses from those who choose not to eat anything that says 'may contain' nuts to those that always do so. The final section of this Chapter outlines a framework that describes the reasons why participants frequently discount 'may contain' labelling. We characterise and describe the four main strategies by which participants undermined and discounted 'may contain' labelling: pragmatic discounting, distrustful discounting, differentiated discounting and implausible discounting.

The last section of the Chapter describes some of the allergic reactions participants had experienced to products covered by 'may contain' labelling.

6.1 What is 'may contain' labelling?

'May contain' labelling is a statement referring to a product that 'may contain' nuts. Participant accounts of their experiences highlighted three sources of variability in the ways that 'may contain' claims are expressed in labelling:

- The amount of nuts may be more or less specified (e.g. 'nuts', 'traces of nuts').
- The types of nuts may be more or less specified (e.g. 'nuts', 'peanuts', 'hazelnuts' etc).
- 'May contain' may also be implied through alternative wording (e.g. cannot guarantee nut free).

6.2 How is 'may contain' labelling viewed and used?

In this Chapter we explore the ways in which the designations of 'may contain' were used to accept or reject particular products. Overall, participants used a wide and complex range of reasoning about 'may contain' labelling. It is paradoxical that some participants chose to respond in highly consistent ways to 'may contain' labels and yet none of them believed that the 'may contain' message was a credible or desirable one. Indeed, there was extensive evidence that participants discounted the 'may contain' message in a range of ways. That is not to say that people did not see the necessity for signalling uncertainty. In the following quotations participants base their claims for the necessity of 'may contain' labelling by implicitly comparing it with the implications of no labelling at all.

Even in...even in places like (coffee shop), there's a little note on the sign that says, "This contains nuts," tick. There's not even that in the (supermarket) bakery section. So it would help to have something which says "This may contain nut traces", even though I hate it when it says "may contain". Even that would be better than nothing.

(4008, I, M, Severe)

Personally, I think it's a good thing, because there are people who are super-sensitive, who have super-sensitivity. I don't, but I think it's important for other people. I think if there's any chance that there is cross-contamination and there's nuts in there, then if someone's super-sensitive, they need to know.

(5009, I, F, Severe)

Participant 3008 made a similar argument by comparing 'may contain' labelling with the lack of nut warnings evident on foreign products. In this situation, 'may contain' labels are seen to provide some comfort by indicating that someone is responsible for checking the nut content of food products.

But they must be a comfort because that's why I feel nervous about the foreign packaging that doesn't have anything. So even though they might, you know, consciously, you might not really think they're much use, but subconsciously, they're giving you some kind of support. They're like a comfort to you. You feel like, oh, people are checking my food

(3008, I, F, Moderate)

Along similar lines participant 1042 drew confidence for managing her nut allergy from the way in which other allergens were labelled. Labelling advice that the product contained gluten was read as a sign that the producer was familiar with allergies and the participant thus inferred that the lack of warnings about nuts could be trusted.

Yes, and I would say things without a (may contain) warning on, I'm more likely to buy. So with like the porridge oats, the fact that they just had 'contains gluten' means that they are familiar with the allergies and they're obviously confident that they don't need to document about nuts.

(1042, AS, F, Severe)

Both of these examples suggest the importance of producers and manufacturers communicating that they are attending to allergy in a responsible manner. We will return to this issue below in relation to exploring how 'may contain' warnings are discounted.

6.3 Interpreting ‘may contain’ in context

It is important to note that participants make sense of ‘may contain’ labelling with reference to different dimensions of the context in which they are managing their allergy: they judge, interpret and make use of product packaging information with reference to the three broad dimensions of context outlined in detail in Chapter 4. Product information, including ‘may contain’ labelling is interpreted against the backdrop of (1) the participant’s experience of, and familiarity with managing their nut allergy, (2) images of, and beliefs about, particular products or food groups, and (3) beliefs about the credibility of the sources of product packaging information.

Previous experience of a product was an important arbiter of how the lack of a guarantee was interpreted. In the quote below, the ‘may contain’ warning could be safely ignored in the light of previous – uneventful – consumption. Previous experience was trusted to ensure future safety.

Regarding these, I will always look on the back. It says “No nuts – cannot guarantee nut-free,” and I know that’s fine because I’ve had them before.

(4008, AS, M, Severe)

In the following quote, this participant explained that generally she did not eat any ‘may contain’ products (and her accompanied shop also indicated this). However, when the experience of the moment was of being hungry and in a rush, this occasioned a more relaxed approach and ‘may contain’ products were consumed.

And I think, I mean, we did touch on this earlier, but it sounds like you would largely avoid things which say “May contain traces of nuts”?

Yeah. Unless I really, unless...you know, it all comes down to how hungry you are, what a hurry you’re in and everything else. You know, like tonight, if I’d gone to get biscuits and I’d looked at the first lot, and then I think, well, just got to, sod it, I can’t, you know, I just haven’t got the time, and it does come down to time and sometimes you just have to grab things and run the risk, and other times, you just think I won’t bother. I think I’m normally in the category of I won’t bother.

(4013, I. F, Severe)

Moving on to a consideration of the how the context of product category may affect the interpretation of 'may contain' labelling, the quote below suggests that the 'may contain' warning would be interpreted as warranting avoidance, not only if it was assigned as being a problematic product but also when it 'looked dodgy'. It also implies that if the product was a trusted one that no such avoidance would be necessary.

And then there's the issue of the "May contain nuts". So, if something said "May contain traces of nuts", do you find that helpful?

It depends on the product. If it's something like (product name) then it wouldn't be an issue. If it's a cereal, like (product name), and it looks a bit dodgy, then I wouldn't entertain it.

So does 'may contain' actually help you to make a judgement then or...?

Yes, on some products. Like (product), no, I would automatically buy, wouldn't be a problem, but on something I wasn't sure of, like these rice bars or whatever, then I wouldn't buy it.

(1023, I, M, Severe)

6.4 Responses to 'may contain': avoiding the food or ignoring the label?

There was a broad range of participant responses to 'may contain' labelling. At one extreme there were three participants, two with a severe nut allergy and one classified as mild, who said that they would always avoid foods labelled with 'may contain'. The majority of participants were at the other extreme and ignored 'may contain' labelling. Some participants adopted more differentiated approaches.

6.4.1 Avoiding food labelled with 'may contain'

Three participants were clear in their claims that they avoided and would not eat products labelled with any variants of 'may contain'.

And what exactly are you checking when you're sort of looking at the packaging?

Whether it says anything about nuts on it or not. If it doesn't say anything at all, then I generally eat it, so yeah...but if it says like "May contain traces of nuts", then I can't eat it. If it says "Factory, no nuts, ingredients, no nuts, cannot guarantee nut-free", I still can't eat it. So I'm looking for any kind of labelling on it.

(1112, AS, F, Severe)

To me, if it says "may contain", it means that that person who's produced it isn't sure, and if that person isn't sure and cannot guarantee that it is, then I'm not going to take that chance, simple as that

(1194, I, M, Severe)

No. If anything mentions nuts – production line, traces, cannot guarantee – I don't have any of it.

You avoid all of those?

Yeah.

Okay. Can you just tell me a little bit about avoiding those, you know, why you do that or...?

Well, I am allergic to traces of nut as well, so when they say "May contain traces", I'm not going to risk it in case this one actually did have traces because that would affect me.

(1003, I, F, Mild)

Another young participant (aged 19) related his lack of confidence in dealing with 'may contain' labelling which had resulted in him being too nervous to try new products since moving away from home. He felt that this had constrained his diet to such an extent that he was no longer eating a balanced diet.

I hate it when it says "May contain nut traces" because that sentence comes up on pretty much every product, food product. In certain cases, that's okay because I've eaten them before. My Mum is very good with food. She knows exactly what's what, and she'll go, "That's fine – that's not." Now that I'm at uni and I'm by myself, that's not the case. I can't walk up to something new and think...em...yeah, no, that will be fine, because there's a notice on it which says "May contain nut traces." So that limits what I can try, and it also limits me trying new things, like in a restaurant, limits you trying new things because it says "May contain nut traces." However, as I said, at the bakery, having it there, you know that they're taking a precaution. However, with the packaging, with the things that blatantly don't contain nut traces, it still has a doubt because, being on my own, I've only got me to blame. I've only got me to look after me, so it's hard to try new things....it's very difficult for me, as an individual, to know what to do basically, you know, how to go about trying new things".

So far, I have to admit, I just haven't tried new things. So far, I've stuck to chocolate muffins, which I can eat, fruit and veg, which is an obvious no nuts, and my parents made me ready-made meals, but I probably go for ready-made meals as well, and just the basics, literally the basics, but I need to obviously expand a bit if I want to...be able to feed myself properly

(4008, I, M, Severe)

6.4.2 Ignoring the 'may contain' label

All three methods used in this research provided evidence that many participants ignored 'may contain' labelling in the sense that they bought and consumed products labelled in this way. Participants justified their decisions to consume products with 'may contain labelling' in a range of ways.

For some 'may contain' labelling was equated with non-existent or imperceptible risk. For others the uncertainty it signalled was so extensive that taking precautionary action was not warranted – taking a risk was a more preferable approach.

The Carrot & Coriander (soup) is going cheap, so I think that one...that one will be a good one. I've had this before, so I know that will be fine for nuts. No suggestion that there's any nuts in it anyway. Obviously, it says "May contain nut traces", but it won't, so...!

(1017, AS, M, Moderate)

This product is made in a factory which also handles nuts." That statement has absolutely no impact on me, because it doesn't tell me what nuts. In a factory? Is it on the line or just the factory? It's a completely useless statement, as far as I'm concerned.

So what do you do when you see that statement usually?

I'll just...if it's not in the list of ingredients, I'll just risk it.

(1029, PCRT, F, Severe)

So what about (supermarket name) Cauliflower Cheese?

They've actually said "no nuts", so at this point, I'd be going I think I'm fine. The recipe has got no nuts. "Ingredients – cannot guarantee nut-free...[reading rest]" I'd eat that.

Okay, cool. So it's because the recipe thing says no nuts?

Yeah, there's a conscious thing there that says they haven't got any nuts in this recipe. There's an off-chance that some nuts might have crept in. There's an off-chance a jumbo jet could land on my head, yeah, but...

(1069, PCRT, M Severe)

For some participants it was a risk worth taking under some circumstances – when the immediate benefits of eating the food outweighed the potential risk of consuming the food.

I think, usually, I'm alright to try those. I certainly wouldn't have a big reaction if there was a tiny piece of nut, but my experience is just that really they're just covering themselves, and most of the time, it's fine. So, if it's a food that I really want to eat, I'll just ignore it.

(4010, I, F, Moderate)

What's your views on food labels that say "May contain...", so "May contain nuts" or "May contain traces of nuts", for example?

I would say, personally then, if I really liked the product, then I would take the risk and eat it.

(1042, I, F, Severe)

The reasoning of other participants involved reference to the potential consequence of having an allergic reaction to nuts. The model that these participants adopted was that (a) they would stop consuming 'may contain' foods as and when they got a reaction; (b) that the likely reaction would be minor or (c) in the case of participant 4004, who sometimes did get a reaction, that this was of an acceptable magnitude.

They'll do. £1.85. These are okay. I'm going to keep getting it until I get a reaction, in which case I'll stop!

(1112, AS, F, Severe)

The day that I eat something with that warning on that sets me off with a reaction will be a really sad day, because it will mean it will rule out a lot of other stuff that I've [been willing] to risk, but so far, touch wood, most things I eat, if ..., rather than being a bag of oranges or whatever, you know, they all have that caveat, so I just have to disregard it. It's like, yeah, I know that – tell me something else, kind of thing.

(4001, I, F, Severe)

Yeah. Most of the time, anything that says “May have traces of nuts”, then I...if I really want it, then I’ll have it, and to be honest with you, you know, that is so low that I’d need to eat a lot of it for it to make me really sick.

(3024, I, F, Severe)

Yeah. I mean, I think, really, there needs to be a test for this, because...a simple test that they can say that it’s contaminant-free or so minimal... And for me as well, because I have this slight reaction that I know I can get away with it, I just have a really uncomfortable day – I sometimes wonder how far it’s going to go, but then drink plenty and it seems to go away. I know I can risk it.

(4004, I, M, Moderate)

It is noteworthy that in the examples above the concept of risk - and the importance of running a risk (however small) - was prominent. With the possible exception of participant 1017, for all the other participants ‘may contain’ indicated that the food could indeed contain nuts.

6.4.3 Taking notice of ‘may contain’ labelling

There was a range of examples of other ways in which people took notice of ‘may contain labelling’. It was used to inform choices between two similar products; it functioned to act as an alert to prompt closer attention. For participant 1029 attending to the detail of ‘may contain’ warnings led to more sophisticated risk management strategies and eating ‘may contain’ products made participant 1198 feel guilty.

Ah, they’re down here. Here we are. So we’ve got... What are these? These are (brand1) jammy biscuits, and these...again, the ingredients, “cannot guarantee nut-free” ... And the (brand2) jammy biscuits...allergy advice, “Contains wheat, gluten and milk”. So I would always choose (brand 2) over that one, although there’s probably actually very little difference.

(1042, AS, F, Severe)

Yeah. So do you pretty much discount all “May contain traces” and...?

Yeah.

And all “May contain” labelling?

Yes, I mean, unless it's something I'm a bit dubious about anyway, then seeing that might prompt me to check the ingredients, if you know what I mean, but I'll never...I'll never see that on something and think, oh, I better not have it then. It may just prompt me to look a bit further, i.e. check the ingredients, but I would never just discount something on the basis of that.

(2049, I, M, Severe)

But when I'm trying something new, I would feel very uncomfortable if they only had the phrase "May contain traces of nuts" on. If they had the phrase "May contain hazelnuts" or "Produced on a line handling hazelnuts" or whatever, then I know the risk I'm exposing myself to, and it's my choice if I want to put myself in that position, or, like I said before, I might eat that product when I'm in London, but I might not eat that product when I'm halfway up a hill in the Lake District. So it's giving me boundaries which I can work with. "May contain traces of nuts"I just wouldn't eat it up a hill.

(1029, I, F, Severe)

But I did buy a jar of mango chutney that I will eat some of and it does say that it may contain nuts.

Okay. But you've eaten it before?

Yeah, I've eaten it before, but I'm always aware when I pick it up...I always think, no, I shouldn't really be doing this, which is sort of strange really, because you feel like you have a rule for yourself but every now and again, you make an exception.

(1198, I, F, Moderate)

6.5 Discounting 'may contain' labelling

The next part of our consideration of 'may contain' labelling focused on the reasons *why* participants often discounted it and undermined its credibility.

Discounting the credibility of 'may contain' messages was a common pattern of reasoning amongst study participants. We identified 4 main ways in which 'may contain' labelling was discounted: pragmatic discounting; distrustful discounting; differentiated discounting and implausible discounting.

6.5.1 Pragmatic discounting

The essence of pragmatic discounting was that it was not possible to avoid all products with 'may contain' labelling and that doing so would result in an

unfeasibly limited diet. Pragmatism thus demanded that 'may contain' labelling was discounted on some occasions.

I've now sort of become blasé in the millions of things that say "may contain traces of nuts" because if I didn't eat things that said " May contain traces of nuts" I'd have a very narrow spectrum of food that I could eat.'

(1069, I, M, Severe)

Do you find the "May contain" helpful?

Yeah. Well, sometimes I do and sometimes I don't, because it is really restricting because it's on absolutely everything.... If I was really strict, I wouldn't have anything to eat really, because the amount of food that says "May contain nuts" is just silly

(1016, I, F, Severe)

I'm looking at an (supermarket) jalfrezi cooking sauce, which (name) thinks has got nuts in, but it's just got the vague classic "May contain traces of..." which I never worry about, because if I did, I'd never eat anything. As long as it's not actually got it in the ingredients, then I'm quite happy with it, and it's not got it in the ingredients on that, so we'll have one of them.

(1060, AS, M, Moderate)

When I'm trying new things, normally, even if it says that, I'll try to ignore it, purely because everything has it. If I took everything seriously, I'd end up buying nothing sweet, nothing chocolaty.

(4008, I, M, Severe)

Em, they're from the actual bakery, so it's got a standard bakery label on that says "May contain traces of..." I would certainly eat them.

You would?

Yeah.

No problem! Okay, so you don't worry about any kind of cross-contamination about bakery stuff or...?

Not really. Again, you'd never eat anything from a bakery. All bakeries handle nuts.

(1060, PCRT, M, Moderate)

6.5.2 *Distrustful discounting*

The essence of distrustful discounting is that the motivations of the message source (producers or supermarkets) are suspect and thus that the message is not to be trusted. The main motivation imputed to such sources was that they were simply trying to avoid being liable for any ill effects should any adverse reactions occur.

“I can understand why (the ‘may contain’ messages) are there, because it’s a backside-covering exercise for the manufacturers, because they can say, “Well, we put it may contain traces of nuts in it, and he died, so it’s not our fault”. So I can see why they’ve done it, but it’s the over-usage of it – it’s the boy who cried wolf-syndrome. After a while you just become blasé to it and you just go, well I’m going to eat it anyway”.

(1069, I, M, Severe)

What about (supermarket name) Bakery Chocolate Chip Cookies?

Anything with “chip” in, I check, because it could be a nut chip as well as a chocolate chip, so I’d read that. Yeah, this is a classic... “This product may contain traces of nuts or seeds.” So my assumption would be there’s no nuts in the product, therefore it’s just a legal “get out of jail free” card. I’d eat that

(1067, PCRT, M, Moderate)

If it says “may”, I generally trust it and I generally buy it, but em... That’s how they cover themselves in the manufacturing process, isn’t it?

(1023, AS, M, Severe)

It is interesting in the last quote above that the participant equates trusting ‘may contain’ labelling with the notion that that there is nothing in the product that he should be worried about.

The following quotes illustrate important variants to distrustful discounting. In the first quote the participant explains that, as above, he is disregarding the ‘may contain traces’ labelling as, if there really *were* traces of nuts, the supermarket he shopped in and trusted would warn about this more clearly. The fact that the supermarket was trusted (and the participant had had experience with the brand) allowed him to discount the veracity of the may contain warning. In the

second quote, as the company is trusted, means that where they do label with 'may contain' the inference that there is a real risk is warranted.

Right... Now, I'd usually be a bit cautious with this kind of stuff, but, being (supermarket name), I actually trust them quite a lot because they'll probably have a breakdown...[on everything they make]. Oh, it says "May contain traces of nuts" but...I think that actually...they're probably just writing that and actually they... Plus, I have had cookies from (supermarket name) before, so I usually know they're fine. I think actually they would go further – if there was a genuine risk of having nuts in, they would go further than say 'May contain nut traces.'...

(1017, AS, M, Moderate)

I don't know why – I do tend to trust the company if it doesn't put "May contain traces of nut", because so many companies, like (brand name) just chuck that on all their labels, and it makes me then wary of eating it because it says "May contain".

(1161, I, F, Mild)

6.5.3 Differentiated discounting

The essence of differentiated discounting is that products labelled with 'may contain' can be legitimately distinguished from each other and should be responded to in different ways. Different variants of 'may contain' give different messages and some versions should be discounted. We identified 2 types of differentiated discounting.

1. Where participants juxtapose 'may contain nuts' with 'may contain traces of nuts' and discount the 'may contain' traces warning
2. Where participants juxtapose warnings about specific nuts with general nut warnings and discount the general warnings.

a) May contain nut traces vs. may contain nuts

The comparison of 'may contain nuts' with 'may contain traces of nuts' serves to allow participants to ignore the traces warning and affords greater credibility to the nut warning.

I certainly ignore “May contain traces (of nuts)”. If it’s “May contain nuts” I’d investigate it a bit more. I’d actually look through the ingredients and reach an informed decision that way. When it’s ‘may contain nuts’, I probably don’t buy it. If it’s ‘may contain traces of nuts’, then I might think how much I need to, but generally wouldn’t...unless it’s something really stupid, because sometimes they do put that on really silly things.
(1198, I, F, Moderate)

“May contain nuts” is...well, I wouldn’t eat it, because that means it could contain nuts. “May contain traces of nuts” is different.
(1068, I, F, Moderate)

b) Specific nut warnings vs. general nut warnings

When juxtaposed with general ‘may contain’ warnings, those that mention particular nuts are believed to be more credible and this leads those with allergies to those nuts to avoid the specific ‘may contain’ products. More specific warnings are, by comparison, read to indicate that there is some particular knowledge about the increased risk of the presence of allergens and participants were more likely to be inclined to take precautionary action accordingly.

Yeah, there you go – it’s got “Traces of peanut, hazelnut and almond”. Well, that would be enough to put me off. I mean, “May contain traces of nut” is one thing, but the fact that they’ve actually specified which ones kind of makes you think, well, is there more of nut traces in there than there is things?!
(1068, AS, F, Moderate)

If something said “ May contain traces of cashew nuts”, I’d take that a lot more seriously, because they’ve actually gone to the trouble of actually working out, right the thing that’s in this that could set people off, it’s not just generic nut, it’s cashew
(1069, I, M, Severe)

I’m more sensitive to if it says “May contain peanuts”. If it’s “May contain nuts” I tend to be a bit more...okay with it, but if it specifies it’s actually peanuts, then that often makes the other difference. I don’t know – it’s a bit odd! It’s just how I sort of interpret them, but I think actually when it says “May contain peanuts”, then it probably goes...I’d probably say I’d go so far as to say I actually am more inclined not to buy it.
(1017, I, M, Moderate)

If it says “May contain traces”, I’m okay with that – I’ll buy that. But if it says quite specifically “May contain traces of peanut”, then I won’t buy it, because I think that’s the... I feel like – I don’t feel so confident I think, because I think that’s a little bit too specific, you know?

(1116, I, F, Severe)

If it says “May contain traces of peanuts and other nuts”, then fine, I would probably risk it, but saying it’s not suitable for peanut allergy sufferers suggests there’s something about it which is not to do with the ingredients...so, no, I wouldn’t, unfortunately.

(1068, PCRT, F, Moderate)

6.5.4 Implausible discounting

The essence of implausible discounting is that the credibility of the ‘may contain’ warning was undermined when there was a lack of a plausible link between nuts and the nature of the product on which the warning was situated. Where the link was implausible the warning was discounted. Importantly, the occurrence of these situations had the effect of undermining ‘may contain’ warnings in general. We identified two types of implausible discounting.

1. Where ‘may contain’ warnings were located on products that legitimately contained nuts.
2. Where ‘may contain’ warnings were located on products considered impossible to actually contain nuts.

a) May contain warnings on products containing nuts

Here participants commonly cited the example of packets of peanuts including may contain warnings.

I’ve seen warnings on the – I’ve seen it on a packet of peanuts, “May contain nuts”, and the thing is, you think it’s a joke, and it’s like, well, yeah. It’s as if everyone’s been told to print it.

(4008, I, M, Severe)

It's when bags of nuts on them have "May contain traces of nuts" ...it's like, urgh...you're insulting everyone's intelligence! Of course it is! It's called nuts!

(1069, I, M, Severe)

Well, I mean, when you look at...if you look at a packet of peanuts and it says "This product may contain traces of nuts," it just...the whole thing becomes a joke, doesn't it? That's just silly. You can't put on a packet of nuts "May contain nuts". It's a packet of nuts! You know, if you're going to put that, it just...it seems like another tick-box exercise to reach a standard. It's not actually commonsense.

(1031, I, F, Moderate)

Along similar lines, in the example below, confidence in 'may contain' labelling was undermined by finding nuts in the ingredients list as well as a 'may contain' warning.

Yes. I find the labelling frustrating on jars of curry, etc., so...and I think, as I mentioned, on one occasion, the label has said "May contain traces of nuts", which usually, on everything else, indicates that there aren't actually nuts in it but there's no guarantee that it's completely nut-free, but then, on that same jar, in the ingredients' list, has been nut ingredients, and that has completely shattered any confidence that I've had in any labelling.

(4001 I. F, Severe)

b) May contain warnings on products where nuts could not be contained

The second manifestation of implausible discounting was much more common. Here, 'may contain' warnings were in danger of being discounted by some because they were on products where it was highly implausible that they would contain nut allergens. This form of labelling was considered particularly damaging by people with severe allergies for whom ingesting allergens was particularly dangerous and who consequently endeavoured to take may contain warnings seriously. In such situations adding highly implausible 'may contain' warnings was seen as adding insult to injury to people who could not afford to discount 'may contain' warnings

Like, on salt, they put "May contain traces of nuts" or "Factory, no nuts, ingredients, nut-free" or "Cannot guarantee nut-free" or whatever it is, and it's just like...why would you

put that on salt?! It's just almost taking the mickey. So I just don't want to put my business their way either.

So seeing the label which says "Cannot guarantee nut-free" for the ingredients actually sows the seed of doubt for you, as in...?

Yeah, and I've had reactions off stuff that say "Cannot guarantee nut-free" before, so I...and my specialist has advised me to avoid all foods that say that on it, and those foods are becoming increasing in number, so therefore there's less and less stuff I can eat. It was easier I think when I was younger to deal with, because the companies weren't just covering their backs over stuff. Like salt is just ridiculous!

(1112, I, F, Severe)

Even the most stupid things we've found it on, like orange ice lollies...that, you know, there wouldn't be any nuts in there at all. It's annoying how they do it to cover their backs because...so no, I probably don't find it helpful, because it just doesn't...

(1016, I, F, Severe)

I think sometimes they're over-cautious, and I think you've got to get a balance, because there's nothing more frustrating as picking up something that... I think it was lamp chops – how can a lamp chop have ever been near a nut?! You know, was the sheep in an acorn field or something?!

(4013, I, F, Severe)

No. Well, I just think it's a bit stupid because may contain...well, "ingredients – cannot guarantee..." for like a bottle of lemonade or cherryade or something, is like ludicrous. And they know...they know it's pretty much going to be fine. Yeah, you do kind of (ignoring them), because you think, if they're just saying that about ingredients on lemonade, maybe that's just going to be the same on ingredients of like a sandwich or something.

(1008, I, F, moderate)

In concluding this section it is useful to reflect on the key observation that people who are managing allergy on a day to day basis are understandably highly sensitive to the ostensibly small - and from a producer or supermarket perspective - possibly meaningless cues that are used in product labelling. However, the ways in which these cues are interpreted have implications not only for participants' confidence in their risk assessment management strategies but also for the actual product choices that they make.

6.6 Had a reaction to may contain products

Finally, several participants explained that they had had allergic reactions to 'may contain' products. Below we provide some detail of the claims that participants made about reactions that they had to products with 'may contain' labelling. For these participants the fact that they had had a reaction to products labelled with may contain had made them more wary about consuming some, if not all, 'may contain' products in the future.

Have you ever had a reaction?

Yes, once, with one that said "May contain traces of nuts".

What was that to?

It was a type of chocolate bar from (supermarket) and I had a reaction to it, even though it just said "may contain", and then I never ate anything that said "may contain" again.

(1112, I, F, Severe)

Yeah, I suppose pasta sauces in a jar. That's why I said I don't eat them, because they've got the warning on, "Produced in a factory that contains nuts" or "May contain nuts", but they don't list nuts in the ingredients, so I've risked it, but had a really mild reaction, so that it's not worth the risk.

(1031, I, F, Moderate)

I had quite a nasty reaction, and that was because I ate something that said "May contain". Well, it said on there "traces of" and I didn't think anything of it, and I had a really nasty reaction just because of the traces, so I am quite funny now about...

(1016, I, F, Severe)

"May contain traces of nuts and sesame seeds," so it does actually say it, yeah.

Ah, okay, so you have, right.

So yeah, this is the only product that I have had a reaction to that says "May contain".

Yeah, and it's in your sort of grouping of dangerous goods anyway.

It is, yeah, it's in the dreaded cereals' section, which is...yeah. So, I have eaten this without a reaction, and then had the reaction, and then I've just stopped eating it, so it's been in the cupboard for a bit. It'll get eaten by someone else eventually.

(4004, I, M, Moderate)

6.7 Conclusion

This chapter has explored a complex and detailed range of participant views about 'may contain' labelling. We saw that although many participants chose to respond in consistent ways to may contain labelling, they did not believe that the underlying message of may contain labelling was a desirable or credible one. The rules of thumb for guiding food choices clearly guide the interpretation of 'may contain' labels. A minority of participants avoided products with may contain labelling altogether; others ignored the label and justified their decision to consume these products in a range of ways.

We noted that many participants discounted the 'may contain' message. Sometimes pragmatism demanded that it be ignored to avoid an unfeasibly limited diet. On other occasions it was a lack of trust in the motives of the messenger that that led to the message being discounted. On yet other occasions the hairs of the 'may contain' message were split: the juxtaposition of 'may contain nuts' and 'may contain traces of nuts' became a reason for rejecting one of them. Finally it was the location of 'may contain' on wholly implausible products that led to the message being discounted.

Having said all of that, where the rules of thumb were unable to offer a confident way forward, and when faced with a potentially problematic product, the absence of 'may contain' labels was regretted.

CHAPTER 7 - EXPLORATION OF PRODUCT SPECIFIC REASONING

Probably I wouldn't eat it, but I don't see why I wouldn't.

(1198, F, Severe)

Okay, if I'm being honest, I'm trying to – I'm probably finding it quite hard to describe what I mean, but I probably wouldn't eat it at any...you know, in any like scenario. I probably wouldn't eat it. I'd probably kind of avoid it, just because of the way it looks. But, for example, if someone was like "Please, can you eat this - you have to eat it," I'd think, okay – I wouldn't be worried that I'd have a reaction or anything. Does that answer the question?

(2049, F, Severe)

Unlike previous chapters, this chapter reports the results from a single method, i.e. the Product Choice Reasoning Task (PCRT). The insights gained from using the PCRT have been included in previous chapters but here we deal with a specific set of questions that were only addressed using this method.

In Chapter 7 we focus on participant decision making processes around a particular set of 13 products. Each of the 13 products included in the PCRT was included for a very specific reason; the research team believed that each would pose at least one particular dilemma for people with a history of nut allergic reactions. The dilemmas were initially informed by the project advisor from Allergy Action (HG) and the study allergist (JSL), in the light of their experiences of having a severe nut allergy, or diagnosing and advising people with nut allergies. These were then discussed by the rest of the research team and a set of products was identified that exemplified each of these dilemmas. Nine of the dilemmas related to products that were considered to be from high risk product categories and the remaining four from low risk product categories.

In this section we will present the results for each product in a standard format. We will name the product and indicate if it is a branded or is an own brand

product. We will outline the anticipated dilemma and state the exact allergy labelling for the product. This will be followed by a summary of the numbers of participants who said they would eat the product and an indication of how uncertain they were about doing this. Finally some of the actual dilemmas that participants experienced will be described along with the reasoning that was used to identify and resolve these.

Table 3 provides an overview for each product of whether or not participants indicated that they would be happy to buy it.

Table 3 - Overview of decisions on the Product Choice Reasoning Task

	MILD/MODERATE		SEVERE	
	YES	NO	YES	NO
'HIGH RISK' PRODUCTS				
BRANDED SESAME & PUMPKIN SEED FLAT BREADS	10	4	6	12
BRANDED WASABI BEAN MIX	8	6	9	9
BRANDED CANTONESE CURRY COOK-IN SAUCE	12	1 (1 ⁵)	13	5
BRANDED VANILLA ICE CREAM WITH CHOC SAUCE	13	1	15	3
BRANDED OAT BASED BREAKFAST CEREAL	8	5(1)	9	9
BRANDED CAKE BARS	6	8	2	16
OWN BRAND FRESHLY BAKED CHOCOLATE CHIP COOKIES	9	5	6	11(1)
BRANDED DAIRY FREE CHOCOLATE SNACK BAR WITH PUFFED RICE	10	4	13	4(1)
BRANDED CHOCOLATE BUTTONS	14	0	17	1
'LOW RISK' PRODUCTS				
BRANDED CHEESE AND ONION CRISPS	14	0	11	6(1)
BRANDED MACARONI CHEESE	14	0	18	0
OWN BRAND CAULIFLOWER CHEESE READY MEAL	10	4	14	4
BRANDED YOGHURT COATED FRUIT SNACK	7	7	11	7

⁵ Numbers in brackets indicate that participants were unable to reach a yes or no decision.

7.1 Branded packet of sesame and pumpkin seed flatbreads

Anticipated dilemma

It contains nuts but not necessarily the ones to which the participant is allergic.

Allergy warning

'This product has been made in a bakery that handles nuts (no peanuts)'

Overview

Ten of the 14 with mild or moderate nut allergy (MMNA) were happy to eat the flatbreads. Two MMNA participants were *only* allergic to peanuts and both of these said they would eat this product. Six of the 18 participants with severe nut allergy (SNA) said that they would eat this. There were 3 SNA participants who were only allergic to peanuts: 2 said they would eat this product and 1 would not. 5 of the 14 with MMNA were uncertain about their decision; only 3 of the 18 with SNA were uncertain. All 5 of the participants with peanut allergy were certain about their decision.

Participant Reasoning

Participant 1017 was classified as having a moderate allergy to peanuts. He was originally put off by the look of the product and the linked images of seeds and nuts. He used the labelling to revisit his original thoughts on the product and the allergy warning gave him confidence that he was able to eat the food. The 'no peanuts' labelling reassured him, as did the label warning, which he saw as a tenuous source of cross contamination. He eventually reaches the conclusion that he is happy to eat it.

Okay. My first reaction is...this is the kind of thing which quite often has nuts with it, or at least there's quite a risk of contamination from maybe being made in the same factory kind of thing.

Because of...?

The whole sort of seedy kind of...seeds and nuts kind of go hand-in-hand I think, em...and sort of...kind of like that sort of savoury kind of thing which... Sesame as well...I think sesame goes with nuts quite well – in my head, it goes together. So, yeah, I'm just going to have to check... Oh... It says, "This product is made in a bakery that handles

nuts,” but specifies there’s no peanuts... I think I’m most allergic to peanuts by some sort of...by some distance as well...so... Yeah, I would eat these. Yeah, I would eat them, mainly because... I would have been more cautious had they not specified “No peanuts”, but it’s also useful how this...what it actually contains, because there’s no nuts flagged in the actual “contains” and I know it’s...well, I’d put this into the category where they may well just be trying to cover their backs, rather than actual like legitimate risk of their being nuts in it. That’s sort of how it works for me. So yeah, I would eat that, yeah.

(1017, PCRT, M, Moderate)

Participant 3008 has a moderate allergy to tree nuts. She is also nervous about this ‘type’ of bread based on its look and says that in the light of this that she wants to look at what is in it. The content of the allergy advice box then confirms her initial view that the product would not be safe for her to eat.

Okay, right, initial first look at the packaging, I’m feeling concerned. I wouldn’t necessarily buy it because...I don’t know why, but when you get, like I was talking about speciality breads...

Yeah.

When I see pumpkin seeds in bread, I also think about other nuts – nuts being in specialty breads, nuts that I can’t eat. I know it says sesame and pumpkin, but I’m feeling nervy because I can see the pumpkin seeds on the bread. So that makes...that draws my attention to what’s in it, and I’ve seen it says “This product has been made in a bakery that handles nuts – no peanuts”. Well, that’s no good to me.

No, because you don’t have the peanut allergy anyway.

I don’t have a peanut allergy, so...I wouldn’t buy that.

Okay.

I’m not saying I wouldn’t maybe try a little taster of it if somebody had it and they showed me the packet, but I personally wouldn’t spend money on it knowing that I could...there could be something else in it and I’d have to throw the whole box away.

Right.

So yeah, I wouldn’t eat that.

(3008, PCRT, F, Moderate)

Participant 2049 has a severe allergy to both tree nuts and peanuts. She does not use the allergy advice in any way to alter her opinion on whether the product is safe to eat. Her original view, that this was a product she did not wish to eat, remains intact at the end of her deliberations. The look of the product was

dominant in her decision even though she admits that it would probably be acceptable. This quote highlights the interesting issue that rejecting the product is not necessarily only about making an objective assessment of risk.

It's just [laughing], I know this sounds really stupid, but it just looks nutty, if you know what I mean. From the picture, it just looks...it just looks like it could have nuts in, but then, I always, from reading the "Sesame & Pumpkin Seed Flatbread", I would think, okay, that's just seeds, so I would actually eat it because I don't actually think it would cause me a problem, but just the whole...the general concept of probably picking it up and buying it, I probably wouldn't.

Okay. But if it was sort of out at a party...

Yeah.

That's fine – you might eat it?

Eh, yeah.

You would eat it?

Well, actually, no, no. If it was [on a table] at a party, looking like that, I probably wouldn't eat it, just because I wouldn't really know, so I probably definitely wouldn't eat it at a party, but if I knew that was sesame and pumpkin seeds, then I probably would.

Yeah, okay. So maybe if that had already been bought by someone and it was sitting in the house here, you might have one out of the packet?

Yeah, yeah, yeah.

Okay.

Well, I don't know...! Okay, if I'm being honest, I'm trying to – I'm probably finding it quite hard to describe what I mean, but I probably wouldn't eat it at any...you know, in any like scenario. I probably wouldn't eat it. I'd probably kind of avoid it, just because of the way it looks. But, for example, if someone was like "Please, can you eat this - you have to eat it," I'd think, okay – I wouldn't be worried that I'd have a reaction or anything.

Does that...answer the question?

(2049, PCRT, F, Severe)

Participant 1031 has a moderate allergy to tree nuts. Again, it is the look of the product and her past experience of the implications of this that make her cautious – as does the mention of seeds in the list of ingredients. Ultimately though it is the ingredients' list that provides the reassurance she would need to purchase it. She does not refer to the allergy advice box at all.

Well, I think it looks risky because there's lots of bits in! That sounds simplistic, but over the years, I've learnt that means trouble. So, just reading the ingredients...wheat flour, sesame seeds, olive oil, pumpkin seeds, salt, sugar, skimmed milk powder, and yeast. I think I'm okay with pumpkin seeds. I would think twice about – if I was out and they were on a plate already and I couldn't check the ingredients, I wouldn't eat them, but if someone gave me the box, I probably would eat them, but the pumpkin seeds... I think I'm alright with pumpkin seeds, so yeah, I would eat it, yeah, but I'd probably be a bit cautious.

(1031, PCRT, F, Moderate)

Participant 1069 has a severe allergy to both tree nuts and peanuts. He looks at the ingredients and the allergy warning, approves of their specificity, but maintains his initial view that he would not eat the product. He is explicit that the combination of what it looks like and his past experiences are the determining factors in his decision.

Nice, yeah...good...I'm already scared looking at it! You know what I was saying about flat bits of bread earlier on? This isn't flat, so the alarm bells are going off just looking at the picture.

That's fair enough!

Let's have a look...I'm now looking at the ingredients. Okay, so this is, em, in a bakery that handles nuts, but in brackets, no peanuts, so that's good, so they're not just randomly saying "Might contain nuts". I think, with that, it looks nice, but...and I am attracted to what it looks like but I don't think I'd have it.

You'd avoid that, okay. Great.

There's something in me from my past that's going rrr-rrr-rrr [makes sound like alarm/siren].

What, as in you want it or don't want it?

Don't want it.

(1069, PCRT, M, Severe)

The following participant, who is severely allergic to both tree nuts and peanuts, is strongly influenced by the look of the product. The ingredients – with no mention of nuts – do not change this view and the allergy warning serves to confirm it.

Right. That's an easy one. Straightaway, no, because em...it's - seeds...sesame seeds and pumpkin seeds, seeds in general, I'm okay with. I can eat seeds. .. but for some reason, and that some reason would probably be paranoid ...it just looks like something which could contain nuts.

So it's the picture?

It's the picture. I mean, I'm sure they do taste great and I love to be able to dip bits of bread in a sauce – that's fantastic – but only if it's plain bread. If I looked at the ingredients... nothing on the ingredients. You go down, you glance at the thing..."This product was made in a bakery that handles nuts – no peanuts." Well, nuts and no peanuts...peanuts is the main allergy. Nuts in general – if you've got a nut allergy, you don't touch nuts, so why have they put "no peanuts"? That's not very helpful. But no, no, definitely not.

(4008, PCRT, M, Severe)

Participant 1112 (history of severe reactions to tree nuts and peanuts) did look at the allergy warning and ostensibly used this information to decide not to eat it but admitted that he probably would not have done so even had he only been allergic to peanuts.

Oh, that's an interesting one – never seen that before! "Product is made in a bakery that handles nuts" and then "No peanuts". I wouldn't eat it because I'm not... If I wasn't allergic to other nuts, I probably still wouldn't eat it, because I'm a bit paranoid. That's really interesting. I don't...I wouldn't, just in case, but technically... No, I wouldn't take the risk. But I've never seen that labelling before.

It's interesting, isn't it?

Yeah, that's really interesting.

(1112, PCRT, F, Severe)

Participant 4010 who is moderately allergic to both tree and peanuts is a little wary of the product but said she would probably try it, if not buy it. She had general concerns around the product's 'seediness' and was positive about the specificity of the labelling.

Okay, well, I'd certainly consider eating it. I just would...just check the... Definitely, this would come under my area of potentially dodgy...so I'll just check the ingredients first, and there's no nuts in the actual ingredients. There are pumpkin seeds. And then they normally say it's been in a factory...yeah. Oh, it actually says a bakery that handles nuts,

but no peanuts, which is quite good. They don't often say. Normally, it just says that they could be there. I probably wouldn't buy them because they've got pumpkin seeds. I think I'm probably okay with pumpkin seeds, but I just... These are normally quite expensive, and I would sort of think what's the point of buying something that potentially I might not be able to finish, so ... But I would definitely, if it was in a friend's house, if I was hungry, I might try one. I think I've eaten pumpkin seeds at some point and I think I probably was fine, and I think – and I know I'm alright with sesame seeds in small quantities. Well, these are quite a few but... Sesame oil, I'm a bit dodgy with, but sesame seeds seem to be not too bad, particularly these ones that have been toasted already.

So...you'd probably have that?

I'd probably have that, yeah.

(4010, PCRT, F, moderate)

Summary of reasoning and reflection on dilemmas

The focus of the anticipated dilemma was on the particular nuts that were the potential allergens (and this was communicated in the allergy advice box). However, although there was evidence of participant reasoning around the fact that peanuts were excluded from the allergy warning, it was generally sensitivity to the appearance of the product that led to participants rejecting it. In the examples above where the decision was that they would eat it, this was in a context where there was less initial rejection in terms of the look of the product. There was some evidence that information on the product – particularly the ingredients list - was influential where initial reactions were uncertain, rather than negative.

7.2 Branded packet of wasabi beans

Anticipated dilemma

This is likely to be around the fact that this is an unfamiliar product.

Allergy warning

“Contains soya. This product may contain traces of other nuts and seeds”

Overview

Both those with MMNA and SA were split as to whether they would be happy to eat Wasabi Bean Mix (MNNA: 8 yes and 6 no; SNA 9 yes and 9 no). Of the 17 that said they would eat Wasabi beans 9 were uncertain about their decision. Of the 15 that said they would not eat them, 5 said they were uncertain about this.

Participant Reasoning

Participant 1029 automatically assumed that the Wasabi Bean Mix contained nuts. After looking at the ingredients she tentatively formed the view that she would be willing to try them in a safe environment but also made it clear she would never generally have got as far as reading the ingredients.

No....they have peanuts in, don't they? Not that I'm allergic to peanuts...

You're allowed to pick them up and have a look at them...

I know !

You don't have to though! You look very uncomfortable with that product...

I am very uncomfortable. Although weirdly, it doesn't have any nuts in it at all! I'm really surprised. I would never have even read the ingredients.

Right.

Not that I know what Wasabi is as such... So...I would never have picked them up because they look like nuts, or coated nuts. I would...if I actually had picked it up and read the ingredients, I'd consider trying it in a safe environment – i.e. with other people around, somewhere where I could pick up the phone and call an ambulance if something happened.

Okay.

But I would consider trying them.

(1029, PCRT, F, Severe)

Several participants explicitly based their decision not to eat the product on the way it looked and its resemblance to nuts. Participant 2049 did not look at the label at all whereas 1016 did.

No, I probably wouldn't.

Okay, and can you tell me a bit about why or...?

I think it's a similar sort of thing, like...it's just really...the look of it. I know...it's really...I mean, it's quite hard, you know, putting them in front of me, because, in a supermarket, I

would never even – I probably wouldn't even look at that. I probably would just walk past it. But em...yeah, it just looks like it could be nutty.

Yeah. That's a really common reaction, you know, it looks like a pack of peanuts or something.

Yeah, exactly, yeah, yeah. I think that's what it is, yeah.

So that's fine...

Yeah, I'd say no to that.

(2049, PCRT, F, Severe)

Looking at it, from a glance, I'd say no, because it looks a bit like peanuts, but... Then obviously I look at the ingredients...

You sort of don't look like you want to touch it much...

Yes!

Is it a bit offensive?

When...like if there are things like this, I'm really funny about even touching the packaging, because I don't know what it is. I'm funny about it...

No, that's alright – it's just an observation...

Yes. On here, there is like – it's not...it's not very noticeable, but it says "This product may contain traces of other nuts and seeds" so I'd say no – I wouldn't eat that one.

(1016, PCRT, F, Severe)

For the people quoted above, unfamiliarity with the product was implicit in their reasoning. In the following quotes the participants are unfamiliar with the product and therefore use the labelling information to inform their decision on whether they would eat it. The following participant said that she did not know what it was and although she also thought they looked nutty, the lack of clarity on the label (referring to 'other nuts') contributed to her decision to reject them.

Is it like nuts? I don't even know what it is. Well, I'd check this again because I'm like unsure of it. This one is different. Here it says "Allergy Advice" ... That says "Contains soya", but this is quite unclear, and at the very, very bottom, it says "Warning, this product may contain traces of **other** nuts". So I wouldn't eat this, yeah, because this is obviously risky, because, again, they kind of look like nuts. Are they are nut?

No, they're flavoured [beans].

Yeah, so it's kind of like a trick, because I would think these are nutty, so I'd immediately like avoid them. I wouldn't even think about eating them or even checking them; I'd just avoid them.

Okay, so usually you'd go, no, I'm just not even going to go there?

Yeah.

(1008, PCRT, F, Moderate)

Participant 1112 is also unfamiliar with the product but primarily focuses her rejection of the product on the ambiguous allergy advice.

What even is Wasabi Bean Mix?!

They're like a snack food.

No. It says "This product may contain traces of other nuts and seeds". Ooh, it's got – does that mean it's got nuts...? No, it just says "This product may contain traces of nuts", so I wouldn't.

What made you say, "Oh, it's got nuts in"?

Because it said "This product may contain traces of **other** nuts". Are they actually nuts?

I don't know...no.

That's really weird..."contain traces of **other** nuts", but then if you look at the ingredients...that's really cheeky. See, this is what I'm telling you about! They're really cheeky. That's really bad!

Because "other nuts" implies there's a nut in there...

Yeah. But I wouldn't eat it because it says "This product contains..."

Yeah, okay.

It is interesting though!

(1112, PCRT, F, Severe)

Interestingly in the quote below, participant 1069 based his initial negative assessment of the image conveyed by the word 'mix' in the product name. He then went on to explain that this initial aversion to the product could not be 'undone' by what he characterised as 'may contain' labelling. He contrasted this with situations where he would ignore 'may contain' information because he was well disposed to the product (through a combination of producer based information [trust in the brand], his own participant based characteristics [experience and preference] and the fact it was not classed as a 'problematic product').

Deary-me... 'Mix', okay, the name 'mix' screams out to me as like 'we just put whatever we like in it', yeah?!

Yeah, yeah, that's interesting, yeah.

Because, you just don't know, because – Bombay mix for instance is fatal for me. I can't eat Bombay mix. So someone putting "mix" in the title...I'm afraid instantly says ...Bombay mix!

Takes you right back there!

So let's have a look at that... "This product may contain traces of nuts and seeds." Now, if this was a (product name) bar, which is a nice bar of chocolate, and it said "May contain traces of nut", I'd wolf it down. I wouldn't even think about it. But it's the look of these things...like I don't know...I don't... I've never had them before, yeah, and do I particularly want them? No. But then when it says "traces of nuts" on this, I began...oh dear, mm... I'm more frightened of these than I am of those.

Okay, that's a no then.

It is. I'm not going to eat very much at this rate!

(1069, PCRT, M, Severe)

Summary of reasoning and reflection on dilemmas

The focus of the anticipated dilemma was around the unfamiliarity of the product. Certainly the product did prove unfamiliar to almost all participants. However, it was not unfamiliarity *per se* that was the focus of participant reasoning, rather, it was the combination of unfamiliarity and the strong cues to concern provided by the appearance of the product. For those participants who went on to look at the labelling, some of them picked up the ambiguity of the allergy advice and this provided added reasons for concern. In the face of the strong negative cues the labelling often played a minor role in risk assessment and gave little confidence to make clear decisions.

7.3 Branded jar of Cantonese curry cook-in sauce

Anticipated dilemma

This is normally a high risk food category, however this actual product does not contain nuts or have a contamination risk therefore there is no nut warning on the labelling.

Allergy warning

'Contains celery, produced on a line which handles sesame'

Overview

Twelve of the 14 people with MMNA said that they would eat the cook-in curry sauce with 3 of the 12 being uncertain. Of those with SNA 13 of the 18 participants said they would be happy to buy it but 5 of the 13 were uncertain about their decision.

Participant Reasoning

In line with the anticipated dilemma, some participants initially assumed that the product would contain nuts.

Participant 1017 said yes but remained very uncertain. He was initially very surprised that this product – which in his mind was clearly designated as a problematic product – was suitable for people with a nut allergy. The absence of a nut warning was not seen as particularly reassuring and sensory cues of the product – colour and consistency – supported his initial view that it was not suitable for consumption.

Oh no, this stuff! I've got some of these in the cupboard which I actually bought, and I haven't got round to eating, and I've had them for about six months now, because it says "May contain peanuts", so I'm being a bit cautious of eating them, and I think this is actually the same. Erm...oh no... Allergy advice..."Contains celery, produced on a line that handles sesame..." Oh, that is surprising... How old is this?!
No, it's new – I bought it recently.

Oh really?

Yeah, honestly.

That surprises me... In [product name], again, it's...and sort of the nature of the product, I would automatically be quite cautious with, because I know from like reading the previous ones that they're quite a high risk thing. But reading the allergy advice... It's a bit odd actually...definitely a bit odd, but...

What's odd?

A bit odd that I'm seeing that it doesn't contain any nuts, but I would probably still...I would...I would be sort of going towards not eating this, which is odd because... Sort of checking down the ingredients, you can see again that there isn't any mention of nuts, and the allergy advice doesn't mention it. I think perhaps it's the colour – I think maybe the colour is telling me it's got nuts in it, but...

I know what you mean.

Yeah.

The consistency of it and...

Em...(if i liked it)...then I guess...yeah, I would (eat it). I would because...I'd be cautious, but I mean once I'd tried it the first time, and I haven't had it before, if I had it the first time and there was no issues, then I'd be completely happy with it forevermore, but just because I haven't had it before and I know the...like the nature of the product... It should be quite a trustworthy brand...

So I went out there and put it in a pot and cooked some chicken with it and served it to you, and you'd seen the jar, would you eat it?

Cautiously, yeah, I think so...yeah, I would, yeah.

(1017, PCRT, M, Moderate)

Participant 1112 was another example of saying yes to the product but remaining very uncertain. Again the initial assumption for this participant was simply that this was something that she could not eat. Her experience of other products within the brand name was used to support this view. The labelling (or rather absence of labelling) did not enable her to overcome these reservations.

I don't think I can eat [product name]. Oh, I can actually eat this. Why can I eat this?! I can't eat their Mango Chutney. Let's just double-check! I don't believe this... No, I can eat that.

Is that surprising?

That's really shocking, because I can't eat other stuff. Like I said, their Mango Chutney and things like that, I can't eat. So that suggests to me that maybe... I would eat it, if a friend had cooked it for me, because it doesn't say anything, but I would be...it isn't something I'd probably buy because I know that I can't eat other products by them, which suggests to me...makes me think, mm, have they labelled this right because I can't eat other products, so... So I would eat it, but I would feel slightly uneasy, because I know that I can't eat...you know?

(1112, PCRT, F, Severe)

The next two quotes provide examples of where participants were much more certain of their 'yes' decision and where the allergy advice was more readily and confidently taken as a reliable guide for action.

I would check this if I got given this because obviously curry and Indians, it's all...so it is like nut-orientated, so I would want to check it. By looking at it, straightaway, at the allergy advice, it just says sesame seeds, so that's like a bit more comforting. I would

check through the ingredients quickly, again just because it's like Indian and it could have nuts in... It looks absolutely fine, so yeah, I would eat that.

(1008, PCRT, F, Moderate)

Now, we've had issues with curry sauce previously, so I would certainly make the effort of looking. Yes, I'd eat that. Their allergy advice doesn't mention nuts, just says celery, which I of course didn't realise people had an allergy to, and sesame seeds, which I'm not allergic to, and which we eat quite a lot, so... Yeah. I've not actually looked through the ingredients on that, but from the allergy advice, yeah.

(1060, PCRT, M, Moderate)

Finally, one of the younger participants made it clear that if the decision was his he would say no. The mention of other substances clearly made him feel nervous even though he was not allergic to them. However, as he liked the sauce, he anticipated that he would eat it if his mum said that it would be fine.

Em...well, I suppose, to stay with what I said earlier, no.

You don't have to stay with what you said earlier [laughing]...

No, I just...no, I don't think I would. "Produced on a line which handles sesame..." and on the thing here it says nutmeg.... So I'd have to say no if I was going on the allergy thing. Mind you, I love curry sauce. If Mum was with me and she said, "No, you've had that before," okay I'll have it, but being on my own, looking at the ingredients, no.

(4008, PCRT, M, Severe)

Summary of reasoning and reflection on dilemmas

The anticipated dilemma for this product focused on the fact that it was often considered a high risk product but was actually suitable for people with a nut allergy. This dilemma was clearly experienced by some of the participants with varying outcomes. It was clear that participants recognised that 'technically' this product was safe to consume. The labelling was generally trusted: only one participant suggested that it may have been wrongly omitted. However, the initial cues provided by the product category being designated as problematic, by previous experience and its sensory cues proved hard to override simply with the absence of a nut allergy warning. One might speculate that 'free from nuts' labelling would have been able to overcome these issues to a greater extent.

7.4 Branded tub of vanilla flavour ice cream with chocolate sauce

Anticipated dilemma

The anticipated dilemma for this product is that this is normally a high risk food category, however this actual product does not contain nuts or have a contamination risk and therefore there is no nut warning on the labelling.

Allergy warning

There was no allergy or 'may contain' advice on this product.

Overview

Thirteen of the 14 people with MMNA said that they would eat the ice cream with only one of these being uncertain. Of those with SNA, 15 of the 18 participants said they would be happy to buy it with 4 of the 15 being uncertain about their decision. Everyone who said that they would not eat it was uncertain about their decision.

Participant reasoning

Participant 1198 is disconcerted by the lack of labelling on a product where she considers the chocolate content to signal high risk. Somewhat reluctantly, as she can find no clear reason not to, she agrees to a rather uncertain yes. In the following quote from participant 4013 the main cause of concern was the lack of labelling advice on a product that was considered to be of high risk.

Erm... [Long pause] I don't think it's...I think it's probably safe. It doesn't say. These don't have very good allergy stuff in them, but what it does...they don't have – I don't think this has particularly good allergy advice actually, and em...I do eat the vanilla one. I probably wouldn't eat the chocolate one. I probably wouldn't eat any flavoured ones, just in case. The problem is that, when you have to read what's in it to see if there are any nuts, there's so much...stuff that you just think "I don't know if I want to eat that anyway". But ...yes, go on then, I can't see anything that's dangerous there.

Okay.

So sort of "yes", but because of the chocolate thing, I wouldn't eat it.

So it's a "yes, with caution", a sort of cautious "yes", or you wouldn't eat it because of the chocolate?

Probably I wouldn't eat it, but I don't see why I wouldn't.

Okay. Yeah, I understand what you mean. Yeah, you would still worry about it?

Yeah.

(1198, PCRT, F, Moderate)

I'm looking...trying to look to see some labelling on this... [Terrible] because it doesn't say... You know, I would be cautious, even if I ate ice-cream, because it doesn't give any advice at all, and cocoa...chocolate isn't always good. Fatty acids... No, I'd probably look for something that was more clearly labelled as yes, it's okay, it's not in a nut allergy factory.

So you wouldn't eat that?

No.

(4013, PCRT, F, Severe)

In contrast, participant 1008 also noted the lack of allergy advice however she was happy to check the ingredients to satisfy herself that the product would be safe to eat. Other participants were not concerned about the lack of labelling advice as they had eaten the product before.

Yeah! I would check this because of the fact that it's like chocolatey and it's...I don't really eat (brand name of this product) that much, so I would want to check it. Scanning through...this doesn't have like specified allergy advice, it just has ingredients, but when it has ingredients, it'll normally say at the end of it, and it doesn't say, so I'd go over and check the ingredients, and there's nothing about nuts, so I would eat that.

(1008, PCRT, F, Moderate)

Summary of reasoning and reflection on dilemmas

The anticipated dilemma for this product focused on the fact that it was often considered a high risk product but was actually suitable for people with a nut allergy. As with the Cantonese cook-in sauce the anticipated dilemma for this product focused on the fact that the product category was often considered a high risk product but this particular product was actually suitable for people with a nut allergy. Again, most participants said that they would consume it and most of them were certain about this. Having said that, the lack of a labelling

(and quite a daunting list of ingredients) did result in slight consternation in some participants .

7.5 Branded box of oat based breakfast cereal

Anticipated dilemma

The anticipated dilemma for this product is around the fact that that the label suggests the product is not suitable for nut allergy sufferers and yet other cereal products under the same brand do not contain nuts.

Allergy warning

‘Not suitable for peanut allergy sufferers. May contain traces of other nuts’.

Overview

Participants with a history of mild/moderate and severe allergic reactions were split on whether they would eat this oat based product. Eight of the 14 MMNA participants said they would and 9 of the 18 SNA participants said they would. Interestingly there was little participant uncertainty within individual participants about this in either group, with all participants except one being certain about their decision.

Participant reasoning

Where the product is seen as an unfamiliar one some participants simply relied on the label and simply rejected it as being suitable in the light of this.

Well, it's just cereal. It's not like one I'm used to, because my usual is like (brand names 1 and 2), so I would still check. And straight to the allergy advice...it says "Not suitable for peanut sufferers" and "May contain traces of other nuts", so I'd obviously not eat it.
(1008, PCRT, F, Moderate)

Several participants considered the allergy advice alongside the ingredients and on the basis of the latter could see no reason why the product was deemed unsuitable for peanut allergy sufferers. In the quote below, the decision to not eat

the product was justified in terms of the brand name being trusted – and thus their advice was accorded greater credibility.

Okay. I usually eat [brand name] all the time anyway, so I'd say they're, well, one of the brands which I'm prepared to trust, because I'm sort of familiar with it. I've never tried the [product name], so this would be a sort of occasion where, I don't know, if I saw this in a shop, and I'd sort of gone off [brand name] for a bit, getting bored with it, I might want to try something different, then I might...this is the kind of thing I might be tempted by, assuming I'd like the [oats]. So then, yeah, because I'd never had it before, I'd definitely check for any kind of nuts or advice for that. Yeah...on its allergy advice, it says, "Not suitable for peanut allergy sufferers – may contain traces of other nuts and milk"... See...now they've said – it's, again, the specifying peanut for me. That sort of makes me more...more sort of cautious. If I check the ingredients, I can't see any reason why it would really contain nuts – well, why it would really cause a reaction for me. But...I think I would probably actually...I would probably avoid them, to be honest.

Okay...because of that label which specifies...

Yeah. With this, with [brand name], again, I suppose because it's a company, for right or wrong, I kind of trust, then when I see them mentioning about something like "Not suitable for peanut allergy sufferers" I'm more inclined to think then...they're not covering their backs, which is ridiculous because they're probably more likely to cover their backs [laughing], but for some...I guess their sort of branding or what have you but...em...I am more willing to sort of listen to their words of caution, so I would probably not eat them.

(1017, PCRT, M, Moderate)

Other participants initially felt this product would be safe to eat as they were very familiar with the brand name and felt the product came from a trusted source, but changed their minds after reading the allergy advice box. The 'thinking aloud' that the participants were doing in the following three quotes provide some access to the way in which they approached this unfamiliar product from a familiar brand. In the first quote participant 1069 sets out to explore what the difference is, sees the peanut warning and immediately says he would be unable to eat it. In the next two quotes, the initial stance of the participants implies that their familiarity with a trusted brand predisposes them to eat it. They both then see the allergy advice and reject the product.

Okay. I do eat [brand name], the ordinary ones, so I know that they're alright for me and they don't set me off, so...but I don't have [product name], fine, so I would, first of all, I am intrigued to find out what the difference is. "Not suitable for peanut allergy sufferers", okay... You see, I know I like [brand name]'s because I have them, so I would be thinking, yeah, from the look of that, I actually would quite like to eat that, but now I'm looking at this and it's saying specifically "Not suitable for peanut allergy sufferers". It says "May contain traces of other nuts and milk," which if it just said that, I'd be going, "Well, I'll try one and see what it's like," but the thing that is going meep-meep-meep to me is saying, right, "Not suitable for peanut allergy sufferers", and that's one of my big four, and therefore that's just an instant no-no, can't have it.

(1069, PCRT, M, Severe)

Yeah, first seeing it, I probably would, because I eat brand name anyway. As a brand, I would probably eat it, but I'd probably check anyway. Oh, actually, that surprised me! "Not suitable for peanut allergy sufferers." No, I wouldn't touch it, which is strange actually; because I thought I'd probably be safe with it.

(1161, F, PCRT, Mild)

Okay. Initially, look at that, because [brand name] is good and I like my [brand name] but now I'm going to look at...because it's a new product that I actually haven't had, I'm now going to read it. Good lord! The thing is, when you read these things, you suddenly realise what goes - because you'd think [brand name] is just wheat, and when you read it, you realise it isn't. Contains oats... No. "May contain traces of other nuts and milk." So no, I wouldn't. So, no. Although it is, in fairness to them, it is in the allergen advice box, so it's very clear. I'm now going to tell you what I think is clear labelling - that's good, because it's very clear. Disappointing, because [brand name] is fine.

(4013, F, PCRT, Severe)

Conversely, for participants 3008 and 4008, the trust accorded to the brand and their previous experiences with it predisposed them to accept the product despite the allergy advice.

Yeah, I wouldn't think twice about buying those.

Okay.

I'd think that they...I eat [brand name] anyway and I've never ever... Yeah, I can see here it says that it's not suitable for peanut allergy sufferers and it may have traces of peanut or other nuts, but I've never ever had an allergy to [brand name], and so my...you know, my automatic reaction is yeah, I'd try it.

(3008, PCRT, F, Moderate)

[product name], yes, I saw those in your bag. I have [brand name]. I don't have it here, but I used to have it regularly – brilliant in the morning, great energy boost. It says "contains oats"...oats are fine, so, yeah.

Yeah?

Definitely! I can't see where the problem would be. Again, it says "Not suitable for peanut allergy sufferers" and then "It may contain traces of other nuts". Oats...they shouldn't be adding anything else to it. On the adverts, it always says there's nothing but one ingredient, so...that again, just going through the packaging there, that's annoying, but yeah.

You'd still have it?

Yeah. Sorry to go off at a tangent...

No, no, no, fine.

But [product name], I would, because I know and it's just oats.

(4008, PCRT, M, Severe)

Other participants said that they would be happy to buy the product and did so on the strength of the brand and their familiarity with it. They did not examine the packet in any detail and thus were not aware of the advice that it was not suitable for those with a peanut allergy.

Yeah, absolutely love them. I love oats. I know that's very strange, even though that they can sometimes look a little bit like...like nuts. Also, grew...it's that thing, isn't it, of em...feeling safe with a product, because grew up eating [brand name] as a kid, always had [brand name] as a cereal. It's a well-known fact that everyone eats [brand name] when you're a kid, everyone knows the brand... It looks nice...

And they're okay for you as a nut allergy person?

Yeah, yeah, it's oats – that's just oats. It's the same as flapjacks, absolutely fine, so yeah, I'd eat that. It's delicious.

(4015, PCRT, M, Severe)

Yes. I would – I've had these. They're nice. Yeah, they don't have – I wouldn't even check the ingredients in them, because cereal is quite good – it says honey and almond or whatever on the front. They're just oats, so yeah, I would have them.

(1031, PCRT, F, Moderate)

Summary of reasoning and reflection on dilemmas

This product proved to be very interesting in the detailed reasoning that it elicited from participants. This was often based around the way in which the nature of the allergy advice on the packet was discrepant with either the brand image or with participants' positive experiences of eating similar products. Some participants chose to show their confidence in the product by heeding the warning; others focused on their previous good experiences and the brand image and said they would be happy to eat it. As we noted, some were confident enough that they did not examine the pack for allergy information at all.

7.6 Branded cake bars (sponge with chocolate filling and chocolate coating)

Anticipated dilemma

The anticipated dilemma for this product is that nuts are present as a minor ingredient at the bottom of the ingredients list and are hard to find. There is no voluntary 'contains X' type allergy information so the consumer has to look through the ingredients list and then decide whether or not the product is suitable for them.

Allergy warning

No warning on the pack but the ingredients contain 'hazelnut paste'.

Overview

This is the product that the most people said 'no' to. It is also the product with the greatest discrepancy between participants with MMNA and SNA. 8 of 14 participants with MMNA said they would not eat this product with 16 of the 18 participants with SNA saying this. Overall, of the seven that said they would eat these cake bars, 5 were uncertain. Only 2 of the 24 participants who said that they would not eat them were uncertain about this.

Participant reasoning

Overall, the key reason for participants' reluctance to eat this product was that there was no allergy advice and that the information lay out was considered to be very unhelpful.

In the following quotes, the participants indicate their initial predisposition to the product. In the quotes below the first two participants liked the look of the product and the third did not. The complete lack of allergy warnings on the label then led them to conclude that they would not eat the product. This problem is accentuated by the difficulty of deciphering the ingredients due to the sheer amount of text and different languages within the label.

Oh...oh my word! That is quite hard to sort out, isn't it? So even though I liked them, I would say no really. [Pause – reading package] I wouldn't eat them.

No.

I don't really understand all the ingredients and... I wouldn't. I don't think there's any particular allergy advice, which doesn't matter because it's... Sometimes it's annoying when everything says "May contain traces of nuts", to be honest, but... No, I wouldn't eat them because I don't understand all the ingredients, so...

(1198, PCRT, F, Moderate)

Em...okay, it's foreign.

Yeah.

And it's a very busy package, with lots of writing that's very small, so I –

And all the different languages and...

Yes. And, to be honest, as much as I like chocolate sponge cake, I would say no to this because I wouldn't even attempt to look at the...

Okay. In the actual ingredients, it has got hazelnut paste in.

Right. Well, if I even bothered to look at it, then it would be a "no" anyway.

Then it would be a "no", yeah.

Yeah. But that kind of label is a nightmare. It's a nightmare for me at the best of times.

I would stay away from that.

(1211, PCRT, F, Severe)

They look disgusting, but... Best before... My slight concern is...if I had to, and I was starving, I possibly would. My hesitation is that it's in so many languages that I wonder how good the labelling is...is actually my hesitation, because I can't understand everything that's written there.

Did you read the...did you find the English or...?

Yeah, yeah, I found the English, but it's just...it's such limited information that's actually there. So although it doesn't say anything, I wouldn't...I wouldn't buy them myself, and I probably wouldn't eat them at a friend's house unless I was really hungry, just because of the...is this really the right...not giving enough information on it.

Is that a no?

That's a no.

(4013, PCRT, F, Severe)

Interestingly in the following quote, the lack of allergy advice provided - even though the hazel nuts are included in the ingredients - leads this participant to reflect on the other occasions that she eats products without checking the packets.

I can't even find our language... I probably would have got bored by now and put it back and found something else anyway! Oh, it would take me forever, because you have to read through all of the ingredients... It says it's got hazelnuts in it, hazelnut paste, but it has no allergy advice saying "May contain nuts". So...the most contradictory thing, because it makes me think about the amount of foods that I look at and it doesn't have allergy advice, and I eat them anyway, but it's actually got hazelnut paste in it.

(1161, PCRT, F, Mild)

Participant 4004 was unsure of this product due to the lack of allergy warnings, but eventually concludes that he would eat the product as he feels it would be fairly low risk.

Em...it would be something I'd check. This sort of looks to be something that could change very easily or particularly I could pick up the wrong packaging, if they do a range of goods, one that possibly has hazelnuts in, so I would probably then check what's going on before...

And then you have to actually find the English version of the ingredients there as well!

Yes! It wasn't too hard but... This one...this one doesn't actually say, does it, about 'May contain nuts'?

No.

Yeah. This is a...to me, this one, even though I guess...you can buy it in this country, but...

You can - they're from [store name].

If I bought these in a foreign country -

If I handed it to you now, and said, "Here, do you want to have this?" what would you do?

Em, I would be...yeah, I would check it first, but I don't think I'd have too much of a problem with it, because it's...to me, it just looks like it's a chocolate coated bar of some kind, and generally, because I don't have a problem with sort of the snack-type things, I think I could get away with that.

(4004, PCRT, M, Moderate)

Summary of reasoning and reflection on dilemmas

In the event arguably this product did not really pose a dilemma to participants. There was strong agreement that the packaging was unacceptable – even to those who were willing to eat the cake bars. It is interesting to reflect that in the context of poor packet information, several participants sought allergy advice boxes and even 'may contain' warnings to provide them with what would, in this context, have been a clear steer. On other occasions of course, participants have commented on the over use of 'may contain' warnings: here such advice would have been helpful.

7.7 Own brand freshly baked chocolate chip cookies

Anticipated dilemma

This product is normally a high risk product with 'may contain nuts' warning (this is general and only pertains to bakery goods sold loose in general – not specific to the product).

Allergy warning

'This product may contain traces of nuts or seeds'.

Overview

Nine out of 14 MMNA participants said that they would eat these cookies and a similar proportion of SNA participants (11 of the 18) said that they would not eat them. Two of these nine MMNA participants said that they were uncertain about this and of the 11 SNA participants who said they would not eat them, 2 were uncertain.

Participant reasoning

The response of some participants clearly recognised the possibility of 'hidden nuts' and they were generally inclined to reject it on those grounds.

Yeah, like the chocolate chip ones, I know they never put nuts in, but chocolate ones, sometimes they will put little chopped up almonds or hazelnuts in them. So I'd rather choose the safer ones, but I probably would eat them if there was no alternative.

(1031, F, Moderate)

Em...if I liked that sort of thing, I don't suppose I'd be put off, but I think I would want to... Yeah, mm..."May contain nuts and seeds". Seeds are fine, but... It's a difficult one, because I can't stand chocolate in things.

Right, okay! Assuming you did!

Em...yeah, I might give that one a miss because I would think that there was a hazelnut lurking in there somehow and...no, yeah, that one I would give a miss.

(1034, PCRT, F, Moderate)

Other participants were willing to prioritise their anticipated liking of the product over any risk that there could be nuts in the ingredient. For participant 1116 below, the lack of an ingredients list seems to legitimate this strategy, and combined with careful sampling this provides an acceptable (though, she admits, less than ideal) way to proceed.

You know, I really actually think I probably would, even though there isn't [listed] ingredients, which shows that my desire for chocolate is...

Overrides it!

Overrides my concern about anaphylactic shock! I probably actually would, but I'd...do it very careful. I'd have a little look. I'd probably take the cookie out and break it in half, have a little look, have a little nibble, and wait a few moments, and if that's okay, then I would.

Right. So that would be a kind of taste test, would it?

Yeah.

And then if you got a bit of a tingle, you'd just...

Yeah, then I wouldn't. Probably not the best way to deal with it!

(1116, PCRT, F, Severe)

Should be fine. There's no ingredients on these ones, but I like chocolate so much that I probably would eat them and then I'd deal with the consequences afterwards [laughing]. I think they should be fine, because, again, in England, anything with nuts, they're normally quite clear. It would say "Nut and Chocolate Cookies" – that's my experience. (4010, PCRT, F, Moderate)

For participant 4015, though recognising that this product could quite feasibly be cross contaminated, he decided that on balance, despite being wary, he wanted to eat them and that he would take the responsibility for this.

Oh, danger! First of all, I'd read the ingredients. Although, see – I don't want to be contradictory to what I *do* do...

No, you can say...

I do buy...I do buy stuff like this, sometimes, but I do feel, when I buy it, even when I do it, I think "You're taking your life in your hands."

Really?

Really. I do think that, but that's just my personal...it's my business if I do it! It's my risk. I'm making the risk. I'm making the assessment of it myself. I've got an EpiPen in there, so I know that I'm supposed to have an EpiPen if I've got it. Yeah, it would be a "yes". I would eat them. I do like them. I like cookies. I like those doughy sort of American cookies – delicious, so fattening! But I would be nervous...not nervous...I would be wary of it, because...you never... With something like that, they could just be making chocolate ones here, and they could be chocolate nut ones over at the next counter. It's not like the cauliflower cheese, where it's not really supposed to be making anything with it, although I suppose they could be making cauliflower cheese here and satay on the next bench over, but... I just feel that there's more scope for cross-contamination in this sort of area than in the cauliflower cheese sort of area.

(4015, PCRT, M, Severe)

Participant 4004 also made a decision to eat the cookies. This is based on personal experiences with such products in combination with an assessment of 'may contain' labelling as being a 'get-out clause' for the manufacturer.

I do check the – yeah, I do buy these ones in (supermarket) very occasionally, and I will look at... These don't say, but I'll look to see if they've got nuts – like this one just says double chocolate, so I'm pretty okay with that. It does say "May contain traces of nuts and seeds," but that's just this get-out clause that, you know, they shouldn't be allowed to put on there. Because I eat these sorts of things, again, I know I've not had a reaction to

them, so, as long as they don't say Double Chocolate and Hazelnut, then just move on, buy and eat.

(4004, PCRT, M, Moderate)

Other participants recognised the lack of allergy and ingredients information and concluded that they would not be prepared to take the risk.

I know these don't have allergy advice on at all. I've eaten the chocolate ones of these before and I've been okay, but I wouldn't feel comfortable eating them, so I probably wouldn't.

(1161, PCRT, F, Mild)

Like again, probably like the flatbreads, like...if someone forced me to eat it, I'd probably, in the back of my mind, would be like...I kind of know that's not going to cause me any problems, but I probably wouldn't buy it.

(2049, PCRT, F, Severe)

Summary of reasoning and reflection on dilemmas

Participants recognised that, in the context of a within supermarket bakery, the 'may contain' warning was expected and routine. Discussion of this product enabled some of the key debates and dilemmas around allergy to be aired: recognition of cross-contamination risks, the contentious status of 'may contain' labelling, and the trade-off between potential enjoyment of the product and potential risk.

7.8 Branded bar of dairy free chocolate snack bar with puffed rice

Anticipated dilemma

There is no nut information on the labelling although the chocolate is usually considered as high risk. However this is also a 'free from' product in respect of other allergies.

Allergy warning

There is no allergy advice.

Overview

Ten of the 14 MMNA participants said that they would eat this product and 13 of the 18 SNA participants said they would. One MMNA participant and 4 SNA participants were uncertain about this. Of the 9 participants that said they would not eat this chocolate snack bar, 4 said they were uncertain.

Participant reasoning

All participant reasoning around this product was linked to the anticipated dilemma that though there was no allergy advice, chocolate is usually a high risk product.

Participant 1060 is predisposed to resolve the tension between no labelling and the presence of chocolate as he would like to be able to eat and enjoy the product. Checking the ingredients list enables him to rule out the possibility of nuts and on the basis of this concludes that he can confidently eat it.

Oh, that looks lovely! This is something I would check the ingredients of, because with it being a rice cracker, that often goes hand in hand with... Crunchy chocolate sort of things often have nuts in, so that's something I'd always check. But yeah, there's no mention of nuts in it...no mention at all, so I'd eat that.

You'd eat that confidently and...?

Yeah.

(1060, PCRT, M, Moderate)

Participant 2049 rejects the product on the basis of a preference for 'plain' chocolate that is not mixed with other substances. The picture of the product confirms the view that chocolate can be a problematic food, particularly as it 'looks' as though it may contain nuts.

Eh...ah...no! It's probably the image of that picture! I know that's awful.

No.

I know it's got rice – rice crackle, so it's probably rice, but I wouldn't eat it. I generally...I don't...em, I will eat chocolate. Chocolate, I do find is a problematic thing for me. Like I do eat chocolate, but I tend to definitely avoid anything with stuff in it, if you know what

I mean? Like I'd only eat chocolate if it's really plain, or like a chocolate bar, like Dairy Milk or something like that, where I know it's just chocolate. I never really...I don't eat bars that have anything in, like...even like that, like rice or honeycomb or anything crunchy in it. I just...I don't eat anything like that.

Is that bad experiences or just...?

It's probably more to do with the...the box thing. Like I told you I've had like - I've definitely had bad experiences with boxes of chocolates, like quite a few times, where I'll go to have a chocolate and I'll be like, mm, I know that's a little bit nutty, so I just don't. I just don't [buy anything].

And in a sense, it's that picture on the front of that thing which makes you go, "No!"?

Yeah. It's just the fact that it's got...that you can see there's things in chocolate, which just kind of freaks me out a little bit.

(2049, PCRT, F, Severe)

The lack of allergy advice on this product led several participants to conclude that they would not eat this product. For participant 1198 the lack of allergy advice in relation to nuts was accentuated by a range of free from information relating to other allergens.

Dairy-free stuff normally has hazelnut stuff in it. Em... I can't actually see any allergy advice (goes through all ingredients). It doesn't say it's nut-free. It says dairy-free, gluten-free, cholesterol-free, and I would probably expect it to say nut-free.

And it doesn't...

I don't think I'd eat it.

(1198, PCRT, F, Moderate)

For participant 4015, previous negative experiences dominate his risk assessment, so the decision is made on the basis of this and no consideration of labelling issues is necessary.

It's the fact that it's got little bits in the chocolate that scares me because...again, it's all from past experience I suppose. I once had a [product name], and [product name] are supposed to be rice crispie pieces, the wafer and chocolate, but it was nuts, instead of rice crispies. I just got it to my mouth in time and like "That's nuts!" and then, not long after that, they brought out a peanut one, so I think I got a bad one. I mean I...I wouldn't eat it. I would be wary of it.

4015, PCRT, M, Severe)

Summary of reasoning and reflection on dilemmas

The anticipated dilemma clearly struck a chord with participants. Again we see the role of product image – through the picture on the packet – and previous experience triggering initial concerns. The lack of allergy advice, in the context of a potentially problematic product, played a key role in leading to its rejection.

7.9 Branded packet of chocolate buttons

Anticipated dilemma

The anticipated dilemma for this product is that it is normally a high risk food category, but this particular product does not contain nuts or have a contamination risk and therefore there is no nut warning on the label.

Allergy warning

No allergy or ‘may contain’ advice.

Overview

All of the MMNA participants and all but one of the SNA participants said they would eat the chocolate buttons. Only one of the SNA participants was uncertain about this. This is the ‘high risk’ product that most participants said ‘yes’ to.

Participant reasoning

In general, the decision making process for this product was fairly straightforward despite the anticipated dilemma that chocolate is normally a high risk food and few dilemmas were observed by the researchers. Most participants did not even feel the need to look at the label before deciding whether they would eat the product. The product was seen as coming from a ‘trusted brand’ and most participants had eaten the product before without any allergic reactions, for example:

I can't see anything on this.

I think there's just a little yellow...that yellow warning there...

Yeah, just says “Contains milk,” but then you’d expect it from milk chocolate.

Yeah, I’d probably have these actually. I think you can put it down as a “yes”. I mean, I know it is chocolate, but then it is [brand name], and [brand name] do tend to label their food a lot better than other brands.

(1194, PCRT, M, Severe)

Summary of reasoning and reflection on dilemmas

The fact that chocolate is often considered to be a high risk substance did not constitute a reason for rejection by SNA or MMNA participants. This was due to the high esteem with which the brand name was held and to extensive knowledge of and experience with the product.

7.10 Branded packet of cheese and onion crisps

Anticipated dilemma

This product category is often safe but these particular products contain nut warnings.

Allergy warning

‘Made in a bakery handling nut (not peanut)’.

Overview

Only 6 participants of the 32 were not happy to eat this product – 2 with MMNA and 2 with severe allergy. Both of MMNA participants were uncertain about this and one of the SNA participants was unsure.

Participant reasoning

The product category was extremely familiar to participants and this was strongly linked with being risk free. Despite the unfamiliarity of this brand of crisps and the allergy warning, the familiarity of the risk free status of the product category was a key reason for participant willingness to buy the product. In the following quote the unfamiliarity of the brand triggered some checking but the nature of the warning did not lead to a changed decision.

Well, any crisps, I normally just do eat without checking. However, these do have nut traces in, but not peanuts. Normally, crisps...well, these are like a different brand, but normally, just like (brand name) or anything, I would just immediately eat. But something like this, where I haven't seen before, I probably would check before I ate, not...just like a brief scan. So if there wasn't anything in the allergy advice, I probably just would leave it – I wouldn't bother looking up the ingredients. But yeah, these I would eat because it doesn't have... It's "Made in a bakery handling nuts but not peanuts", but yes.

Okay.

For a first look, I'd probably be like, "Oh yeah, I can eat them," and then I'd just be like, "Oh, hang on, it's not a main brand – I probably should have a look at it."

(1008, PCRT, F, Moderate)

Participant 1016 was only allergic to peanuts and the fact that she was generally fine with crisps, along with the specificity of the label, enabled her to make a confident decision that she would eat the crisps despite their unfamiliar packaging. Participant 1017 approves of the specificity of the label though admits that he would be happy to eat this product even if it had been more general. It is interesting that he seems to make a link between "these kind of people" (presumably referring to the less well known brand) and the likelihood that the label is simply there as a precaution for the company.

I'm okay with crisps, but obviously if it's...if the packaging is something I haven't had before, then I will always check that it's okay.

Yes, I would have them.

Yeah?

Yeah, because again, it states on there that it's made in a factory that handles nuts but not peanuts.

Ah okay, so that's quite specific, isn't it?

So yeah, I would have these ones.

(1016, PCRT, F, Severe)

Yeah, crisps are usually fine, so...eh... I've never seen the brand, haven't seen this at all, so I'd definitely be checking, but cheese and onion crisps, I just can't see any reason why they would ever contain nuts. Well, yeah, I would certainly be checking...allergy advice..."Made in a bakery handling nuts, not peanuts". Again, that's really useful, just "not peanuts". If this had said "Made in a bakery handling nuts", I probably would still eat them because I sort of...I'd sort of make a judgement on the fact that...I just don't

think that they would have...I can't see where that contamination might come from, and I would have these kind of people down as...again, rightly or wrongly, I'd have them down as people who put it on just to sort of cover their backs more than anything. So yeah, I think so, I would eat them, yeah.

You'd have those.

(1017, PCRT, M, Moderate)

The following quotes are illustrative of the dominance of the image of the product category as being safe and the fact that by virtue of this, the product would generally not be checked.

Oh...no, I wouldn't have them, because they've got a nut allergy warning on them. Actually, you can get loads of crisps that don't have a nut allergy warning, so...I wouldn't buy these. But, do you know, automatically, I probably wouldn't have looked.

Well, that's the thing, isn't it? If somebody was just to hand you a pack and say, "Do you want one of these?"

Or just to be out and have them in a bowl...so you wouldn't know. If you went to somebody's house and they said, "Oh, have a cheese and onion crisp," you just would, wouldn't you?

(1198, PCRT, F, Moderate)

Crisps...yeah, I wouldn't even probably check the packaging on that. Crisps, I'd always trust packets of crisps. So yeah, I would eat that, even though I can see it has got a...it says it's made in a bakery... Yeah, see, maybe I should read things more, because it says that's made in a bakery that handles nuts that aren't peanuts. But I mean, I would have...if they just had like a symbol on a packet that said nuts, you know, that meant that there's handling of nuts has happened, it would make shopping so much easier.

A lot easier, yeah.

But I must admit, I would probably have bought them and not thought twice about it.

(3008, PCRT, F, Moderate)

The following quotes - both from participants with a SNA - show a rejection of the product based on the labelling although participant 1211 again illustrates how her personal preference for the product and an absence of previous negative experiences of buying from bakeries presents a strong challenge to her resolve to simply act on the basis of the labelling.

Cheese & onion is my favourite. All these foods that I would love to have...

Yeah.

Again, em, it says in a factory that handles nuts and it may contain sesame, and em... No, I wouldn't. I'd love to have it, but no I won't, again, simply because of the labelling.

(1194, PCRT, M, Severe)

Love cheese & onion crisps, but I don't eat them anyway. I haven't eaten crisps for years...just don't. And yes, I would. These were baked.

Yeah.

I can't see anything...oh, I don't know...again, I can't read it... Made in a bakery handling nuts, but not peanuts...it's got sesame... I wouldn't. Again, because I don't eat the crisps and I fancied them, I would be tempted to try them.

Yeah.

Because it's made in a bakery, I would maybe take the chance with them, because I've never had a reaction before

(1211, PCRT, F, Severe)

Summary of reasoning and reflection on dilemmas

Although crisps are a low risk product, the fact that this particular brand was unfamiliar and contained a nut allergy warning did cause a dilemma for many participants. Participant reasoning here clearly shows that one of the effects of the rules of thumb is to determine when checking of labels is more or less necessary. In the context of signals of safety generated by brand familiarity and the strong image of a low risk product, checking labels is less likely to occur.

7.11 Branded tinned macaroni cheese

Anticipated dilemma

This is a tinned food and therefore a low risk. The question from an expert point of view is focused on whether the individual will look for the allergy labelling.

Allergy warning

'May contain egg'.

Overview

All participants - both MMNA and SNA - said that they would eat this tinned macaroni cheese. Only one person – with severe allergy – said they were uncertain about this.

Participant reasoning

No dilemmas were observed whilst participants considered this low risk product and all participants were prepared to eat the product. Most participants did not even feel the need to look at the label before deciding whether they would eat the product.

Yeah, I eat these, so I know I can eat them. So I wouldn't check – I would just eat it.
(1008, PCRT, F, Moderate)

That should be fine, yeah.

Straightaway...quite clear about that one...

Yeah. Trust...I trust [brand name] so much so...

(1017, PCRT, M, Moderate)

Other participants did look at the label, but only really as a way of confirming their view that the product would be safe to eat.

Yeah, I'd eat that one. It doesn't say anything about even "may contain traces of nut" on the back or anything, so I'd eat that, and I've eaten lots of (brandname) things before, so I trust the brand really.

(1161, PCRT, F, Mild)

Summary of reasoning and reflection on dilemmas

All participants viewed this product as a low risk, consistent with our original dilemma, and either did not even look for an allergy label or simply used the label to confirm that the product would be safe to eat as regards their allergy.

7.12 Own brand cauliflower cheese ready meal

Anticipated dilemma

The anticipated dilemma for this product is that although it is a low risk food category, as it is a supermarket own product it is labelled, and the allergy warning implies it may not be nut free.

Allergy warning

Recipe: no nuts; Ingredients: cannot guarantee nut free; Factory: before being prepared for manufacture of this product, the equipment was previously used to make products containing nuts

Overview

In total 8 participants said they would not eat this cauliflower cheese ready meal – 4 SNA and 4 MMNA. All the participants who said they would eat it were certain about their decision. Of those that said they would not eat it, 1 of the 4 MMNA and 1 of the 4 SA participants were uncertain about this.

Participant reasoning

A few participants experienced the anticipated dilemma generated by the labelling, which suggested the possibility of nuts being in what is generally considered to be a low risk product.

The following quotes give examples from participants who were (1198) and were not (3024) familiar with this labelling system. Both of them clearly stated that they would not buy this product anyway as it would be easy to make and cooking it from scratch would ensure confidence that it was nut free. The first participant was frustrated that such a product had a warning on and the second participant was surprised.

Oh! See, how annoying is it? Cauliflower cheese is cauliflower cheese, isn't it? Okay, no nuts...cannot guarantee nut-free... Do you know, I probably wouldn't...no, I would say no, because...I don't want to know that it's... Oh, I suppose I do really, don't I? I have trouble with this (supermarket) thing because..."Before making this product, was used to..." ..."Equipment previously used to make products containing nuts." Sometime I say to myself, well, they've obviously cleaned it really well because they're making something different, so that would be fine. So logic-wise, I guess it's okay, but it just

makes me think no actually, I wouldn't, and I particularly wouldn't buy that because it's so easy to make a safe cauliflower cheese that...

Mm, it's just not worth taking the risk?

No.

(1198, PCRT, F, Moderate)

Okay. I wouldn't make that on principle because I can make it myself for a start. Let me have a... I'm looking at the allergy advice... Yeah, I'd eat it if I...if that was the only thing left in the world, I'd eat it, yeah. I think basically it's saying that it's, you know, the equipment – oh, the equipment was previously used to make products containing nuts. No, I wouldn't. Sorry.

No, that's alright.

I've never seen that before actually. No. Isn't that bizarre? I would never have thought that.

Yeah. And that would be enough to put you off, yeah?

Yep

(3024, PCRT, F, Severe)

Some participants looked at the may contain warnings on this label, but ignored them.

Em, well, very fatty! But on a purely nut allergy basis...em...just looking for the...oh, there it is. Recipe, no nuts, so yeah, I'd eat that. Again, it's saying "Cannot guarantee nut-free", but nothing else...and it's saying [the] equipment is previously used for making products containing nuts, but really, all that's saying is the same as everything else – "May contain traces of nuts" – because that's all that means anyway, isn't it, so... Yeah, they're just covering their backs.

(1060, PCRT, M, Moderate)

Other participants, although they looked at the label, admitted that in normal circumstances they would buy this product without checking for any allergy warnings.

Yep, wouldn't think twice about that. Wouldn't even check the packaging, to be honest. I'd assume that a ready meal wouldn't have nuts. Shall I read the packaging or just...?

Just whatever you would normally do with it...

Yes, yeah. It says – well, I can see now that it says that it may be produced in the factory, so...but yeah, I wouldn't have thought about it when I bought that.

(3008, F, PCRT, Moderate)

Summary of reasoning and reflection on dilemmas

The majority of participants acknowledged the existence of the nut allergy warning on this product in line with our anticipated dilemma, but felt the product would still be safe to eat. The expectations stemming from knowing that the basic simple constituents of the product (i.e. just cauliflower and cheese) would be safe to eat exerted greater influence than the packet information. Indeed it was this that lay behind the frustration expressed by some with the 'may contain' equivalent warning to be found on the packet.

7.13 Branded packet of yoghurt coated fruit snacks

Anticipated dilemma

This product category is generally considered as low risk but it is labelled with a warning

Allergy warning

This product is made in a factory which also handles nuts.

Overview

Both MMNA and SNA participants were divided over whether they would eat this yoghurt coated fruit snack. Of the 14 MMNA participants, seven said they would and seven that they would not. Of the SNA participants 11 said they would and 7 that they would not. Of those who said they would, none of the people with MMNA were uncertain; 2 of those with SNA were uncertain.

Participant reasoning

When we explored why participants would not be prepared to eat this product, for participant 1016 it was a lack of familiarity with the product. She decided that as she had not seen the product before and the label had an allergy warning on it, she would not be prepared to eat the product.

I can't imagine there would be anything in these, because obviously it's fruit. It's not very clear...you can't really see on the back of these. It does say "This factory..." is made where it handles nuts, so I would probably say no, just because I haven't had them before. Even though I can't imagine there would be anything in there, and from looking at the ingredients, I can't see anything, but I probably would say no.

That label's just...yeah...

Yeah, it's not very clear to see either

(1016, PCRT, F, Severe)

The following quote provides an example of how the product is anchored to other products that are have clear nut content. The resulting concerns are then confirmed by the allergy label on the product – both in terms of its format and content.

I would have...I associate all these kinds of foods with having nuts in. They normally always...these like tropical mixes, all of these type of things, they normally have nuts in, so even though it's not a nutty one, I might be a little bit put off because I've...it's the sort of thing that normally does have nuts in. And reading the ingredients on it is terrible...

What, because the print's so small, you mean?

Well, the print's really small on the wrong colour background so it's really hard to read.

Yeah.

And I can't actually see anything jumping out at me about nuts... Like if it said on the front, quite big, "No nuts" ... Oh hang on, here we are, right at the bottom..."which may..." something about handles nuts...oh, "Produced in a factory which also handles nuts."

Yeah, I probably wouldn't...buy that.

No, you wouldn't want to risk it...

I mean, if I really, really fancied having it, then I suppose I...or if somebody offered me them, I might try them, but I probably would not get that. It's an iffy one

(3008, PCRT, F, Moderate)

Summary of reasoning and reflection on dilemmas

Although this product is in a low risk category there was considerable variation as to whether participants would be happy to buy or consume this product or not. Indeed there was much greater variation between participants on this product than there was for several of the high risk products. The main reasons why participants were not happy to buy this product was that they were attending to the allergy advice. They also remarked on how small and hard to

read this was which further increased reservations about the product. Finally, this type of snack food is often associated with nuts and cross contamination and the dominance of this image increases participant reluctance to consume it.

7.14 Individual profiles of decision making

Our analysis of the PCRT thus far has focused on participant reasoning in relation to each *product*. However, it is also instructive to compare the variation across *people*. At this point we have simply addressed this in a basic descriptive analysis.

When we look at the ‘high risk’ products, the median number of products that participants said they would eat was 4.50 for SNA participants and 6.50 for MMNA participants. Examination of Table 4 below shows the ‘yes’ profiles of SNA and MMNA participants to ‘high risk’ products and provides the detail behind these median values. We can see that there was 1 SNA participant who would eat all 9 high risk products and another who would eat 8 of the nine. At the other end of the spectrum we see that 5 SNA participants would only eat 3 of the high risk products. We see a different pattern when we look at the decisions of MMNA participants on the high risk products, where more participants were willing to eat more high risk products: 7 participants were willing to eat 7 or more products. There was only 1 participant who would only eat 3 high risk products.

Table 4 - Comparison of ‘yes’ decisions on the 9 high risk products for SNA and MMNA participants

HIGH RISK PRODUCTS	SNA	MMNA
3	5	1
4	4	1
5	2	1
6	3	4
7	2	3
8	1	3
9	1	1
	18	14

Finally, by looking across both the high and the low risk products we can address the question as to whether there are some participants who took a conservative stance across all product choices and others who, according to the packet labelling, might be considered to have high risk strategies around product choice. Examination of the figures depicted in Table 5 shows that in both groups the number of products to which participants said ‘yes’ ranged from 4 to 13. There were participants of both levels of allergy severity who said yes to 4 products and while others said yes to 13 products.

Table 5 - Comparison of ‘yes’ decisions across all 13 products for SNA and MMNA participants

HIGH AND LOW RISK PRODUCTS	SNA	MMNA
4	2	1
5	1	
6		1
7	5	
8	2	1
9	3	4
10	2	2
11	1	2
12	1	2
13	1	1
	18	14

7.15 Conclusion

The Product Choice Reasoning Task has proved a very useful way of exploring participant reasoning on particular products. It has proved itself useful as a tool to examine (a) detailed participant reasoning in real time and the linking of these reasons with decisions about particular products (b) expert generated ‘hypotheses’ about likely responses to particular products. It has facilitated a clear view of the way in which the rules of thumb that we have identified come into play in making assessments of particular products. Rules of thumb around familiarity, experience, sensory judgements, liking, images of the product, and trust in the producer all emerged as key determinants of the way in which the

details of labelling are interpreted and indeed whether or not the labels are even referred to.

The potential that labelling has to affect risk assessment and decision making around particular products is often a result of the broader context set by these rules of thumb. Sometimes the message of the label can override the rules of thumb and sometimes it cannot. In some instances, as we have seen, the exact wording of the allergy advice becomes the focus of attention: participants extract a variety of shades of meaning from this and use this as the basis for accepting or rejecting a particular product.

When we consider the potential differences between participants with a history of severe allergic reactions and those with mild/moderate reactions the overall pattern of decisions made suggests that by and large the level of severity did not make a difference in relation to particular products.

CHAPTER 8 – HOME AND AWAY: THE PROBLEMS OF EATING OUT

It's more about planning and preparation. If I'm ready for something, I have no problem, but it's taken any spontaneity out of my life really. For example, we were in Cyprus and we were having an orange juice at this café, up a mountain in the middle of nowhere, in this tiny little village, and the lady said, "Oh, shall we have a typical Cypriot lunch here?" I wanted to see what everyone else thought, so I didn't mind, thinking, okay, well, I'll deal with it if I have to, and thankfully, everyone was, 'Oh no, we'll eat later'. But I just couldn't, for a fear of what might happen, and being so remote. So as I say, it's taken all the spontaneity out.

(1029, I, F, Severe)

The thing that sometimes I'm reluctant to do is, you know, as soon as you mention peanuts, it's making sure that they've got what you're saying, that you're saying that you're allergic and you can't eat nuts, as opposed to "I want extra nuts," you know [laughing]! So you feel like...sometimes you think, mm, it might not be such a good idea to mention it.

(1116, I, F, Severe)

In the last of the chapters reporting the results of the empirical research, we turn away from exploring food purchases and labelling to consider the experience of nut allergic consumers in situations where they are not in control of the food preparation, and possibly not in control of its purchase. We will explore these questions in four contexts: eating out in restaurants; at other people's houses; abroad; and on festive occasions. We will deal in particular detail with the challenges of eating in restaurants and at other people's houses, looking both at the issues that arise in these contexts as well as the strategies that nut allergic consumers use to cope with these consequent concerns.

These questions were addressed during the semi structured interview (Appendix 7). One of the key ways in which this was done was to ask participants about good and bad experiences that they had had in these environments. In fact answers to questions about bad experiences were most instructive as, by and

large, a good experience was usually evidenced in terms of the absence of a bad one.

8.1 Restaurants

The strategies that consumers use here can be broadly divided into two: restaurants were either rejected outright because they were unsuitable, or participants explained a range of strategies that they use to minimise the risks that they face.

8.1.1 Rejection of restaurants and recipes

Many participants provided examples of types of restaurants that they would deem to be of high risk and that they would thus avoid all together. These are primarily Indian, Thai and Chinese restaurants.

Would you eat out in most nationality restaurants, or are there things that you avoid there, like...?

No. I'd love to eat in Chinese, but I don't eat in Chinese because they use so much nuts and nut oils. Indians, I wouldn't eat in. []Yeah, any...any like Middle East or Asian food, I don't eat in.

(1003, I, F, Mild)

Do you mean you just wouldn't eat in an Indian restaurant or a Chinese restaurant?

No, full-stop, I don't. I don't dare have takeaways, full-stop, which is a shame because my husband adores Indian food. Too risky, yeah. I mean, if something was being made especially for me, and I could see it being made, then fine, but, otherwise, no. I'm just worried about cross-contamination when there's quite a lot of nuts in the cuisine

(1068, I, F, Moderate)

Several individuals mentioned that language barriers could provide additional issues when trying to eat out in restaurants, usually because the individual was concerned about the extent to which the restaurant understood what their nut allergy meant and were able to take the correct actions.

A few participants provided examples where language barriers meant that they had been served nuts – despite stating their nut allergy to the restaurant staff before ordering their food. Several participants said that they were often not confident that what they had been saying was understood, and that when the food was delivered to the table this uneasiness had often been confirmed.

So, stupidly – well, wrongly rather than stupidly, I don't know – I decided that I'd go for biriyani and explained it's really important that there were no nuts on my dish. "Yeah, yes, fine, fine, fine." My dish came and it was covered in nuts, and I was like, "I explained I can't eat this." It's awful! I feel so...annoyed, that it's an inconvenience for them, you know, and I should have just not bothered to order it and had something that I knew was not going to have nuts in. So anyway, I said, "You're going to need to make me a new dish. You can't just scrape it off the top." So the presentation of the dish with the nuts on was in a triangle heap, sort of on an oblong type plate, and it came back and it had clearly just been sliced off the top, and I was like...!

(4001, I, F, Severe)

Participants also talked about more specific high risk foods that they would also avoid, such as desserts.

Things that are really horrible for us are things like desserts in restaurants, because they can have anything in them. Even something like tiramisu that shouldn't have any nuts in it at all, some tiramisu does have nuts in it, because it's got...it's got liqueurs in it that are nut-based liqueurs, yeah, which they don't even advertise in it. So it's like, mm, if we're out and about, you know, thinking about it, desserts are a nightmare for me! I tend to not have a dessert.

(1069, I, M, Severe)

At a restaurant, I can't really eat desserts, and then I just like have a main course, but instead of having something with a rich sauce or whatever, I'll have like a steak, because I know that that's a steak.

(1112, I, F, Severe)

8.1.2 Seeking restaurant staff advice

When asked about eating out at restaurants many participants reported that when ordering their food they would either ask the waiter whether the dish had nuts in it, or ask the waiter to inform the chef that they had a nut allergy.

Do you find menus quite helpful when you're in restaurants?

Yeah. If they've got anything that contains peanuts on the menu, then I won't eat there, at all. Most restaurants don't, to be honest, and if it's something I'm not sure about in a restaurant, then I'll ask. People are quite accommodating in restaurants. I suppose they don't really want you having a reaction in the middle of the restaurant [laughing]! But yeah, I always ask if I'm not sure.

(1161, I, F, Severe)

Do you normally flag it up when you're in the restaurant or do you just make a decision on the menu?

I don't usually, but it depends what I've chosen. If it's one of those...you know, if it's a restaurant with a tasting menu, then I might tell them because the chefs always try some funny posh little tricks with their food and then they might try and put hazelnut oil or...I don't know, some kind of oil, so I do tell them in that case. And if it's an expensive restaurant, then sometimes I try and remember to tell them, the waiter, and they're normally very onto it, yeah.

(4010. I, F, Moderate)

I'd avoid desserts in restaurants mainly, unless...unless I'm feeling comfortable with the whole place and they can actually... You know, you know when you're asking a waitress and she'll say, "Oh yes, I'll ask the chef – we know," and I kind of rely on people's honesty and gut feel, and if I'm not 100% sure, then I just won't. [...]

(4013, I, F, Severe)

8.1.3 Returning to familiar places

Several participants alluded to the importance of eating out in places where you are known. In line with previous themes highlighted in this report, it was important for participants to go to places where they had had previous good experiences of eating out.

So do you eat in Chinese, Indian...those sorts of places?

Yes, but always the same ones.

Always the same ones?

Where I know the staff!

Okay. And are they ones you've just established a rapport with or...?

Yes. We've been to them for years. We might have even gone to them before I knew about this nut allergy, so I was already comfortable with the staff.

(1029, I, F, Severe)

The one in (place name), but I mean, that's the safest place on earth that I could eat now, because the staff all know me. I mean I went in there on Friday night. We go about once a month, and all the staff in there, as soon as I walk in the door, they're all shouting, "No nuts! Nut nuts for Mr [surname]!" It's like...it's great, because obviously, they remember that, because it's not every day someone has an anaphylactic reaction in your restaurant, and now they go out of their way. So I'm there looking at the menu, and they'll go, "No, you can't have that one."

Do they? Oh, they're really vigilant then...

So they're helping me – yeah, they absolutely are.

(1069, I M, Severe)

8.1.4 No guarantees

Many participants reported that when they informed restaurants about their nut allergy they were often told that the restaurant could not provide any guarantees that their meal would be nut free. For some individuals this was a part of eating out at restaurants (and the restaurant was seen as 'covering' itself against future litigation), and they were quite willing to take responsibility themselves for eating at the restaurant.

No places will guarantee it. They always say, "I'll tell the chef, but you know, we can't guarantee it," and they're just covering themselves again, which I find fine because I'm used to it now. It's not just one restaurant that says it; it's every restaurant.

(1008, I, F, Moderate)

If you go somewhere and you say, "I'm allergic to nuts," they can just say, "Okay, well, we can't guarantee..." That's the thing that annoys me – "We can't guarantee there's no nuts, but this dish has no nuts in the recipe. But we can't guarantee there's no nuts." You're like..."Well, you just told me there's no..." I said I...that's...where you take responsibility

for yourself, isn't it? That's the question that I always ask. Are there nuts in the recipe? No. I understand that there's nuts in the kitchen, there may be cross-contamination – that's my risk to eat here then. And that's fine. I'm willing to take that risk, because I know full well the symptoms and I know the immediate trigger, as soon as it's...before it's even in my mouth, if it's peanuts, which is the worst one, but... So I wouldn't say it affects me really badly. There are certain foods that I just avoid really.

(4015, I, M, Severe)

Participants provided many examples of where they were not actually able to take responsibility themselves as either the restaurant refused to serve them due to their nut allergy or would only serve them certain basic food ('low risk') that they felt was 'safe' to eat. In the second example below participant 3024 gives an example from a plane journey where the cabin staff refused to serve certain foods that they considered high risk but which she was confident she would be able to eat.

When I got there, they said to me, oh, because you have a peanut allergy, we can't guarantee that any of our food won't be cross-contaminated or anything, so we can only, you know, we can only give you what we can, so they ended up giving me a piece of chicken with some sweetcorn. They were really bad. If you go in – like we don't eat there anymore, because if we go in there for a meal, they'll say, "Oh, because we have to cover ourselves, we can't guarantee that if we give you this it will be completely safe for you," so they're really bad.

(1016 I, F, Severe)

And also, the other thing is, if you're not careful, if you tell people you're allergic to nuts, you end up getting all the crap meals because they get so – like on a plane, if you tell them that you've got a nut allergy, they just end up giving you fresh fruit, whereas your partner's got this really gorgeous chocolate cake, which you can eat because it's got no nuts in, so that always really winds me up.

(3024 I, F, Severe)

8.1.5 Embarrassment

The social embarrassment caused by the need to check whether the food on offer contained nuts was a significant issue for many participants. Participants tried to avoid situations in which they felt that they would be perceived as causing a

fuss or would be drawing unwanted attention to themselves because of their nut allergy. Some participants were concerned that their nut allergy made them look like a 'fussy eater'. The essence of the challenge that participants faced was about finding the best way of negotiating something very important about which one has to be clear and insistent and yet do this without attracting undue attention.

The least fuss, the better. You know, if you can ask the waiter and say, "Oh, I'm just making sure – there's no nuts listed, but is there any nuts in that?" and if they can straightaway come back and say, "Yes, it's definitely fine," that's the best result. You don't want them to have to go off and check and come back or...because by the time they've gone off and checked and come back, everyone at the table then knows, you know, whereas I'd rather they didn't know.

(1031, I, F, Moderate)

But you do feel like a bit of an idiot. You feel like a bit of a fussy person when you tell people you're allergic to nuts.

(3024, I, F, Severe)

When I was a bit younger, say in my mid-twenties, I would always – I would say to the waiter, "I'm nut-allergic," and blah, blah, blah, but then that just seems to panic everyone! It's not...it's not embarrassing, but it's more...you don't want to be a pain in the neck really. And then you feel bad for everyone at your table because everyone's "Oh, there's a nut allergy, nut allergy, table seven, nut allergy, table seven – you've got to look out!" and you just think...oh no!

(4015 I, M, Severe)

In attempting to avoid the embarrassment or fuss in a restaurant some individuals revealed a reluctance to mention their nut allergy to restaurant staff.

Does it mean you're sometimes inclined to go in and not say anything because you just can't be bothered with the fuss or...?

Yeah, [I tend to]. Sometimes it's easier. And also, you just feel like, you know, you're ordering the food, everyone else is normal, and you're sitting there going, "Oh, just to let you know, I'm allergic to nuts," and they're a bit like, oh, you know, "That hasn't got nuts," or "I'll just check with the..." you know. Or every time you order dessert, they've

got to check, and then they come back saying, no, it's got nuts, and you know it hasn't got nuts, so...

(3024, I, F, Severe)

Some individuals reported risking or even having experienced a reaction due to not wanting to draw attention to their nut allergy whilst in a restaurant.

It's like, when I'm in restaurants, I'm embarrassed to ask, and I shouldn't be. I should get out of the habit of it. Because it feels like you're making a fuss, you know, which I hate doing, but I've got to do it, so, you know, I make myself say about it, but you know, it's like the two occasions when I've eaten...when I haven't asked is when I've had a reaction, and so it's my own fault.

(1031, I, F, Moderate)

8.1.6 Examples of good practice

Some participants noted good examples of changing practice in eating establishments. In the first quote below, participant 4013 notes a generally positive trend in the way in which allergic consumers are catered for. In the second quote, the person identifies a useful innovation.

Its quite interesting, over the last...I'd say...10 years, to see the change from people saying, "Oh my god, no, we don't want you," or "Oh my god, you can have a lettuce leaf," or something very plain, to actually now almost, you know, going out of their way almost to be helpful, which is positive. I think more and more people have got nut allergies. I think, you know, 10 years ago, there probably weren't as many and people did find it a bit odd, but now, people do go...

(4013 I, F, Severe)

Then most of the big chains put on their menu "We can't guarantee that any of our meals are nut-free", so I can't eat...most of the big chains, I don't eat in. But then (chain restaurant) and (chain restaurant), they have an allergy book, so em, yeah, I can see what I can and can't have from their allergy book, and then they might substitute certain dressings or that sort of thing.

(1003 I, F, Mild)

8.2 Eating in other people's houses

In some ways the issues involved in eating at the homes of other people mirrored the issues of eating in restaurants – and indeed to some extent resonated with the rules of thumb that we saw around product choice in the supermarket. However, although there were issues around checking, the necessity of this and the difficulty of doing this in this context, it was absolutely clear in the data that the main issues about which people were concerned were all grounded in relationships, social interaction and the way in which the requirements of managing the allergy were in danger of breaching a range of important social norms.

8.2.1 Familiarity

The key debate here was around familiarity – both in relation to it being one of the key determinants of whether people were happy to eat at friends' houses and also in relation to the debate as to what people would be told if they did not know about the participant's allergy.

With regard to eating at people's houses, participants frequently mentioned that this was less of a problem with eating at friends' houses where they already knew or were familiar with their nut allergy. If this was the case, they knew that family and friends were familiar with the nut allergy and they trusted them to know how to prepare food. Some younger participants said that they would not eat at the house of a person they did not know. The knowledge that someone had your interests at heart was important as it gave confidence that they were attending to your needs.

They all know, they all know that I've got a nut allergy, so therefore, they're very good and nobody would ever cook anything with nuts in.

(1179, I, F, Moderate)

Yeah. I think with age, you feel less embarrassed about it. You know you've just got to be up-front. I've really learnt that. It's more difficult with people you don't know as well or friends of friends who are doing some sort of, you know, sort of...singles dating thing,

bring a single friend or something, and you don't really... That's when it gets tricky, is when it's not – you're going as somebody's partner or something to an event, and you don't actually know the host, and then you're relying on somebody else to relay that they're bringing somebody with a nut allergy. But so far, still here!

(4013, I, F, Severe)

In unfamiliar situations, individuals mentioned additional strategies such as telling the person beforehand that they had a nut allergy, or avoiding dessert. Others (not severe) did not mention it at all and took the approach that they would deal with it there and then – as they were pretty confident they would be able to eat at least a main course.

Well, most people, friend-wise, we...know that I have a nut allergy, so they're always...they're always aware of it, and if it's somewhere new and we're invited out, I will tell them up-front. Yeah, to save the embarrassment for me and for them really as well, so yeah, I'd inform them.

(1023 I, M, Severe)

A large proportion of the people interviewed reported that one of the key ways in which they would cope with the situation of eating at peoples' houses would be to inform the host in advance that they had a nut allergy. However, several people reported that they did not inform people in advance that they had a nut allergy. A few of these said that they would just avoid anything with nuts in once they were at the person's houses, although one of these individuals acknowledged that this could cause awkward situations.

No, I don't. I never really mention it actually. Actually, that's a good point: that's one of the most difficult of scenarios actually. If you go to someone's house and they have made something nutty, that's really...I find that really awkward actually.

(2049, I, F, Severe)

Other participants said that they would wait until they were at the person's house and just check at that point if anything had nuts in it. For the person below, letting people know in advance did not seem an option – choices were simply between declining at the time and eating it.

I'd just politely decline it. I would explain then, you know, because, you know, there, you're damned if you, damned if you don't. I'd much rather be, you know, be thought, well, why didn't you tell me, rather than risk the embarrassment of forcing something down or just pretending I didn't want it, particularly if they'd taken some trouble over it. I'd say something along the lines of, "Sorry, I should have said – I'm allergic to nuts."
(1067 I, M, Moderate)

8.2.2 Embarrassment

As with restaurants, when talking about eating with friends, a recurring theme was embarrassment, not wanting to make a fuss or being seen as fussy. Quite a few individuals felt that their nut allergy would make them look a bit fussy or awkward, and were concerned about causing problems for (or offending) the person at whose house they were eating. In such situations some participants reported that they would check and ask the host quietly and try not to draw attention to themselves.

I don't like to draw attention because I don't want to be seen as an attention-seeker, particularly because there's people coming and going all the time where I work, and when we have barbeques, it's rare that you know everybody there. So I don't want, you know, all these new people to be going, "Oh, she's the one..." You know, I don't want to be remembered for that; I want to be remembered for me, not the girl with the nut allergy!

(1029, I, F, Severe)

So it makes...as a student, and as a child, and probably as an adult, it makes life harder, because you're always worried about it, always thinking about it. You can't go to a party, you're like thinking about it, can't eat round your friends' because...well, you can, but then you have to tell your friends and you feel like you're being a pain.

(1112, I, F, Severe)

However there was another dimension to embarrassment in relation to eating at other peoples' houses and that was that of managing the embarrassment of other people. So eating at a friend's house would be socially sensitive because of the

embarrassment participants knew that the hosts would feel if they had made something that their allergic visitor was unable to eat.

But things like a roast dinner, like I said, it's like – oh yeah, and she made this dessert, but it had...what did it have in it...? It had something in it...bread. Like chocolate, she'd managed to get chocolate that was nut-free, which is remarkable, but then it was like a...kind of like a trifle but not a trifle – I can't remember what it was, but it had some kind of breadcrumbs in it or something, and I couldn't eat the bread. It was like, oh, you got the chocolate right but not the bread! And she was saying, "I'm really sorry, [participant name]!" and I was like, "No, it's fine – like seriously!" But it's just a bit awkward when you're sat there and you can't eat it, but everyone else is eating it. I'm not worried about how I feel about it because... it's not very nice, but, you know, whatever; like it's the effort that they've put into it. I'm more worried about offending them. Like I don't really care if I...because it's my fault – well, it's not my fault, but it's my problem, it's not theirs. (1112, I, F, Severe)

But no, I would always – I think you can't – it's very difficult, I find, to say to somebody who's invited you round for dinner, "Oh, by the way, I have a food thing," but then you have to...then I also think it is my responsibility, because you don't want them to be totally embarrassed, you don't want to have a reaction when you're there, and actually it's not...you're not being faddy. You're not saying, "Oh actually, I don't like this – I don't want to eat mushrooms because I don't like them," you know. It's a bit more than that. (4013, I F, Severe)

One individual discussed a situation in which her friend accidentally put nuts into the food, and she contemplated eating the dinner to avoid causing her host any embarrassment.

When you go out and eat at someone else's house, do you give them specific instructions or anything?

Well, I have started to recently, just [text] them and said just remember I can't have nuts or pesto, because the pesto thing, people always forget that it's a nut, and it's in quite a lot of food. My friend cooked me this amazing Bolognese, and just as I walked into the kitchen, I saw her empty a jar of red pesto in and thought, oh no, I'm not going to be able to eat it! I thought shall I eat it anyway, and then thought don't be ridiculous – you'll be really ill! But it's so embarrassing really. You feel like you're being so picky. So I had to say to her, "I'm really sorry, I can't eat that. It's that pesto," and she went, "Yeah, oh god, can't you have that?"

So what did you do?

I got a takeaway and they had the Bolognese. I just felt really guilty for her because she'd made it all from scratch and it looked lovely, so em... So now, I do, I text people and just remind them, and also, yeah, because they just forget.

(1031, I, F, Moderate)

Participants also drew attention to the alternative scenario of not being believed to have an allergy. Here the desire not to make a fuss changes into the necessity of making one if, as was the case on more than one occasion for several of our participants that, the food they are being given purposely includes the allergens to which they will react.

So thinking about when you're not responsible for food preparation, when you go to eat at someone's house, what do you tell them to do?

Well, I just tell them I'm allergic to nuts, and most people tend to cook stuff that doesn't have it. The hardest one is if people don't – do you know, it wasn't until I had that reaction and I got the Epipen that - It's almost getting people to believe you. Like I was saying, my Dad's girlfriend, she just would like make stuff and go, "Oh, you're just being faddy," but now I've got two Epipens and I [nearly] ended up in hospital, they actually believe me. I think that used to upset me the most, is that she would make stuff and then basically just... She'd almost try and trick me into knowing whether or not I'd actually had it. That...that would wind me up, yeah.

(3024, I, F, Severe)

8.2.3 Others are more concerned

When discussing the situation of eating at other peoples' houses, many of the nut allergic participants reported that other people were more worried or concerned about their nut allergy than they were. Several participants used the word 'paranoia' to describe other peoples' reactions to their nut allergy, but also there was some acknowledgement that they were not used to catering for people with nut allergies and so were concerned about the responsibility of ensuring that the person did not have an allergic reaction.

So, when you eat at someone's house, what would you tell them to do?

Well, most of my close friends whose houses I would eat at, they all like...all their Mums are familiarised with it, so it's fine. They know, and they often get me to double check

the packets. It's still – they know I'm older and I'm fine with it, but it's still that slight paranoia of 'there's someone in my house eating with a nut allergy', so they do like me to check over the ingredients usually, which I'm fine with, because it like reassures me as well. I know like, oh, this is definitely fine. So it's just, yeah, stuff like that.

(1008, I, F, Mild)

Yeah, just...and things like going to weddings, you know, or if you're invited to someone's house for dinner, you always have to make sure you call them and, you know, and some of our friends are really quite...they seem to get quite nervous if they cook for me, and they'll phone me up and go through every single ingredient [laughing], like quite extreme, you know. There's going to be peppers in it, and there's going to be potatoes... "Okay, that's fine – there's no nuts!

(1116, I, F, Severe)

One example – oh, a couple of examples are: you're in class, when I was younger, and people go, "You got a question right – have a chocolate," and you have to go, "Yeah, I can't..." It's not a huge deal. It just creates an awkward moment where they think...oh, are you sure you can eat it? I've had to say a couple of times [?] no it's fine, fine, seriously, I can eat it, but they keep going on and on. So, you could say, and this is a thing I've realised for a while, people...other people worry more about it than I do now, because I know what I'm doing, but they don't know what to do. So in asking how do I deal with it, it's more a case of how everyone else deals with it. [] That is the main worry...my parents..."What are you eating? What did you eat when you were out?" I just actually don't eat, simple as that. I try and stay controlled enough to not eat at all. I have a huge meal before I come out basically

(4008, I, M, Severe)

One coping strategy mentioned by interviewees when discussing eating at friend's houses was checking the packaging of the food prepared. Participants reported that on many occasions people kept the packaging of the foods that they had cooked to enable the individual to check it for themselves. Some participants found this an over cautious approach, whilst others were happy to see the packaging to make their own informed decisions.

But em...yeah, I mean, I think...and then what I would do is obviously when I went round to their house, I'd probably just check again, and they'd probably say something like – if it was something they've prepared themselves, then they would know – if they've prepared from scratch, they should probably know if it had nuts in, but if it was

something maybe which they'd bought, then they may well say like..."Well, I bought this, and it says on the back "May contain nut traces", and what have you, and then I'll sort of make a judgement, probably have a look at the packet myself and then just make a judgement that way. Yeah, it's usually fine.

(1017, I, Male Moderate)

If I have been round to friends' houses who have like cooked specially, then that's all been...been good, and they've taken into consideration that it has to be nut-free. So yes, it doesn't stop me doing things, because obviously they are aware. And also keeping packaging – a lot of people now, if we're at a party or something, then they do know to keep the packaging so that I can check. An example is, with the warnings, it's up to me then to make the choice as to whether I'm happy to eat the things or not.

(1042, I, F, Severe)

Some participants would actively seek the packaging of the food prepared if they were uncertain as to whether the food would be 'safe' for them to eat.

Generally, I check with the dessert quite a lot with them, because often people will buy desserts, and even if I've already said to them, you know, it's okay, I will still sort of ask... And as well, I say to people, ask people if I can look at the packet, if they've bought a dessert, because then I feel like that kind of takes the responsibility away from them as well, because I think that people are quite nervous about it, and I'd rather that if I was going to react to something, it was because I'd looked and said it was okay, rather than a friend had looked and said it was okay.

(1116, I, F, Severe)

And do you find then that you have to restrict yourself to what you buy, so you sort of buy what you know really, what you know you're safe with?

Yeah, I would, and if I was to go actually to somebody's house and they told me what was in something, I'd probably say, "Have you got the packet – can I just check it?" because they might breeze over the fact that they didn't see the nut that I'm, you know, I'm conscious of, so I'll ask to look at packaging. So yeah, if I think there's nuts in something, I'll be reading the ingredients to check.

(3008, I, F, Moderate)

8.3 Travelling abroad

Many participants had the experience of travelling abroad and there were several key themes that emerged in the accounts of their experiences. The

overarching theme was simply that it was difficult to travel abroad: holidays were certainly seen to pose a range of additional and necessary considerations. There were a number of reasons for the difficulties: language barriers in restaurants, airline travel, uncertainties around the accessibility of medical care. Participants coped by careful planning: choosing particular foods, negotiating language problems and in some cases by limiting potential destinations.

However, it does niggle at your mind all the time, especially in...I hate to say this because it always makes me sound so rude, in foreign countries, it's the worst. I went to Italy for three weeks and we went to some nice restaurants, and it took us...about three-quarters of an hour just to figure out what I could eat, because obviously there's... All I had was my EpiPen and my antihistamine. I didn't...there was no local doctors that I knew of that would know...well, they would know what to do, but you know what I mean.

(4008, I, M, Severe)

8.3.1 Unfamiliarity

One of the key issues that arose when participants talked about travelling abroad with a nut allergy was the unfamiliarity. Many participants returned to familiar destinations where they had had positive experiences and where they trusted those managing the food preparation.

Unfamiliarity bred uncertainty for many as to whether people in non-English speaking countries would understand that they had a nut allergy, its severity, or which exact substances could trigger a reaction. The language barrier was thus a key issue for participants when trying to eat out in restaurants in foreign countries, and also with regards to choosing foods in supermarkets due to unfamiliar packaging and labelling. In the quote below, the responsive listening of the kitchen staff is the important determinant of being confident that the allergy was being well managed.

We go to (name of holiday village), for instance. Why do we go there? Because they listen, again, because of allergies. They're very, very good there. You can haul the chef out of the kitchen and explain exactly what the allergy is, and they'll do it. They'll cook everything with separate utensils, and they'll even change the menu to accommodate

you. So places like that that will go the extra mile to accommodate our allergies, we tend to go with what we know, because we know we're going to be safe there.

(1069, I, M, Severe)

It probably sounds very boring to stick to shops that I know, even abroad, but it is I find the safest way.

(1042, I, F, Severe)

Unsurprisingly then, a key coping strategy abroad was to take action to overcome language barriers. The most basic strategy suggested in this regard was to learn the word for peanut! Participants reported that many of the problems were eased if a member of the holiday party spoke the local language. This enabled the person with the allergy to be confident that the necessary level of checking could be done. In the quote below from participant 5009 we see that this approach was backed up by the participant's own 'taste test' as a way of double checking that it would not be unsafe to consume.

What do you tend to eat when you're abroad then?

Em, I tend to just play it safe. It depends. If I'm with my in-laws, who have very good French, then they'll deal with it for me and they can make sure. If we're on our own, I will just kind of order safe. I just look at the menu and just try and work out and look at it and think, okay, well, that's not going to have any nut ingredients in, or I'm pretty certain, but what I often do is I will just...I'll taste a bit. They're used to it. I'll just sit - I'll have a tiny taste and then wait and see, and if it's okay, I'll carry on eating.

(5009, I, F, Severe)

Translation cards were used in restaurants abroad by several participants and all those that used them felt that they were helpful in removing uncertainties and facilitating communication.

Another thing we've got is I've got some dietary cards which we've got in different languages, so we will give dietary cards to the person so that they can see...they can see in black and white, like really clear, and it just explains on there that I've got a nut allergy and that it's really severe and this is what will happen if I eat anything, and so that normally helps a lot as well, because they're then able to point out what I can't have.

So people then tend to understand it, do they?

Yes. They're a really good idea.

(1016, I, F, Severe)

I'd say I've been a lot more vigilant and asked questions more about when I go into restaurants and stuff like that, make them aware that I am...I do have a nut allergy, and em...even to the extent that - I go a lot on holiday, and I've got these cards now, because you can go to Allergy UK and get these nice little cards [] You can get them in all different languages. So here's some in Spanish. Here you go, that's the English: 'I'm having an attack - please cart me off to hospital' And this is the one that I give to restaurants when I go in, saying, "Hello, I'm allergic to nuts - don't feed me any," sort of thing. [] Because, you can imagine, trying to communicate with someone in a foreign country...

How do you find people abroad kind of react to those sort of things?

They laugh, and then they read it, and then they're like, oh, they understand the gravity of the situation.

Okay, yeah, they do, right, okay.

Yeah. It's odd that there's some little Englishman has come along with some cards.

With the little laminated cards!

You can imagine just trying to say to someone, "Hello, I've got a nut allergy." You don't know if that's gone in or not, and it's quite important!

(1069, I, M, Severe)

Another participant explained that she travelled widely and that she felt confident to do this as she finds someone who speaks English and the language of the country of destination to write down what she wanted to communicate.

I have a board of all the countries I've been to, with all the translations. I've got them in Arabic, Turkish, I've got them in Spanish, French, Italian, and I have all these different pieces of paper which basically say, you know, "Sorry I can't speak your language," because I think you've got to be courteous, "but please can you make sure whatever you feed me doesn't have nuts in because I'm very, very allergic?" I've got them in all different languages because I do travel and go on holiday a lot, but I'm very careful. I can't remember the exact wording, but it is something like, you know, "Sorry I can't speak your language. I have a really severe - I have a life-threatening allergy to nuts, all nuts, including peanuts, coconut," depending on which country I'm going to, what they will use a lot of. "Can you please make sure that whatever I order or whatever you give me does not contain any of this? Thank you very much for your help."

Ah okay. And so do they go down well then?

It goes down well in - I mean, it doesn't go down well always. Sometimes, the waitress takes it to the chef and...but it's always worked and I've never had any problems, so I'm very - from that point of view... But I just think, again, it's the planning, isn't it? I've

travelled to some amazing places – I’ve been to Ethiopia. I do travel a lot, because I enjoy travelling, and I’ve always done that preparation and been cautious.

(4013, I, F, Severe)

8.3.2 Avoiding high risk foods

As with eating out at restaurants and friends’ houses, participants again talked about avoiding foods that they thought were likely to contain nuts. Sticking to more simple foods or familiar options when abroad was a way of reducing risk.

I’ll stick to pizza or stuff that I know that’s not going to contain nuts.

(1023, I, M, Severe)

Sometimes, [I will] choose something like chicken and chips, which is a horrible English meal, you know, that they put on, but it’s safe, if I don’t want to make a fuss or draw attention to myself, or I’ll take a risk and...

(1031, I, F, Moderate)

Yeah, just – I just check – cereals, I’d be sticking with very much like (brand name). I wouldn’t touch any kind of muesli or anything that could be nutty, and then I’d probably avoid all puddings and not have any.

(3008, I, F, Moderate)

8.3.3. Destination choice

Many participants discussed their nut allergy as a key determinant of their holiday destination choice. It was also a key factor in determining type of holiday. Some participants expressed a preference for self-catering holidays so that they could remain in control to a greater extent. This was then linked with looking for British supermarkets and well known UK brands. In the quote below participant 1116 explains that English speaking countries are the destination of choice.

We were sort of saying, oh, obviously your nut allergy had dictated a bit where you haven’t gone on holiday. Does it dictate where you do go?

Yeah, it does a bit, yeah. So I think, we’re a bit more inclined to go to sort of European countries and maybe America.

English-speaking...?

Yeah, English-speaking is much better, and you know... The only thing with going somewhere like the States is that then you've got a longer flight, and you have to think about who you fly with and what airlines are good with peanut allergies and what airlines aren't good.

(1116, I, F, Severe)

Others reported having decided *not* to go to specific destinations due to their nut allergy. For example, one participant wanted to go on holiday to Morocco but was advised not to by the tour company, unless she spoke fluent French.

Well, I though, yeah, that's...I thought that's sensible advice actually, because I had my doubts myself, given the nature of the cuisine, and so I'm not going to Morocco. I still want to, but I have to have control over what I eat, and in that sort of...that sort of holiday that I wanted, when you're in the middle of nowhere, you know, without being able to explain, because I don't speak fluent French – I don't speak any French in fact – you know, I'm not going to risk it. I'm not going to risk it.

(1068, I, F, Moderate)

I really desperately wanted to go (to Kenya), but I couldn't because of the allergy. You know, even...we were saying about a kind of risk assessment. The way you do risk assessment is that you look at kind of what are the chances of it happening, and then what's the severity if it does happen, so even if the chances are small, if it does happen and I'm in a remote village in Kenya, there's no way I'm going to get help. That's just not going to happen. It's going to be a five or six hour journey.

Yeah, so you actually checked it out and then you just thought there's no way...

Yeah. And Asia as well – I mean, I'd love to go to China and I'd love to go to India as well, but there's no way that it's...it's worth the risk really, so...

(1116, I, F, Severe)

8.3.4 Accessibility of medical care

As alluded to in the quote above, the availability of medical care or remoteness of their location when abroad also influenced participant choices of holiday destinations. Several participants described how they were willing to take more 'risks' in situations where they were closer to immediate medical care in case it was needed (e.g. in cities) than in situations where they were in a remote location.

Being on holiday, as I said, that Cyprus example, I was very uncomfortable eating in that restaurant, mainly because of its location. If it had been in the centre of a city, I might have been a bit more relaxed about it, and I would have pursued “What is in this food?” a bit more, but...

So something about being remote, away from any support care?

It is. It’s not just the food itself. Yeah, I mean, if I was in the centre of town in a country where I know the medical facilities are good, then I’m much more relaxed, and I’ll risk certain things. If I’m up a mountain in the middle of nowhere, even if it seems safe, I would be more reluctant to eat.

(1029, I, F, Severe)

8.3.5 Issues with air travel

The management of nut allergy by airlines was also mentioned by several participants as an issue when travelling abroad. The main discussion point here was invariably the attitude of flight company staff – both ground staff and flight attendants about carrying nut allergic passengers.

The quote from participant 1116 below encapsulates several of the issues faced by nut allergic consumers when travelling. This echoes a range of other similarly graphic narratives from other participants.

Yeah. Some airlines are really good and some are terrible.

Which airlines are really good?

(Airline name) is brilliant, absolutely brilliant! They will make an announcement – they ask you where you’re sitting, and they make an announcement saying, you know, please do not eat peanuts on this flight. They won’t sell any peanuts and, you know, they sort of keep an eye on you a bit, which is good. Who was bad? (Airline name) were terrible – absolutely terrible! In fact, I told the stewardess that I had a nut allergy – I didn’t say peanut, I just said nut allergy – and her reaction was to stroke my arm and say, “Poor you,” and I had to explain to her, you know, “I’m telling you because you can’t give me nuts on this flight, and people shouldn’t eat nuts around me.” She was like, “Oh, okay, yeah, yeah – we don’t serve nuts.” I said, “Also, I have two adrenalin injections in my bag, which I thought you might like to know,” and she was like, “Oh okay,” and then, an hour later, served me a salad that had walnuts over the top.

(1116, I, F Severe)

In contrast the good experience of another participant means that they actually plan their holidays around where their airline of choice flies to. The good experience includes an announcement being made that people should not eat nuts on the flight.

8.4 Issues that arise at festive occasions

Participants were asked whether festive occasions posed any particular issues for them and if so, how they coped with these. This topic did not lead to such animated discussion as the three areas covered above did.

Two main themes emerged around festive occasions (which participants mainly considered in terms of Christmas and Easter). Some participants were clear that this was not an issue although there was an acknowledgement that it could be for other friends and family.

I don't think so really. We usually have Christmas here, so I'm in control of the cooking.
(1034, I, F, Moderate)

No. I know what I can and can't have, and so I just make sure I don't have it. The thing is, with festivities, it's always celebrated in our house. We do all the cooking, so we know what's what, yeah.
(1194, I, M, Severe)

Do you feel like your nut allergy is more of a problem at things like Christmas or Easter or...?

More of a problem for everyone else!

Okay.

Because they're very cooperative. I always have Christmas with friends or family, and because they all understand, it's never an issue.

Do people just not get nuts in then?

Yeah, or if they get them in, then they actually stay out of my way and they'll eat them when I'm not around.

(1029, I, F, Severe)

Other participants were less positive about the increased prevalence of nuts, on festive occasion and thus considered them a trigger for added caution.

And how about festive occasions like Christmas or Easter, how do you deal with that when it comes to your allergy?

Christmas is always...I've always said I've had an allergy to Christmas...the amount of times I ended up in hospital with asthma attacks over Christmas time, but we always used to have nuts in the house when I was growing up, and cracking nuts, so one of my theories is that the dust from the nuts, in the air, em, aggravating my asthma.

(1042, I, F, Severe)

Actually, also, seasonally, this is another time of the year that's a bit of a nightmare when you've got an allergy. In fact, it's the only time of year when you get...you get Christmas cake and you don't know if you've got walnuts in it, and you get lots of - you go to people's houses and you get offered chocolates and things and... There's always - it's a sort of time when you're looking out for what's...what's in the food.

(3008, I, F, Moderate)

The worst one is Christmas, with Christmas cake, because most people put some form of nut in Christmas cake. So, if we're going to my parents or somewhere like that, we'll either take our own one that we've bought, or if people know I'm coming, they'll generally do the same.

(1023, I, M, Severe)

Participants outlined ways in which they would cope with increased risk. They talked about taking extra care with foods that may contain nuts, and in several cases participants talked about having nut free variations of the traditional festive foods.

I don't tend to eat any Christmassy cakes or anything like that, because they, em, have a propensity for having nuts in them. Em...not in particular. I just think that...we just follow the same rules that we follow for the rest of the year, which is, okay, well, we just make sure we don't consciously buy anything that's got nuts in it. So we do look for things like nut-free Christmas cake and stuff like that, but they're not really prevalent.

(1069, I, M, Severe)

8.5 Conclusion

This Chapter has explored participant views about the particular challenges faced by consumers in situations where they are not in control of food preparation. We have explored four particular contexts: restaurants, eating at other people's houses, eating abroad and the challenges of festive occasions.

Some restaurants were considered unsafe because of the prevalence of high risk ingredients, the likelihood of cross contamination and the possibility of communication problems based on language differences. The most helpful scenarios for eating out in restaurants were when staff were responsive and when the allergic consumer was recognised and known by restaurant staff. It is thus social processes that make for a positive eating experience rather than a simple technical communication of the likely presence or absence of allergens. Many participants reported that the default position of many restaurants was that no guarantees could be given about the possible presence of allergens. In some instances either participants were not served or they were served with a very basic meal even if the allergic consumer had themselves assessed the risk and wanted to order another meal. Many consumers reported being embarrassed to draw attention to their allergy in the setting of the restaurant.

The study findings around eating in other people's houses highlight the importance of social interactions and relationships in the way in which safe eating is negotiated. Familiarity with the other people and their homes was highly desirable. A lack of familiarity brought a range of challenges around whether, when and how to inform the host of the allergy requirements. The potential for embarrassment again loomed large although many participants anticipated the embarrassment of the host rather than their own. It was often reported that, in turn, the host was more concerned about the possibility of an unsafe meal than the allergic consumer was.

Issues of language and unfamiliarity were again key issues in discussions of eating abroad. Several participants that went abroad on a regular basis drew attention to the value of written translation cards. Poor communication was the

main source of huge concern where there were language difficulties. Concerns about eating abroad did not simply affect food choice – they also drove choices of destinations and airlines.

Few issues of concern were raised in relation to festive occasions.

In conclusion, it was clear that considerable vigilance was required from participants to manage the risks of their allergy in unfamiliar situations when eating out. The threat that these situations posed were compounded when effective communication and social support networks were also absent.

CHAPTER 9 - CONCLUSIONS

9.1 Summary of the main findings:

1. Participants use a range of strategies (rules of thumb) in choosing which foods to buy and eat.
2. The first strategy was based on characteristics of participants. Strategies for making food choices were based on previous experiences; on sensory information, and on preferences for the product.
3. The second strategy for food choices was based on the characteristics of the product. Products were assigned as either being high risk 'problematic products' or as unproblematic low-risk products. Another product based strategy was to integrate the constraints imposed by the allergy into decisions that were consistent with other valued product characteristics (for example around nutrition or price).
4. The third rule of thumb for making food choices was located around assessments of how trusted sources of product information were. Establishing how much information providers were trusted was a key metric for deciding which foods could be safely consumed and which labels could be relied on.
5. Allergy information on product packaging was referred to where the rules of thumb for food choice did not allow for confident decisions to be made. Even where participants did use allergy information, the rules of thumb are used to inform its interpretation and to determine the amount of confidence that is invested in it.

6. The ingredients list was used by some as their primary product checking strategy but it was more often the case that the allergy advice box fulfilled this role.
7. Expressed and revealed preferences for ingredients lists or allergy advice boxes did not seem to relate in any consistent way to allergy severity.
8. Some reservations were articulated regarding allergy advice boxes but they were considered by most people to provide trustworthy and valuable information in a useful format.
9. The absence of an allergy advice box was seen as a reliable indicator that the absence of nuts could be confidently assumed unless – as was often the case - a rule of thumb suggested that its absence was a matter of concern.
10. The improvement that participants with a history of severe allergic reactions most wished to see was an increase in the amount of 'nut free' labelling. Participants also wished to see greater detail in labelling that helps people effectively identify appropriate action.
11. Although many participants chose to respond in consistent ways to 'may contain' labelling, they did not believe that the underlying message of this type of labelling was a desirable or credible one.
12. The rules of thumb for guiding food choices also guide the interpretation of 'may contain' labels.
13. A minority of participants avoided products with 'may contain' labelling altogether, others were happy to consume products and ignore the 'may contain' message.

14. Participants used four clear lines of reasoning to discount 'may contain' labels: pragmatic discounting, distrustful discounting, differentiated discounting and implausible discounting.
15. Where there were no applicable rules of thumb (e.g. the participant had no experience of a potentially problematic product) an absence of 'may contain' labels was disconcerting for participants.
16. The Product Choice Reasoning Task - a method developed for this programme of research - proved a very useful way of exploring (a) linking participant reasoning with decisions about particular products (b) the dilemmas people actually face in making decisions about particular products.
17. It is social processes that make for a positive eating experience in restaurants (e.g. being listened to, recognised and known by restaurant staff) rather than a simple technical communication of the likely presence or absence of allergens.
18. Anticipated embarrassment around communicating allergy related needs was an issue in relation to eating out in restaurants and other people's houses. This was compounded in other people's houses as participants felt that they also had to minimise and manage the concerns of their hosts.
19. Concerns about eating abroad did not simply affect food choices - they also drove choices of destinations and airlines.

9.2 Implications

We think that there are significant implications of the conclusions of the research outlined above for the Agency, for manufactures and retailers, and for the consumer groups that are active in improving the lives of people with severe allergy. For example

- It is vital to recognise that the actions and choices of nut allergic individuals are often grounded in legitimate everyday social considerations around embarrassment, choice and spontaneity. Education, training strategies and policies that recognise and take account of this are needed.
- Policies and communication strategies designed to support nut allergic individuals should be more clearly attuned to the dilemmas that nut allergic individuals are likely to face. For example, acknowledging that nut allergic individuals may feel embarrassed to question restaurant staff or friends about food content.
- Communications designed to assist nut allergic individuals with awareness, understanding, and use of product based allergy information should take account of the strategies that they are likely to use in making food choices. For example, whilst familiarity and experience with particular products are useful ways of making quick decisions, care should be taken where there is any indication that the allergy-relevant product composition has changed.
- There would be value for nut allergic consumers in increased availability of 'free from' foods
- The value of refining guidance around the voluntary provision of 'may contain' labelling could usefully be considered. The wide variety of formats for providing cautionary information currently leads to nut allergic individuals choosing or rejecting foods on the basis of minor (and meaningless) variations in wording.
- It would be valuable to ensure that the text in allergy advice boxes was clear (i.e. acceptable size with appropriate contrast of text and background colour).
- It is valuable to recognise that some nut allergic individuals routinely eat products with 'may contain' warnings.
- It would be valuable for supermarkets and manufacturers to consider the implications for their practice of (a) the strategies that individuals use to make food choices and the way in which the interpretation of labels fits with this, and (b) the range of ways in which consumers interpret 'may contain' labelling and the consumption patterns this is related to.

- There are particular challenges for consumers around airline travel and the dissemination of the results of this report could have a useful role in highlighting these to airline companies.

9.3 How closely were the project objectives met? What were the limitations of the approach taken?

This programme of research was designed to explore the ways in which individuals with a nut allergy make choices both in relation to purchasing food and consuming food prepared by others. It also set out to understand: how people with nut allergies use labels and other pack information; to understand what rules of thumb they may use when purchasing or consuming food, to understand what their main criteria are for food choices; and what strategies they use when selecting food, including their approach to risk assessment. To address these aims a programme of research was commissioned to conduct a qualitative exploration of the ways in which food allergic consumers make choices both in relation to purchasing food and consumption of food prepared by others.

The portfolio of qualitative methods we used has, we believe, enabled us to address all of these research questions and on the basis of this we have drawn the conclusions outlined above.

This programme of research was funded in order to meet the FSA requirement for qualitative information to assist them firstly with understanding how allergic customers make food purchasing choices. We believe that the extensive detail provided in this research report about how allergic customers make food purchasing choice will enable the FSA to make recommendations as to how to improve the quality of the dietary advice given to those with specific food allergies.

The research was also funded in order to meet the FSA requirement for qualitative information to assist them with understanding how difficult allergic

consumers find it to avoid allergens. This research programme has primarily addressed this question by looking at how consumers use the tools that they are provided with in order to avoid allergens. Again a wealth of information has been presented giving insight into consumer views about all aspects of labelling, and most particularly around 'may contain' labelling.

We think that the successful deployment and integration of our chosen methods should be instructive for future research in this area. We believe that the method that was specifically designed for this programme of research – the Product Choice Reasoning Task has considerable potential to be used in other product based research conducted by the FSA, including those exploring other types of labelling.

The material generated by the PCRT has considerable scope for further analysis. In this report, in line with our original aims, we have focused our analysis around the expert identified dilemmas that were identified at the outset of the research. The data could be analysed in a number of other ways and we will be pursuing this through our planned publications.

9.4 Publications

9.4.1 Papers in preparation

In the longer term we believe that we will produce at least one paper based around each report chapter as follows. At the current time we are working on the first two papers in the list

The challenges of eating out for nut allergic consumers, for submission to Clinical and Experimental Allergy

Making sense of 'may contain': the role of information in managing nut allergies, for submission to the Journal of Allergy and Clinical Immunology

Exploring food choice dilemmas: the Product Choice Reasoning Task, for submission to *Appetite*

Rules of thumb for food choice: strategies for nut allergic consumers for submission to the *Journal of Allergy and Clinical Immunology*

Making sense of food labels: the experience of nut allergic consumers for submission to *Social Science and Medicine*

Living with an allergy: the day to day experiences of nut allergic consumers, *British Medical Journal*

9.4.2 Abstracts submitted

For the 8th International MAPP Workshop on Consumer Behaviour and Food Marketing that will be taking place May 4-5, 2010 in Middelfart, Denmark.

Nut Allergic Consumers and the Product Choice Reasoning Task, Julie Barnett, Joe Pope⁶, Kate Muncer, Monique Raats and Richard Shepherd

Three methods and 32 nut allergic consumers: a recipe for success? Monique Raats, Julie Barnett, Joe Pope, Kate Muncer, Monique Raats and Richard Shepherd

9.4.3 Presentations

Julie Barnett, Understanding the food choice reasoning of nut allergic consumers, FSA Food Allergy and Intolerance Research Workshop, 25th Nov 2009

9.4.4 Workshops

Accompanied Shop Workshop, 9th March 2009,

⁶ Since this abstract was submitted Joe Pope changed her name to Jo Leftwich – all subsequent references to Joe Pope refer to Jo Leftwich.

9.5 Further Work

On the basis of the research that has been conducted we would make the following suggestions for future work in this area.

We consider that an area of research interest with important implications for policy and practice is to do further in-depth qualitative work that explores the reasoning of individuals who are socially connected to nut allergic consumers themselves. At this stage we would identify 2 key areas of interest.

The first is to focus on the partners and friends and work colleagues of people with nut allergies. These people are of interest because they are often those that shop for people with allergies, go to restaurants with them, cook for them, go on holiday with them and so on. Of particular interest would be those that first come into contact with food allergic consumers in adulthood. Such people are likely to have a key role in assisting and supporting with food choice issues both inside and outside the home without having been socialised into it over a period of years – as would be the case for parents of nut allergic teenagers for example.

Secondly we think that there would be considerable value in doing longitudinal qualitative research with parents of children with allergies from the time at which they are diagnosed. This would be of considerable value in understanding the way in which their food choice strategies evolve over time and how in turn these affect another generation of food allergic consumers.

Both of these studies would provide the FSA with a clear view of how risk assessments of these important groups are made and the routes through which these assessments may affect the diets of allergic consumers.

Finally we believe that there is considerable value to the FSA of commissioning further work that uses the Product Choice Reasoning Task. The use of this tool lends itself well to a range of the questions that the FSA are interested in – particularly around particular product labelling challenges. Based on the way

that this method worked in the present research we believe that the use of the PCRT would provide the FSA with an extensive appreciation of the way particular label information is integrated with other label information as well as with broader food choice considerations. The current FSA interests around the way in which people use calorie information, for example, is a good example of where the tool is likely to provide unique insights that are relevant for policy.

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APPENDIX 1 - INITIAL RECRUITMENT LETTER

Dear Patient,

The Southampton Allergy Clinic is currently working with the University of Surrey on a project looking at nut allergy and food choice. We are interested in how individuals who have a nut allergy make decisions about the foods that they buy and eat. This project has been funded by the Food Standards Agency, and will be very valuable in informing policy and developing guidance for individuals who are newly diagnosed with nut allergy.

We are currently looking for participants to take part in our research. You have been identified from our records as a patient who has attended the Allergy Clinic at Southampton and who has a nut allergy. We would like to give you some brief details about the research and invite you to take part.

There are two different studies in this research project that may interest you. Both of the studies are looking at food choice in relation to your nut allergy.

Study A – Shopping Study

This study has two parts. In the first part participants will be accompanied by a project researcher on their weekly food shopping trip and a few days later will be interviewed at home by a researcher.

Study B – Questionnaire Study

Participants will complete a questionnaire which asks about various aspects of managing a nut allergy and the impact that has on day to day life.

If you would consider taking part in either of these studies please complete the enclosed questionnaire and return it in the envelope provided during the next week. ***By completing and returning this questionnaire you are not agreeing***

to take part - you are only agreeing to receive further information about the research and to be contacted by a member of the University of Surrey Research Team.

The questionnaires will be reviewed by a NHS Consultant Allergy Specialist based at Southampton General Hospital in order to allocate people with a range of nut allergy histories to each study. It may not be possible therefore for all volunteers to take part in their preferred study but we will do our best to accommodate all preferences and will of course let you know.

All the information that you provide will be held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998). We will only use your data to meet the aims and objectives of this project and will under no circumstances provide any of your details to third parties. All personal data will be destroyed on completion of the project. You are free to withdraw at any time. This will not affect the standard of care that you receive.

Thank you for your time. We look forward to hearing from you. If you have any queries about the information provided please contact Joe Pope or Kate Muncer at the University of Surrey on 01483 682882.

Yours sincerely

Dr Jane Lucas

Encs: Questionnaire

APPENDIX 2 – SCREENING QUESTIONNAIRE

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Nut Allergy Questionnaire

This questionnaire asks you about your nut allergy. The word 'nuts' is used throughout this questionnaire to refer to any kind of nuts e.g. Brazil nut, Walnut, Almond, Cashew, etc.) including Peanuts. This study is being run in collaboration with doctors and nurses from the Allergy Clinic at Southampton. If you have any questions, or need help completing this questionnaire, please contact the clinic on 02380 796160.

Section 1 – Your allergies

1. Do you have a nut allergy? Yes No

If No - Thank you for your time, but there is no need to continue completing this questionnaire

2. **If yes** – Which type/s of nuts are you allergic to? (Please tick all that apply)

- Peanuts
- Brazil nut
- Walnut
- Almond
- Cashew
- Hazelnut
- Pecan
- Macadamia (Queensland)
- Pistachio
- Other nuts (Please specify which types) _____

3. Are you allergic to any other foods? Yes No

4. **If yes**, which foods are you allergic to? (Please tick all that apply)

- Milk
- Egg
- Soya
- Fish
- Wheat
- Shellfish
- Sesame seeds
- Other (Please specify) _____

5. In the past year have you taken routine medication for any of the following?

(Please tick all that apply)

- Asthma
- Eczema
- Hayfever

Section 2 – Your reaction to nuts

6. When did you have your first reaction to nuts? _____ years ago

7. When did you last have a reaction to nuts?

- Within the last 6 months
- 6 months – 1 year ago
- Between 1 and 2 years ago
- Over 2 years (Please specify) _____ years ago

8. How many times have you reacted to nuts?

(If you can't remember exactly please indicated the approximate number)

- Never
- Once
- Twice
- 3 times
- More than 3 times

9. We would like to understand what it is about nuts that causes you to have a reaction. Have you ever had a reaction to:

	Yes	No	Don't know
Smelling a nut?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Touching a nut?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eating an (invisible) trace of a nut?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eating less than half a nut?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If yes, please specify type of nut

Eating more than half a nut? Yes No Don't know

If yes, please specify type of nut _____

Section 3 - Your worst ever reaction to nuts

Please think about your worst ever reaction to nuts and answer the questions in this section based on that experience.

10. What food do you think caused this reaction (e.g. curry, chocolate) etc)?

11. Was this food...?

- Pre-packed
- From a restaurant
- From a take away
- Eaten at a party
- Other (please specify) _____

12. How did you react during your worst ever reaction to nuts?

(Please tick all that apply)

- Vomiting
- Abdominal pain
- Rash
- Face swelling
- Tingling/ sore mouth
- Swelling of lips or tongue
- Throat tightening/ difficulty swallowing
- Breathing difficulties
- Wheeze
- Blue around the lips
- Collapse/ faint
- Other (please specify) _____

13. How long after you were in contact with nuts did your worst ever reaction start?

- Immediately (in under 5 minutes)
- _____ minutes after contact

14. What treatment did you have for your worst ever reaction?

(Please tick all that apply)

- | | | | | |
|--|--------------------------|-----|--------------------------|----|
| None | <input type="checkbox"/> | Yes | | |
| Antihistamine (e.g. cetirizine/ piriton syrup or tablets) | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Asthma inhaler (blue- reliever) | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Injectable Adrenaline (e.g. Epipen or Anapen) | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Called an ambulance – paramedic assessment and emergency treatment | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

15. Did you go to hospital?

- Yes No



If No – Please go to question 18

16. Were you admitted over night?

- Yes No



If No – Please go to question 18

17. If yes, were you admitted to...?

- Intensive care
 Ordinary Ward

18. Where were you when you had your worst ever reaction?

- At home
 At work
 At school
 At a friend's house
 At a restaurant/ café/ bar
 At a party
 Other (please specify) _____

Section 4 – Your allergy care

19. We would like to know which places, people or sources you have used to find out about your nut allergy and the best way to manage it.

In the boxes on the left, please mark *which* of the following information sources you have used. In the boxes on the right please indicate *how much* you used each source of information.

Information sources you used	Not much	A little	Quite a lot	A great deal
<input type="checkbox"/> GP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hospital Allergy Specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Newspapers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Tv and Radio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Friends and family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other person with nut allergy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> NHS direct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Food Standards Agency (FSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Websites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. Have you ever had any of the following tests to confirm that you have a nut allergy? (Please tick all that apply)

- Skin tests
- Blood tests
- Food challenge
- Other (please specify)
- Never had a test (Please continue to question 22)

21. Who organised these tests?

- GP/Family doctor
- Hospital doctor
- Other (please specify) _____

22. Have you ever attended a hospital allergy clinic about your nut allergy?

Yes No (Please continue to question 24)

23. If yes...

a) Which hospital? _____

b) When were you last seen by a hospital allergy doctor?

- Within the last 6 months
- 6 months – 1 year ago
- Between 1 and 2 years ago
- Over 2 years (Please specify) _____ years ago

24. Have you been advised by a doctor to carry any of the following medication for your nut allergy? (Please tick all that apply)

Antihistamine (e.g. cetirizine/ piriton syrup or tablets) Yes No
Asthma inhaler (blue - reliever) Yes No
Injectable Adrenaline (e.g. Epipen or Anapen) Yes No

Other (please specify) _____

Section 5 – Your food choices

25. Generally who shops for the food that you eat? (Please tick all that apply)

- Me
- A family member or partner
- Someone else
- I/we order food on the internet

26. On average, how often do you personally shop for food for yourself in the following places?

	Never	Once a month	Once a fortnight	Once a week	2-3 times a week	Daily
Supermarket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coffee shop/ Café	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restaurant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take away	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

27. How often do you do food shopping at the following stores?

(Please tick all that apply)

	Never	Rarely	Sometimes	Often	Always
Tesco	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waitrose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sainsbury's	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Morrison's	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lidl	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aldi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marks and Spencer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Co-Op	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local shops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 6 – Other members of your household (who eat with you at home)

28. Is there anybody else, who eats with you at home, who is allergic to foods?

- Yes No (please continue to question 30)

29. If yes, which foods are they allergic to? (Please tick all that apply)

- Peanuts
- Other nuts (please specify) _____
- Milk
- Egg
- Soya
- Fish
- Wheat
- Shellfish
- Sesame seeds
- Other (please specify) _____

Section 7 Background information

Finally we would like to ask you a few standard questions about yourself to help us characterise the people who have taken part in our research

30. Date of Birth:

31. Gender: Male Female

32. Ethnicity:

White

Any white background

Mixed

White and Black Caribbean

White and Black African

White and Asian

Asian or Asian British

Indian

Pakistani

Bangladeshi

Other (please specify) _____

Black or Black British

Caribbean

African

Chinese

Chinese

33. What is your highest educational qualification? (Please tick one box only)

- Degree or degree equivalent and above
- Higher Education to less than degree level (e.g. HND)
- A level/ Scottish Higher/ Vocational level 3 and equivalent
- O level/ GCSE/ Vocational level 2 and equivalent
- No qualifications

As mentioned in the letter enclosed with this questionnaire, we are looking for participants to take part in our research. When you have read this letter we would like to know if you would be interested in taking part in either of the research studies we are conducting. At this stage we are only asking for your permission to send you more information. You are under no obligation to take part.

Would you be interested in receiving further information about Study A – The Shopping Study?

Yes No

Would you be interested in receiving further information about Study B – The Questionnaire Study?

Yes No

The information about these studies will be sent to you from our research team at the University of Surrey. This will involve your contact details being passed to the research team. Please provide consent below that you are happy to be contacted by the research team.

Consent section

I consent to my contact details being passed to the University of Surrey Research Team. I understand that all personal data relating to research participants is held and processed in the strictest confidence and will be destroyed on completion of the study, and in accordance with the Data Protection Act (1998). I understand that all personal data will be destroyed on completion of the study.

I understand that I will only receive further details about the research project, and that I am not at this stage consenting to take part in either of the research studies. I understand that I am under no obligation to take part in this research.

Signed _____ **Date** _____

Name (block capitals please) _____

Address _____

Contact phone number _____

Best time to contact _____

APPENDIX 3 – STUDY A INFORMATION SHEET

NUT ALLERGY PROJECT
Joe Pope/ Kate Muncer
Psychology Department
University of Surrey
Guildford, Surrey
01483 682882



14th December, 2009

Dear

Thank you for returning your completed questionnaire to us. At the end of the questionnaire you indicated that you would be interested in receiving further information about Study A – The Shopping Study. We would like to invite you take part in this research and have enclosed information for you to read.

This study will involve being accompanied by a researcher on your regular food shopping trip, and taking part in a home interview. Please read the enclosed information carefully. If you decide that you would like to take part in this study, please sign and return the enclosed consent form during the next week (in the pre-paid envelope provided) to indicate that you have agreed to take part.

You are under no obligation to take part in this research and you are free to leave the study at any time without giving a reason.

We thank you very much for taking the time to read the information enclosed, and encourage you to contact us should you have any questions (Please phone: Joe Pope or Kate Muncer on 01483 682882).

We look forward to hearing from you.

Yours sincerely

The University of Surrey Nut Allergy Research Team
Encs: Participant information sheet, Participant Consent Form

APPENDIX 4 – CONSENT FORM

NUT ALLERGY PROJECT
 Joe Pope/ Kate Muncer
 Psychology Department
 University of Surrey
 Guildford, Surrey
 01483 682882



PARTICIPANT CONSENT FORM

Please initial box

- 1) I confirm that I have read and understood the Information sheet provided. I have been given a full explanation by the investigators of the nature, purpose, location and likely duration of the study, and of what I will be expected to do. I have been given the opportunity to ask questions on all aspects of the study and have understood the advice and information given as a result.

- 2) I understand that all personal data and data collected during the study is held and processed in the strictest confidence, and in accordance with the Data Protection Act (1998). I understand that all personal data will be destroyed on completion of the project. I give permission for project researchers from the University of Surrey and the University of Southampton to have access to this data.

- 3) I consent to use of audio taping, with possible use of anonymised verbatim quotations.

- 4) I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice.

- 5) I the undersigned voluntarily agree to take part in the study about nut allergy and food choice. I have been given adequate time to consider my participation.

- 6) In taking part in the accompanied shop: (please tick one box)

<input type="checkbox"/>	I <u>DO</u> consent to providing a copy of my till receipt to the research team	<input style="float: right;" type="checkbox"/>
<input type="checkbox"/>	I <u>DO NOT</u> consent to providing a copy of my till receipt to the research team	<input style="float: right;" type="checkbox"/>

Name of Volunteer _____

Signed _____ **Date** _____

Name of Researcher _____

Signed _____ **Date** _____

APPENDIX 5 – TABLE OF PARTICIPANT DETAILS

Table of participant details

	P. no	Recruited from*	Age	Ethnicity	Gender	Highest Educational Qual	Type of allergy	Severity of nut allergy reaction	Time since diagnosis	Time since last reaction
1	1003	Clinic	17	White	Female	GCSE/O-Level	Both peanut and tree nut	Mild	9 years	6-12 months
2	1008	Clinic	16	White	Female	GCSE/O-Level	Both peanut and tree nut	Moderate	15 years	>2 years
3	1011	Clinic	18	White	Female	A-Level	Both peanut and tree nut	Severe	17 years	<6 months
4	1016	Clinic	18	White	Female	A-Level	Peanut only	Severe	17 years	1-2 years
5	1017	Clinic	23	White	Male	Degree	Peanut only	Moderate	20 years	6-12 months
6	1023	Clinic	48	White	Male	Higher education	Both peanut and tree nut	Severe	38 years	>2 years
7	1029	Clinic	26	White	Female	Degree	Tree nut only	Severe	20 years	> 2 years
8	1031	Clinic	30	White	Female	Higher education	Tree nut only	Moderate	25 years	<6 months
9	1034	Clinic	61	White	Female	A-Level	Tree nut only	Moderate	Many years	6-12 months
10	1042	Clinic	26	White	Female	A-Level	Tree nut only	Severe	3 years	>2 years
11	1060	Clinic	25	White	Male	GCSE/O-Level	Both peanut and tree nut	Moderate	17 years	6-12 months
12	1067	Clinic	58	White	Male		Both peanut and tree nut	Moderate	3 years	>2 years
13	1068	Clinic	34	White	Female	Degree	Tree nut only	Moderate		1-2 years
14	1069	Clinic	44	White	Male	Degree	Both peanut and tree nut	Severe	30 years	1-2 years
15	1112	Clinic	21	White	Female	Degree	Both peanut and tree nut	Severe	16 years	<6months
16	1116	Clinic	29	White	Female	Degree	Peanut only	Severe	17 years	1-2 years
17	1161	Clinic	22	White	Female	Degree	Peanut only	Mild	13 years	6-12 months
18	1170	Clinic	16	White	Female	GCSE/O-Level	Peanut only	Severe	3 years	6-12 months
19	1179	Clinic	70	White	Female	GCSE/O-Level	Tree nut only	Moderate	63 years	>2 years
20	1194	Clinic	50	Non-white	Male	GCSE/O-Level	Both peanut and tree nut	Severe	1 year	<6 months
21	1198	Clinic	48	White	Female	Degree	Both peanut and tree nut	Moderate	7 years	1-2 years
22	1211	Clinic	48	White	Female	Higher education	Both peanut and tree nut	Severe	15 years	<6 months
23	2049	Non- clinic	28	Non-white	Female	Degree	Both peanut and tree nut	Severe	26 years	<6 months
24	3008	Non- clinic	45	White	Female	Higher education	Tree nut only	Moderate	35-40 years	1-2 years
25	3024	Non- clinic	36	White	Female	Degree	Both peanut and tree nut	Severe	30 years	<6 months
26	4001	Non- clinic	24	White	Female	Degree	Tree nut only	Severe	15 years	>2 years
27	4004	Non- clinic	41	White	Male	Degree	Tree nut only	Moderate	7 years	<6 months
28	4008	Non- clinic	19	White	Male	A-Level	Both peanut and tree nut	Severe	16 years	>2 years
29	4010	Non- clinic	32	Non-white	Female	Degree	Both peanut and tree nut	Moderate	30 years	<6months
30	4013	Non- clinic	37	White	Female	Degree	Both peanut and tree nut	Severe	36 years	>2 years
31	4015	Non- clinic	34	White	Male	Degree	Both peanut and tree nut	Severe	16 years	>2 years
32	5009	Non- clinic	38	White	Female	Degree	Both peanut and tree nut	Severe	35 years	1-2- years

* Non clinic recruitment centres include - Woking GP Surgery 1 and 2, University of Surrey, London GP Surgery

APPENDIX 6 – ACCOMPANIED SHOP PROTOCOL

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Participant Training and Accompanied Shop Procedure

Participant name:

Participant Code No:

Date and time:

Location:

Researcher:

Till Receipt? Yes / No

1. We have got your Consent Form. Are you happy that you have read and understood the information sheet?

2. Overview of today's task:

- Think aloud training (10 mins)
- Shopping – remind them it is their shop and they are paying

3. What size shop are you doing today?

How long do you think your shop will take today?

Do you need to leave by a particular time?

4. Check interview session.

Time of interview:

Date of interview:

Location:

Think Aloud Training

As I have probably already mentioned... in this task I would like you to think aloud while you are doing your usual shopping. What I mean by thinking out loud is to say everything you are thinking while you are shopping. So maybe

this will be what you are looking at, reasons why you are choosing to buy it, or reasons why you aren't buying it and so on...

When I say 'everything you're thinking' I literally mean just that, no matter how fleeting or apparently trivial the thoughts may be. That means including everything that you're looking at and registering mentally, as well as anything you're doing.

The idea is that you continue talking as much as possible about what you are thinking, rather than you and I having a conversation, so you will find that I will follow you and observe what you are doing, but not talk a lot to you. When you are talking out loud it's fine for you to aim that at me so you feel you aren't talking to yourself!

In terms of your allergy you don't need to specifically talk about this (for my benefit) unless it is something that you are thinking about. So if it was particularly relevant to you choosing an item and you are thinking about your allergy then do talk out loud about that, but if it is not and you are not choosing food with this in mind then just carry on as usual verbalising whatever else you are thinking.

I have a few practice examples here as it can help to get used to talking out loud...I will demonstrate the first example, then if you happy to have a go you can try the following example.

It is also really useful if you mention what in particular you are looking at, for the benefit of the tape recording.

So I'll start now with an example of how I might think aloud if I was trying to buy a toaster out of a catalogue.

"I am looking at the Cookworks toaster, it's 14.69 – so it seems nice and cheap and within my budget. It toasts 4 slices of bread which is handy. But then there's this Breville one which is 16.99, a bit more expensive and only toasts 2 slices of bread. Although I prefer the look of this one as it's silver and black and I don't really need the toaster to toast 4 slices of bread, so I think I'll choose this one. "

Could you now do the same as though you wanted to buy a kettle and you were choosing between these two.

Would you like to have go at talking out loud about these irons too?

5. Instructions for accompanied shop:



- Carry out your shopping in your usual way. Don't rush on my account. It may feel strange to have me following you around.
- Think aloud at all times
- I will prompt you if you fall silent for more than (10 seconds??) and I will probably say:

'Keep thinking aloud'; or
 'What are you thinking'; or
 'What are you looking at?'

I will not embark on any conversation with you.

- I may make some notes during the shop, don't worry about this
- Just to reassure you, I'm not here to judge what you actually buy.

6. Has participant consented to providing till receipt? Yes / No

If yes explain that we will photocopy the relevant sections and return the original to them.

7. Any more questions before we start?

8. Set up recording equipment. The microphone will be clipped to lapel / collar and will be on throughout the shop and will pick up both voices.

9. Start Recording equipment and say Code ID number

After Shopping

10. That's the end of our shopping task. I'll be turning the recorder off before we reach the tills. Do you have any questions?

11. Can I have your till receipt now?

12. Thank participant and confirm next meeting time and location.

APPENDIX 7 – INTERVIEW SCHEDULE

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Script for home interview and basket task

Participant name:

Participant Code No.

Date and Time:

Location

.....

.....

Researcher:

Before interview commences:

- Thank you for taking the time to do your accompanied shop on
- Today we will be doing two things. First I would like us to talk about your food allergy and how this affects situations such as eating out / holidays / festivals etc. Second I'll show you some food products and I would like you to talk me through whether you would eat each of these. I expect both of these tasks together to last no more than 1.5 hours.
- I will be recording this interview so we have a full record of what was said, however everything that you say to us is completely confidential. Can you confirm that you are happy with this?
- Before we start, do you have any questions?
- In this interview I would like us to talk about your food allergy and how this affects your life. I will be starting by asking you some specific questions about the accompanied shop that we did last week. I will then be asking some more general questions about your allergy.

Interview Schedule

Post accompanied shop questions

1) When we went shopping I noticed that you:

- avoided..... types of food
- spent a long time looking at.....
- did not buy

Could you give a reason for this?

2) Could you tell me about any 'rules of thumb' you use when purchasing food?

e.g. are there particular things that you do / do not buy / eat and why?
(Take examples from accompanied shop where possible)

Self / Family allergy management

3) Can you tell me a bit about your nut allergy?

- When diagnosed?
- How did you find out?
- What were initial symptoms
- When did you last have a reaction?
- What symptoms?
- How did it happen?

4) How does your nut allergy affect you?

5) Do other members of your household have allergies/ nut allergy?

6) How do you manage your nut allergy within the household?

e.g. nut free zone, different cupboards

When you are not responsible for food preparation

7) When you eat at someone's house – what do you tell them to do?

e.g how to cook the meal, separate meal for you, bring your own food?

8) Can you give me an example of eating at someone's house that was:

- **Bad**
- **Good**
 - Can you tell me more about the situation/ experience?
 - What happened?
 - What were the consequences?
 - What was done to manage the situation?
 - What could have prevented it?

9) Can you give me an example of eating out at a restaurant that was:

- **Bad**
- **Good**
 - Can you tell me more about the situation/ experience?
 - What happened?
 - What were the consequences?
 - What was done to manage the situation?
 - What could have prevented it?

10) How do you decide what to eat / buy when you are on holiday?

- Problems with labels?

11) How do you decide what to eat at festive occasions?

12) In what ways, if at all, has your behaviour about what you buy changed over time since your diagnosis?

e.g. more used to things, more likely to take risks?

13) If your behaviour has changed, why do you think this is?

Basket Task

Before basket task commences:

- For this task I am going to show you 13 food items and I will ask you whether or not you would eat each one with regard to your allergy. I need you to pretend that you like the taste of all the items. So I will give you a product and you need to tell me whether you would eat it or not and tell me

why. If you are not sure, try to tell me why you are not sure. There is no right or wrong answer, I am simply interested in your explanations about how you make decisions regarding your allergy.

- Do you have any questions before we start this task?

PRESENT PRODUCTS

Patterns of food choice, purchase and consumption

14) Do you ever look at anything on the packet to help you make a decision about food purchases?

15) What are your views on food labels that say ‘may contain ...’?

- When are they helpful?
- What are your views on other things such as ‘free from’ lists?

16) If you purchase these foods – have you ever had a reaction?

17) What are your views on allergy advice boxes?

- Do you use them?
- Do you find them helpful?
- Would you like more/ less info on them?

18) Once you have bought food are you happy with it or do you check it again before cooking?

- will you re-check the label before cooking?
- e.g. eating out?

19) Are you a member of any support groups? E.g. the Anaphylaxis campaign?

Do you find this useful?

20) Is there anything else you would like to add that you feel I haven’t covered in the interview?

21) Just before we finish – could I ask you to reflect on the accompanied shop procedure and tell me what it was like for you?

(new procedure that we've been using, and we're interested in what it feels like for the participant)

Easy? Difficult?

Reflected your normal shop?

At the end of the interview:

- Thank you very much for giving up your time today for this interview. Do you have any questions about this interview or the whole research process?
- Would you like to us to inform you when results from this research are available?
- I am now able to pay you £80 as compensation for your time.
 - Sign receipt book, Complete form, Hand over money

APPENDIX 8 – BASKET TASK ITEMS

Product Description	Branded or supermarket own	Label Information	Anticipated Dilemma
'HIGH RISK' PRODUCTS			
SESAME & PUMPKIN SEED FLAT BREADS	Branded	This product has been made in a bakery that handles nuts (no peanuts)	It contains nuts but not necessarily the ones to which the participants is allergic.
WASABI BEAN MIX	Branded	'Contains soya' 'This product may contain traces of other nuts and seeds'	This is likely to be around the fact that this is an unfamiliar product.
CANTONESE CURRY COOK-IN SAUCE	Branded	'Contains celery, produced on a line which handles sesame'	This is normally a high risk food category, however this actual product does not contain nuts or have a contamination risk therefore there is no nut warning on the labelling.
VANILLA ICE CREAM WITH CHOC SAUCE	Branded	No allergy or may contain advice	The anticipated dilemma for this product is that this is normally a high risk food category, however this actual product does not contain nuts or have a contamination risk therefore there is no nut warning on the labelling.
OAT BASED BREAKFAST CEREAL	Branded	'Not suitable for peanut allergy sufferers. May contain traces of other nuts.'	The anticipated dilemma for this product is around the fact that that the label suggests the product is not suitable for nut allergy sufferers and yet other cereal products under the same brand do not contain nuts.
CAKE BARS	Branded	No warning but has ingredient 'hazelnut paste'	Nuts are present as a minor ingredient at the bottom of the ingredients list and are hard to find. There is no voluntary 'contains X' type allergy information so the consumer has to look through the ingredients list and then decide whether or not the product is suitable for them.
OWN BRAND FRESHLY BAKED CHOCOLATE CHIP COOKIES	Supermarket's own	'this product may contain traces of nuts or seeds'	This product is normally a high risk product with 'may contain nuts' warning (this is general and only pertains to bakery goods sold loose in general – not specific to the product).

Product Description	Branded or supermarket own	Label Information	Anticipated Dilemma
DAIRY FREE CHOCOLATE SNACK BAR WITH PUFFED RICE	Branded	No allergy advice	There is no nut information on the labelling although the chocolate is usually considered as high risk. However this is also a 'free from' product in respect of other allergies.
CHOCOLATE BUTTONS	Branded	'Contains milk'	The anticipated dilemma for this product is that it is normally a high risk food category, but this particular product does not contain nuts or have a contamination risk and therefore there is no nut warning on the label.
'LOW RISK' PRODUCTS			
CHEESE AND ONION CRISPS	Branded	.Made in a bakery handling nut (not peanut)'	This product category is often safe but these particular products contain nut warnings.
MACARONI CHEESE	Branded	'May contain egg'	This is a tinned food and therefore a low risk. The question from an expert point of view is focused on whether the individual will look for the allergy labelling.
CAULIFLOWER CHEESE READY MEAL	Supermarket's own	Recipe: no nuts; Ingredients: cannot guarantee nut free; Factory: before being prepared for manufacture of this product, the equipment was previously made to make products containing nuts	Although it is a low risk food category, as it is a supermarket own product it is labelled the allergy warning implies it may not be nut free.
YOGHURT COATED FRUIT SNACK	Branded	'This product is made in a factory which also handles nuts'	This product category is generally considered as low risk but it is labelled with a warning

