‘Vulnerable’ consumers and food safety

Paper 3

Food and You Waves 1-3 secondary analysis

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'Vulnerable' consumers and food safety

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Summary

- As part of the Food Standards Agency's responsibility for protecting consumers from risks which may arise in connection with the consumption of food, two key priorities are minimising the incidence of foodborne disease, and minimising the incidence of food-related allergic reactions. The FSA produces guidance and provides information to consumers on what they can do to minimise their exposure to food-related risks, including foodborne pathogens and allergens.
- There are certain groups of consumers that are considered to be more 'vulnerable' to foodborne risks due to the status of their immune system, such as older people, young children, and people with allergies. This paper looks at the relationship between 'vulnerable' status and food-safety-related behaviour, using data from Waves 1-3 of the FSA's Food and You survey, specifically whether vulnerable individuals (i.e. older people and those with a food allergy) were more likely to undertake certain activities that minimise levels of foodborne risk. It also looked at whether the presence of a vulnerable person in a household (i.e. a young child or an older person) was associated with the respondent being more likely to undertake certain activities that minimise levels of foodborne risk.
- Age was found to be significantly associated with reported food safety activities (as measured by Index of Recommended Practice (IRP) score) although the relationship was slightly different for men and women. For women, IRP scores declined progressively with increasing age (indicating that they were less likely to behave in line with recommendations as they got older). For men, the youngest and oldest age groups had the lowest IRP scores overall (indicating that these age groups were less likely to behave in line with recommendations than those in the middle age groups).
- Although older age groups were more likely to report a number of behaviours that were not in line with recommended practice, the analysis also highlighted a trend for older people to be less likely to undertake a number of food-related activities, which may limit their exposure to certain types of risks.
- No association was found between participants reporting having a food allergy and their reported food safety activities (as measured by IRP score). Nor was any association found between participant's IRP score and the presence of a 'vulnerable' person in their household.
- Overall, our findings suggest that the trend appears to be one of growing divergence between age and likelihood of reporting food safety activities in line with recommendations, and that the older population group should continue to be a high priority for policy making and communications.

Introduction

The Food Standards Agency (FSA or 'the Agency') is an independent Government department responsible for food safety and hygiene in England, Wales and Northern Ireland.[1] As part of the Agency's responsibility for protecting public health from risks which may arise in connection with the consumption of food, two key priorities are minimising the incidence of foodborne disease, and minimising the incidence of food-related allergic reactions. Improving understanding of the population's food- and food-safety-related behaviour, attitudes and knowledge, and the foodborne risks that consumers are exposed to and vulnerable to, is central to the success of these aims.

This paper, the third in a series based on secondary analysis of Waves 1-3 of the FSA's Food and You survey,[2] focuses on 'vulnerability' to foodborne risks and how this relates to people's food-safety-related behaviour and knowledge.

The term 'vulnerability' is used in different ways, and is not always either specified or clearly defined. This paper builds on previous work on 'vulnerability' and food safety, which has considered 'vulnerability' in physiological terms, relating to the immune system and its ability to resist foodborne disease.[3] By this definition, there are certain groups that are considered to be more 'vulnerable' to foodborne pathogens, (such as bacteria and viruses), as a result of their reduced immunity. These groups include:

- older people,
- cancer patients,
- patients undergoing immunosuppressive or cytotoxic treatment,
- unborn and newly-delivered infants,
- pregnant women,
- diabetics,
- those with alcoholism and/or alcoholic liver disease, and
- those with a range of other conditions.[4]

In addition to 'vulnerability' to microbiological hazards in food, this paper extends the definition of 'vulnerability' to include people with a food allergy, which is an immunological and potentially life-threatening reaction in response to consuming certain types of food.

[1] The FSA was previously the body for food safety across the UK. In April 2015, its responsibilities in Scotland were transferred to the new independent Scottish food safety body, Food Standards Scotland (FSS). This research was commissioned prior to this change, and is based on data from Waves 1-3 of the FSA's Food and You survey, which was undertaken across the UK. For the purposes of this research, analysis and findings therefore relate to aggregate UK-level data.

[2] The topics of these papers were developed in consultation with leading academics in the fields of food and social science research, as well with reference to the FSA's own policy-, science- and consumer-engagement-related priorities.

[3] Ad Hoc Group on Vulnerable Groups, Advisory Committee on the Microbiological Safety of Food (2009) Report on the increased incidence of listeriosis in the UK. http://www.food.gov.uk/sites/default/files/multimedia/pdfs/committee/acmsflisteria.pdf

[4] McCabe-Sellers B.J., Beattie S.E. (2004) Food safety: Emerging trends in foodborne illness surveillance and prevention. *Journal of the American Dietetic Association* 104(11): 1708-1717.

In order to help minimise rates of foodborne illness, the FSA produces guidance and provides information to consumers on what they can do to minimise their exposure to food-related risks, including foodborne pathogens and allergens. The FSA's advice around foodborne disease relates to a number of key aspects of food safety: chilling, cooking, cleaning and avoiding cross-contamination ('the 4 Cs'), as well as use-by dates. In terms of food allergens, the FSA's advice is narrower, focusing on allergen avoidance, avoiding cross-contamination and awareness of food ingredients and traces of allergens.

It is particularly important that 'vulnerable' consumers, or those responsible for preparing or cooking food for 'vulnerable' consumers, take steps to minimise exposure to foodborne risks. For example, evidence shows that certain pathogens, such as *Listeria monocytogenes*, have a disproportionately high impact on those over 60, with this age group seeing rising rates of infection.[5] The older age group has therefore been a priority for message and campaigns in recent years, with older people being the focus of the FSA's Food Safety Week in 2009.[6] To date there has been only limited in-depth research into the food-handling activities of 'vulnerable' groups such as older people, and those who are responsible for preparing and cooking food for them. For example, an FSA evidence review on food safety behaviours in the home noted examples of high risk behaviour amongst older people such as 'using up food and keeping for longer'.[7] The FSA's ethnographic 'Kitchen Life' study has suggested that older people might be at greater risk of harm due to an accumulation of factors working against them, but noted that the risks were not straight-forward, as changes in practice might result in greater or fewer pathways to a risk of contracting foodborne illness.[8]

This paper therefore sets out to investigate the relationship between 'vulnerable' status and food-safety-related behaviour, using data available from Waves 1-3 of the FSA's Food and You survey. This paper builds on previous secondary analysis of data from Waves 1-2 of Food and You, which found that certain subgroups of consumers were less likely to report behaving in line with FSA food safety advice, including those aged 65 and older.[9] The analysis also found that respondents in households with at least one child aged under five were more likely to report activities in line with FSA recommendations, suggesting the presence of 'protective' effect, when people were responsible for preparing and cooking food for this 'vulnerable' group. However, no significant difference in behaviour was found for respondents reporting a food allergy.

[5] SSRC Working Group (2009)Report of the SSRC Working Group on Listeria monocytogenes and the food storage and handling practices of the over 60s at home. https://ssrc.food.gov.uk/sites/default/files/mnt/drupal_data/sources/files/multimedia/pdfs/listeria.pdf

[6] http://tna.europarchive.org/20120620180604/http://www.food.gov.uk/news-updates/campaigns/germwatch/fswarchive/fsw09/

[7] Wright M., Canham R., Masrani R. (2011) Food safety behaviours in the home: final report for the Food Standards Agency https://www.food.gov.uk/sites/default/files/700-1-1185_X04009_FINAL.pdf

[8] Wills W., Meah A., Dickinson A., Short F. (2013) Domestic kitchen practices: findings from the 'kitchen life' study. http://www.food.gov.uk/sites/default/files/818-1-1496_KITCHEN_LIFE_FINAL_REPORT_10-07-13.pdf

[9] Roberts C., Calcutt E., Hussey D., Howard M., McManus S. (2014) Understanding domestic food safety practices. http://www. food.gov.uk/sites/default/files/869-1-1612_Understanding_domestic_food_safety_practices_report_FINAL_with_cover_0.pdf

The completion of Wave 3 of Food and You provides an opportunity to re-visit these findings using a larger sample size, and to do a more in-depth investigation into the behaviour of particular 'vulnerable' groups and those living with 'vulnerable' individuals. This paper adopts the following research questions as the basis for its analysis:

1. Are vulnerable individuals (i.e. older people and those with a food allergy) more likely to undertake certain activities that minimise levels of foodborne risk?

2. Is the presence of a vulnerable person in a household (i.e. a young child or an older person) associated with the respondent being more likely to undertake certain activities that minimise levels of foodborne risk?

02

About the data and analysis

This study is based on secondary analysis of data generated by the FSA's Food and You survey, a biennial, random probability, cross-sectional survey of adults living in private households in the UK. Three waves of the survey have been conducted to date (in 2010, 2012 and 2014). Samples have been combined across waves for the purposes of this analysis. The survey includes a range of questions about reported behaviour, attitudes and knowledge relating to food and food-safety-related issues, along with a range of demographic and socio-economic variables, and other household information.

Variables relating to vulnerability

Food and You is primarily a survey of individuals, therefore only limited information is available for other members of the household. However, all three waves have included questions about the age of other people living in the household, in addition to the age of the respondent, so we are able to identify households containing at least one person (other than the respondent) aged 60 and over and/or at least one child under 5 years old. All three waves of Food and You have also included a question around whether respondents report having a food allergy. A new variable was included in Wave 3 about whether anyone else in the household had a food allergy, but due to the small sample size it was not possible to investigate this as part of this analysis.

Food safety activities

Food and You contains a large number of variables relating to a range of food-safety-related behaviours. In order to capture an overall measure of food safety activity, the Agency developed the Index of Recommended Practice (IRP), a composite measure of multiple variables from the Food and You survey, which has been used in previous secondary analysis projects. The IRP is made up of 10 items based on questions or groups of questions covering five domains of domestic food safety activities: chilling, cooking, cleaning, avoiding cross-contamination and observance of use-by-dates. Each item is scored 1 for responses in line with recommendations or 0 for responses not in line with recommendations. The overall score is then converted to a score out of 100, providing an ordinal measure of general food safety to facilitate analysis.[10]

Regression analysis

We ran multiple linear regression using IRP score as an outcome measure to test whether there was a significant relationship between the reporting of recommended food safety activities and:

- Age of the respondent (this was considered by gender as previous analysis had found a significantly different relationship with age for men and women)[9]

[10] Where respondents replied 'not applicable' to a particular item within the IRP, these responses are scored as missing and the question is excluded from the calculations of the IRP score for that individual. Respondents answering fewer than half (five) of the ten items do not receive an overall score.

- Presence of a person other than the respondent aged 60 and over in the household
- Presence of a child aged under 5 in the household
- Respondent reporting having a food allergy.

It was hypothesised that although these characteristics and circumstances could be associated with IRP score, there were likely to be other factors that could be related to food safety activity. Therefore, we controlled for other demographic and socio-economic indicators (such as age, gender and country/ region of residence), which had been found to be significant predictors of food safety activity in previous work.[9]

Table A1 in the Appendix lists the variables included in the regression model.

03

Vulnerability and Index of Recommended Practice (IRP) score

'Vulnerable' respondents

After controlling for all other variables in the model, the regression analysis showed that age and gender were significantly associated with IRP score. Within both the male and female groups, older people (60+ years) were generally less likely to report activities in line with recommendations than younger people (Figure 1). The key exception was the youngest male age group (16-24) which was the least likely group of all to report activities in line with recommendations, and so was selected as the 'reference' category against which the other groups were compared. Overall, women tended to have a higher IRP score than men, with nearly all female age groups (apart from the 75+ group) having a significantly higher score than the reference group, by an average 7.1-14.0 points. The three older male age groups (45-50, 60-74 and 75+) were not found to have a significantly higher score than the youngest male reference group.

As with previous analysis, the model showed no significant association between self-reported food allergy and IRP score after controlling for all other variables in the model.

Appendix Table A2

Presence of 'vulnerable' people in the household

After controlling for all other variables in the model, the regression analysis did not find any significant association between presence in the household of at least one person older than 60 (other than the respondent) and the respondent's IRP score. Nor was any significant association found between presence of at least one child aged under 5, and respondent IRP score, contradicting previous findings, which had found a significant association using Waves 1-2 of Food and You.

Appendix Table A2

Figure 1: IRP score by age and gender

*significantly higher than reference category (male 16-24)

04

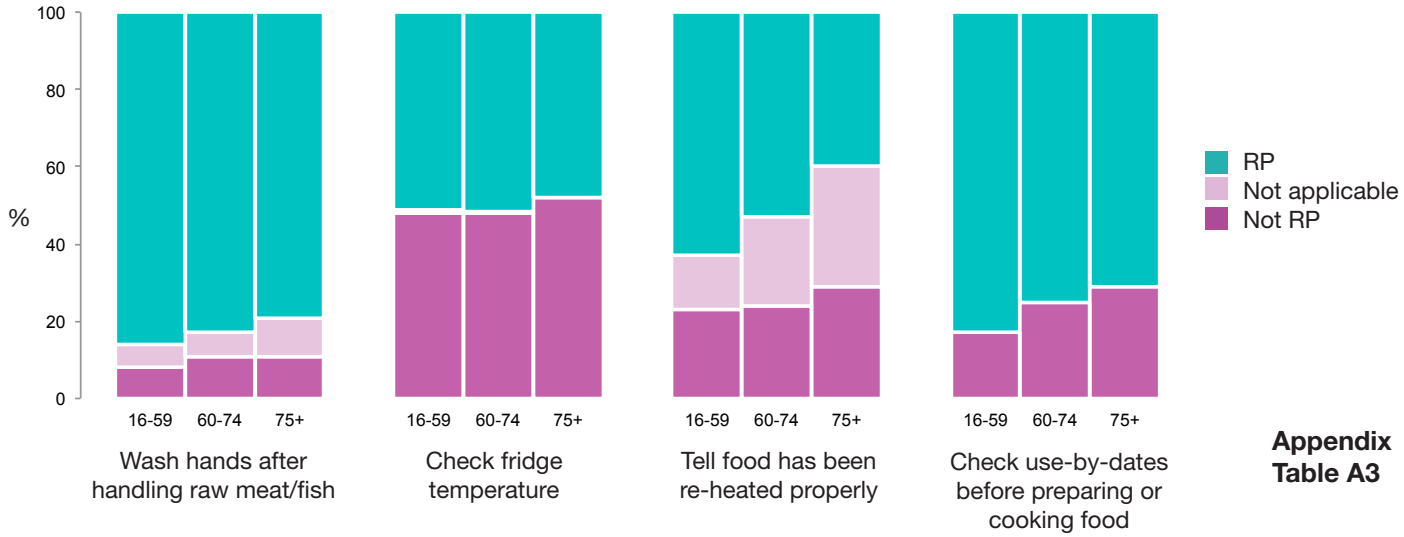
Older people and individual food safety activities

As age and gender of respondent was the only 'vulnerability'-related variable found to be associated with food-safety behaviour, it was decided that this relationship alone would be investigated in more depth. As the IRP provides an overall indication of the extent to which a population group's food safety activities are in line with recommendations, it may not pick up strong associations in relation to particular individual food behaviours. We therefore looked at the association between the individual food safety behaviour questions that make up the IRP, and age, which for the purpose of this analysis was grouped into 'under 60 years', '60-74 years' and '75 years and over'.

Significant differences were found between age groups in relation to whether reported food safety activities were in line with FSA recommended practice (RP).[11] For washing hands immediately after handling raw meat, poultry or fish, checking fridge temperature, re-heating food properly, and checking use-by-dates before preparing or cooking food, the proportion not in line with recommended practice (not RP) was either found to increase with increasing age, or the oldest age group (75 years and over) was most likely to report behaviour not in line with recommendations (Figure 2). There were similar patterns in terms of associated knowledge. For example, along with checking the fridge temperature, there was an increase with increasing age in the proportion of people who didn't know what the recommended fridge temperature should be.

There were a number of variables for which people in the youngest age group (16-59 years) were more likely to report activities that were not in line with recommendations, including the length of time after cooking that participants would consider eating leftovers and number of times they would re-heat food. There were also a number of other variables where likelihood of reporting an activity not in line with recommended practice was lower for older respondents (Figure 3). This appeared to be in

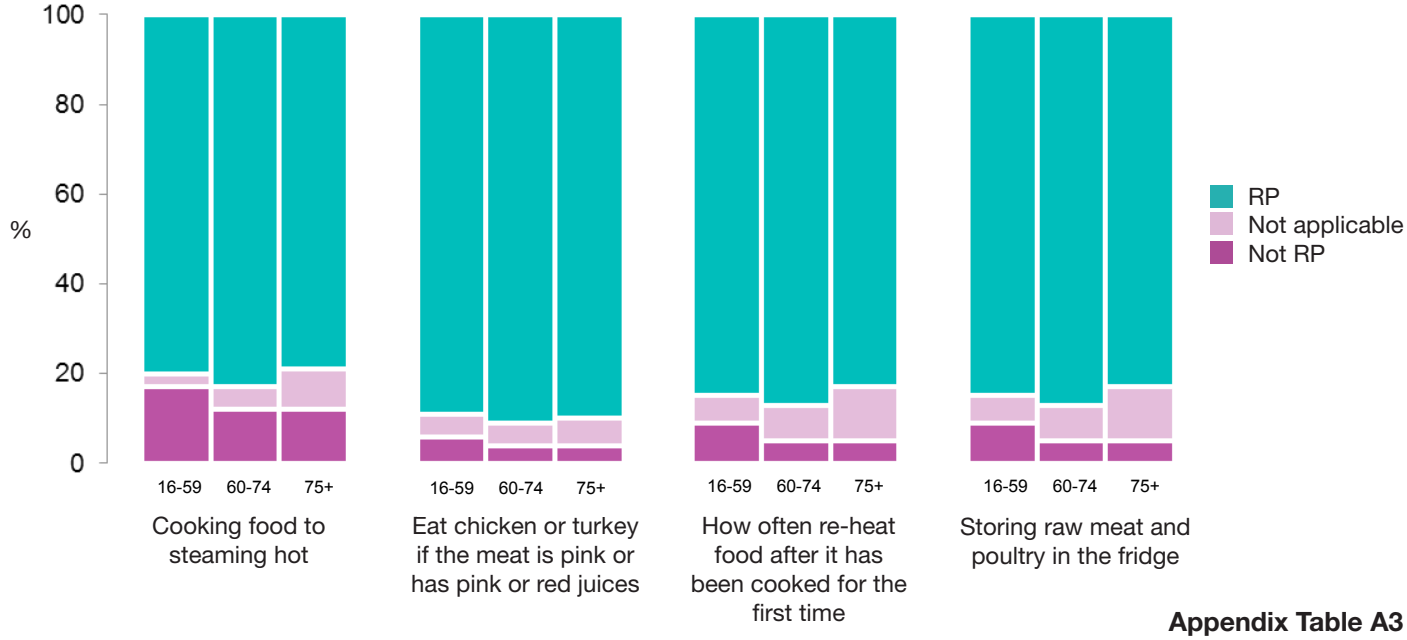
Figure 2: Responses to questions about food safety activities by age



Appendix Table A3

[11] An explanation of what is recommended practice for each activity can be found at Appendix D of Hussey D., Roberts C., Inman L., Howard M., McManus S. (2016) Measuring domestic food safety: A review of the Index of Recommended Practice. https://www.food.gov.uk/sites/default/files/fs409012-2finalreport.pdf

Figure 3: Responses to questions about food safety activities by age



Appendix Table A3

large part due to older respondents being more likely to report 'Not applicable' to these food safety questions, which were predominantly activities related to cooking.

In terms of use-by dates, the proportion of participants who correctly reported which labels indicate whether foods are safe to eat, and the proportion who reported always checking use-by dates before cooking both showed a significant decline with age (Figure 4). As the latter may be related to difficulties in reading labels we also looked at this in relation to age and found a significant increase with age in the proportion reporting difficulty in reading food labels.

Figure 4: Knowledge and use of use-by-dates and difficulty reading labels by age

Appendix Table A3

05

Discussion

The present analysis provides important baseline information and suggests that there is no relation between 'vulnerable' status and a greater likelihood that respondents will undertake activities that minimise levels of foodborne risk. On the contrary, in the case of older people, these respondents are less likely to report food-related activities that are in line with Agency recommendations, thus potentially increasing their exposure to foodborne risks. In the case of people with allergies, no association was found with domestic food safety activities, which may be due to respondents already having avoided bringing possible allergens into the home, thereby requiring no specific changes to food safety activities. Similarly, when considering the vulnerability of other household members, no association was found between the presence of either older people or young children and food safety activities. These findings suggest that in addition to general promotion of food safety activities, the Agency should continue to prioritise communication and target policy making in relation to specific 'vulnerable' groups, in order to heighten awareness of the issue of 'vulnerability' and the activities that people can take to minimise risks, both to themselves and to others.

As was observed in previous analyses,[9] the findings here suggest that across a range of food-safety-related activities, older people are generally less likely to report behaving in line with Agency recommendations. This relationship was found to interact with gender, and the two factors combined were the strongest predictor of IRP scores. Segmentation by age showed that amongst women, IRP scores declined progressively with increasing age (the lowest score being amongst women over 75). Among men, however, the relationship with age was more complex, with older men (over 60) and young men (16-24) having the lowest scores, both lower than men aged 25-44. The findings were also complicated by a trend in older people being less likely to undertake a number of food-related activities, which may limit their exposure to certain types of risks. In general, however, the trend appeared to be one of growing divergence between age and likelihood of reporting food safety activities in line with recommendations. Therefore, not only are older people more likely to be physiologically vulnerable, they are also potentially exposed to higher levels of risk due to their behaviour. However there is also potential for this risk to be mitigated somewhat if older respondents are less likely to be responsible for preparing and cooking their own food. In order to further investigate this, we recommend that more detailed measures of

household responsibility for provision of food are included in future waves of Food and You. Until this issue is investigated in more detail, we recommend that the older population group should continue to be a high priority for policy-making and communication of information about the risks of foodborne disease and the food safety activities that they, and others who provide food for them, can undertake to minimise these risks.

Unlike with older respondents, no association was found between respondents reporting having a food allergy, and their reported food safety activities (as measured by IRP score). This finding, using a larger sample size, was in line with previous analysis,[9] where it was suggested that people with an allergy may avoid having certain types of food in the home, and therefore they do not need to be more careful about cross-contamination than people without an allergy. In the absence of clear evidence around the food-related activities that people with allergies undertake, it is difficult to draw firm recommendations for policy making or communication of information about domestic food safety. Further detailed research with people with allergies would be needed, in order to investigate how and whether they take any specific action to minimise the risk from potential allergens, and whether this is related in any way to other areas of food safety.

Turning to vulnerability of others in the household, and how this might influence the food safety activities of the main respondent, no association was found between IRP score and either presence of a child under 5 in the household, or an older person, the former being in contrast to findings from other studies.[9] [12] These findings may present an opportunity for targeted communication and policy making relating to those who are responsible for cooking for anyone who may be 'vulnerable' to foodborne disease (including children and older people), in order to raise awareness of the heightened level of risk, and the activities that people can undertake to minimise this.

As noted previously, a question was introduced into Wave 3 of Food and You asking whether any other household members have a food allergy, therefore providing an opportunity to investigate whether the presence of another person with a food allergy is associated with the food safety activities of the respondent. It was not possible to investigate this variable as part of this analysis, as it would have limited the sample size of our regression model to the Wave 3 sample only. The addition of future waves of Food and You should allow for further investigation of this variable.

Finally, we also recommend that for future waves of Food and You, more detailed questions could be included relating to how responsibility for shopping for, preparing and cooking food is distributed within the household. This would allow for better identification of whether there is a main household food provider, and enable more detailed analysis of whether the presence of particular people within a household has any impact on the activities of those who are responsible for preparing and cooking food for others in that household.

[12] Hall J., d'Ardenne J., McManus S. (2011) Food choices and behaviour: trends and the impact of life events. NatCen: London

Appendix

Table A1 Variables entered into the regression model

Factor	Category	N	%
Age*Sex	Male 16-24 (ref)	356	3.6
	Male 25-34	581	5.9
	Male 35-44	680	6.9
	Male 45-59	1064	10.8
	Male 60-74	977	9.9
	Male 75+	442	4.5
	Female16-24	504	5.1
	Female 25-34	904	9.2
	Female 35-44	969	9.8
	Female 45-59	1387	14.1
	Female 60-74	1246	12.7
	Female 75+	729	7.4
At least one person older than 60 other than respondent in the household	No (ref)	8044	81.7
	Yes	1803	18.3
At least one child aged under 5 in the household	No (ref)	8495	86.3
	Yes	1089	11.1
Allergic to certain food	Yes (ref)	456	4.6
	No	9342	94.9

Table A1 Variables entered into the regression model (cont.)

Factor	Category	N	%
Region	North East (ref)	384	3.9
	North West	840	8.5
	Yorkshire and The Humber	664	6.7
	East Midlands	551	5.6
	West Midlands	680	6.9
	East of England	677	6.9
	London	702	7.1
	South East	974	9.9
	South West	620	6.3
	Wales	728	7.4
	Scotland	1493	15.2
	Northern Ireland	1534	15.6
Rural-urban classification	Urban (ref)	8211	83.4
	Rural	1636	16.6
Highest educational qualification	Degree or higher (ref)	2262	23.0
	A level/ Diploma/ Apprenticeship	3102	31.5
	GCSE	2057	20.9
	Other/ None	2394	24.3
Tenure	Owner-occupier (ref)	6262	64.8
	Tenant	3396	35.2
Household annual income	Up to 10,399 (ref)	1505	15.3
	10,400 to 25,999	2657	27.0
	26,000 to 51,999	2106	21.4
	52k+	1439	14.6
	missing	2140	21.7
Socio-economic status (NS-SEC)	Managerial/Professional (ref)	3313	33.6
	Intermediate	1915	19.4
	Routine/Manual	3692	37.5
	Not classifiable/Never worked	794	8.1

Table A1 Variables entered into the regression model (cont.)

Factor	Category	N	%
Marital status	Married/living as married (ref)	4567	46.4
	Single/widowed/divorced/separated	5264	53.5
Ethnicity	White (ref)	9071	92.1
	Asian	327	3.3
	Black	206	2.1
	Mixed & Other	124	1.3
	missing	119	1.2
Work status	In work (ref)	4837	49.1
	Retired	2842	28.9
	Unemployed	572	5.8
	Other	1596	16.2
Religion	Christian (ref)	6829	69.4
	Non-Christian	453	4.6
	No religion	2465	25.0
Self-reported health	Good/Very good (ref)	7367	74.8
	Fair	1940	19.7
	Bad/Very bad	540	5.5
Respondent has a disability/long standing illness	Yes (ref)	2144	21.8
	No	7703	78.2
Index of Multiple Deprivation (quintiles)	1 (Most deprived) (ref)	1836	18.6
	2	1916	19.5
	3	2054	20.9
	4	1992	20.2
	5 (Least deprived)	2049	20.8
Household size	1 (ref)	2972	30.2
	2	3598	36.5
	3+	3277	33.3
Respondent is the main food provider[13]	No (ref)	5391	54.7
	Yes	4456	45.3

[13] mainly responsible for the household shopping and cooking

Table A2 Multiple linear regression: indicators of vulnerability and IRP score

		Coeff	95% C.I.		p-value
			Lower	Upper	
Age/gender (p<0.001)	Male 16-24 (ref)				
	Male 25-34	9.0	1.5	16.5	0.018
	Male 35-44	9.3	2.1	16.5	0.012
	Male 45-59	4.3	-2.4	11.0	0.205
	Male 60-74	1.6	-5.5	8.6	0.659
	Male 75+	1.6	-7.9	11.1	0.740
	Female 16-24	11.6	4.4	18.7	0.002
	Female 25-34	14.0	6.5	21.5	<0.001
	Female 35-44	12.4	5.6	19.3	<0.001
	Female 45-59	10.8	4.8	16.8	<0.001
	Female 60-74	7.1	0.6	13.6	0.033
	Female 75+	4.9	-2.3	12.1	0.186
Allergic to certain food	Yes (ref)				
	No	1.4	-0.3	3.2	0.114
Adult aged over 60 in the household	No (ref)				
	Yes	0.6	-1.7	2.9	0.621
At least one child aged under 5 in the household	No (ref)				
	Yes	-2.0	-6.6	2.5	0.376

Model also includes all variables in Table A1

Table A3 Food safety activities by age group

	Age group			
	16-59	**60-74**	**75+**	**Total**
	%	%	%	%
Wash hands before I start preparing or cooking food*				
N/A	1.7	2.9	5.6	2.2
Not following recommended practice	15.5	11.5	15.9	14.8
Following recommended practice	82.8	85.6	78.4	83.0
Cook food to steaming hot*				
N/A	2.7	4.8	9.4	3.7
Not following recommended practice	17.2	12.3	11.6	15.8
Following recommended practice	80.0	82.9	79.0	80.5
Eat chicken or turkey if the meat is pink or has pink or red juices*				
N/A	4.7	5.1	5.5	4.8
Not following recommended practice	5.5	3.7	3.5	5.0
Following recommended practice	89.8	91.2	91.0	90.1
Wash hands after handling raw meat/fish*				
N/A	5.9	6.3	10.3	6.3
Not following recommended practice	7.8	10.9	10.8	8.6
Following recommended practice	86.4	82.8	78.9	85.1
If you made a meal on Sunday, What is the last day that you would consider eating the leftovers?*				
Not following recommended practice	17.5	17.9	11.2	17.0
Following recommended practice	82.5	82.1	88.8	83.0
Do you ever check your fridge temperature?**				
N/A	0.6	0.2	0.2	0.5
Not following recommended practice	47.5	48.0	52.4	48.0
Following recommended practice	51.9	51.8	47.4	51.5

Table A3 Food safety activities by age group (cont.)

	Age group			
	16-59	**60-74**	**75+**	**Total**
	%	%	%	%
What do you think the temperature inside your fridge should be?*				
N/A	0.6	0.2	0.3	0.5
Not following recommended practice	40.7	51.5	61.4	44.3
Following recommended practice	58.7	48.3	38.3	55.2
How many times would you consider re-heating food after it was cooked for the first times?*				
N/A	6.0	7.9	12.0	6.8
Not following recommended practice	9.0	5.3	4.6	8.0
Following recommended practice	85.0	86.8	83.5	85.2
Where/how you store raw meat and poultry in the fridge*				
N/A	9.0	9.4	17.1	9.8
Not following recommended practice	58.1	55.8	54.2	57.3
Following recommended practice	32.9	34.8	28.6	32.9
Wash raw meat and poultry*				
N/A	10.9	11.5	19.0	11.7
Not following recommended practice	56.8	67.4	60.8	59.1
Following recommended practice	32.3	21.1	20.2	29.2
How do you usually tell that food has been re-heated properly?*				
N/A	13.8	22.5	30.6	16.8
Not following recommended practice	23.2	24.3	29.1	23.9
Following recommended practice	63.0	53.2	40.3	59.2

Table A3 Food safety activities by age group (cont.)

	Age group			
	16-59	**60-74**	**75+**	**Total**
	%	%	%	%
Which of these indicates whether food is safe to eat?*				
Not following recommended practice	28.2	35.3	39.0	30.4
Following recommended practice	71.8	64.7	61.0	69.6
Do you check use by dates when you are about to cook or prepare food?*				
Not following recommended practice	16.5	24.7	28.6	19.1
Following recommended practice	83.5	75.3	71.4	80.9
Reading food labelling*				
Easy	66.4	39.3	39.7	59.1
Neither	8.4	9.9	9.2	8.8
Difficult	25.1	50.8	51.1	32.1
Bases	6445	2223	1171	9839

Significance was tested using chi-squared
*Significant at the 1% level **Significant at the 5% level

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