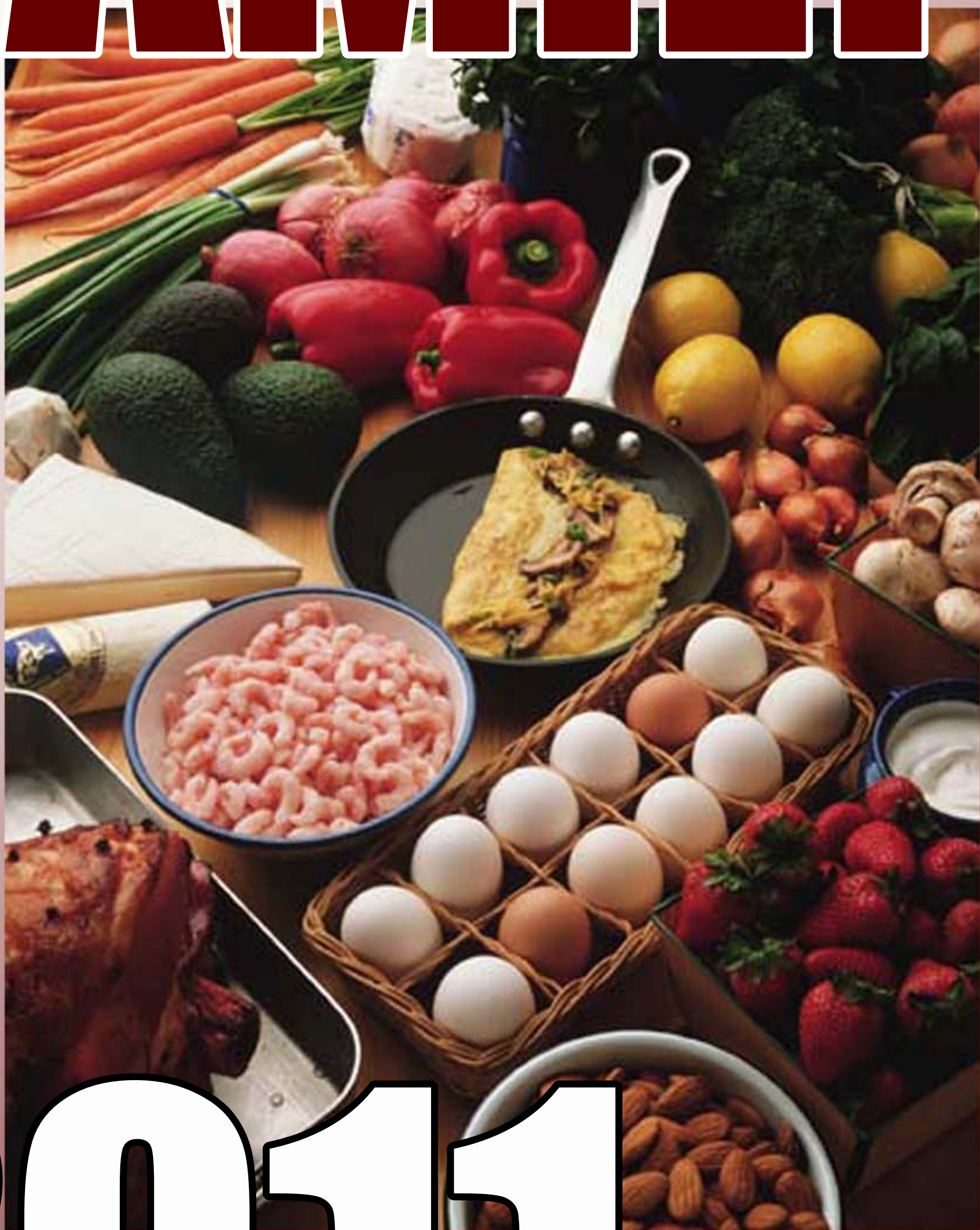
Family Food



2011

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Contents

Executive Summary

1.1 The Survey

Family Food 2011 is a report on the 2011 Family Food Module of the Living Costs and Food Survey. This report provides statistics on food purchases by type of food and includes estimates of nutrient content. Excel datasets and method notes are provided on the website with some statistics back to the 1940s. The Family Food Survey covers about 6000 households across the United Kingdom each year. Foods are reported at a detailed level and demographic patterns and trends are identified.

http://www.defra.gov.uk/statistics/foodfarm/food/familyfood/

Family Spending is a separate report on the Living Costs and Food Survey published by the Office for National Statistics. It covers all forms of household expenditure but without as much detail on food and without quantities and nutrient content of food purchases.

Family Food 2011 includes more statistics on low income groups. Income deciles divide the UK household population into ten equally sized groups based on the magnitude of their equivalised income. Equivalised income is calculated using the OECD-modified equivalence scale which assigns a value of 1 to the first household member, of 0.5 to each additional adult and of 0.3 to each child. Equivalised income is gross household income divided by the OECD scale value.

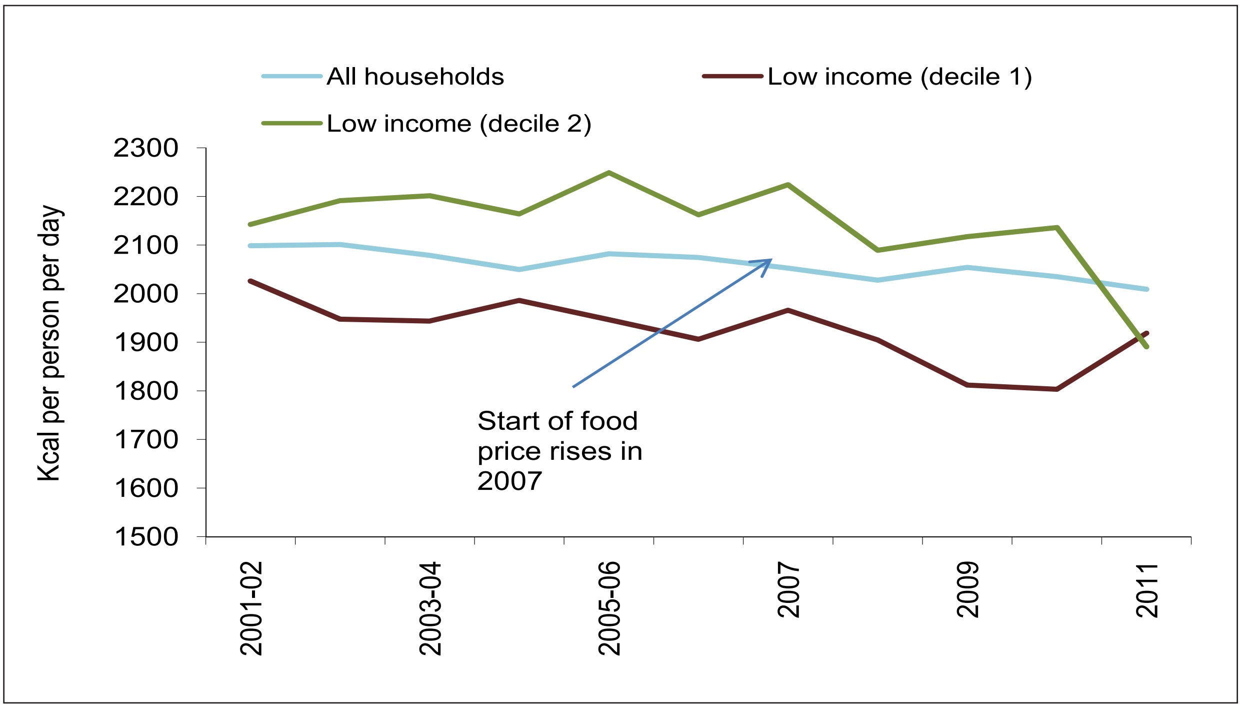
1.2 Key Messages

- There was a statistically significant reduction in energy intake from household food and drink in 2011 which is consistent with the longer term decline in energy intake from food and drink since the mid 1960s. Although energy intake reduced in 2011 the percentage of food and drink energy (excluding alcohol) derived from NMES and saturated fatty acids were hardly changed compared to 2010. Intake of sodium is on a downward trend.
- Households in income decile 2 (second lowest group) derived 1891 Kcals per person per day from household food in 2011, 15 per cent less than in 2007 and now similar to households in income decile 1 (lowest group). Previously each year from 2001-02 to 2010 this group had an energy intake from household food higher than the average UK household.
- For households in income deciles 1 and 2 (the lowest 20 per cent) 16.6 per cent of spend went on household food in 2011, 1.4 percentage points above the 2007 level.
- Having peaked in 2006 and 2007 purchases of fruit and vegetable were 10 per cent lower in 2011 than 2007 for UK households, 22 per cent lower for households in income decile 2 (second lowest group), and 15 per cent lower for households in income decile 1 (lowest group).

1.3 Dietary Trends

Chapter 5 shows latest dietary trends covering energy intake from food and drink, estimates of trading down, latest trends in purchases of fruit and vegetables and the percentage of spend going on food.

Chart 1. Trends in energy content of food



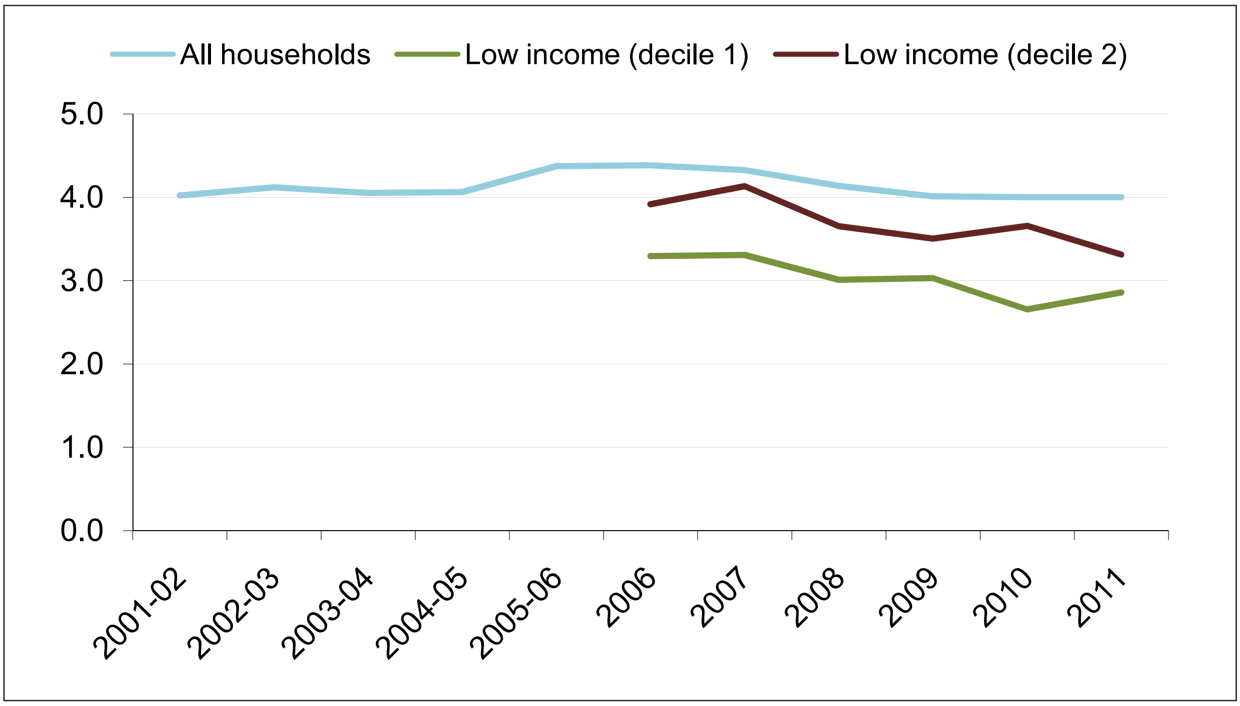
- Households in income decile 2 (second lowest group) derived 1891 Kcals per person per day from household food in 2011, 15 per cent less than in 2007 and now similar to households in income decile 1 (lowest group). Previously each year from 2001-02 to 2010 this group had an energy intake from household food higher than the average UK household.
- Households in income decile 1 (lowest income group) increased energy intake from household food by 6.4 per cent in 2011 to 1919 Kcals per person per day, having fallen 8.3 per cent between 2007 and 2010.
- In 2011 households in income deciles 1 and 2 (low income groups) derived around 5 per cent less energy from household food than the average UK household.
- Energy intake from household food across UK households was 2.1 per cent lower in 2011 than in 2007 while for households in income decile 1 (lowest income group) it was 2.4 per cent less.
- There was a statistically significant reduction in energy intake from household food and drink in 2011 which is consistent with the longer term decline in energy intake from food and drink since the mid 1960s.
- Eating out has been in decline. Energy intake from eating out was 4.9 per cent lower in 2011 than in 2008 due mainly to reductions in free school meals and reductions in work provided meals.

Table 1. Main consumer reaction to the high food prices between 2007 and 2011

	Main consumer reaction				
	Trading down	**Buying more**	**Buying less**	**Spending less**	**Spending more**
All households	Cereals (-11%)	Bacon	Bread	Potatoes	Butter
trading down (-6.8%)	Biscuits & cakes (-10%)		Lamb	Lamb	Eggs
buying less (-4.2%)	Lamb (-11%)		Beef		Sugar & preserves
spending more (+12%)	Pork (-18%)		Fish		Sweets & chocolates
	Fish (-10%)		Fruit		Bacon
	Butter (-12%)		Potatoes		Cereals
	Eggs (-14%)		Vegetables		Coffee & hot drinks
	Tea (-10%)		Alcoholic drinks		
	Sweets & chocolates (-12%)				
	Potatoes (-15%)				
	Trading down	**Buying more**	**Buying less**	**Spending less**	**Spending more**
Income decile 1	Eggs	Pork	Butter (-18%)	Fruit	Poultry (+40%)
trading up (+1.1%)	Pork	Bacon	Fruit (-16%)		Pork (+37%)
buying less (-3.2%)	Potatoes	Cheese	Soft drinks (-12%)		Sugar & preserves (+28%)
spending more (+17%)	Butter		Vegetables (-12%)		Bacon (+27%)
	Vegetables				Cheese (+27%)
					Tea (+25%)
					Beef (+24%)

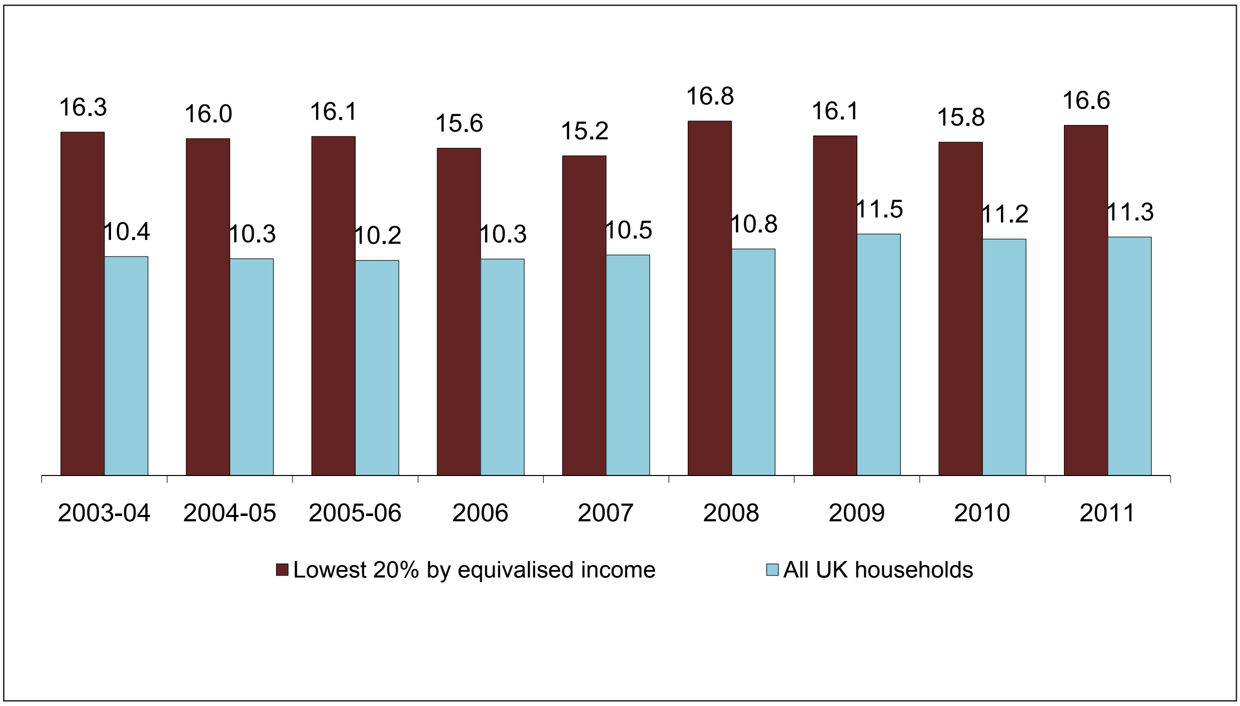
- On average UK households purchased 4.2 per cent less food in 2011 than in 2007 while spending 12 per cent more. They saved 6.8 per cent by trading down to cheaper products.
- Households in income decile 1 (lowest income group) spent 17 per cent more on food in 2011 than in 2007. Although they traded down in eggs, pork, potatoes, butter and vegetables the overall effect was not of trading down.
- On average UK households traded down on pork to save 18 per cent between 2007 and 2011 while households in income decile 1 (lowest income group) did not trade down but spent 37 per cent more on pork.
- Since 2007 UK households have bought less bread, lamb, beef, fish, fruit, vegetables, potatoes and alcoholic drinks but more bacon.
- Since 2007 households in decile 1 (lowest income group) have bought less butter, fruit, vegetables and soft drinks but more pork, bacon and cheese.

Chart 2. Fruit and Vegetables (measured in portions)



- Having peaked in 2006 and 2007 purchases of fruit and vegetable were 10 per cent lower in 2011 than 2007 for UK households, 22 per cent lower for households in income decile 2, and 15 per cent lower for households in income decile 1 (lowest income group).
- UK households purchased an average of 4.0 portions of fruit and vegetables per person per day in 2011 while households in income decile 1 (lowest income group) purchased an average of 2.9 portions of fruit and vegetables per person per day in 2011.
- Households in income deciles 1 and 2 (low income groups) have both consistently purchased smaller quantities of fruit and vegetables than higher income households.

Chart 3. Percentage of spend going on food



- Averaged over all UK households 11.3 per cent of spend went on household food in 2011, while for household in income deciles 1 and 2 (the lowest 20 per cent) it was higher at 16.6 per cent.
- Food is exerting greater pressure on household budgets since 2007 when food prices started to rise in real terms.
- The percentage of spend on food for all households in the UK was 11.3 per cent in 2011, 0.8 percentage points above the 2007 level.
- For households in income deciles 1 and 2 (lowest 20 per cent) the percentage of spend on food was 16.6 per cent in 2011, 1.4 percentage points above the 2007 level.

1.4 Food purchases and expenditure

Levels and trends of the quantities and expenditures on different types of food and drink are shown in Chapter 1. There are downward trends in purchases of fruit, fresh green vegetables, bread, milk, fats and biscuits. The downward trends in fruit and milk purchases remain despite small recorded rises in 2011.

There are upward trends in purchases of cheese, eggs, meat based ready meals and low calorie soft drinks.

There are downward trends in purchases of most categories of eating out food and drink since 2008. The most significant reductions include confectionery down 24 per cent, alcoholic drinks down 11 per cent, 'crisps, nuts and snacks' down 12 per cent and fresh and processed fruit down 5.3 per cent.

Food spending in 2011 was only 1.8 per cent higher than in 2010 despite food inflation averaging 5.9 per cent over the year. On average 11.3 per cent of spending by UK households went on household food and drinks in 2011.

Spending on food and drink for the household came to £27.99 and on eating out to £11.93 in 2011. (Food for the household is any food that enters the household regardless of where it is eventually consumed.)
In real terms households reduced spending in 2011 on household food and non-alcoholic drinks by 3.3 per cent.

1.5 Nutrient intakes

The nutrient content of food is estimated using average nutrient compositional data for each food code used in the survey. Chapter 2 presents estimates for energy and nutrient content of household food and drink, and eating out food and drink. These are compared with recommended levels for the population average.

Nutrient Intakes of NMES and saturated fatty acids, as measured as a percentage of food and drink energy (excluding alcohol), were both lower in 2011 than in 2008, although hardly changed compared to 2010. Both continue to exceed the government recommended levels.

All micronutrient intakes except sodium reached at least 100 per cent of their reference nutrient intake values, where one is set. The average intake of sodium excluding table salt was 84 per cent above the recommended maximum in 2011, but is on a downward trend

1.6 Geographic comparisons

Country level and regional comparisons are shown in Chapter 3. Averaged over the three years to 2011 the ratio between the highest and lowest amounts purchased for household supplies between the four UK countries varied from 1.1 (milk and cream, eggs, fruit, and cereals) to 1.6 (sugar and preserves).
Where the ratio between highest and lowest levels of purchasing was greater than 1.25:

- Northern Ireland households purchased the least cheese, sugar and preserves, vegetables and alcoholic drinks. They purchased the most carcase meat and potatoes.
- Wales households purchased the most sugar and preserves, vegetables and alcoholic drinks.
- Scotland households purchased the least carcase meat and potatoes.
- England households purchased the most cheese.

Rural areas tended to have higher food and drink purchases and associated higher energy and nutrient intakes.

1.7 Income links with healthy diet

Demographic patterns in food and drink are explored in Chapter 4 using a statistical technique to control for differences in household composition, region, income and the age and ethnic origin of the household reference person.

The survey shows that in 2011 low income is associated with lower purchases of fruit, vegetables and fibre, and with higher levels of NMES (non-milk extrinsic sugars).

Households in income deciles 2 and 3 (low but not the lowest income) obtained the highest amount of food energy from NMES. Households with the highest income, deciles 9 and 10, purchased foods with a lower amount of NMES.

Households in income deciles 1, 2 and 3 purchased less fruit than other income deciles. This was a difference of 99 grams of fruit per person per day, just over one portion of 5 A DAY (80 grams), between the highest and lowest income groups.

Purchases of vegetables increased with income. The difference between the lowest and highest deciles equates to half a portion of vegetable purchases. Those households in income deciles 1, 2, 3 and 5 purchased lower quantities of vegetables.

Purchases of food containing fibre increased with income. Fibre intake was higher in income groups 7, 8 and 10. Many in these income groups achieved the recommended average of 18 grams of fibre per day. There was a difference of 4 grams per person per day between the highest and lowest income groups.

1.8 Dietary Trends

Chapter 5 shows latest dietary trends covering energy intake from food and drink, estimates of trading down, latest trends in purchases of fruit and vegetables and the percentage of spend going on food.

1.9 Price elasticities

New price elasticities based on Family Food Survey data from 2001 to 2009 are presented in Chapter 6. The estimates show how demand for different types of food varies with changing food prices and changing levels of total expenditure on food. The underlying research was carried out by Reading University on behalf of Defra.

One finding is that demand for alcoholic drinks by low income households (bottom 10 per cent by equivalised income) became more sensitive to price in 2008 and 2009 than it had been between 2001 and 2007. Those paying a 1 per cent higher price for alcoholic drinks purchased on average 2.7 per cent less in 2008 and 2009. Previously in 2001 to 2007 they had purchased 1.4 per cent less.

Introduction

Family Food provides detailed statistics on purchases, expenditure and derived nutrient content of food purchases from a large household survey covering the United Kingdom. Foods are reported at a detailed level and patterns are related to demographic characteristics. This report presents statistics on food purchasing in 2011 and compares levels with previous years to provide trends, mostly over the last 4 years, although for some food types, statistics go back to the 1940s.

The Family Food Survey measures all food that is brought into the household, including fruit and vegetables grown in gardens and allotments. It also covers all food bought and eaten away from the home such as restaurant meals, school meals and snacks.

This report includes more statistics on low income groups. Low income deciles divide the UK household population into ten equally sized groups based on the magnitude of their equivalised income. Equivalised income is calculated using the OECD modified equivalence scale which assigns a value of 1 to the first household member, of 0.5 to each additional adult and of 0.3 to each child. Equivalised income is gross household income divided by the OECD scale value.

Report structure:

- Chapter 1 presents estimates and recent trends in quantities of purchases and expenditure by different type of food and drink.
- Chapter 2 presents estimates of the energy and nutrient content of food purchases, including trends and a comparison against reference nutrient intakes.
- Chapter 3 presents country and regional estimates, where apparent differences are often due to differences in demographic characteristics such as income.
- Chapter 4 attributes differences in diet in 2011 to regional and demographic characteristics of households. It covers patterns in purchases of fruit and vegetables, and patterns in intakes of sodium, Non-Milk Extrinsic Sugars (NMES), fibre and saturated fatty acids.
- Chapter 5 examines dietary trends. It covers food prices, trading down and fruit and vegetable purchases with a focus on low income households. It also covers trends in intakes of energy, fat, saturated fatty acids, NMES, sodium, fibre and alcohol.
- Chapter 6 presents estimates of price elasticities which show how demand varies when food prices change.

Family Food conforms fully to National Statistics standards. The term ‘National Statistics’ is an accreditation quality mark which stands for a range of qualities such as relevance, integrity, quality, accessibility, value for money and freedom from political influence. http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html

Defra is the main user of the statistics in its co-ordinating role on food policy across Government. The statistics feature in high level indicators on healthy diet and food security. In Scotland the statistics are used to monitor the health of the Scottish diet. The data is placed on the National Data Archive and is accessed by academics and used in research.

The Defra website provides links to a set of method papers which provide a background to the survey, its history, sampling, reliability and methods of calculating nutrient intakes. It provides links to other Government surveys in the UK related to health, diet and food, along with details of where to source information on consumption in European Union countries.

Chapter 1 UK trends in purchases and expenditure

1.1 Overview

In 2011 the amount that an average household spent on all food and drink, including alcoholic drinks and food eaten out, rose 1.8 per cent to £39.93 per person per week. Household food purchases formed the largest share at £24.92 per person per week. When inflation is taken into account, the amount spent was 3.3 per cent less than 2010 and 1.0 per cent less than 2008.

Various household foods are on clear short term downward trends since 2008 including: 'milk and cream', fish, fats, 'fresh and processed potatoes', fruit, bread and 'biscuits and crispbreads'. Eggs and cheese are on short term upwards trends since 2008. The amount of food eaten out has been declining since 2001 with decreases in many categories. While household purchases are declining for many foods, household spending is showing increases in most categories with food inflation averaging 5.2 per cent in 2011.

This chapter examines these trends in more detail. Table 1.1 shows the main food groups examined in this chapter and contains an indication of those items where a statistically significant 4 year linear trend is evident. A detailed explanation of how these trends are calculated is available in the Method Papers.

A more detailed breakdown of the types of foods purchased and trends going back to 1940 are provided in excel datasets on the website: (Family Food datasets).

1.2 Household purchases (trends 2008 to 2011)

Comparisons between 2008 and 2011, which provide a reliable indication of change, are made for the main food groups that make up people's diets in the UK.

Fruit and vegetables

Household purchases of fresh and processed fruit are on a downward trend since 2008 and are 4.1% lower despite a rise in 2011. In 2011, purchases of fresh fruit rose 1.2 per cent to 764 grams per person per week and purchases of processed fruit rose 2.0 per cent to 385 grams per person per week. Purchases of pure fruit juices are 5.7 per cent lower than in 2008, despite a rise of 3.7 per cent in 2011 to 307 mls per person per week. Household purchases of fresh and processed vegetables were 2.4 per cent lower in 2011 than in 2008 with 'fresh green vegetables' 6.6 per cent lower in 2011 than in 2008.

While overall purchases of fruit and vegetables reduced between 2008 and 2011, consumers spent 8.1 per cent more on fresh and processed vegetables and 6.9 per cent more on fresh and processed fruit.

Chapter 5 analyses fruit and vegetable purchasing over time in terms of 5 A DAY portions and Chapter 4 examines how fruit and vegetable purchases vary by demographic groups.

In 2011, 5.0 per cent of all the fresh fruit and vegetables entering the household came from free sources, mainly gardens and allotments. This compares to 2.9 per cent in 2008. Table 1.2 and Chart 1.1 provide a detailed breakdown.

Fats (including oils)[1]

There is a long term downward trend in household purchases of 'fats' since the mid eighties. Purchasing levels of oils and fats were 8.0 per cent lower in 2011 than in 2008, equating to a reduction of 14 grams per person per week since 2008. Purchases of margarine were 6.7 per cent lower and purchases of 'reduced and low fat spreads' were 9.3 per cent lower in 2011 than in 2008.

1 In the context of the Family Food Survey, 'margarine' includes any spread (either block or tub) that contains more than 62% fat.

Milk and cream

There is a significant long term downward trend in purchases of whole milk. Whole milk purchases were 15 per cent lower in 2011 than in 2008 despite a small rise in 2011. This equates to a reduction of 65 mls per person per week. There has been no change in purchases of skimmed milks over the same period. Purchases of cream are on an upward trend despite a small decrease in 2011.

Bread

Purchases of white bread are on a downward trend having fallen 14 per cent between 2008 and 2011. Purchases of ‘brown and wholemeal bread’ were 4.2 per cent higher in 2011 than in 2008. Purchases of ‘other breads’, which includes continental and specialty breads, were 1.9 per cent lower in 2011 than in 2008. Sandwiches are the only bread category showing a continued upward trend, rising 17 per cent between 2008 and 2011, although they remain a small proportion of total bread purchases for the household.

Cheese

Household purchases of cheese are on an upward trend since 2008, with purchases of natural cheese rising 8.9 per cent between 2008 and 2011. The amount consumers spent on cheese rose 14 per cent over the same period. Within this category natural cheese (as opposed to processed cheese) has consistently made up around 90 per cent of the total. Cheddar type cheeses account for around half of all cheese purchases by weight, at 67 grams per person per week.

Meat

Purchases of raw carcase meat have been relatively stable since 2008 despite a fall of 3.2 per cent in 2011. However, prior to 2008 purchases had been around 10 per cent higher. Since 2008 purchases of less expensive beef steak have increased 3.6 per cent whilst purchases of the more expensive steaks have reduced 13 per cent. Purchases of mutton and lamb are on a downward trend having decreased 18 per cent between 2008 and 2011, although it is the smallest contributor to this category. Purchases of ‘non-carcase meat and meat products’ have been relatively stable since 2008 although purchases of ‘meat based ready meals and convenience meat products’ are on an upward trend with a rise of 7.9 per cent between 2008 and 2011 despite a slight fall in 2011.

Fish

There is a significant downward trend in household purchases of fish (including ready meals and fish products), which fell 8.6 per cent between 2008 and 2011 to 147 grams per person per week. Fresh/frozen white fish, which accounts for 12 per cent of fish purchases fell 29 per cent between 2008 and 2011 with a fall of 14 per cent in 2011. Sales of salmon have been stable since 2008 and consistently contribute around 8 per cent of total fish purchases. Whilst purchases have fallen expenditure on fish increased 3.2 per cent between 2010 and 2011.

Confectionery and soft drinks

Household purchases of confectionery have been relatively stable since 2008. Household purchases of soft drinks were 3.1 per cent lower in 2011 compared to 2008. Household purchases of ‘not low calorie soft drinks’ are on a downward trend since 2008 and fell by 16 per cent between 2010 and 2011. Household purchases of ‘low calorie soft drinks’ are on an upward trend since 2008 with purchases 38 per cent higher in 2011 than in 2008.

Alcoholic drinks

Household purchases of alcoholic drinks were 3.2 per cent higher in 2011 than in 2008 despite a fall of 4.4 per cent in 2011. Spend on alcoholic drinks for the household in 2011 was unchanged on 2010 but significantly higher than in 2008 (17 per cent higher). Intakes of alcohol are examined in Chapters 2 and 5.

Table 1.1: Quantities of household purchases of food and drink in the UK[2]

		2008	2009	2010	2011	RSE(a)	% change since 2010	% change since 2008	trend since 2008 (b)
								grams per person per week unless otherwise stated	
Milk and cream	(ml)	1957	2003	1897	1904	✓✓✓	+0.4	-2.7	↘
Liquid whole milk (including welfare and school milk)	(ml)	420	421	352	355	✓✓	+0.8	-15.4	↘
Skimmed milks	(ml)	1145	1156	1156	1151	✓✓✓	-0.4	+0.5	
Cream	(ml)	21	23	24	23	✓✓	-1.3	+13.1	↗
Cheese		111	116	118	118	✓✓✓	+0.2	+6.8	↗
Cheese, natural		99	105	107	108	✓✓✓	+0.8	+8.9	↗
Processed cheese		12	11	11	11	✓✓	-5.5	-10.5	
Carcase meat		211	212	211	204	✓✓✓	-3.2	-3.1	
Beef and veal		111	112	114	112	✓✓	-1.8	+1.0	
Mutton and lamb		45	46	44	37	✓	-16.2	-18	↘
Pork		55	54	53	56	✓✓	+4.4	+0.8	
Non-carcase meat and meat products		787	787	805	794	✓✓✓	-1.4	+0.8	
Bacon and ham (cooked or uncooked)		108	111	113	112	✓✓	-0.9	+3.5	
Poultry (cooked or uncooked)		250	246	242	247	✓	+2.2	-1.1	
Meat based ready meals and convenience meat products		145	151	161	157	✓✓✓	-2.8	+7.9	↗
Fish		161	158	151	147	✓✓✓	-2.3	-8.6	↘
White fish, fresh, chilled or frozen		24	23	20	17	✓	-14.4	-28.7	↘
Herrings and other blue fish, fresh, chilled or frozen		6	6	5	4	✓	-20.6	-31.3	↘
Salmon, fresh, chilled or frozen		12	13	12	12	✓	-3.2	-1.6	
Eggs	(no.)	1.6	1.6	1.7	1.7	✓✓✓	+2.1	+9.3	↗
Fats		184	181	183	170	✓✓✓	-7.5	-8.0	↘
Butter		40	39	40	40	✓✓	+1.5	-0.6	
Margarine		22	24	23	20	✓✓	-12.7	-6.7	
Reduced and low fat spread		51	48	49	46	✓	-6.8	-9.3	↘
Sugar and preserves		127	125	126	126	✓✓✓	+0.2	-0.5	
Fresh and processed potatoes		776	761	742	746	✓✓✓	+0.5	-3.9	↘
Vegetables		1118	1103	1107	1090	✓✓✓	-1.5	-2.4	
Fresh green vegetables		203	201	192	189	✓✓✓	-1.2	-6.6	↘
Other fresh vegetables		557	552	565	550	✓✓✓	-2.7	-1.2	
Processed vegetables (d)		358	350	350	351	✓✓✓	+0.2	-2.0	
Fruit		1199	1143	1133	1150	✓✓✓	+1.5	-4.1	↘
Fresh fruit		790	762	755	764	✓✓✓	+1.2	-3.2	
Processed fruit and fruit products		409	381	378	385	✓✓✓	+2.0	-5.8	↘
Pure fruit juices	(ml)	325	302	296	307	✓✓✓	+3.7	-5.7	
Bread		659	656	634	621	✓✓✓	-2.0	-5.8	↘
White bread		301	297	281	259	✓✓✓	-7.7	-13.8	↘
Brown and wholemeal bread		168	173	164	175	✓✓✓	+6.8	+4.2	
Sandwiches		10	10	12	12	✓	-0.8	+16.6	↗
Cakes, buns and pastries		153	158	153	151	✓✓✓	-1.5	-1.8	
Biscuits and crispbreads		170	169	162	164	✓✓✓	+1.5	-3.1	↘
Other cereals and cereal products		535	548	556	547	✓✓✓	-1.5	+2.2	
Beverages		55	54	56	53	✓✓✓	-5.1	-2.7	
Soft drinks (c)	(ml)	1682	1678	1718	1630	✓✓✓	-5.1	-3.1	
Not low calorie	(ml)	1192	1208	1139	954	✓✓	-16.2	-20.0	↘
Low calorie	(ml)	490	469	579	676	✓✓	+17	+38.0	↗
Confectionery		131	134	131	134	✓✓✓	+2.2	+1.9	
Alcoholic drinks	(ml)	706	744	762	728	✓✓	-4.4	+3.2	

(a) Relative Standard Error: 3 ticks: < 2.5%, 2 ticks: 2.5% - 5%, 1 tick: 5% - 10%, no ticks: 10% - 20%, cross: >20%, - not available.

(b) An arrow indicates a statistically significant linear trend since 2008, see website for more details.

(c) Converted to unconcentrated equivalent by applying a factor of 5 to concentrated and low calorie concentrated soft drinks.

(d) includes frozen, canned and dried vegetables.

2 For a more detailed breakdown go to: Family Food datasets

1.3 Home-grown food

In 2011, 5.0 per cent of fresh fruit and vegetables entering the household came from free sources, mainly gardens and allotments. Fresh beans, which include broad, runner, and French varieties, had the highest proportion with 33 per cent being home-grown. The percentage of home-grown fruit and vegetables has been increasing gradually since 2008.

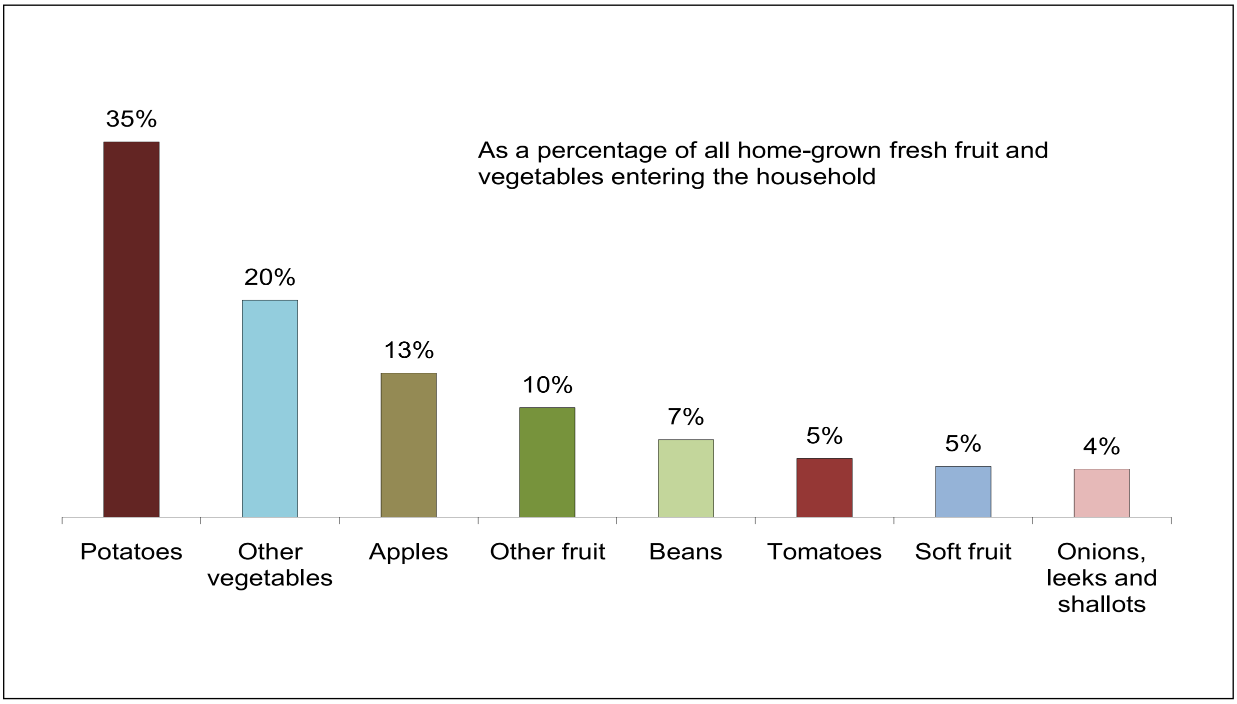
Table 1.2: Percentage of household food home-grown in gardens or allotments

	2008	2009	2010	2011
Beans	28	29	31	33
Potatoes	2	3	2	7
Onions, leeks and shallots	4	3	3	4
Tomatoes	4	6	7	6
All other vegetables	3	3	3	4
Apples	3	5	10	9
Soft fruit	6	8	8	10
All other fruit	13	1	1	2
Overall percentage	2.9	3.3	3.6	5.0
Eggs	3.2	5.1	5.6	5.7

The total amount of home-grown fruit and vegetables in grams per person per week is 101 grams, an increase of 38 per cent on 2010. In 2011 household purchases of fresh fruit and vegetables (including potatoes) was 1899 grams. Processed fruit and vegetables e.g. frozen chips and canned baked beans are excluded from the totals. Non-indigenous fruits and vegetables that are not grown in quantity in the UK, such as bananas and melons, are included. Beans grown in a garden or allotment account for 33 per cent of all fresh beans entering the household in 2011, although they only account for around 7 per cent of all home grown fruit and vegetables by weight, as shown in Chart 1.1.

There was a significant increase between 2009 and 2010 in the percentage of eggs entering the household from free sources. In 2011 the percentage of eggs entering the household which was free or home-produced stayed similar to the 2010 level at 5.7 per cent.

Chart 1.1: Breakdown of home-grown fruit and vegetables 2011



'Other vegetables' account for 20 per cent of the total volume of home-grown fruit and vegetables. This category includes: marrow, courgettes, aubergine, pumpkin, cabbage, lettuce, cucumber, carrots plus other fresh root vegetables such as: parsnips, beetroot, radishes, turnip and swede.

1.4 Household spending

The average weekly expenditure on all household food and drinks in 2011 was £27.99 per person, an increase of 1.5 per cent on 2010. Total expenditure on household food and non-alcoholic drink rose by 1.7 per cent in 2011 and is 8.3 per cent higher than in 2008 (1 per cent lower when adjusted for the effects of inflation). Table 1.3 shows significant upward trends between 2008 and 2011 in household expenditure on:

- Alcoholic drinks and butter - spending increased 17 per cent for both;
- Confectionery – spending increased 16 per cent;
- Sugar and preserves - spending increased 15 per cent and
- Cheese and beverages - spending increased 14 per cent for both.

There is a statistically significant 4 year downward trend on the amount spent on liquid whole milk, down 19 per cent since 2008 and 6.2 per cent on 2010.

Chapters 5 and 6 examine the effects of food price rises on purchasing levels.

Table 1.3: Expenditure on food and drink in the UK, 2008-2011

	2008	2009	2010	2011	RSE[(a)]	% change since 2010	% change since 2008	sig[(b)]
Number of households in sample	5845	5825	5263	5692				
Number of persons in sample	13890	13760	12196	13448				
Food Price Inflation	9.2	5.3	3.1	5.9				
Household Expenditure					*pence per person per week*			
Milk and cream	187	200	189	187	✓✓✓	-1.2	-0.1	
Liquid whole milk	27	28	24	22	✓✓	-6.2	-19.0	yes
Cheese	70	75	79	80	✓✓✓	+1.9	+14.3	yes
Carcase meat	122	127	130	129	✓✓✓	-1.3	+5.2	
Non-carcase meat and meat products	406	423	441	449	✓✓✓	+1.7	+10.6	yes
Fish	115	117	117	120	✓✓✓	+3.2	+4.7	
Eggs	26	27	28	28	✓✓✓	-0.4	+6.7	yes
Fats and oils	49	47	50	53	✓✓✓	+7.3	+9.3	yes
Butter	16	15	16	19	✓✓	+15.1	+17.0	yes
Sugar and preserves	19	20	21	21	✓✓	-0.1	+14.7	yes
Fresh and processed potatoes	109	111	113	116	✓✓✓	+3.0	+6.2	yes
Fruit and vegetables excluding potatoes	411	419	441	442	✓✓✓	+0.3	+7.5	yes
Vegetables excluding potatoes	210	218	230	227	✓✓✓	-1.3	+8.1	yes
Fruit	201	200	211	215	✓✓✓	+2.0	+6.9	yes
Fresh apples	22	23	23	22	✓✓✓	-1.3	-0.6	
Pure fruit juices	35	32	33	37	✓✓✓	+12.3	+7.3	yes
Cereals	439	452	461	474	✓✓✓	+2.7	+8.0	yes
Bread	117	118	116	119	✓✓✓	+1.9	+1.5	
Beverages	44	48	51	51	✓✓✓	-0.0	+13.9	yes
Soft drinks	81	85	89	93	✓✓✓	+3.6	+15.1	yes
Confectionery	87	93	96	101	✓✓✓	+5.0	+15.8	yes
Alcoholic drinks	262	289	307	308	✓✓	+0.1	+17.3	yes
Beers	17	21	21	19	✓	-9.0	+12.5	
Lagers and continental beers	45	48	48	48	✓✓	+0.0	+7.4	
All household food and non-alcoholic drink	2300	2386	2450	2492	✓✓✓	+1.7	+8.3	yes
All household food and drink	2562	2675	2757	2799	✓✓✓	+1.5	+9.3	yes
Eating Out Expenditure								
total expenditure on alcoholic drink eaten out	304	308	312	314	✓✓	+0.7	+3.5	
total expenditure on food and drink eaten out (exc alc drks)	816	826	854	879	✓✓✓	+3.0	+7.7	yes
total expenditure on food and drink eaten out	1120	1133	1166	1193	✓✓✓	+2.4	+6.5	yes
Expenditure on all food and drink	3683	3808	3923	3993	✓✓✓	+1.8	+8.4	yes

(a) Relative Standard Error: 3 ticks: < 2.5%, 2 ticks: 2.5% - 5%, 1 tick: 5% - 10%, no ticks: 10% - 20%, cross: >20%, - not available.

(b) "yes" if the change since 2008 is statistically significant (if the change is more than twice its standard error).

1.5 Trends in spending in real terms

Table 1.4 shows expenditure in real terms, which means that the values are adjusted to remove the effects of inflation. The figures are derived by deflating expenditure at current prices by the Retail Price Index (all items). In 1975 households spent the equivalent of £26.39 per person per week on household food and drink. This is not directly comparable with the 2011 figure of £24.92 as it does not include spending on confectionery and soft drinks, and excludes Northern Ireland. It does show that spending in real terms was lower in 2011 than in 1975.

The Retail Price Index (RPI) (a measure of inflation) rose by 4.1 per cent between 2008 and 2010 and by 5.2 per cent between 2010 and 2011. Removing this overall rise in prices of 9.5 per cent from the changes in expenditure on food and drink shows how expenditure in real terms changed since 2008:

- household spending on food and drink fell by 0.2 per cent,
- eating out spending down by 2.7 per cent,
- spending on alcoholic drinks for household consumption increased by 7.2 per cent,
- spending on alcoholic drinks bought outside the home decreased by 5.5 per cent.

Chapter 5 examines in more detail the effects of food price rises on household spending.

Table 1.4: UK expenditure on food and drink at constant 2010 prices

	1975 (a) (c)	1985 (a) (c)	1995 (a) (b)	2007	2008	2009	2010	2011	% change since 2010	% change since 2008
Retail price index (1975 = 100)	100	277	436	604	629	625	654	688	5.2	9.5
								£ per person per week		
Household food and drink			27.65	28.40	28.05	29.44	29.01	27.99	-3.5	-0.2
Food and drink eaten out			8.74 (d)	12.94	12.26	12.48	12.26	11.93	-2.7	-2.7
All food and drink			36.39	41.34	40.32	41.92	41.27	39.93	-3.3	-1.0
Household food and drink exc. alcohol	26.39	23.41	24.96	25.20	25.18	26.26	25.78	24.92	-3.3	-1.0
Food and drink eaten out exc. alcohol			6.46 (d)	9.06	8.94	9.09	8.98	8.79	-2.1	-1.7
All food and drink exc. alcohol			31.42	34.27	34.12	35.35	34.76	33.71	-3.0	-1.2
% eaten out			21%	26%	26%	26%	26%	26%		
Household alcoholic drink			2.69	3.20	2.87	3.18	3.23	3.08	-4.9	7.2
Eaten out alcoholic drink			2.28 (d)	3.88	3.33	3.39	3.28	3.14	-4.2	-5.5
All alcoholic drinks			4.97	7.08	6.20	6.57	6.52	6.22	-4.6	0.4
% of alcoholic drinks eaten out			46%	55%	54%	52%	50%	51%		

(a) Great Britain only.

(b) Estimates on eating out in 1995 are based on National Food Survey which was considered less reliable.

(c) Excludes confectionery, soft and alcoholic drinks.

(d) Whilst National Food Survey food purchases were adjusted, eating out figures were not.

1.6 Takeaway food and drink

Takeaway purchases for consumption within the home are classed as household purchases (see Method Papers). Table 1.5 reports on the takeaway part of the major food groups. Between 2008 and 2011 purchases of takeaway food brought home have remained similar. Expenditure on takeaway foods decreased slightly to £1.71 per person per week in 2011, 10 pence per person per week higher than in 2008.

Table 1.5: UK household purchased quantities and expenditure on takeaway food brought home

Purchases	2008	2009	2010	2011	RSE [a]	% change since 2010	% change since 2008	trend since 2008 [b]
				grams per person per week				
Total Meat	58	57	59	55	✓✓	-6.4	-5.2	
Total Fish	11	11	10	11	✓✓	10.8	0.4	
Total Vegetables	47	47	45	46	✓✓	1.6	-3.8	
Total Bread	4	4	5	4	✓	-19.9	-16.3	
Total Other cereals [c]	40	38	42	40	✓✓	-3.5	1.7	
Total Miscellaneous	3	2	2	2	✓	5.5	-14.5	

UK Expenditure on takeaway food purchases brought home

Expenditure	2008	2009	2010	2011	RSE [a]	% change since 2010	% change since 2008
				pence per person per week			
Total Meat	67	67	73	70	✓✓	-3.0	4.9
Total Fish	18	19	17	19	✓✓	8.4	6.3
Total Vegetables	27	27	26	27	✓✓	4.0	2.7
Total Bread	7	6	7	6	✓	-16.2	-8.7
Total Other cereals [c]	40	39	46	45	✓✓	-1.0	12.8
Total Miscellaneous	3	3	3	3	✓	3.2	-4.7
Total	161	161	172	171			

(a) Relative Standard Error: 3 ticks: < 2.5%, 2 ticks: 2.5% - 5%, 1 tick: 5% - 10%, no ticks: 10% - 20%, cross: >20%, - not available.

(b) An arrow indicates a statistically significant linear trend since 2008, see website for more details.

(c) Other cereals including pastries, rice, pasta and noodles, pizza and savoury snacks such as popcorn, popadoms and prawn crackers.

1.7 Eating out purchases

Measured in grams, the amount of eating out was 7.5 per cent lower in 2011 than in 2008, with the rate of year on year decrease rising each year. In terms of money spent in actual prices (not adjusted for inflation) it was 6.5 per cent higher in 2011 than in 2008 at £11.93 per person per week for all food and alcoholic drinks. Spending on food and non-alcoholic drinks was £8.79 in 2011. Spending on alcoholic drinks increased slightly to £3.14 per person per week in 2011, 3.5 per cent higher than in 2008. See Table 1.3.

There are downward trends in purchases of some categories of eating out food and drink since 2008. The most significant reductions between 2008 and 2011 in amounts bought include confectionery down 24 per cent, salads down 16 per cent, sandwiches down 12 per cent, 'crisps, nuts and snacks' down 12 per cent and alcoholic drinks down 11 per cent. There are no categories with a significant upward trend since 2008. See Table 1.6.

Table 1.6: UK eating out purchased quantities of food and drink, 2008 to 2011

		2008	2009	2010	2011	RSE[a]	% change since 2010	% change since 2008	trend since 2008[b]
Number of households in sample		5845	5825	5263	5692				
Number of persons in sample		13890	13760	12196	13448				
Eating Out Purchases								*grams per person per week unless otherwise stated*	
Alcoholic drinks									
average across whole population	ml	443	449	413	394	✓✓	-4.6	-11.2	↘
average excluding under 14's	ml	532	538	494	472	✓✓	-4.4	-11.3	↘
Soft drinks inc. milk drinks	ml	291	286	279	269	✓✓✓	-3.4	-7.5	↘
Other food products [c]		116	127	144	118	✓✓	-18.1	+1.6	
Beverages	ml	124	120	117	117	✓✓	-0.4	-5.4	
Meat and meat products		78	76	75	75	✓✓✓	-0.7	-3.7	
Sandwiches		73	67	67	64	✓✓	-3.7	-12.3	↘
Fresh and processed potatoes		66	65	62	62	✓✓✓	-0.2	-6.3	↘
Indian, Chinese or Thai food		31	28	31	30	✓✓	-4.5	-5.1	
Vegetables		29	28	26	27	✓✓	+5.0	-8.5	↘
Ice cream, desserts and cakes		26	26	25	25	✓✓	-0.2	-1.8	
Cheese and egg dishes or pizza		23	21	22	22	✓✓	-0.8	-3.8	
Salads		19	17	17	16	✓✓	-6.3	-16.1	
Rice, pasta or noodles		14	14	15	15	✓✓	+0.1	+4.6	
Fish and fish products		13	14	14	13	✓✓	-0.8	+2.3	
Fresh and processed fruit		13	12	12	12	✓✓	+0.9	-5.3	
Confectionery		12	11	10	9	✓✓	-5.8	-24.5	↘
Soups		10	9	8	10	✓	+20.1	+3.3	
Bread		8	7	7	7	✓✓	-1.3	-10.7	↘
Crisps, nuts and snacks		8	7	7	7	✓✓	+1.6	-11.6	↘
Biscuits and chocolate		3	3	3	3	✓✓	-1.6	-4.3	
Yoghurt and fromage frais		2	2	2	2		-2.3	+8.3	
Breakfast cereals		0	1	0	1		+13.0	+7.1	

(a) Relative Standard Error: 3 ticks: < 2.5%, 2 ticks: 2.5% - 5%, 1 tick: 5% - 10%, no ticks: 10% - 20%, cross: >20%, - not available.

(b) An arrow indicates a statistically significant linear trend since 2008, see website for more details.

(c) Other food products mostly contains unspecified meals such as free school meals and free meals through work.

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Chapter 2 UK trends in energy and nutrient intakes

2.1 Overview

This chapter presents the estimated energy and nutrient content of food purchases across the UK and trends since 2008. Chapter 3 presents country and regional estimates, where apparent differences are often due to variations in demographic characteristics such as income. Chapter 4 attributes differences in intakes to regional and demographic characteristics of households. It covers sodium, Non-Milk Extrinsic Sugars (NMES), fruit, vegetables, fibre and saturated fatty acids. Chapter 5 examines in more detail the trends in these dietary indicators and compares average intakes with recommended levels.

Food and drink purchases are converted to energy and nutrient intakes in this chapter. Trends over four years are examined and comparisons made with the UK Dietary Reference Values where appropriate.

A further reduction in 2011 reaffirms the downward trend in energy intake. Energy intake was 1.4 per cent lower in 2011 than in 2008.

Intakes of NMES and saturated fatty acids, as measured as a percentage of food and drink energy (excluding alcohol), were both lower in 2011 than in 2008, although hardly changed compared to 2010. Both continue to exceed the Dietary Reference Values, which are set as recommended maximum levels.

All vitamin and mineral intakes except sodium reached at least 100 per cent of the population-weighted Reference Nutrient Intake, where one is set. The average intake of sodium, excluding table salt, was 84 per cent above the Reference Nutrient Intake in 2011, but is on a downward trend.

More detailed series for all years from 1974 onwards are available in Excel format: Datasets. Estimates for some types of food and therefore some nutrient intakes are available from 1940.

2.2 Nutrient Conversion

Estimated nutrient intakes are calculated from food purchases using nutrient composition data supplied by the Department of Health (DH). The majority of the data are from the DH's nutrient analysis programme, supplemented by values from manufacturers and retailers. Methodology paper, 'Reference nutrient intakes' documents which food codes have been updated with new nutrient composition data in the last 4 years.

The nutrient conversion excludes inedible parts of purchased foods, e.g. fish heads, banana peels; it assumes all food is eaten. Intakes from dietary supplements are not included in any of the tables.

Definitions of certain nutritional terms can be found in the glossary.

2.3 Reference Nutrient Intakes

Many tables in this chapter compare nutrient intakes derived from the survey with Reference Nutrient Intakes[1] (RNIs). These RNIs represent the best estimate of the amount of a nutrient that is enough, or more than enough, for about 97.5 per cent of people in a group. If average intake of a group is at or above the level of the RNI, then the risk of deficiency in the group is very small.

Energy intake is compared against the Estimated Average Requirement (EAR) for a group. Estimates of energy requirements for different populations are termed EARs and are defined as the energy intake estimated to meet the average requirements of the group. About half the people in the group will usually need more energy than the EAR and half the people in the group will usually need less.

The Reference Nutrient Intakes and Estimated Average Requirements and the calculation of weighted average values for the population are described in the methodology paper 'Reference nutrient intakes'.

1 Reference Nutrient Intakes from Department of Health, *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*, HMSO, 1991

2.4 Energy and nutrient intakes

Energy

Based on food and drink purchases, total energy intake per person was 1.4 per cent lower in 2011 than in 2008. This is a statistically significant downward trend over this four year period that confirms the longer term downward trend already apparent since the mid-nineteen sixties. Total energy intake was an average of 2245 kcal per person per day in 2011.

Energy intake from eating out was 4.9 per cent lower in 2011 than in 2008 due mainly to fewer free work meals and fewer free school meals. Average energy intake from eating out was 236 kcal per person per day in 2011 accounting for 11 per cent of total energy intake.

Sodium (excluding table salt)

There was a decrease (3.1%) in the total intake of sodium in 2011. Levels are now 1.5 per cent lower than in 2008 indicating a downwards trend. Eating out accounted for 11 per cent of sodium intakes, in line with eating out as a percentage of total energy intake. Sodium intakes from eating out fell 7.8 per cent in 2011, a reduction of 3.6 per cent since 2008. Major contributors to the sodium content of household food purchases in 2011 include: 'non-carcase meat and meat products', bread and 'other cereals and cereal products'. The contribution that these food groups make to energy intake is shown in Table 2.4.

The figures do not include purchases of table salt since table salt can be used for a variety of household tasks such as melting ice. Salt that might have been added to food during cooking or at the table is therefore excluded from the estimate.

Non-milk extrinsic sugars

Non-milk extrinsic sugars are a category of sugars that are considered to contribute to dental decay. Extrinsic sugars are any sugars not contained within the cellular structure of a food, either because they have been added to a food in the form of table sugar, honey etc; or because the food has been processed which has released sugars from the cell structure e.g. fruit juice.
The sugar naturally present in milk and milk products (lactose) is excluded from the definition as it is not considered to have adverse effects on teeth.

Total intake of non-milk extrinsic sugars is on a downwards trend since 2008 having fallen 3.3 per cent between 2008 and 2011.

Intake of NMES, as measured as a percentage of food and drink energy (excluding alcohol), was 13.9 per cent, unchanged from 2010, 1.8 per cent below the 2008 level. The household food groups that contribute most to total NMES intakes can be seen in Table 2.4 , they are 'sugar and preserves', 'soft drinks' and 'confectionery'.

NMES provided 11 per cent of eating out food and drink energy in 2011. This has fallen almost 10 per cent since 2008, driven by reductions in eating out purchases of soft drinks, alcoholic drinks, confectionery and 'ice-cream, desserts and cakes'. Eating out purchases now account for around 8.0 per cent of total NMES intakes.

Saturated fatty acids

Total intakes of saturated fatty acids (measured in grams per person per day) continued on a downward trend, falling by 3.9 per cent between 2008 and 20011. In 2011 14.2 per cent of food and drink energy (excluding alcohol) was derived from saturated fatty acids, having fallen from 14.6 per cent in 2008. See Tables 2.1 and 2.2.

Saturated fatty acids provided 13.3 per cent of eating out food and drink energy in 2011, little changed from 2008. Eating out purchases provided 9.4 per cent of total saturated fatty acid intakes in 2011.

Over the four years 2008 to 2011, intakes of monounsaturated fatty acids indicate an upward trend, while intakes of polyunsaturated fatty acids are showing a downward trend.

Table 2.1 UK average energy and nutrient intakes from all food and drink

		2008	2010	2011	% change since 2010	% change since 2008	Trend since 2008	% from food eaten out in 2011
Total energy and nutrient intakes [a]								*average intake per person per day*
Energy	kcal	2276	2292	2245	-2.1	-1.4	↘	10.5
	MJ	9.5	9.6	9.4	-2.1	-1.4	↘	10.5
Energy excluding alcohol	kcal	2210	2221	2176	-2.0	-1.5		10.1
Total Protein	g	78.1	78.6	77.2	-1.7	-1.1		11.2
Fat	g	94	95	92	-3.3	-2.5	↘	11.5
Fatty acids:								
Saturates	g	35.7	35.1	34.3	-2.3	-3.9	↘	9.4
Monounsaturates	g	35.1	37.0	35.8	-3.3	+2.0	↗	12.2
Polyunsaturates	g	17.4	17.1	16.2	-5.3	-6.7	↘	13.5
Cholesterol	mg	262	257	252	-2.1	-3.9	↘	13.6
Carbohydrate [b]	g	279	279	276	-1.0	-1.0		8.7
Total sugars	g	127	125	124	-1.5	-2.8	↘	7.0
Non-milk extrinsic sugars	g	83	82	81	-2.2	-3.3	↘	8.0
Starch	g	152	153	152	-0.6	+0.5		10.0
Fibre [c]	g	15.0	15.3	15.2	-0.6	+1.3		10.5
Alcohol	g	9.4	10.2	9.8	-4.1	+4.2		24.8
Calcium	mg	969	965	955	-1.1	-1.5	↘	7.3
Iron	mg	11.8	11.9	11.8	-1.1	+0.6		9.9
Zinc	mg	9.2	9.4	9.2	-2.0	-0.7		10.8
Magnesium	mg	287	289	287	-0.7	+0.1		9.6
Sodium [d]	g	2.78	2.83	2.74	-3.1	-1.5	↘	11.4
Potassium	g	3.22	3.21	3.21	-0.3	-0.4		10.9
Thiamin	mg	1.66	1.67	1.62	-3.0	-2.1	↘	11.8
Riboflavin	mg	1.89	1.89	1.92	+1.7	+1.9		7.2
Niacin equivalent	mg	34.0	34.4	33.6	-2.1	-1.1		12.5
Vitamin B_6	mg	2.5	2.5	2.4	-3.9	-3.4	↘	13.5
Vitamin B_{12}	µg	6.4	6.4	6.2	-2.5	-2.1		8.9
Folate	µg	299	302	298	-1.2	-0.4		12.8
Vitamin C	mg	76	80	77	-3.6	+1.6		10.7
Vitamin A:								
Retinol	µg	526	542	533	-1.7	+1.4		8.3
β-carotene	µg	2225	2299	2187	-4.9	-1.7		15.3
Retinol equivalent	µg	898	927	900	-2.9	+0.2		11.1
Vitamin D	µg	3.03	3.12	3.10	-0.5	+2.4	↗	10.2
Vitamin E	mg	12.17	12.36	12.33	-0.3	+1.3		12.6
								as a percentage of food and drink energy excluding alcohol
Fat	%	38.5	38.6	38.1	-1.3	-1.0		
Fatty acids:								
saturates	%	14.6	14.2	14.2	-0.3	-2.4		
monounsaturates	%	14.3	15.0	14.8	-1.3	+3.6		
polyunsaturates	%	7.1	6.9	6.7	-3.4	-5.3		
Carbohydrate	%	47.4	47.2	47.6	+1.0	+0.6		
Non-milk extrinsic sugars	%	14.1	13.9	13.9	-0.2	-1.8		
Protein	%	14.1	14.2	14.2	+0.3	+0.4		

Table 2.1 continues over the page

Table 2.1 continued

		2008	2010	2011	% change since 2010	% change since 2008	Trend since 2008	% from food eaten out in 2011
					as a percentage of weighted reference nutrient intake (f)			
Energy (e)	%	108	109	107	-2.0	-1.2		
Energy exc alcohol (e)	%	105	106	104	-1.9	-1.3		
Protein	%	170	171	168	-1.7	-1.0		
Calcium	%	140	140	139	-1.0	-1.2		
Iron	%	114	116	115	-1.0	+1.0		
Zinc	%	116	117	115	-2.0	-0.6		
Magnesium	%	108	109	108	-0.6	+0.3		
Sodium (d)	%	186	189	184	-3.0	-1.3		
Potassium	%	101	101	100	-0.2	-0.2		
Thiamin	%	197	199	193	-2.9	-1.9		
Riboflavin	%	165	166	168	+1.7	+2.1		
Niacin equivalent	%	244	247	242	-2.0	-0.9		
Vitamin B_6	%	201	202	194	-3.9	-3.2		
Vitamin B_{12}	%	458	460	449	-2.4	-1.9		
Folate	%	158	160	158	-1.2	-0.1		
Vitamin C	%	197	208	200	-3.5	+1.7		
Vitamin A (retinol equivalent)	%	144	149	145	-2.9	+0.3		

(a) Contributions from pharmaceutical sources are not recorded by the survey.

(b) Available carbohydrate, calculated as monosaccharide equivalent.

(c) As non-starch polysaccharides.

(d) (i) Excludes sodium from table salt (ii) In May 2003 the Scientific Advisory Committee Nutrition recommended that average salt intake for adults should not exceed 6 g/day, equivalent to 2.4 grams of sodium.

(e) As a percentage of Estimated Average Requirement.

(f) Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991. RNI values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group. Weighted RNIs, based on the age/sex composition of the survey sample, have been calculated for comparison with population average intakes.

Fibre

Fibre intake in 2011 was 1.3 per cent higher than in 2008, although there was a small decrease in between 2010 and 2011 of 0.6 per cent. Intakes of fibre, from both household and eating out combined, was 15.2 grams per person per day.

Alcohol

Alcohol intake fell 4.1 per cent in 2011 to 9.8 grams per person per day, but was still 4.2 per cent higher than in 2008. In 2011, eating out intakes of alcohol fell by 5.8 per cent, 7.4 per cent lower than in 2008 and showing a significant downward trend. Eating out purchases accounted for nearly 25 per cent of total alcohol intake in 2011.

Vitamins and minerals

Over the four years 2008 to 2011, intakes of Vitamin D indicate an upward trend. Over the same period, calcium, thiamin, and vitamin B_6 are showing downward trends. These trends may be partly explained by changes in food composition data over time, due to new analytical data becoming available or changes in fortification practices.

Table 2.2 UK average energy and nutrient intakes from household and eating out food and drink

Total energy and nutrient intakes [a]		2011 Household	% change since 2008 Household	Trend since 2008	2011 Eating out	% change since 2008 Eating out	Trend since 2008
							average intake per person per day
Energy	kcal	2009	-0.9		236	-4.9	
	MJ	8.4	-0.9		1.0	-4.9	
Energy excluding alcohol	kcal	1957	-1.2		219	-4.7	
Total Protein	g	68.6	-0.8		8.7	-3.0	
Vegetable Protein	g	41.6	-0.6				
Animal Protein	g	27.0	-1.3				
Fat	g	82	-2.2	↘	11	-4.5	
Fatty acids:							
Saturates	g	31.1	-3.7	↘	3.2	-5.9	
Monounsaturates	g	31.4	2.9	↗	4.4	-3.8	
Polyunsaturates	g	14.0	-7.1	↘	2.2	-4.0	
Cholesterol	mg	217	-3.7	↘	34	-4.6	
Carbohydrate [b]	g	253	-0.5		24	-5.6	↘
Total sugars	g	115	-2.1	↘	9	-11.6	↘
Non-milk extrinsic sugars	g	74	-2.2	↘	6	-13.9	↘
Starch	g	137	0.7		15	-1.9	
Fibre [c]	g	13.6	1.8	↗	2	-2.4	
Alcohol	g	7.4	8.7	↗	2.4	-7.4	↘
Calcium	mg	885	-1.3	↘	70	-3.6	
Iron	mg	10.6	0.8		1.2	-1.5	
Zinc	mg	8.2	-0.4		1.0	-3.3	
Magnesium	mg	259	0.6		27	-4.7	
Sodium [d]	g	2.43	-1.20	↘	0.31	-3.6	
Potassium	g	2.86	-0.05		0.35	-3.3	
Thiamin	mg	1.43	-2.09	↘	0.19	-2.3	
Riboflavin	mg	1.78	2.52		0.14	-5.3	
Niacin equivalent	mg	29.4	-0.6		4.2	-4.5	
Vitamin B_6	mg	2.1	-3.2	↘	0.3	-4.6	
Vitamin B_{12}	µg	5.7	-2.1		0.6	-2.6	
Folate	µg	260	0.3		38	-4.6	
Vitamin C	mg	69	2.2		8	-2.8	
Vitamin A:							
Retinol	µg	489	1.8		44	-2.7	
β-carotene	µg	1853	-1.4		335	-3.4	
Retinol equivalent	µg	800	0.6		100	-3.1	
Vitamin D	µg	2.79	3.2	↗	0.32	-3.6	
Vitamin E	mg	10.77	2.3		1.56	-5.2	
							as a percentage of food and drink energy excluding alcohol
Fat	%	38.0	0.7		43.8	1.7	
Fatty acids:							
Saturates	%	14.3	-2.2		13.4	0.9	
Monounsaturates	%	14.6	6.1		18.2	2.7	
Polyunsaturates	%	6.7	-2.3		9.1	1.2	
Carbohydrate	%	48.0	-0.2		40.4	-2.8	
Non-milk extrinsic sugars	%	14.3	0.5		10.6	-11.4	
Protein	%	13.9	-1.6		15.9	2.7	

Table 2.2 continues over the page

Table 2.2 continued

		2011 Household	% change since 2008 Household	Trend since 2008	2011 Eating out	% change since 2008 Eating out	Trend since 2008
							as a percentage of weighted Reference Nutrient Intake [f]
Energy [e]	%	96	-0.7		11	-4.7	
Energy excluding alcohol [e]	%	93	-0.9		10	-4.5	
Protein	%	150	-0.7		19	-2.9	
Calcium	%	129	-1.1		10	-3.4	
Iron	%	104	1.2		11	-1.2	
Zinc	%	103	-0.2		12	-3.1	
Magnesium	%	98	0.8		10	-4.5	
Sodium [d]	%	163	-1.0		21	-3.4	
Potassium	%	89	0.1		11	-3.1	
Thiamin	%	170	-1.8		23	-2.1	
Riboflavin	%	156	2.7		12	-5.1	
Niacin equivalent	%	211	-0.4		30	-4.3	
Vitamin B_6	%	168	-3.1		26	-4.4	
Vitamin B_{12}	%	409	-1.9		40	-2.4	
Folate	%	138	0.6		20	-4.4	
Vitamin C	%	179	2.2		22	-2.7	
Vitamin A (retinol equivalent)	%	129	0.7		16	-3.0	

(a) Contributions from pharmaceutical sources are not recorded by the survey.

(b) Available carbohydrate, calculated as monosaccharide equivalent.

(c) As non-starch polysaccharides.

(d) (i) Excludes sodium from table salt (ii) In May 2003 the Scientific Advisory Committee Nutrition recommended that average salt intake for adults should not exceed 6 g/day, equivalent to 2.4 grams of sodium.

(e) As a percentage of Estimated Average Requirement.

(f) Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991. RNI values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group. Weighted RNIs, based on the age/sex composition of the survey sample, have been calculated for comparison with population average intakes.

2.5 Major sources of energy from household food purchases

A third of energy from household purchases (661 kcal per person per day) is derived from a combination of:

- Non-carcase meat and meat products – 10.6 per cent (213 kcal);
- Bread – 10.2 per cent (205 kcal) and
- Other cereal products (such as oat products, breakfast cereal, rice, pasta and pizza) - 12.1 per cent (243 kcal).

Table 2.3 Contribution to total household energy intakes from selected foods

	Energy - kcal	% of household food and drink energy(a)
Non-carcase meat and meat products		*average per person per day*
Meat based ready meals and convenience meat products	39	1.9
Chicken - whole or part	34	1.7
Sausages, uncooked - pork	24	1.2
Meat pies, pasties and puddings - frozen or not frozen	19	1.0
Bacon and ham, uncooked	19	1.0
Takeaway meats	13	0.6
Meat pies and sausage rolls, ready to eat	12	0.6
Ham and bacon	10	0.5
Burgers - frozen or not frozen	9	0.4
Cooked poultry (excluding canned)	8	0.4
All other non-carcase meat and meat products	26	1.3
Total	**213**	**10.6**
Bread		
White bread (inc premium and softgrain)	82	4.1
Other bread	69	3.4
Brown and wholemeal bread	54	2.7
Total	**205**	**10.2**
Other cereals and cereal products		
Breakfast cereals	69	3.4
Other cereal convenience foods	43	2.1
Pasta	38	1.9
Rice	36	1.8
Pizza	28	1.4
Oatmeal and oat products	11	0.5
All other cereals and cereal products	18	0.9
Total	**243**	**12.1**

(a) includes energy from alcoholic drinks

A further third of energy intake from household purchases (657 kcal per person per day) is derived from a combination of:

- Fats (including butter, fat spreads and vegetables oils) – 8.1 per cent (163 kcal);
- Milk, yoghurt and fromage frais, milk desserts and cream - 8.4 per cent (170 kcal);
- Biscuits – 5.5 per cent (110 kcal);
- Processed vegetables and potatoes (including frozen, canned and dried) - 6.5 per cent (130 kcal) and
- Confectionery – 4.2 per cent (84 kcal).

The remaining third of daily energy from household food and alcoholic drinks (691 kcal), comes from a range of foods including, carcase meat, fresh fruit and vegetables, fish, cheese, fresh potatoes, soft drinks and alcoholic drinks, as detailed in Table 2.4.

Table 2.4 Intakes from different types of household foods

	Energy	Fat	Saturated fatty acids	Calcium	Iron	Non-milk extrinsic sugars	Sodium	Folate	Vitamin C	β-carotene	Vitamin A (Retinol equiv.)
											average per person per day
	kcal	grams	grams	mg	mg	grams	mg	µg	mg	µg	µg
Milk and cream [(a)]	170	7.3	4.6	333	0.2	3.0	129	18.3	3.9	40	91
Cheese	60	5.0	3.1	102	0.0	0.0	113	5.0	0.0	24	55
Carcase meat	56	3.7	1.6	2	0.4	0.0	18	2.8	0.0	0	0
Non-carcase meat and meat products	213	13.4	4.8	30	1.2	0.1	531	11.8	2.3	69	169
Fish	30	1.5	0.3	13	0.2	0.0	69	2.7	0.1	5	3
Eggs	16	1.1	0.3	6	0.2	0.0	19	5.7	0.0	0	15
Fats and oils	163	18.0	5.7	4	0.0	0.2	82	11.8	0.0	80	145
Sugar and preserves	65	0.0	0.0	3	0.1	17.1	4	0.1	0.3	1	0
Fresh potatoes	43	0.1	0.0	3	0.2	0.0	4	19.2	3.4	0	0
Fresh green vegetables	5	0.1	0.0	10	0.2	0.0	2	14.7	2.8	94	16
Other fresh vegetables	18	0.2	0.0	15	0.4	0.0	9	18.6	6.0	1032	172
Processed vegetables	130	5.2	0.9	26	0.9	0.9	203	25.0	5.5	259	48
Fresh fruit	46	0.3	0.1	11	0.2	0.0	3	8.5	16.2	30	5
Processed fruit	49	2.0	0.4	10	0.3	5.7	14	10.1	16.0	10	2
Bread	205	2.4	0.6	126	1.7	0.1	420	26.9	0.0	1	6
Flour	36	0.1	0.0	9	0.2	0.0	0	1.6	0.0	0	0
Cakes, buns and pastries	73	3.1	1.3	17	0.3	4.8	65	2.4	0.2	4	13
Biscuits	110	5.1	2.5	27	0.5	5.5	78	2.6	0.0	3	1
Other cereal products [(b)]	243	4.8	1.5	72	2.4	4.3	238	42.8	0.7	43	23
Beverages	6	0.1	0.0	6	0.2	0.6	7	8.5	0.0	0	2
Other food [(c)]	82	4.4	1.3	24	0.4	6.4	382	13.4	0.6	104	19
Soft drinks	48	0.0	0.0	9	0.0	12.8	15	2.7	10.7	49	8
Confectionery	84	3.5	1.9	21	0.2	11.4	18	1.8	0.0	6	6
Alcoholic drinks	59	0.0	0.0	7	0.3	1.2	7	2.5	0.0	0	0
Total household intake	**2009**	**82**	**31**	**885**	**11**	**74**	**2430**	**260**	**69**	**1853**	**800**
											percentage of total intake per person per day from household purchases
	%	%	%	%	%	%	%	%	%	%	%
Milk and cream [(a)]	8	9	15	38	2	4	5	7	6	2	11
Cheese	3	6	10	11	0	0	5	2	0	1	7
Carcase meat	3	5	5	0	3	0	1	1	0	0	0
Non-carcase meat and meat products	11	16	16	3	11	0	22	5	3	4	21
Fish	2	2	1	1	2	0	3	1	0	0	0
Eggs	1	1	1	1	2	0	1	2	0	0	2
Fats and oils	8	22	18	0	0	0	3	5	0	4	18
Sugar and preserves	3	0	0	0	1	23	0	0	0	0	0
Fresh potatoes	2	0	0	0	2	0	0	7	5	0	0
Fresh green vegetables	0	0	0	1	2	0	0	6	4	5	2
Other fresh vegetables	1	0	0	2	3	0	0	7	9	56	22
Processed vegetables	6	6	3	3	8	1	8	10	8	14	6
Fresh fruit	2	0	0	1	2	0	0	3	23	2	1
Processed fruit	2	2	1	1	2	8	1	4	23	1	0

Table 2.4 continues over the page

Table 2.4 continued

	Energy	Fat	Saturated fatty acids	Calcium	Iron	Non-milk extrinsic sugars	Sodium	Folate	Vitamin C	β-carotene	Vitamin A (Retinol equiv.)
Bread	10	3	2	14	16	0	17	10	0	0	1
Flour	2	0	0	1	2	0	0	1	0	0	0
Cakes, buns and pastries	4	4	4	2	3	6	3	1	0	0	2
Biscuits	5	6	8	3	4	7	3	1	0	0	0
Other cereal products [(b)]	12	6	5	8	22	6	10	16	1	2	3
Beverages	0	0	0	1	2	1	0	3	0	0	0
Other food [(c)]	4	5	4	3	4	9	16	5	1	6	2
Soft drinks	2	0	0	1	0	17	1	1	16	3	1
Confectionery	4	4	6	2	2	15	1	1	0	0	1
Alcoholic drinks	3	0	0	1	3	2	0	1	0	0	0

(a) Includes all whole and skimmed liquid and instant milks, yoghurt and fromage frais, milk desserts and cream.

(b) Includes oatmeal and oat products, breakfast cereals, canned milk puddings, other puddings such as sponge puddings and pies, rice, cereal-based invalid foods, slimming foods, infant foods, frozen cakes and pastries, pasta, pizza, cereal convenience foods such as cake, pudding and dessert mixes, custard powder, other cereals such as barley, cous cous, corn and tapioca.

(c) Includes mineral or spring waters, baby foods, soups, other takeaway food brought home, meals on wheels, salad dressings and other spreads & dressings, pickles, sauces, takeaway sauces and mayonnaise, stock cubes and meat & yeast extracts, jelly squares or crystals, ice cream (all types), salt, artificial sweeteners, vinegar, spices and dried herbs, bisto, gravy granules, stuffing mix, baking powder, yeast, fruit, herbal and instant teas, and soya and novel protein foods.

2.6 Comparison of household and eating out intakes with Reference Nutrient Intakes

Based on the food and drink purchases average micronutrient intakes except sodium were all at or above the weighted reference nutrient intakes (RNI) in 2011. In the case of sodium, the reference nutrient intake is set as a maximum level which was exceeded in 2011 by 84 per cent excluding sodium from table salt. Vitamin B_{12} shows the highest intake at 449 per cent of the RNI.

Average energy intake (including energy from alcohol) was 107 per cent of the weighted Estimated Average Requirement (EAR), as set by COMA. Average energy intake excluding energy from alcohol was also above the weighted EAR at 104 per cent.

Table 2.5 Energy and nutrient intakes in the UK in 2011 as a percentage of weighted Reference Nutrient Intakes

		Nutrient intakes in 2011			Intake as a percentage of weighted Reference Nutrient Intake [(a)]		
		Household	Eaten Out	Total	Household	Eaten Out	Total
							per person per day
Energy [(b)]	kcal	2009	236	2245	96	11	107
Energy excluding alcohol [(b)]	kcal	1957	219	2176	93	10	104
Protein	g	68.6	8.7	77.2	150	19	168
Calcium	mg	885	70	955	129	10	139
Iron	mg	10.6	1.2	11.8	104	11	115
Zinc	mg	8.2	1.0	9.2	103	12	115
Magnesium	mg	259	27	287	98	10	108
Sodium [(c)]	g	2.43	0.31	2.74	163	21	184
Potassium	g	2.86	0.35	3.21	89	11	100
Thiamin	mg	1.43	0.19	1.62	170	23	193
Riboflavin	mg	1.78	0.14	1.92	156	12	168
Niacin equivalent	mg	29.4	4.2	33.6	211	30	242
Vitamin B_6	mg	2.1	0.3	2.4	168	26	194
Vitamin B_{12}	µg	5.7	0.6	6.2	409	40	449
Folate	µg	260	38	298	138	20	158
Vitamin C	mg	69	8	77	179	22	200
Vitamin A (retinol equivalent)	µg	800	100	900	129	16	145

(a) Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991. RNI values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group. Weighted RNIs, based on the age/sex composition of the survey sample, have been calculated for comparison with population average intakes.

(b) Estimated Average Requirement

(c) (i) Excludes sodium from table salt (ii) In May 2003 the Scientific Advisory Committee Nutrition recommended that average salt intake for adults should not exceed 6 g/day, equivalent to 2.4 grams of sodium.

2.7 Nutrient intakes from eating out

Eating out accounted for 11 per cent of total energy intake in 2011. About 24 per cent of eating out is recorded in the survey as unspecified meals which includes free school meals and free work meals. Excluding unspecified meals (due to lack of detail) Table 2.6 shows that over half of energy from eating out is derived from a combination of meat and meat products, alcoholic drinks, sandwiches and potatoes (including chips) and Indian, Chinese and Thai dishes.

The estimation methods for unspecified meals are described in the method paper 'Free food and unspecified meals estimation'.

Table 2.6 Intakes from different types of food eaten out

	Energy	Fat	Saturated fatty acids	Calcium	Iron	Non-milk extrinsic sugars	Sodium	Folate	Vitamin C	β carotene	Vitamin A (Retinol equiv.)
											average per person per day
	kcal	grams	grams	mg	mg	grams	mg	µg	mg	µg	µg
Indian, Chinese and Thai meals or dishes	16	0.7	0.1	4	0.2	0.2	30	1.4	0.1	7	1.6
Meat and meat Products	24	1.4	0.5	7	0.1	0.0	55	1.8	0.2	22	12.5
Fish and fish products	4	0.2	0.0	1	0.0	0.0	5	0.4	0.0	0	0.4
Cheese and egg dishes and pizza	7	0.4	0.2	4	0.0	0.0	11	2.3	0.1	5	4.7
Potatoes	16	0.7	0.1	1	0.1	0.0	3	4.3	1.4	0	0.4
Vegetables	3	0.1	0.0	2	0.0	0.0	8	1.4	0.3	40	6.9
Salads	2	0.1	0.0	1	0.0	0.0	2	0.7	0.4	17	3.2
Rice, pasta and noodles	3	0.0	0.0	0	0.0	0.0	1	0.1	0.0	0	0.1
Soups	1	0.0	0.0	0	0.0	0.0	7	0.2	0.0	0	0.0
Breakfast cereals	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0
Fruit	1	0.0	0.0	0	0.0	0.0	0	0.1	0.2	1	0.1
Yoghurt	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0
Bread	3	0.1	0.1	1	0.0	0.0	6	0.3	0.0	0	0.9
Sandwiches	19	0.9	0.3	11	0.1	0.0	41	2.1	0.2	12	6.1
Beverages	1	0.1	0.0	2	0.0	0.1	1	0.3	0.0	0	0.5
Soft drinks including milk	11	0.1	0.0	5	0.0	2.5	2	0.6	1.0	1	0.8
Alcoholic drinks	23	0.0	0.0	4	0.1	1.6	4	4.7	0.2	0	0.0
Confectionery	6	0.2	0.1	2	0.0	0.8	1	0.1	0.0	0	0.2
Ice cream, desserts and cakes	12	0.6	0.3	3	0.0	0.7	9	0.3	0.1	4	4.6
Biscuits	2	0.1	0.0	0	0.0	0.1	1	0.1	0.0	0	0.0
Crisps, nuts and snacks	5	0.3	0.1	0	0.0	0.1	7	0.3	0.0	0	0.1
All Food & Drink Eaten Out (a)	**157**	**6.2**	**2.0**	**49**	**0.7**	**6.2**	**194**	**22**	**4.2**	**111**	**43**
											As a percentage of total intake per person per day from food and drink purchased for consumption outside the home
	%	%	%	%	%	%	%	%	%	%	%
Indian, Chinese and Thai meals or dishes	10	12	7	9	20	3	15	7	2	6	4
Meat and meat Products	15	23	27	14	18	0	28	9	4	20	29
Fish and fish products	3	3	2	2	2	0	2	2	0	0	1
Cheese and egg dishes and pizza	5	7	7	9	6	0	6	11	3	5	11
Potatoes	10	11	5	2	7	0	1	20	32	0	1
Vegetables	2	2	1	3	6	1	4	6	7	36	16
Salads	1	1	1	2	2	0	1	3	9	15	7
Rice, pasta and noodles	2	1	0	1	1	0	1	1	0	0	0
Soups	0	0	0	0	1	0	3	1	0	0	0
Breakfast cereals	0	0	0	0	0	0	0	0	0	0	0
Fruit	0	0	0	0	0	0	0	1	5	1	0
Yoghurt	0	0	0	1	0	0	0	0	0	0	0
Bread	2	2	3	3	2	0	3	1	0	0	2
Sandwiches	12	15	14	21	14	0	21	10	5	11	14
Beverages	1	1	2	4	2	2	1	2	1	0	1
Soft drinks including milk	7	1	2	10	1	40	1	3	25	1	2
Alcoholic drinks	15	0	0	8	8	26	2	22	4	0	0
Confectionery	4	4	6	4	2	13	1	0	0	0	0
Ice cream, desserts and cakes	7	10	14	6	4	11	5	2	1	3	11
Biscuits	1	1	2	1	1	2	0	0	0	0	0
Crisps, nuts and snacks	3	5	6	1	2	1	4	2	1	0	0

(a) The category 'Other food products' has been removed from this table as it predominantly comprises of unspecified meals which is an imputed category

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Chapter 3 Geographic Comparisons

3.1 Overview

This chapter presents estimates of food and drink purchases and nutrient intakes for the four countries of the United Kingdom and the nine Government Office Regions of England.

Differences between regions can be due to systematic regional variation in demographic characteristics, but this Chapter does not address this. Chapter 4 analyses differences in purchases of fruit and vegetables, and in estimated intakes of sodium, non-milk extrinsic sugars, fibre and saturated fatty acids according to regional and demographic characteristics of households.

There is variation in the sample size between each of the four countries of the United Kingdom and between one year and the next; notably in 2010 Northern Ireland had a significantly reduced sample size of 147 participating households. To ensure a large enough sample for robust estimates in each country, this chapter concentrates on three year averages between 2009 and 2011.

The ratio between the highest and lowest amounts purchased between the four UK countries varied from 1.1 (milk and cream, eggs, fruit, and cereals) to 1.6 (sugar and preserves). Variation in the ratio of highest to lowest estimated nutrient intake was 1.1 or less for all nutrients except retinol (1.3), retinol equivalent (1.2), and vitamin D (1.2).

Rural areas tended to have higher food and drink purchases and associated higher energy and nutrient intakes.

3.2 UK country comparisons

The analysis uses regions as defined in the Nomenclature of Territorial Units for Statistics (NUTS) which is an internationally agreed standard developed by the European Union. The level 1 regions of the UK are nine regions of England, plus Wales, Scotland and Northern Ireland, making 12 NUTS 1 regions in all. For more information on NUTS codes see: http://www.statistics.gov.uk/geography/nuts.asp

Food and drink for the household

Averaged over the three years to 2011 the ratio between the highest and lowest amounts purchased for household supplies between the four UK countries varied from 1.1 (milk and cream, eggs, fruit, and cereals) to 1.6 (sugar and preserves).

Where the ratio between highest and lowest levels of purchasing was greater than 1.25:

- Northern Ireland households purchased the least cheese, sugar and preserves, vegetables and alcoholic drinks. They purchased the most carcase meat and potatoes.
- Wales households purchased the most sugar and preserves, vegetables and alcoholic drinks.
- Scotland households purchased the least carcase meat and potatoes.
- England households purchased the most cheese.

Eating out food and drink

Northern Ireland had the highest purchases of food eaten out in 7 out of the 12 food categories, including ‘meat and meat products’, beverages, soft drinks, alcoholic drinks, potatoes and confectionery, but the lowest purchases of ‘fish and fish products’. Scotland had the highest purchases of ‘fish and fish products’, sandwiches and ‘ice cream, desserts and cakes’. Scottish households purchased the lowest amount of vegetables (excluding potatoes), more than one and a half times less than Welsh households who purchased the most.

Table 3.1: Purchases of selected foods by UK country - 3 year average

		England	Wales	Scotland	Northern Ireland	Lowest	Highest	Ratio lowest highest
Number of households in sample		13574	784	1512	910			
Average age of HRP		53	54	52	52			
Average number of adults per household		2	2	2	2			
Average number of children per household		0.5	0.4	0.4	0.5			
Average gross weekly household income (£)		702	600	690	577			
Household purchases	*grams per person per week unless otherwise stated*							
Milk and cream	(ml)	1921	2126	1928	2036	England	Wales	1.1
Cheese		119	114	116	90	N. Ireland	England	1.3
Carcase meat		210	207	186	243	Scotland	N. Ireland	1.3
Non-carcase meat and meat products		779	924	837	911	England	Wales	1.2
Fish		154	151	144	125	N. Ireland	England	1.2
Eggs	(no.)	1.7	1.8	1.7	1.6	N. Ireland	Wales	1.1
Fats and oils		179	198	168	159	N. Ireland	Wales	1.2
Sugar and preserves		125	161	119	100	N. Ireland	Wales	1.6
Potatoes		738	819	713	1083	Scotland	N. Ireland	1.5
Vegetables excluding potatoes		1121	1140	945	870	N. Ireland	Wales	1.3
Fruit		1154	1073	1098	1025	N. Ireland	England	1.1
Total cereals		1557	1583	1626	1705	England	N. Ireland	1.1
Beverages		55	63	49	52	Scotland	Wales	1.3
Soft drinks [(a)]	(ml)	1627	1871	2025	1743	England	Scotland	1.2
Alcoholic drinks	(ml)	740	842	766	655	N. Ireland	Wales	1.3
Confectionery		130	149	149	156	England	N. Ireland	1.2
Eating out purchases	*grams per person per week unless otherwise stated*							
Indian, Chinese and Thai meals		30	27	26	35	Scotland	N. Ireland	1.3
Meat and meat products		75	80	70	89	Scotland	N. Ireland	1.3
Fish and fish products		14	13	15	9	N. Ireland	Scotland	1.6
Cheese and egg dishes and pizza		22	17	20	19	Wales	England	1.3
Potatoes		63	72	59	74	Scotland	N. Ireland	1.3
Vegetables excluding potatoes		28	31	18	24	Scotland	Wales	1.7
Sandwiches		66	52	78	69	Wales	Scotland	1.5
Ice creams, desserts and cakes		25	21	29	28	Wales	Scotland	1.4
Beverages	(ml)	119	103	115	125	Wales	N. Ireland	1.2
Soft drinks including milk	(ml)	269	272	342	361	England	N. Ireland	1.3
Alcoholic drinks	(ml)	421	423	374	452	Scotland	N. Ireland	1.2
Confectionery		10	10	11	13	England	N. Ireland	1.4

(a) Converted to unconcentrated equivalent by applying a factor of 5 to concentrated and low calorie concentrated soft drinks.

Nutrient intakes

Whilst there are variations in the average amount of different foods purchased in the four UK countries, there is little variation in the estimated nutrient intakes derived from these purchases (See Table 3.2).

The largest variations in nutrient intakes are in vitamin D, beta carotene and retinol equivalent where Wales has the largest intakes. For retinol equivalent the intake in Wales is 19 per cent higher than in Northern Ireland. For vitamin D the intake in Wales is 17 per cent higher than in Scotland. This is in line with higher purchases in Wales of 'vegetables (other than potatoes)', 'non-carcase meat and meat products', eggs and 'fats and oils' which contain higher levels of these nutrients.

Welsh households had the highest percentage of energy derived from non-milk extrinsic sugars at 14.7 per cent while Northern Ireland had the lowest at 13.5 per cent. Northern Ireland had the lowest percentage of energy derived from polyunsaturates at 6.4 per cent.

Alcohol

Welsh households had the highest volume of purchases of alcoholic drinks for the household and Northern Ireland had the least (See Table 3.1). When eating out, Scottish households purchased the least alcoholic drinks while Northern Ireland purchased the most.

In terms of alcohol content for both household and eating out purchases Scottish households had the highest intake of alcohol, 12 per cent higher than in Northern Ireland (See Table 3.2), indicating they purchased drinks containing higher alcohol content.

Table 3.2: Energy and nutrient intakes by UK country - 3 year average

		England	Wales	Scotland	Northern Ireland	Lowest	Highest	Ratio lowest highest
Number of households in sample		13574	784	1512	910			
Average age of HRP		53	54	52	52			
Average number of adults per household		1.9	1.9	1.8	2.0			
Average number of children per household		0.5	0.4	0.4	0.5			
Average gross weekly household income (£)		702	600	690	577			
Total energy & nutrient intakes [a]		*intake per person per day*						
Energy	kcal	2269	2360	2317	2383	England	NI	1.05
	MJ	9.5	9.9	9.7	10.0	England	NI	1.05
Energy intake excluding alcohol	kcal	2199	2289	2240	2315	England	NI	1.05
Total Protein	g	77.7	81.1	78.5	84.4	England	NI	1.09
Fat	g	94	98	95	96	England	Wales	1.04
Fatty acids:								
Saturates	g	34.9	36.7	36.0	36.7	England	Wales	1.05
Monounsaturates	g	36.1	37.5	36.4	36.9	England	Wales	1.04
Polyunsaturates	g	16.8	17.3	16.4	16.4	Scot	Wales	1.06
Cholesterol	mg	256	270	257	271	England	NI	1.06
Carbohydrate [b]	g	278	289	285	296	England	NI	1.07
Total sugars	g	125	135	129	127	England	Wales	1.08
Non-milk extrinsic sugars	g	82	90	86	83	England	Wales	1.10
Starch	g	152	153	156	168	England	NI	1.11
Fibre [c]	g	15.2	15.5	14.8	15.8	Scot	NI	1.07
Alcohol	g	10.0	10.1	11.0	9.8	NI	Scot	1.12
Calcium	mg	962	1016	987	1011	England	Wales	1.06
Iron	mg	11.8	12.2	11.9	12.5	England	NI	1.05
Zinc	mg	9.2	9.6	9.3	9.9	England	NI	1.08
Magnesium	mg	287	297	288	298	England	NI	1.04
Sodium [d]	g	2.76	2.94	2.97	3.04	England	NI	1.10
Potassium	g	3.21	3.34	3.17	3.41	Scot	NI	1.08
Thiamin	mg	1.65	1.71	1.65	1.79	England	NI	1.09
Riboflavin	mg	1.90	2.03	1.90	2.00	England	Wales	1.07
Niacin equivalent	mg	33.9	35.4	34.2	37.0	England	NI	1.09
Vitamin B_6	mg	2.4	2.6	2.4	2.7	Scot	NI	1.13
Vitamin B_{12}	µg	6.3	6.8	6.3	6.5	Scot	Wales	1.09
Folate	µg	300	308	290	313	Scot	NI	1.08
Vitamin C	mg	79	79	78	77	NI	England	1.03
Vitamin A:								
Retinol	µg	533	632	513	496	NI	Wales	1.27
β-carotene	µg	2234	2343	2104	2136	Scot	Wales	1.11
Retinol equivalent	µg	908	1023	865	858	NI	Wales	1.19
Vitamin D	µg	3.09	3.49	2.97	3.17	Scot	Wales	1.17
Vitamin E	mg	12.32	12.56	12.07	12.07	NI	Wales	1.04

Table 3.2 continues over the page

Table 3.2 continued

		England	Wales	Scotland	Northern Ireland	Lowest	Highest	Ratio lowest highest
		Percentage contributions of macronutrients to energy intake excluding alcohol						
Fat	%	38.4	38.5	38.1	37.5	NI	Wales	1.03
Fatty acids:								
Saturates	%	14.3	14.4	14.5	14.3	NI	Scot	1.02
Monounsaturates	%	14.8	14.8	14.6	14.4	NI	England	1.03
Polyunsaturates	%	6.9	6.8	6.6	6.4	NI	England	1.08
Carbohydrate	%	47.3	47.3	47.7	47.9	Wales	NI	1.01
Non-milk extrinsic sugars	%	14.0	14.7	14.4	13.5	NI	Wales	1.09
Protein	%	14.1	14.2	14.0	14.6	Scot	NI	1.04
		As a percentage of weighted reference nutrient intake (f)						
Energy (e)	%	107	113	110	111	England	Wales	1.05
Energy excluding alcohol (e)	%	104	109	106	108	England	Wales	1.05
Protein	%	168	177	172	181	England	NI	1.08
Calcium	%	139	148	143	146	England	Wales	1.06
Iron	%	114	118	114	117	England	Wales	1.04
Zinc	%	115	122	118	123	England	NI	1.07
Magnesium	%	108	112	108	111	England	Wales	1.04
Sodium (d)	%	184	196	198	199	England	NI	1.09
Potassium	%	99	104	99	105	Scot	NI	1.06
Thiamin	%	195	204	197	208	England	NI	1.07
Riboflavin	%	166	178	167	174	England	Wales	1.07
Niacin equivalent	%	242	256	246	261	England	NI	1.08
Vitamin B_6	%	196	209	196	216	England	NI	1.11
Vitamin B_{12}	%	452	491	453	462	England	Wales	1.09
Folate	%	159	164	154	163	Scot	Wales	1.06
Vitamin C	%	203	205	202	195	NI	Wales	1.05
Vitamin A (retinol equivalent)	%	145	166	140	136	NI	Wales	1.22

(a) Contributions from pharmaceutical sources are not recorded by the survey.

(b) Available carbohydrate, calculated as monosaccharide equivalent.

(c) As non-starch polysaccharides.

(d) (i) Excludes sodium from table salt (ii) In May 2003 the Scientific Advisory Committee on Nutrition recommended that average salt intake for adults should not exceed 6 grams per day, equivalent to 2.4 grams of sodium.

(e) As a percentage of Estimated Average Requirement.

(f) Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991. RNI values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group. Weighted RNIs, based on the age/sex composition of the survey sample, have been calculated for comparison with population average intakes.

Spending

Spending on all food and drink was highest in Northern Ireland at £44.40 per person per week compared to Wales who spent the least at £37.05. The same pattern was evident with expenditure on eating out; Northern Ireland was the highest at £15.11, one and a half times higher than Wales, the lowest at £10.11. For household expenditure, Scotland had the highest spend on alcoholic drinks at £3.38 per week compared to Wales at £2.79. Expenditure on household food and drink (excluding alcoholic drinks) followed the same pattern as eating out, with Northern Ireland spending the most and Wales spending the least.

No account has been taken of possible variations in the cost of living between countries.

Table 3.3: Spending by UK countries - 3 year average 2009-2011

	England	Wales	Scotland	Northern Ireland	Lowest	Highest	Ratio lowest highest
Number of households in sample	13574	784	1512	910			
Average age of HRP	53	54	52	52			
Average number of adults per household	1.9	1.9	1.8	2.0			
Average number of children per household	0.5	0.4	0.4	0.5			
Average gross weekly household income (£)	702	600	690	577			
Household expenditure							*pounds per person per week*
Household food & drink excluding alcohol	24.28	24.15	25.40	26.32	Wales	N. Ireland	1.1
Household alcoholic drinks	2.99	2.79	3.38	2.97	Wales	Scotland	1.2
all food & drink	27.27	26.93	28.78	29.28	Wales	N. Ireland	1.1
Eating out expenditure							
Eating out food & drink excluding alcohol	8.49	7.35	8.72	11.01	Wales	N. Ireland	1.5
Eating out alcoholic drinks	3.09	2.76	3.20	4.11	Wales	N. Ireland	1.5
all food & drink	11.58	10.11	11.92	15.11	Wales	N. Ireland	1.5
Total expenditure							
all food & drink excluding alcohol	32.77	31.50	34.11	37.32	Wales	N. Ireland	1.2
alcoholic drinks	6.08	5.55	6.58	7.07	Wales	N. Ireland	1.3
all food & drink	38.85	37.05	40.69	44.40	Wales	N. Ireland	1.2

Chart 3.1: Spending on food and alcohol by UK countries - 3 year average 2009-2011

3.3 England regional comparisons

England is divided into nine regions.

Detailed population statistics can be found at: http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15106.

Food and drink for the household

The ratio between highest and lowest levels of purchasing for household supplies across the English regions varied from 1.1 (cereals) to 2.0 (alcoholic drinks being highest in the North East).

- London had the lowest purchases of alcoholic drinks, confectionery, soft drinks, and potatoes, but had the highest purchases of fruit.
- North East had the highest purchases of alcoholic drinks and confectionery and the lowest of fruit and for cheese.
- South West had the highest purchases of cheese and vegetables.
- West Midlands had the highest purchases of potatoes.
- East Midlands had the highest purchases of soft drinks.
- North West had the lowest purchases of vegetables.

Eating out food and drink

The biggest differential in eating out purchases in English regions is in the ‘Indian, Chinese and Thai meals’ category; North East had the lowest purchases at 23 grams per person per week whilst London had nearly twice as much at 43 grams. Yorkshire and the Humber and London had the highest purchases of fish and fish products at 16 and 17 grams per person per week respectively, above the average for England at 14 grams.

Table 3.4: Purchases of selected foods by region - 3 year average, highest and lowest

	Lowest region	Lowest value		Highest region	Highest value		Ratio of lowest to highest
Household purchases				*grams per person per week unless otherwise stated*			
Milk and cream	London	1658	(ml)	East Midlands	2098	(ml)	1.3
Cheese	North East	97		South West	142		1.5
Carcase meat	Yorkshire & the Humber	193		North East	240		1.2
Non-carcase meat and meat products	London	698		North East	839		1.2
Fish	South West	144		London	171		1.2
Eggs	West Midlands	2	(no.)	South West	2	(no.)	1.2
Fats and oils	North East	159		East Midlands	192		1.2
Sugar and preserves	London	113		South West	139		1.2
Potatoes	London	555		West Midlands	854		1.5
Vegetables exlcuding potatoes	North West	981		South West	1230		1.3
Fruit	North East	942		London	1325		1.4
Total cereals	London	1465		West Midlands	1632		1.1
Beverages	London	44		South West	60		1.3
Soft drinks [(a)]	London	1263	(ml)	East Midlands	1796	(ml)	1.4
Alcoholic drinks	London	486	(ml)	North East	950	(ml)	2.0
Confectionery	London	98		North East	154		1.6
Eating out purchases				*grams per person per week unless otherwise stated*			
Indian, Chinese and Thai meals	North East	23		London	43		1.9
Meat and meat products	East	71		North West	80		1.1
Fish and fish products	West Midlands	11		London	17		1.4
Cheese and egg dishes and pizza	South West	20		South East	25		1.2
Potatoes	East	58		Yorkshire & the Humber	69		1.2
Vegetables exlcuding potatoes	North West	25		South West	34		1.4
Sandwiches	West Midlands	54		London	77		1.4
Ice creams, desserts and cakes	West Midlands	21		South West	31		1.5
Beverages	West Midlands	100	(ml)	South East	129	(ml)	1.3
Soft drinks including milk	South West	243	(ml)	London	301	(ml)	1.2
Alcoholic drinks	London	348	(ml)	North East	559	(ml)	1.6
Confectionery	East	9		North West	11		1.2
Household expenditure							*Pence per person per week*
Total all food & drink excluding alcohol	North East	2229		South East	2589		1.2
Total alcoholic drinks	London	240		South West	333		1.4
Total all food & drink	Yorkshire & the Humber	2521		South East	2916		1.2
Eating out expenditure							*Pence per person per week*
Total all food & drink excluding alcohol	West Midlands	701		London	1067		1.5
Total alcoholic drinks	East Midlands	277		North West	334		1.2
Total all food & drink	West Midlands	1001		London	1400		1.4

(a) Converted to unconcentrated equivalent by applying a factor of 5 to concentrated and low calorie concentrated soft drinks.

Table 3.5: Purchases of selected foods by region - 3 year average 2009-2011

		England	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Number of households in sample		13574	777	1826	1490	1261	1525	1557	1476	2141	1521
Average age of HRP		53	53	53	52	53	53	53	50	54	55
Average number of adults per household		1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8
Average number of children per household		0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.4
Average gross weekly household income (£)		702	562	649	586	662	618	745	922	797	679
HOUSEHOLD PURCHASES											*grams per person per week unless otherwise stated*
Milk and cream	(ml)	1921	1927	2027	1919	2098	1918	1923	1658	1879	2057
Cheese		119	97	108	112	131	109	133	100	134	142
Carcase meat		210	240	212	193	197	206	219	200	211	225
Non-carcase meat and meat products		779	839	813	771	789	810	790	698	783	779
Fish		154	156	145	148	152	145	165	171	152	144
Eggs	(no.)	2	2	2	2	2	2	2	2	2	2
Fats and oils		179	159	184	172	192	189	173	180	164	190
Sugar and preserves		125	119	116	121	136	133	130	113	127	139
Potatoes		738	818	759	733	774	854	725	555	730	818
Vegetables excluding potatoes		1121	1026	981	1033	1176	1088	1160	1171	1179	1230
Fruit		1154	942	1030	987	1173	1004	1272	1325	1239	1226
Total cereals		1557	1564	1544	1518	1615	1632	1585	1465	1526	1628
Beverages		55	52	56	52	59	56	57	44	58	60
Soft drinks [a]	(ml)	1627	1685	1617	1592	1796	1789	1738	1263	1669	1677
Alcoholic drinks	(ml)	740	950	827	827	788	717	739	486	732	788
Confectionery		130	154	134	133	140	133	134	98	130	135
EATING OUT PURCHASES											*grams per person per week unless otherwise stated*
Indian, Chinese and Thai meals		30	23	27	25	29	30	28	43	30	24
Meat and meat products		75	72	80	76	72	72	71	75	74	80
Fish and fish products		14	14	12	16	13	11	12	17	13	14
Cheese and egg dishes and pizza		22	24	20	22	21	20	22	24	25	20
Potatoes		63	65	64	69	65	63	58	60	59	66
Vegetables excluding potatoes		28	27	25	26	30	27	26	27	27	34
Sandwiches		66	74	64	68	62	54	65	77	67	58
Ice creams, desserts and cakes		25	22	22	25	23	21	28	28	27	31
Beverages	(ml)	119	120	106	121	126	100	122	121	129	127
Soft drinks including milk	(ml)	269	292	287	267	267	251	245	301	266	243
Alcoholic drinks	(ml)	421	559	512	463	412	455	356	348	363	418
Confectionery		10	11	11	10	9	9	9	10	10	11
HOUSEHOLD EXPENDITURE											*pence per person per week*
Total all food & drink excluding alcohol		2428	2229	2325	2231	2436	2309	2580	2448	2589	2547
Total alcoholic drinks		299	315	320	290	304	267	307	240	328	333
Total all food & drink		2727	2544	2646	2521	2740	2576	2886	2688	2916	2880
EATING OUT EXPENDITURE											*pence per person per week*
Total all food & drink excluding alcohol		849	719	779	766	748	701	880	1067	930	859
Total alcoholic drinks		309	332	334	301	277	300	293	333	302	299
Total all food & drink		1158	1051	1113	1067	1026	1001	1173	1400	1232	1158

(a) Converted to unconcentrated equivalent by applying a factor of 5 to concentrated and low calorie concentrated soft drinks.

Nutrient intakes

Given that the South West features highest in a number of food groups for purchases of household supplies and that London features as the lowest, it follows that they often feature in the same position for nutrient intakes as well as total energy.

- South West had the highest intakes for all nutrients except polyunsaturates, starch, fibre, alcohol, vitamins C, D and E.
- North West had the highest intake of total fat with 38.9 per cent of energy derived from total fat.
- London had the highest levels of monounsaturates and polyunsaturates but the lowest level of saturated fatty acids.
- London had the lowest intake of NMES with 12.7 per cent of energy derived from NMES compared to the East and South East at 14.4 per cent.

Table 3.6: Energy and nutrient intakes by region - 3 year average 2009-2011

ENGLAND & REGIONS		England	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Number of households in sample		13574	777	1826	1490	1261	1525	1557	1476	2141	1521
Average age of HRP		53	53	53	52	53	53	53	50	54	55
Average number of adults per household		1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8
Average number of children per household		0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.4
Average gross weekly household income (£)		702	562	649	586	662	618	745	922	797	679
TOTAL ENERGY & NUTRIENT INTAKES [(a)]											*intake per person per day*
Energy	kcal	2269	2253	2260	2210	2335	2292	2303	2164	2262	2378
	MJ	9.5	9.4	9.5	9.3	9.8	9.6	9.6	9.1	9.5	10.0
Energy excluding alcohol	kcal	2199	2171	2181	2137	2264	2223	2234	2112	2192	2304
Total Protein	g	77.7	78.1	77.9	75.8	79.2	77.5	79.0	74.9	77.7	80.3
Fat	g	94	92	94	92	96	93	95	91	94	99
Fatty acids:											
Saturates	g	34.9	34.9	35.1	34.5	36.2	34.3	35.8	31.5	35.5	37.7
Monounsaturates	g	36.1	35.0	36.2	35.0	36.5	35.9	36.6	35.7	36.0	37.7
Polyunsaturates	g	16.8	15.7	16.9	16.2	17.2	17.2	16.6	17.7	16.2	17.2
Cholesterol	mg	256	255	259	252	257	249	261	246	257	267
Carbohydrate [(b)]	g	278	275	272	269	288	286	283	265	276	291
Total sugars	g	125	124	122	121	132	126	131	113	128	134
Non-milk extrinsic sugars	g	82	83	80	80	86	84	86	71	84	88
Starch	g	152	151	149	147	156	159	151	151	147	156
Fibre [(c)]	g	15.2	14.5	14.6	14.6	15.7	15.3	15.4	15.1	15.3	16.1
Alcohol	g	10.0	11.8	11.3	10.3	10.2	9.8	9.8	7.5	10.0	10.6
Calcium	mg	962	951	970	951	1020	967	984	858	967	1025
Iron	mg	11.8	11.5	11.6	11.5	12.2	11.9	12.1	11.3	12.0	12.5
Zinc	mg	9.2	9.3	9.3	9.0	9.4	9.2	9.4	8.8	9.3	9.7
Magnesium	mg	287	285	283	277	296	285	293	276	290	301
Sodium [(d)]	g	2.76	2.82	2.80	2.74	2.83	2.78	2.84	2.46	2.82	2.91
Potassium	g	3.21	3.19	3.18	3.11	3.30	3.20	3.26	3.05	3.24	3.37
Thiamin	mg	1.65	1.59	1.64	1.59	1.68	1.66	1.67	1.59	1.66	1.74
Riboflavin	mg	1.90	1.86	1.94	1.86	1.99	1.89	1.95	1.73	1.92	2.02
Niacin equivalent	mg	33.9	34.2	33.9	32.9	34.4	33.8	34.7	32.7	34.0	34.9
Vitamin B_6	mg	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.2	2.4	2.6
Vitamin B_{12}	µg	6.3	6.4	6.4	6.1	6.4	6.2	6.5	5.9	6.2	6.5
Folate	µg	300	285	293	287	307	299	307	288	306	321
Vitamin C	mg	79	71	75	71	80	74	83	84	82	82

Table 3.6 continues over the page

Table 3.6 continued

ENGLAND & REGIONS		England	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West
Vitamin A:											
Retinol	µg	533	517	508	516	524	532	571	493	556	580
β-carotene	µg	2234	2145	2118	2176	2302	2155	2276	2209	2292	2413
Retinol equivalent	µg	908	877	863	880	910	893	952	863	940	985
Vitamin D	µg	3.09	2.94	3.08	3.01	3.20	3.09	3.30	2.84	3.09	3.25
Vitamin E	mg	12.32	11.51	12.29	11.88	12.60	12.50	12.28	12.83	11.97	12.58
Percentage contributions of macronutrients to energy intake excluding alcohol											
Fat	%	38.4	37.9	38.9	38.5	38.2	37.8	38.3	38.7	38.5	38.6
Fatty acids:											
Saturates	%	14.3	14.5	14.5	14.5	14.4	13.9	14.4	13.4	14.6	14.7
Monounsaturates	%	14.8	14.5	15.0	14.7	14.5	14.5	14.7	15.2	14.8	14.7
Polyunsaturates	%	6.9	6.5	7.0	6.8	6.8	7.0	6.7	7.6	6.7	6.7
Carbohydrate	%	47.3	47.6	46.7	47.2	47.8	48.2	47.5	47.1	47.2	47.3
Non-milk extrinsic sugars	%	14.0	14.3	13.7	14.0	14.3	14.2	14.4	12.7	14.4	14.3
Protein		14.1	14.4	14.3	14.2	14.0	13.9	14.1	14.2	14.2	13.9
As a percentage of weighted reference nutrient intake (f)											
Energy (e)	%	107	109	108	107	111	109	114	103	108	114
Energy excluding alcohol (e)	%	104	105	104	103	107	106	110	100	105	110
Protein	%	168	171	170	167	171	167	180	165	169	175
Calcium	%	139	139	140	139	146	140	148	124	140	149
Iron	%	114	114	113	114	119	115	119	110	118	123
Zinc	%	115	118	115	115	117	114	123	111	117	121
Magnesium	%	108	108	106	105	111	106	115	104	109	114
Sodium (d)	%	184	189	189	188	191	185	198	166	190	196
Potassium	%	99	100	99	98	102	99	106	95	100	105
Thiamin	%	195	194	195	194	201	196	206	188	198	209
Riboflavin	%	166	164	165	164	170	163	176	150	168	175
Niacin equivalent	%	242	248	242	240	248	240	258	238	246	251
Vitamin B_6	%	196	203	200	197	207	201	210	185	199	209
Vitamin B_{12}	%	452	474	454	455	462	440	498	435	457	472
Folate	%	159	153	154	155	162	157	169	154	161	170
Vitamin C	%	203	186	194	190	210	189	222	220	211	217
Vitamin A (retinol equivalent)	%	145	147	134	145	146	141	164	139	153	159

(a) Contributions from pharmaceutical sources are not recorded by the survey.

(b) Available carbohydrate, calculated as monosaccharide equivalent.

(c) As non-starch polysaccharides.

(d) (i) Excludes sodium from table salt (ii)In May 2003 the Scientific Advisory Committee on Nutrition recommended that average salt intake for adults should not exceed 6 grams per day, equivalent to 2.4 grams of sodium.

(e) As a percentage of Estimated Average Requirement.

(f) Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991. RNI values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group. Weighted RNIs, based on the age/sex composition of the survey sample, have been calculated for comparison with population average intakes.

Alcohol

There was substantial variation in alcoholic drinks and alcohol content across the regions. The Family Food Survey estimates should be treated with caution due to a suspected high level of underreporting.

- North East had the highest purchases of alcoholic drinks for the household at 950mls per week; almost double that of London.
- North East had the highest purchases of eating out alcoholic drinks, 1.6 times higher than London.
- South West had the highest spending on alcoholic drinks for the household at £3.33 per person per week.
- North West had the highest spending on eating out alcoholic drinks at £3.34 per person per week.
- East Midlands had the lowest spending on eating out alcoholic drinks at £2.77 per person per week, below the average for England of £3.09.
- North East had the highest alcohol intake at almost 12 grams per person per day; around 1.5 times higher than that of London at 7.5 grams.

Spending

The South East had the highest spending on all food and drink for the household at £25.89 per person per week compared to the lowest spend which was in the North East at £22.29 per person. In London 34 per cent of food and drink spending is on eating out purchases compared to 27 per cent in the East Midlands. In England as a whole 30 per cent of all food and drink expenditure went on eating out purchases.

In London 58 per cent of spending on alcoholic drinks was for eating out purchases while in the South West it was only 47 per cent. The average for England was 51 per cent.

Table 3.7: Percentage of food and drink spending on eating out: England regions

	Food & drink excluding alcohol		Alcoholic drinks		All food & drink including alcohol	
	% of total spent eating out	rank (1 highest)	% of total spent eating out	rank (1 highest)	% of total spent eating out	rank (1 highest)
England	26%		51%		30%	
North East	24%	7	51%	3	29%	5
North West	25%	6	51%	4	30%	4
Yorkshire and The Humber	26%	3	51%	5	30%	2
East Midlands	24%	8	48%	8	27%	9
West Midlands	23%	9	53%	2	28%	8
East	25%	4	49%	6	29%	6
London	30%	1	58%	1	34%	1
South East	26%	2	48%	7	30%	3
South West	25%	5	47%	9	29%	7

3.4 Rural Urban comparisons for England, Scotland and Wales

Each household in the survey in Great Britain (excluding Northern Ireland) is categorised as either rural or urban. An urban rural classification exists for Northern Ireland and may be included in the future. The rural urban definition for England and Wales is described in detail on the ONS website; http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/rural-urban-definition-and-la/rural-urban-definition--england-and-wales-/index.html. The way rural and urban areas in Scotland are defined is different, reflecting the different geography of the country. Details of the Scottish Rural Urban Classification are at; http://www.scotland.gov.uk/Publications/2004/06/19498/38784

One fifth of the household population of England lives in rural areas, two fifths of the Wales population and a quarter of the Scottish populations. Average weekly incomes are included in the tables to aid comparisons and are higher in rural areas than urban areas.

Household purchases

Across GB rural households purchased more food for household supplies in each of the 16 household food categories than urban households. The pattern was not as clear cut for eating out where urban households purchased more of some food types than rural households. The energy content of food and drink purchases was 5.1 per cent higher in rural than urban households and nutrient intakes were generally higher.

The largest difference was for purchases of ‘sugar and preserves’ which was 1.9 times higher in rural Wales at 224 grams per person compared to Scottish urban households at 117grams. Purchases of beverages were 1.5 times higher in rural Wales compared to urban Wales. Rural areas of England had the highest purchases of ‘milk and cream’, cheese, carcase meat, fish, vegetables (excluding potatoes) and alcoholic drinks. See Table 3.8 for a more detailed breakdown.

Spending

England rural areas had the highest level of average spending per person per week on household food and drink over the 3 year period of 2009 to 2011 at £26.14. Urban areas in Wales spent the least at an average of £23.56 per week over the same period.

Chart 3.2 shows the average amount spent on alcoholic drinks for household supplies and eating out by rural and urban area. Total spending on alcoholic drinks was highest in Scottish urban areas at £7.27 per person per week, and lowest in Scottish rural areas at £5.23 per person per week

Eating out

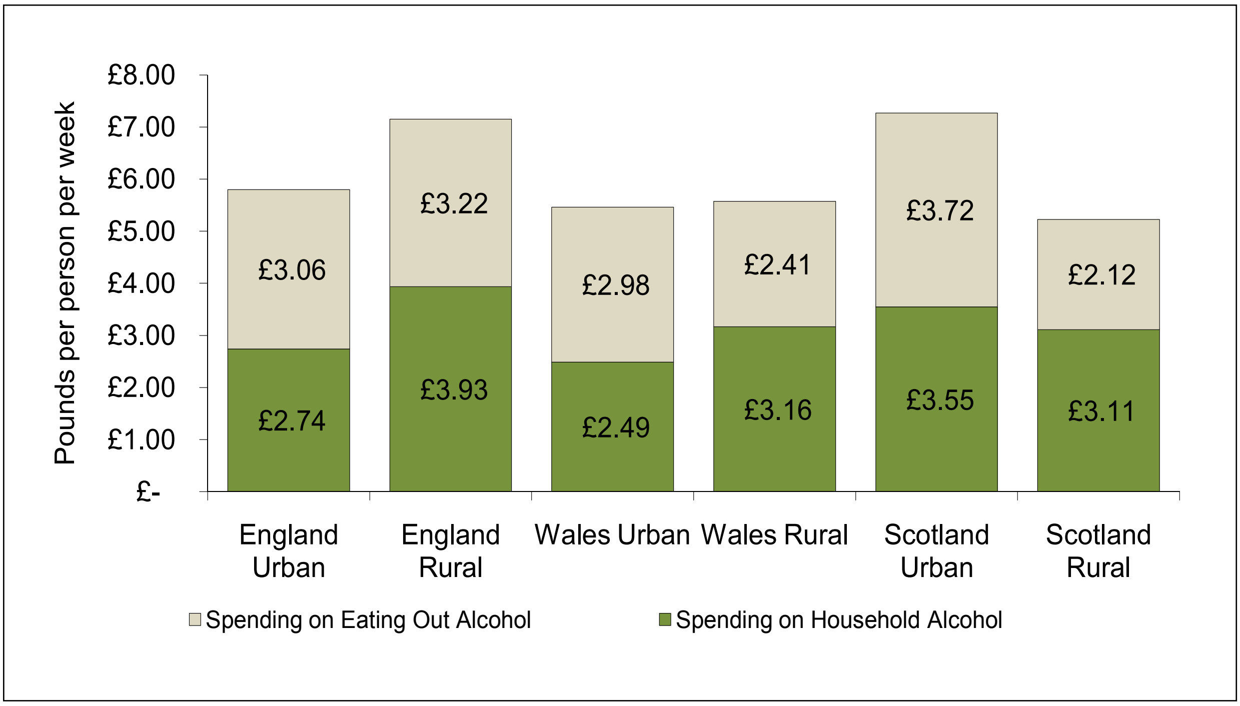
Urban areas of Scotland had the highest purchases in 4 out of the 12 eating out groups including: ‘Indian, Chinese and Thai meals’, ‘cheese and egg dishes and pizza’, sandwiches and soft drinks. Purchases of vegetables were more than twice as high in rural Wales at 37 grams per person per week, compared to rural Scotland at 17 grams. Total spending on eating out was lowest in rural Scotland at £9.58 per person per week, compared to the highest – Scottish urban at £13.12. Urban Wales had the highest purchases of alcoholic drinks but urban Scotland had the highest expenditure.

Table 3.8: Purchases of selected foods by urban/rural breakdown - 3 year average 2009-2011

		GB Urban	GB Rural	England Urban	England Rural	Wales Urban	Wales Rural	Scotland Urban	Scotland Rural
Number of households in sample		12051	3819	10539	3035	468	316	1044	468
Average age of HRP		52	56	52	56	52	57	51	54
Average number of adults per household		1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9
Average number of children per household		0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.5
Average gross weekly household income (£)		674	767	681	777	560	669	657	778
HOUSEHOLD PURCHASES						*grams per person per week unless otherwise stated*			
Milk and cream	(ml)	1884	2092	1874	2089	2020	2076	1922	2088
Cheese		114	133	114	134	111	119	116	133
Carcase meat		206	228	211	233	181	198	167	205
Non-caracse meat and meat products		792	806	785	789	893	815	811	897
Fish		152	160	153	164	160	146	147	139
Eggs	(no.)	2	2	2	2	2	2	2	2
Fats and oils		181	192	182	191	187	203	165	191
Sugar and preserves		119	151	119	148	134	224	117	141
Potatoes		730	767	732	760	765	748	694	817
Vegetables excluding potatoes		1084	1214	1095	1232	1090	1218	946	1109
Fruit		1100	1282	1103	1284	1046	1381	1096	1248
Total cereals		1559	1596	1546	1580	1617	1539	1684	1723
Beverages	(ml)	53	63	54	64	46	71	49	52
Soft drinks [(a)]	(ml)	1683	1758	1637	1657	1807	1741	2175	2383
Alcoholic drinks	(ml)	726	890	717	923	744	824	821	738
Confectionery		130	137	128	134	150	130	147	158
EATING OUT PURCHASES						*grams per person per week unless otherwise stated*			
Indian, Chinese and Thai meals		31	27	31	27	31	25	32	25
Meat and meat products		76	73	75	75	83	87	82	62
Fish and fish products		13	15	13	15	11	19	15	18
Cheese and egg dishes and pizza		22	20	22	22	17	14	25	15
Potatoes		62	64	61	65	74	81	66	59
Vegetables excluding potatoes		26	28	26	29	30	37	22	17
Sandwiches		68	64	67	65	49	52	82	68
Ice creams, desserts and cakes		24	29	25	29	18	29	28	31
Beverages	(ml)	119	115	120	114	93	146	119	110
Soft drinks including milk	(ml)	284	255	278	251	270	216	376	308
Alcoholic drinks	(ml)	428	400	426	418	481	381	421	294
Confectionery		10	10	10	9	10	8	11	13
HOUSEHOLD EXPENDITURE								*pence per person per week*	
Total all food & drink excluding alcohol		2388	2599	2378	2614	2356	2496	2518	2582
Total alcoholic drinks		279	378	274	393	249	316	355	311
Total all food & drink		2667	2977	2652	3008	2604	2812	2873	2893
EATING OUT EXPENDITURE								*pence per person per week*	
Total all food & drink excluding alcohol		839	864	836	898	733	770	939	746
Total alcoholic drinks		311	300	306	322	298	241	372	212
Total all food & drink		1150	1165	1141	1220	1030	1011	1312	958

(a) Converted to unconcentrated equivalent by applying a factor of 5 to concentrated and low calorie concentrated soft drinks.

Chart 3.2: Average spending on alcoholic drinks in urban/rural areas



Nutrient intakes

Comparing percentage contributions of macronutrients to energy intake excluding alcohol there were small differences across rural and urban areas. The percentage of energy from fat was lowest in Scottish urban and Welsh rural areas at 38.0 per cent and highest in English rural areas at 38.7 per cent. The biggest proportional difference was in vitamin A intakes, with Welsh rural regions being the highest at 1206 µg retinol equivalent per person per day compared to an urban Scotland average of 817 µg. See Table 3.9 for more detailed breakdown.

Table 3.9: Energy and nutrient intakes by urban/rural breakdown - 3 year average 2008-2010

		Urban (GB)	Rural (GB)	England urban	England rural	Wales urban	Wales rural	Scotland urban	Scotland rural
Number of households in sample		12051	3819	10539	3035	468	316	1044	468
Average age of HRP		52	56	52	56	52	57	51	54
Average number of adults per household		1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9
Average number of children per household		0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.5
Average weekly income of HRP		674	767	681	777	560	669	657	778
Total energy and nutrient intake [a]									intake per person per day
Energy	kcal	2251	2366	2244	2363	2333	2374	2292	2366
	MJ	9.4	9.9	9.4	9.9	9.8	9.9	9.6	9.9
Energy intake excluding alcohol	kcal	2193	2294	2178	2277	2264	2301	2210	2298
Total Protein	g	77.1	80.6	76.9	80.5	80.6	80.8	77.7	80.1
Fat	g	93	98	93	98	97	97	93	98
Fatty acids:									
Saturates	g	34.4	37.5	34.2	37.6	36.4	37.1	35.4	37.4
Monounsaturates	g	35.8	37.5	35.8	37.4	37.3	37.2	35.9	37.4
Polyunsaturates	g	16.8	16.8	16.9	16.7	17.6	16.6	16.1	17.0
Cholesterol	mg	252	271	252	270	264	275	253	265
Carbohydrate [b]	g	276	287	275	285	283	294	282	291
Total sugars	g	123	135	123	134	128	145	126	134
Non-milk extrinsic sugars	g	81	89	80	88	84	98	84	88
Starch	g	152	151	152	151	155	148	156	157
Fibre [c]	g	15.0	15.7	15.0	15.7	15.4	15.5	14.6	15.3
Alcohol	g	9.6	11.8	9.4	12.2	9.8	10.4	11.6	9.8
Calcium	mg	952	1016	948	1014	1004	1023	970	1016
Iron	mg	11.7	12.4	11.7	12.4	12.1	12.3	11.8	12.2
Zinc	mg	9.2	9.6	9.1	9.6	9.6	9.6	9.2	9.5
Magnesium	mg	284	300	283	302	293	301	286	291
Sodium [d]	g	2.76	2.91	2.73	2.89	2.93	2.91	2.96	3.00
Potassium	g	3.17	3.36	3.16	3.36	3.30	3.39	3.12	3.25
Thiamin	mg	1.63	1.71	1.63	1.71	1.71	1.69	1.63	1.71
Riboflavin	mg	1.87	2.02	1.87	2.02	1.98	2.08	1.86	1.98
Niacin Equivalent	mg	33.6	35.2	33.5	35.2	35.1	35.5	33.8	34.8
Vitamin B_6	mg	2.4	2.5	2.4	2.5	2.6	2.5	2.4	2.5
Vitamin B_{12}	µg	6.2	6.7	6.2	6.6	6.4	7.3	6.2	6.5
Folate	µg	295	315	295	317	306	310	284	303
Vitamin C	mg	78	83	78	83	78	81	77	81
Vitamin A:									
Retinol	µg	518	599	521	578	504	800	485	572
Carotene	µg	2177	2398	2189	2402	2298	2437	1989	2344
Retinol equivalent	µg	882	1001	888	981	888	1206	817	965
Vitamin D	µg	3.03	3.32	3.02	3.32	3.40	3.54	2.91	3.12
Vitamin E	mg	12.33	12.22	12.35	12.20	12.85	11.96	11.87	12.48

Table 3.9 continues over the page

Table 3.9 continued

		Urban (GB)	Rural (GB)	England urban	England rural	Wales urban	Wales rural	Scotland urban	Scotland rural
		Percentage contributions of macronutrients to energy intake excluding alcohol							
Fat	%	38.3	38.6	38.4	38.7	38.8	38.0	38.0	38.5
Fatty acids:									
Saturates	%	14.2	14.8	14.1	14.9	14.5	14.5	14.4	14.6
Monounsaturates	%	14.8	14.8	14.8	14.8	14.8	14.5	14.6	14.7
Polyunsaturates	%	6.9	6.6	7.0	6.6	7.0	6.5	6.5	6.7
Carbohydrate	%	47.4	47.1	47.4	47.0	46.9	47.9	47.8	47.5
Non-milk extrinsic sugars	%	13.9	14.5	13.8	14.4	13.9	15.9	14.3	14.4
Total Protein	%	14.1	14.1	14.1	14.1	14.2	14.0	14.1	14.0
		As a percentage of weighted reference nutrient intake (f)							
Energy (e)	%	108	112	107	113	112	113	110	114
Energy exc alcohol (e)	%	105	108	104	109	108	109	106	110
Protein	%	170	174	169	174	177	173	169	175
Calcium	%	139	147	138	147	147	147	141	148
Iron	%	114	123	114	123	119	121	114	120
Zinc	%	116	120	115	120	120	120	116	120
Magnesium	%	108	112	108	113	112	112	107	110
Sodium	%	186	193	184	192	199	191	197	201
Potassium	%	100	104	100	104	105	104	97	102
Thiamin	%	196	203	195	203	204	200	194	204
Riboflavin	%	165	175	165	175	174	180	163	173
Niacin equivalent	%	243	252	242	253	253	254	244	252
Vitamin B_6	%	197	205	197	206	213	205	194	204
Vitamin B_{12}	%	451	476	451	474	465	519	443	467
Folate	%	158	166	158	167	164	163	150	161
Vitamin C	%	203	214	203	216	204	208	198	212
Vitamin A (retinol equivalent)	%	143	160	144	157	143	193	131	155

(a) Contributions from pharmaceutical sources are not recorded by the survey.

(b) Available carbohydrate, calculated as monosaccharide equivalent.

(c) As non-starch polysaccharides.

(d) (i) Excludes sodium from table salt (ii) In May 2003 the Scientific Advisory Committee on Nutrition recommended that average salt intake for adults should not exceed 6 grams per day, equivalent to 2.4 grams of sodium.

(e) As a percentage of Estimated Average Requirement.

(f) Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991. RNI values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group. Weighted RNIs, based on the age/sex composition of the survey sample, have been calculated for comparison with population average intakes.

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Chapter 4 Demographic Comparisons

4.1 Overview

This chapter examines how key dietary intakes vary with demographic characteristics of households. It examines age, region, income, ethnicity and household composition with respect to sodium, saturated fatty acids, Non-Milk Extrinsic Sugars (NMES), fruit and vegetables and fibre.

In general, higher income has a positive effect on diet and greater age has a mixed effect. Those with higher incomes purchase more fruit and vegetables and achieve higher fibre intake. Intake of NMES falls as income rises for those with higher income (deciles 7 to 10) but sodium intake increases gradually with income. Households with an older household reference person have greater intakes of saturated fatty acids and NMES. Intake of fruit, vegetables and fibre also increased with age of HRP up to age '60 to 69'.

Chapter 3 presents country and regional estimates, where apparent differences are often due to differences in demographic characteristics such as income. Chapter 5 examines long term trends in purchases of fruit and vegetables and trends in intakes of energy, fat, saturated fatty acids, NMES, sodium, fibre and alcohol.

4.2 Statistical Method

Since correlations between the demographic characteristics are common and make simple tables difficult to interpret, multiple regression (see glossary for a detailed definition) is used to isolate the pattern in one demographic characteristic while controlling for differences in the others.

A simple form of multiple regression is used with no attempt to model the interrelationships between different demographic characteristics. Each demographic variable is separated into a number of categories e.g. equivalised income is split into ten bands. A main effects regression provides separate estimates for each category of the variable.

The method finds the average demographic pattern in the data. For example if the percentage of energy from fat increases with age then the method finds the average pattern of increase across all regions, ethnic groups, household composition and incomes.

The analyses in this chapter include both household and eating out food and drink purchases. The only exception is when considering fruit and vegetables, for which only household purchases are analysed. When looking at energy intake, energy from alcohol is excluded.

The analysis uses regions as defined in the Nomenclature of Territorial Units for Statistics (NUTS) which is an internationally agreed standard developed by the European Union. There are twelve NUTS 1 regions in the UK: the nine regions of England, plus Wales, Scotland and Northern Ireland. For more information on NUTS codes see: http://www.statistics.gov.uk/geography/nuts.asp and Chapter 3 for regional comparisons.

This chapter uses the concept of the Household Reference Person (HRP) to categorise the data; see glossary for a detailed definition. Equivalised income uses a measure of standard of living rather than income alone; it adjusts household income for differences in household composition taking into account economies of scale of two or more people living in the same household.

4.3 Baseline Group

In drawing out the comparisons, a baseline group is used which is the most frequently occurring category of household in the data. The characteristics of the baseline household are as follows:

Table 4.1: Baseline household

Demographic variable	Baseline category
Region	South East of England
Household composition	2 adults, no children
Age of HRP	40-49 years
Ethnicity of HRP	White British
Equivalised income	Income decile 4

4.4 Analyses in this section

Six analyses are presented. They focus on public health objectives and aim to identify key demographic differences, which may be useful in developing a clearer understanding of the barriers to healthier eating.

Table 4.2: Summary of analyses

Item	Population Recommendations
Sodium	Less than 2.4 grams sodium per day (6 grams of salt). Figures in this analysis do not include table salt and so are not directly comparable with the recommended maximum level of 2.4 grams; however data still give a good indication of patterns in sodium intake by demographics.
Percentage of energy intake derived from saturated fatty acids	Population average intake should contribute no more than 11 per cent of food energy. Chapter 2 shows that the current percentage exceeds this recommendation.
Percentage of energy intake derived from non-milk extrinsic sugars	Population average intake should contribute no more than 11 per cent of food energy. Chapter 2 shows that the current percentage exceeds this recommendation.
Fruit	At least 400g of fruit and vegetables per day equivalent to the 5 A DAY guidance. Chapter 1 shows a 4.1 per cent drop in purchases of fruit since 2008. Analysis in Chapter 5 shows that the UK population did not achieve 5 A DAY fruit and vegetables in 2011.
Vegetables excluding potatoes	At least 400g of fruit and vegetables per day equivalent to the 5 A DAY guidance. Chapter 1 shows a 2.4 per cent drop in purchases of vegetables since 2008. Analysis in Chapter 5 shows that the UK population did not achieve 5 A DAY fruit and vegetables in 2011.
Fibre	Population average intake of at least 18 grams per day. Chapter 2 shows that intake did not reach this recommendation in 2011.

Results of each analysis concentrate on the demographic variables that showed the most correlation; hence, each section may focus on different variables (age, region, ethnic origin, etc). Intakes are calculated from combined household and eating out purchases: See Chapter 2 for UK averages.

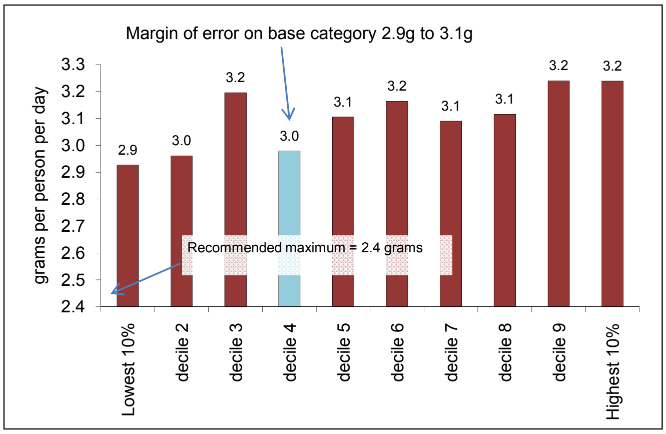
4.5 Sodium

Variation in sodium intake across demographic groups is explored using the baseline group as a benchmark. Sodium intake analysis from this survey excludes the contribution from table salt and salt added during cooking and is therefore an underestimate of total intake.

The approximate 95 per cent confidence interval for the baseline group ranged between 2.9 grams and 3.1 grams per person per day. This means we are confident that the estimate of 3.0 grams is within plus or minus 0.1 grams per person per day.

Equivalised income

Chart 4.1a: sodium by **income** (baseline characteristics other than income) 2011



Age

Chart 4.1b: sodium by **age of HRP** (baseline characteristics other than age of HRP) 2011

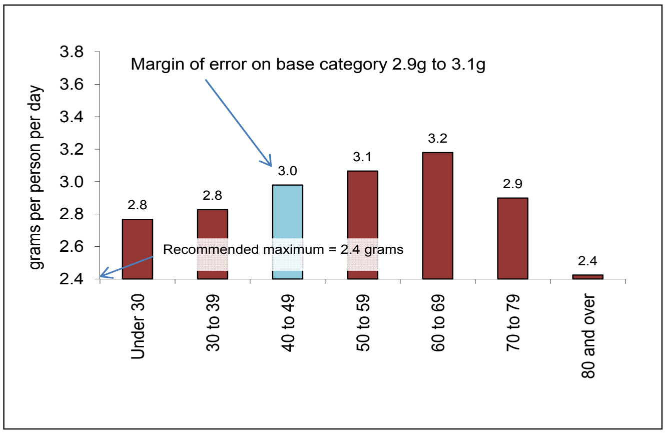


Chart 4.1a: Equivalised income

- The range of sodium intake across income deciles was 0.3 grams per person per day between the highest and lowest groups; ranging from 2.9 grams to 3.2 grams per person per day.
- Sodium intake increases gradually with income.
- The lowest ten per cent of households by equivalised income purchased foods with the lowest sodium content.

Chart 4.1b: Age

- The range of sodium intake across age of HRP groupings was 0.4 grams per person per day between the highest and lowest groups; ranging from 2.8 grams to 3.2 grams per person per day.
- The sodium content of purchased foods increases with age up to ‘60 to 69’ years.
- Households where the HRP was aged ‘60 to 69’ years purchased foods with the highest sodium content.
- Households where the HRP was under 30 years or ‘80 and over’ purchased foods with the lowest sodium content.
- All age groups, with the exception of the ‘80 and over’ group exceeded the recommended maximum level of 2.4 grams per person per day.

Region

In 2011, households in Northern Ireland and Wales purchased foods with higher sodium content than those in England and Scotland.

4.6 Saturated fatty acids

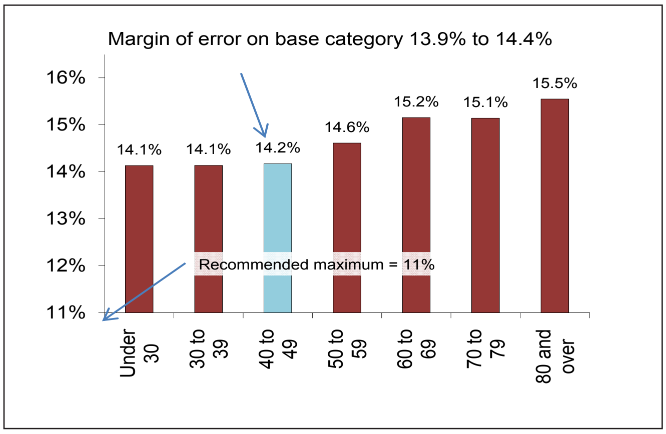
Variation in intake of saturated fatty acids across demographic groups is explored using the baseline group described in 4.3 as a benchmark.

On average, people obtained 14.2 per cent of food energy from saturated fatty acids in 2011 based on combined household and eating out purchases: See Chapter 2 for UK averages.

The approximate 95 per cent confidence interval for the baseline group ranged between 13.9 per cent and 14.4 per cent of food energy derived from saturated fatty acids.

Age

Chart 4.2a: percentage of energy from saturated fatty acids by **age of HRP** (baseline characteristics other than age of HRP) 2011



Ethnicity

Chart 4.2b: percentage of energy from saturated fatty acids by **ethnicity** (baseline characteristics other than ethnicity) 2011

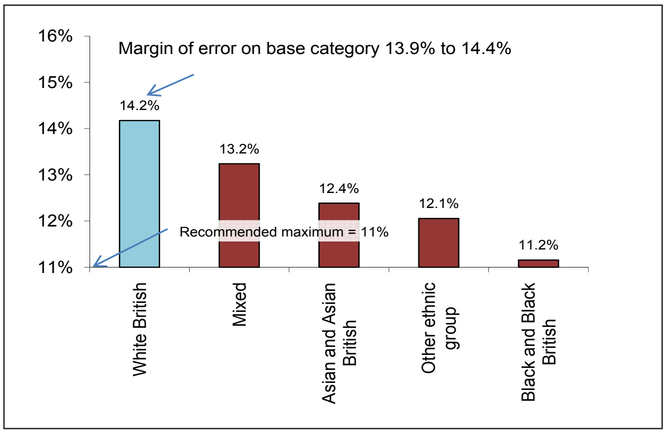


Chart 4.2a: Age

- The percentage of food energy derived from saturated fatty acids ranged by 1.4 percentage points across age groupings of the HRP; the lowest were ‘under 30’; the highest were ‘80 and over’.
- The percentage of food energy intake derived from saturated fatty acids rises with the age of the HRP.

Chart 4.2b: Ethnicity

- The percentage of food energy derived from saturated fatty acids ranged by 3.0 percentage points across ethnic groups; the lowest were ‘Black and Black British’; the highest were ‘White British’.

Region

Region is not an important factor in percentage of energy from saturated fatty acids. Variation across all regions was no more than 0.9 percentage points. In 2010 and 2011, households in Northern Ireland and the West Midlands purchased foods with the lowest amount of food energy derived from saturated fatty acids.

4.7 Non-milk extrinsic sugars (NMES)

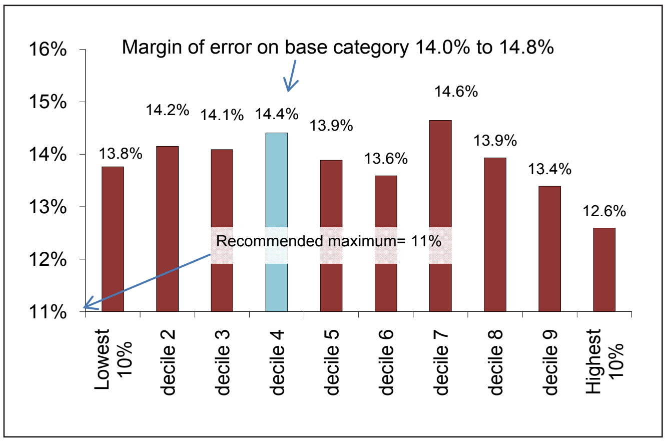
Variation in intake of non-milk extrinsic sugars across demographic groups is explored using the baseline group described in 4.3 as a benchmark.

The approximate 95 per cent confidence interval for the baseline group ranged between 14.0 per cent and 14.8 per cent of food energy derived from NMES. We are confident that the estimate of 14.4 per cent is within plus or minus 0.4 per cent per person per day.

The major food purchases contributing to NMES intake are 'not low calorie' soft drinks and table sugar.

Equivalised Income

Chart 4.3a: percentage of energy from NMES by **income** (baseline characteristics other than income) 2011



Age

Chart 4.3b: percentage of energy from NMES by **age of HRP** (baseline characteristics other than age of HRP) 2011

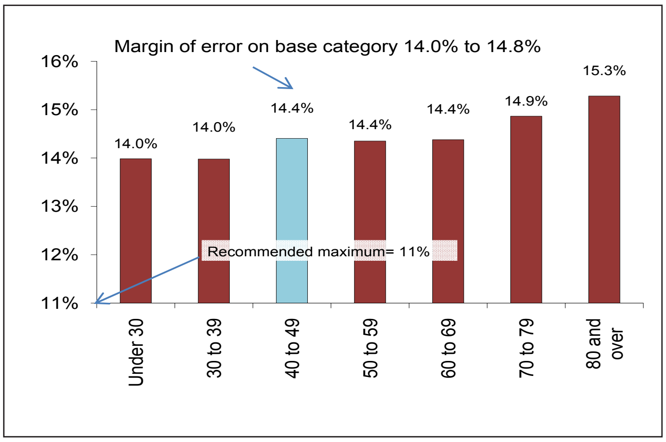


Chart 4.3a: Equivalised Income

- The percentage of food energy derived from NMES ranged 0.8 percentage points across income groupings; ranging from 12.6 per cent for the highest income decile to 14.6 per cent for income decile 7.
- In 2011 households in income decile 7 obtained the largest percentage of energy from NMES, compared to other income groups, at 14.6 per cent.
- Intake of NMES falls with income for those with higher incomes (deciles 7 to 10).
- All income deciles exceeded the recommended maximum level of 11 per cent of energy from NMES.

Chart 4.3b: Age

- The percentage of food energy derived from NMES ranged across the age groupings of the HRP by 1.3 percentage points.
- The percentage of energy intake derived from NMES rose with the age of the HRP.
- All age groups exceeded the recommended level of 11 per cent of food energy from NMES.

The evidence from the Family Food Survey is supported by the National Diet and Nutrition Survey[1] which reported that; "mean NMES intakes exceeded recommended levels (no more than 11 per cent food energy) for all groups most notably for children aged 11 to 18 years where mean intakes provided 15.3 per cent food energy".

Ethnicity

Asian and Asian British households had the lowest percentage of energy from NMES at around 3 percentage points below other groups.

Region

Variation in percentage of energy derived from NMES was 1.4 percentage points across regions. In 2010 and 2011 households in the Eastern region purchased foods with the highest amount of food energy from NMES. In both 2010 and 2011 households in London and Northern Ireland purchased foods with the lowest amount of food energy from NMES.

1 National Diet and Nutrition Survey: Headline Results from Years 1, 2 and 3 (combined) of the rolling programme 2008/09 – 2010/11, Department of Health.

4.8 Fruit

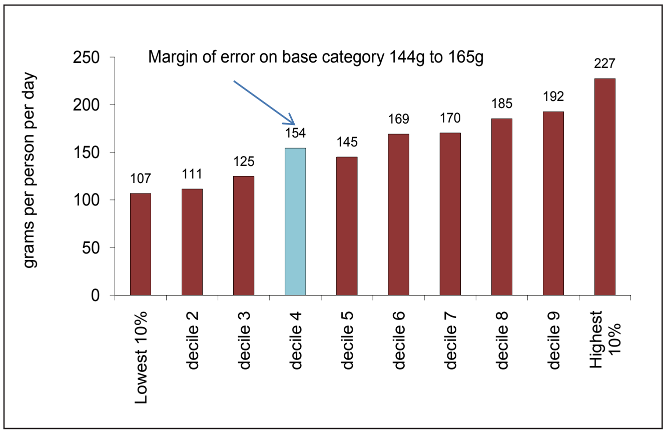
This analysis includes all household purchases of fresh and processed (e.g. dried, frozen and canned) fruit, including fruit juice but excludes nuts, fruit contained in composite products (e.g. fruit pudding) and all eating out fruit purchases.

Variation in fruit purchases across demographic groups is explored using the baseline group as a benchmark.

The approximate 95 per cent confidence interval for the baseline group ranged between 144 grams and 165 grams of fruit purchases per person per day. We are confident that the estimate of 154 grams is within plus or minus 10 grams of fruit per person per day.

Equivalised Income

Chart 4.4a: fruit purchases by **income** (baseline characteristics other than income) 2011



Age

Chart 4.4b: fruit purchases by **age of HRP** (baseline characteristics other than age of HRP) 2011

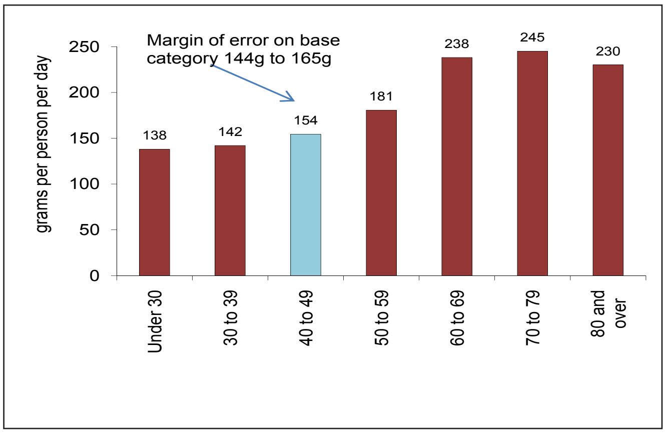


Chart 4.4a: Equivalised Income

- Fruit purchases ranged 120 grams per person per day between the highest and lowest income groups.
- Fruit purchases rise with income.
- The lowest income decile purchased 107 grams of fruit, a little over 1 portion of fruit per person per day.

Chart 4.4b: Age

- Fruit purchases ranged 107 grams across age groupings of the HRP.
- Fruit purchases increase with age up to the '70 to 79' group.
- Households where the age of the HRP is 'under 30' or '30 to 39' purchase the least fruit.

Region

Age and income are more important factors than region in purchases of fruit. The regional pattern in 2011 was similar to 2010. With all other demographic characteristics the same, the North East purchased about half a portion less fruit in 2011.

4.9 Vegetables

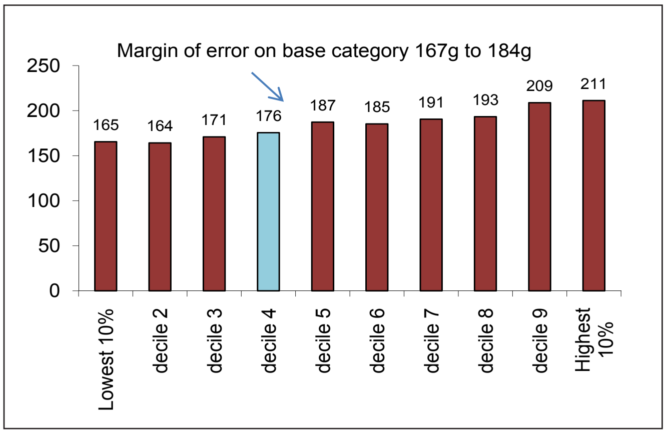
This analysis excludes potatoes, vegetables contained in composite products (e.g. vegetable curry) and eating out purchases of vegetables.

Variation in vegetable purchases across demographic groups is explored using the baseline group as a benchmark.

The approximate 95 per cent confidence interval for the baseline group ranged between 167 grams and 184 grams of vegetable purchases per person per day.

Equivalised Income

Chart 4.5a: vegetable purchases by **income** (baseline characteristics other than income) 2011



Age

Chart 4.5b: vegetable purchases by **age of HRP** (baseline characterisitics other than age of HRP) 2011

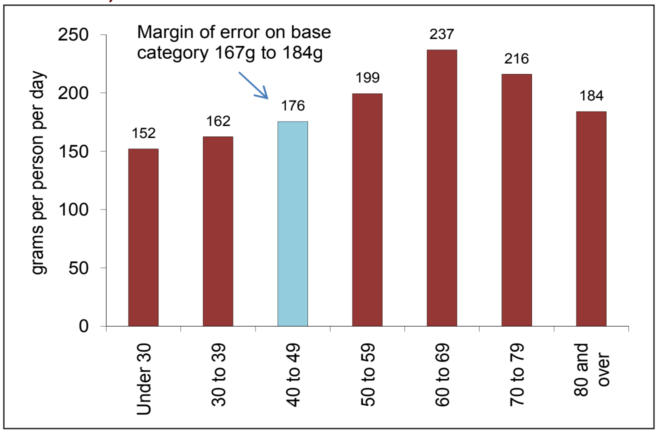


Chart 4.5a: Equivalised Income

- Vegetable purchases ranged 47 grams per person per day between the highest income decile and income decile 2.
- Purchases of vegetables increase with income.
- The difference in vegetable purchases between income decile 2 and the highest income decile equates to half a portion.

Chart 4.5b: Age

- Vegetable purchases ranged across age groupings of the HRP by 85 grams per person per day.
- Vegetable purchases increase with age until the HRP is '60 to 69', after which it decreases.
- Households with the HRP 'under 30' purchased less than 2 portions of vegetables per person per day (152 grams).
- Households with the HRP aged '60 to 69' purchased 3 portions of vegetables per person per day.

Region

Age and income are more important factors than region in purchases of vegetables. Variation across the regions was no more than 64 grams of vegetables per person per day.

4.10 5 A Day – Fruit and vegetables

Equivalised income and age of HRP

Analysing fruit and vegetables collectively shows the extent to which households are achieving 5 A DAY in terms of purchases of fresh and processed fruit and vegetables (excluding fruit and vegetables in composite foods).

In the baseline group:

- Households in income deciles 9 and 10 or those where the HRP is within the top three age groups (i.e. aged 60 or above) are estimated as achieving 5 A DAY in 2011.
- Households in the lowest equivalised income decile purchased only 3.4 portions per person per day in 2011.
- Households where the age of the HRP was 'under 30' purchased only 3.6 portions per person per day in 2011.
- Purchases by households in the lowest income decile and with age of HRP 'under 30' are estimated at 2.9 portions per person per day in 2011.

The Health Survey for England[2] shows similar patterns with higher fruit and vegetable consumption in higher income and older households.

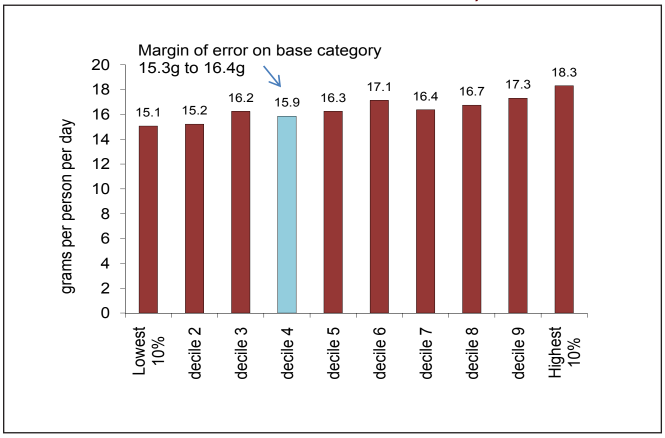
4.11 Fibre

Variation in fibre intake across demographic groups is explored using the baseline group of households.

The approximate 95 per cent confidence interval for the baseline group ranged between 15.3 grams and 16.4 grams per person per day.

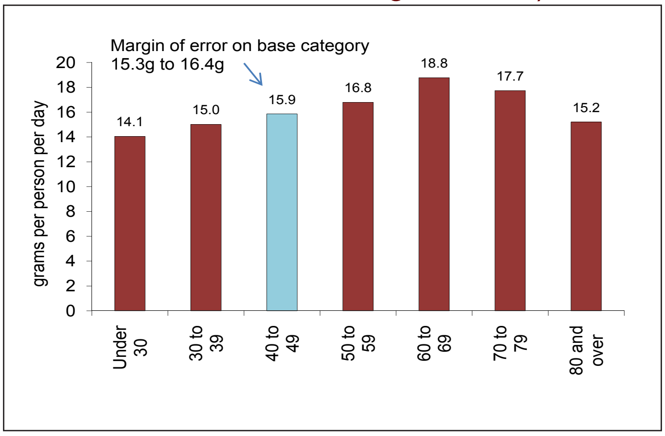
Equivalised Income

Chart 4.6a: fibre by **income** (baseline characteristics other than income) 2011



Age

Chart 4.6b: fibre by **age of HRP** (baseline characteristics other than age of HRP) 2011



2 Health Survey for England 2010, NHS Information Centre.

Chart 4.6a: Equivalised income

- Fibre intake ranged 3.2 grams per person per day between the highest and lowest income groups.
- Fibre intake increases with income.
- Only households in the highest income decile achieved the recommended average of 18 grams of fibre per person per day in 2011.

Chart 4.6b: Age

- Fibre intake ranged 4.7 grams per person per day across age groups of the HRP.
- Fibre intake increases with the age of the HRP to the group aged ‘60 to 69’.
- Households with the HRP aged ‘60 to 69’ purchased foods with the highest amount of fibre at 18.8 grams per person per day. This age group met the recommended average fibre intake of 18 grams per person per day.

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Chapter 5 Dietary Trends

5.1 Overview

This chapter examines the effects of recent changes in food purchasing patterns on indicators of healthy diet, and presents reliable evidence on levels of trading down. The Family Food Survey is a key data source for dietary indicators because it provides annual estimates on a consistent basis since 2001 and comparable estimates for many years previously.

Chapter 5 focuses on years 2007 to 2011 to capture the whole period of food price rises, unlike the evidence presented in Chapters 1, 2 and 3 where the focus is on years 2008 to 2011.

There is also a new focus on low income households to bring out the greater effects food price rises may have on vulnerable groups in society. There are many other reasons in addition to low income to be vulnerable in society but low income households are used here for simplicity with Family Food Survey data available from 2001 onwards. Low income households are identified as the lowest ten per cent of households by equivalised income, a measure of household income that accounts for differences in household size and composition.

While chapter 5 looks at trends chapter 4 looks at patterns in purchases in 2011 alone. Chapter 4 attributes differences in diet to regional and demographic characteristics of households covering fruit and vegetables, sodium, Non-Milk Extrinsic Sugars (NMES), fibre and saturated fatty acids.

Key Points

The percentage of spend on food continues to be high for low income households, rising to 16.6 per cent in 2011, about 1.5 percentage points above the 2007 level. In 2011, the lowest income households (bottom 10 per cent) increased energy intake from household food while those in the second decile decreased energy intake. The bottom two income deciles have the lowest energy intake from household food in 2011.

Lowest income households (decile 1), purchased 29 per cent less fruit and 20 per cent less vegetables in 2011 than in 2007. Reductions were less pronounced in decile 2 households.

On average households traded down to cheaper products to save nearly 7 per cent while low income households did not trade down to cheaper products. While all households spent 12 per cent more in 2011 than in 2007 low income households spent 17 per cent more. Intakes of fat, saturated fatty acids, non-milk extrinsic sugars, sodium and fibre have been relatively stable since 2007.

5.2 Effects of food price rises

Food prices from 2007 to 2011

Food prices rose in real terms from September 2007, peaking in February 2009, before steadying at a new higher level in 2010 and 2011 some 12 per cent higher in real terms than in 2007.

Table 5.1 shows average food prices in 2011 for key food groups. On average, food prices overall rose by 5.0 per cent in 2011, slightly above the all items rate of inflation as measured by CPI. The highest rises in price were recorded against lamb, butter, coffee and hot drinks and biscuits and cakes. Smallest rises in price were recorded against vegetables, fruit, sugar and preserves, tea, beef, bread and cereals. All types of food and drink were subject to real terms price rises.

Table 5.1: Food price evolution, 2007=100

	2001-02	2007	2008	2009	2010	2011	% change since 2007	% change since 2010
All Items Consumer Price Index	90	100	104	106	109	114	+14.2	+4.5
CPI food items	90	100	110	116	120	126	+25.7	+5.0
Bread	79	100	115	119	119	125	+25.0	+5.1
Cereals	94	100	113	121	123	130	+30.3	+5.6
Biscuits and cakes	93	100	111	115	120	133	+33.3	+11.2
Beef	94	100	115	124	124	129	+28.7	+4.1
Lamb	85	100	109	122	128	155	+55.0	+21.0
Pork	91	100	115	124	128	135	+35.1	+5.2
Bacon	94	100	109	115	113	116	+15.6	+2.1
Poultry	98	100	113	116	116	122	+22.2	+5.7
Fish	88	100	107	113	119	131	+30.5	+9.2
Butter	88	100	123	121	138	159	+59.4	+15.3
Cheese	91	100	115	120	122	129	+28.9	+5.7
Eggs	78	100	127	131	136	137	+37.3	+1.0
Milk	81	100	114	122	121	122	+21.7	+0.9
Tea	100	100	106	118	133	138	+38.2	+3.9
Coffee and hot drinks	93	100	104	112	113	128	+28.3	+13.4
Soft drinks	94	100	102	105	112	121	+20.8	+8.1
Sugar and preserves	83	100	106	120	121	125	+25.3	+3.5
Sweets and chocolates	81	100	107	115	122	132	+31.5	+8.0
Potatoes	97	100	111	116	118	125	+24.7	+5.6
Vegetables	85	100	108	115	118	121	+20.8	+2.2
Fruit	98	100	107	112	121	126	+25.7	+3.9
of which fresh fruit	100	100	106	113	114	119	+19.0	+4.1
Alcoholic drinks	100	100	103	108	111	118	+17.7	+5.8

Trading Down, Buying Less and Spending More

Family Food provides evidence based estimates of trading down. For foods within a given food code, price rises are measured by the Retail Prices Index and the Consumer Prices Index. In contrast, The Family Food Survey measures the average price or unit price that households have paid for foods within a food code. The difference between the rise in price and the rise in unit price paid provides a way of estimating trading down. This is calculated by dividing (deflating) the rise in price paid by the actual rise in price for each food code.

Table 5.2 shows how consumers have reacted to price rises between 2007 and 2011 for different types of food and drink, including estimates of trading down. The table shows the true change in price (measured by CPI) and how the consumer has responded to this by a combination of buying less, spending more and trading down.

Table 5.2: Consumers' response to food price rises

Percentage changes between 2007 and 2011	Price rise	Quantity purchased		Expenditure		Trading Down [(a)] (deflated unit value)	
		all households	low income households	all households	low income households	all households	low income households
Food	+26	-4.2	-3.2	12.1	17.0	-6.8	1.1
Bread	+25	-8.3	-5.1	9.8	14.4	-4.3	2.8
Cereals	+30	2.1	-2.2	17.9	23.6	-11.4	6.5
Biscuits & cakes	+33	-2.2	-9.8	16.8	3.1	-10.4	-4.9
Beef	+29	-11.1	-10.3	7.5	23.7	-6.2	21.1
Lamb	+55	-33.4	na	-3.7	na	-10.8	na
Pork	+35	3.0	22.8	13.6	36.8	-18.3	-6.3
Bacon	+16	7.5	10.8	18.2	26.7	-5.0	-3.8
Poultry	+22	-1.4	4.5	17.7	40.2	-2.4	14.4
Fish	+31	-10.9	-11.8	4.3	10.8	-10.3	-2.4
Butter	+59	-3.0	-17.9	37.0	18.7	-11.6	-8.7
Cheese	+29	-0.2	7.2	18.7	26.5	-7.8	-1.5
Eggs	+37	8.4	10.7	24.1	17.0	-13.8	-12.8
Milk	+22	-4.0	-5.8	9.1	8.2	-7.3	-3.9
Tea	+38	-9.7	-6.4	11.9	24.7	-10.2	-1.6
Coffee & hot drinks	+28	-5.3	-7.5	16.9	18.6	-3.7	13.9
Soft Drinks	+21	-3.3	-12.4	17.2	9.1	0.4	0.8
Sugar & preserves	+25	0.8	4.2	23.6	28.0	-2.1	11.1
Sweets & chocolates	+32	4.0	5.3	20.5	16.8	-11.9	-1.9
Potatoes	+25	-7.6	-0.5	-5.9	1.6	-14.7	-9.0
Vegetables	+21	-4.4	-11.9	8.6	4.7	-5.8	2.4
Fruit	+26	-10.3	-15.5	6.3	-3.2	-5.0	0.5
of which fresh fruit	+19	-10.6	-18.8	5.6	-3.8	0.4	7.1
Alcoholic drinks	+18	-5.7	-2.7	9.5	10.9	-1.5	5.3

[(a)] a positive value indicates trading up
na: not statistically reliable

Change in expenditure = change in price
+ change in quantity purchased
+ change in unit value achieved

For example, for butter there was a change in expenditure of +37 per cent for all households. Quantity of butter purchases reduced by 3.0 per cent and all households managed to reduce their unit price paid (trading down) by 11.6 per cent. The dominant response to the 59 per cent price rise in butter between 2007 and 2011 was to spend more money on butter purchases.

Table 5.3: Main consumer reaction to the high food prices between 2007 and 2011

	Main consumer reaction				
	Trading down	**Buying more**	**Buying less**	**Spending less**	**Spending more**
All households	Cereals (-11%)	Bacon	Bread	Potatoes	Butter
trading down (-6.8%)	Biscuits & cakes (-10%)		Lamb	Lamb	Eggs
buying less (-4.2%)	Lamb (-11%)		Beef		Sugar & preserves
spending more (+12%)	Pork (-18%)		Fish		Sweets & chocolates
	Fish (-10%)		Fruit		Bacon
	Butter (-12%)		Potatoes		Cereals
	Eggs (-14%)		Vegetables		Coffee & hot drinks
	Tea (-10%)		Alcoholic drinks		
	Sweets & chocolates (-12%)				
	Potatoes (-15%)				
	Trading down	**Buying more**	**Buying less**	**Spending less**	**Spending more**
Income decile 1	Eggs	Pork	Butter (-18%)	Fruit	Poultry (+40%)
trading up (+1.1%)	Pork	Bacon	Fruit (-16%)		Pork (+37%)
buying less (-3.2%)	Potatoes	Cheese	Soft drinks (-12%)		Sugar & preserves (+28%)
spending more (+17%)	Butter		Vegetables (-12%)		Bacon (+27%)
	Vegetables				Cheese (+27%)
					Tea (+25%)
					Beef (+24%)

Table 5.2 and table 5.3 show:
On average UK households purchased 4.2 per cent less food in 2011 than in 2007 while spending 12 per cent more. They saved 6.8 per cent by trading down to cheaper products

- Households in income decile 1 (lowest income group) spent 17 per cent more on food in 2011 than in 2007. Although they traded down in eggs, pork, potatoes, butter and vegetables the overall effect was not of trading down.
- On average UK households traded down on pork to save 18 per cent between 2007 and 2011 while households in income decile 1 (lowest income group) did not trade down but spent 37 per cent more on pork.
- Since 2007 UK households have bought less bread, lamb, beef, fish, fruit, vegetables, potatoes and alcoholic drinks but more bacon.
- Since 2007 households in decile 1 (lowest income group) have bought less butter, fruit, vegetables and soft drinks but more pork, bacon and cheese.

5.3 Indicator of affordability of food

The relative affordability of food can be measured by the share of the household budget going on food, i.e. the percentage of total household spending that goes on household food purchases. If the percentage increases, food is placing a greater burden on spending. Low income households are of particular concern because they tend to have a greater percentage of spend going on food.

Chart 5.1: Percentage of spend going on food and non-alcoholic drinks

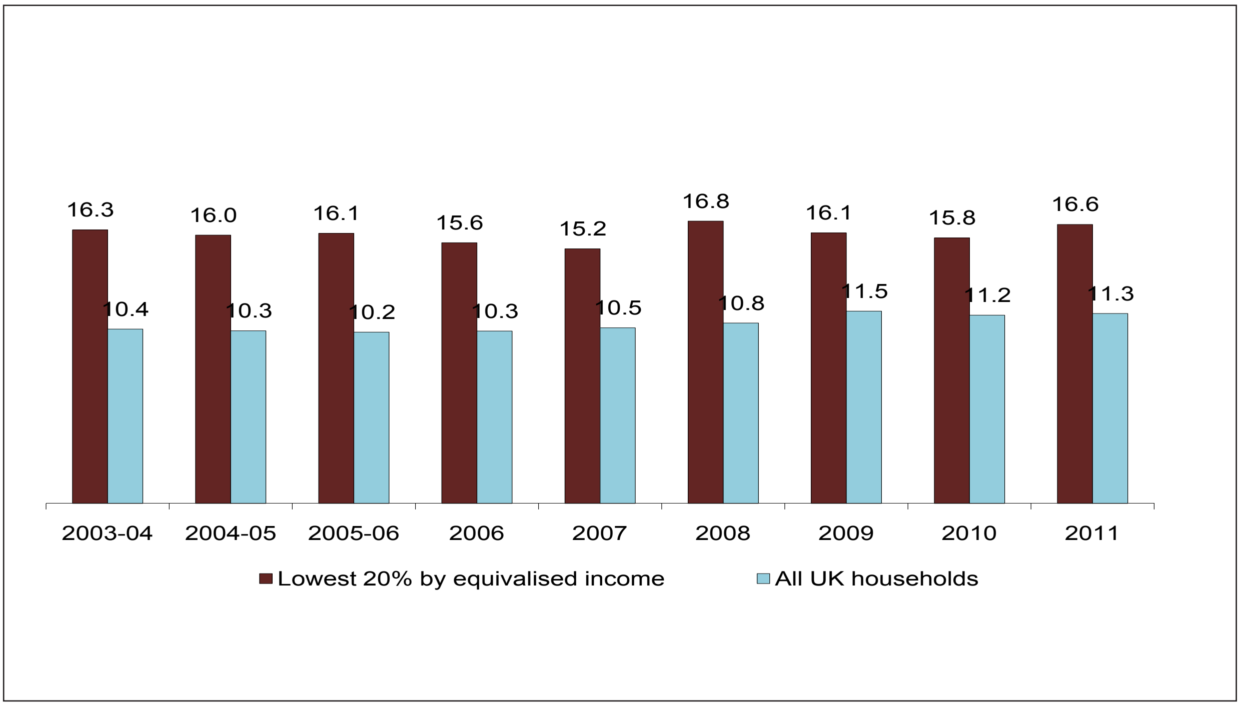


Chart 5.1 shows that averaged over all households 11.3 per cent of spend went on food in 2011, while for the lowest 20 per cent of households (by equivalised income) it was higher at 16.6 per cent.

- The percentage of spend on food for all households in the UK was 11.3 per cent in 2011, 0.8 percentage points above the 2007 level.
- For households in the lowest 20 per cent by equivalised income the percentage of spend on food was 16.6 per cent in 2011, 1.4 percentage points above the 2007 level.
- Food is exerting greater pressure on household budgets since 2007 when food prices started to rise in real terms.

Low income households bought less food in 2011 than in 2007. The trading down analysis in Table 5.2 shows that the lowest ten per cent of households by income purchased 9.8 per cent less food by weight between 2007 and 2011. The energy content of food purchases by households in income decile 2 (see Chart 5.6), fell by 15 per cent between 2007 and 2011.

In 2012 food inflation is running at about the same rate as all items inflation suggesting that the percentage spend on food is likely to remain at a similar level in 2012.

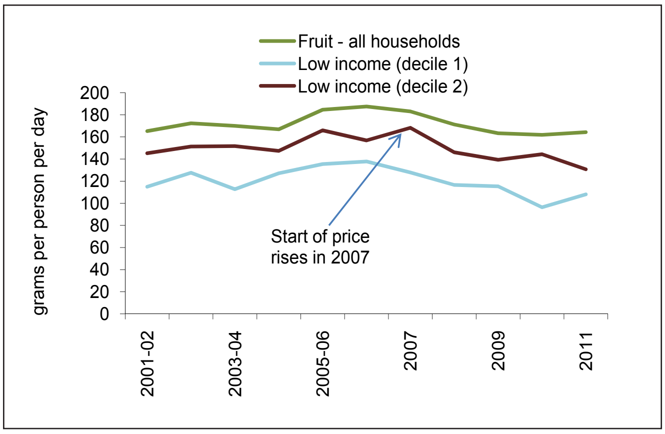
5.4 Fruit and Vegetables

Government advice on healthy eating is primarily in terms of the “eatwell plate” and the 5 A DAY message. Both recommend a significant increase on current consumption of fruit and vegetables. Family Food provides reliable evidence on trends which are examined in detail here.

Reducing levels of obesity is a Government policy. While Family Food provides evidence of long term reductions in energy intake it does not capture information on energy expenditure. Therefore the Family Food evidence cannot be used to predict reductions in obesity because it only covers half the obesity equation.

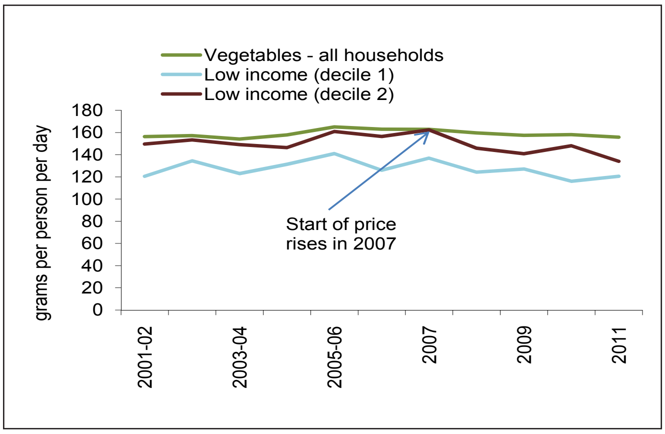
Increasing the consumption of fruit and vegetables is a Government policy. Family Food provides evidence of recent reductions in consumption using household purchases as a proxy for consumption. This relies on the assumption that household wastage rates of fruit and vegetables remain relatively stable compared to changes in purchases.

Chart 5.2a: Trends in fruit purchases



- Purchases of fruit increased to 2006 but have fallen 10 per cent since 2007 with larger falls for lower income groups.
- Lowest income households (decile 1), purchased 29 per cent less fruit in 2011 than in 2007.
- Income decile 2 households purchased 19 per cent less fruit between 2007 and 2011.

Chart 5.2b: Trends in vegetable purchases



- Purchases of vegetables peaked in 2005 and have fallen 4.4 per cent since 2007 with larger falls for lower income groups.
- Lowest income households (decile 1) purchased 20 per cent less vegetables in 2011 than in 2007.
- Income decile 2 households purchased 12 per cent less vegetables between 2007 and 2011.

Table 5.4: Household purchases of fruit and vegetables

Grams per person per week	2007	2008	2009	2010	2011	% change since 2007
All households						
Fruit and vegetables excluding potatoes	2421	2317	2246	2240	2240	-7.5
Fruit	1281	1199	1143	1133	1150	-10
Vegetables	1140	1118	1103	1107	1090	-4.4
Income decile 1 households						
Fruit and vegetables excluding potatoes	1853	1686	1697	1487	1600	-14
Fruit	895	816	807	675	756	-15
Vegetables	958	870	890	812	844	-12
Income decile 2 households						
Fruit and vegetables excluding potatoes	2314	2044	1961	2047	1853	-20
Fruit	1178	1022	975	1010	915	-22
Vegetables	1137	1022	986	1037	939	-17

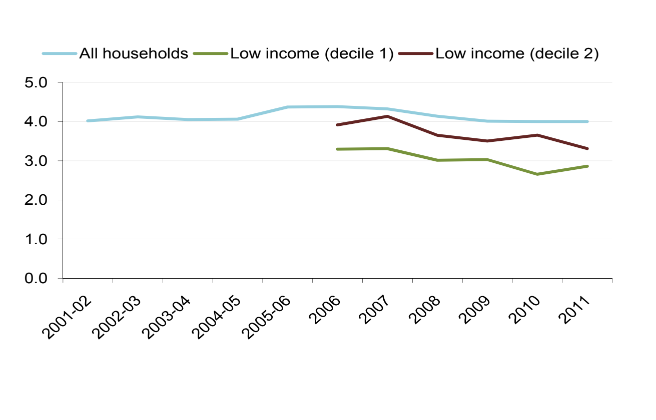
Table 5.4 shows that:

- Fruit and vegetable purchases were 7.5 per cent lower in 2011 than 2007.
- The drop is 14 per cent for income decile 1.
- The drop is 20 per cent for income decile 2.
- Households in income decile 1 purchase the least fruit and vegetables.
- In 2011 income decile 1 households purchased 29 per cent less fruit and vegetables than all households.
- In 2011 income decile 1 households purchased 16 per cent less fruit and vegetables than those in income decile 2.
- Fruit purchases have declined faster than vegetable purchases since 2007.
- All household fruit purchases fell 10 per cent between 2007 and 2011.
- Income decile 1 fruit purchases fell 15 per cent between 2007 and 2011.
- Income decile 2 fruit purchases fell 22 per cent between 2007 and 2011.

Measuring fruit and vegetable purchases against 5 A DAY Guidance

Family Food estimates of fruit and vegetables can be compared against 5 A DAY consumption guidelines by assuming 80 grams per portion. The approach is approximate because it is based on purchases rather than consumption, it excludes purchases not taken into the household, it excludes fruit and vegetables in composite meals, it includes all processed fruit, fruit juice and nuts, and it assumes 80 grams per portion for all ages and all produce.

Chart 5.3 Trends in fruit and vegetable purchases measured as portions



- Fruit and vegetable purchases peaked in 2006.
- On average all households purchased 4.0 portions of fruit and vegetables per person per day.
- Lower income households (deciles 1 and 2) have consistently purchased smaller quantities of fruit and vegetables.
- Income decile 1 households purchased 2.9 portions of fruit and vegetables per person per day in 2011.

Table 5.4 shows that households purchased an average of 2240 grams of fruit and vegetables per person per week in 2011, equivalent to 4.0 portions per person per day (dividing first by 7 to convert to daily and then by 80 to get the number of portions). Although unchanged on 2010 there is statistical evidence of a downward trend.

Defra estimates that 22 per cent of edible fruit and vegetable purchases are wasted, http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-food-foodwastepurchases-100727.pdf.

The Health Survey for England shows a similar trend to Family Food in that reported consumption of fruit and vegetables by adults peaked in 2006 and then fell from 2006 to 2009. http://www.ic.nhs.uk/pubs/hse08physicalactivity

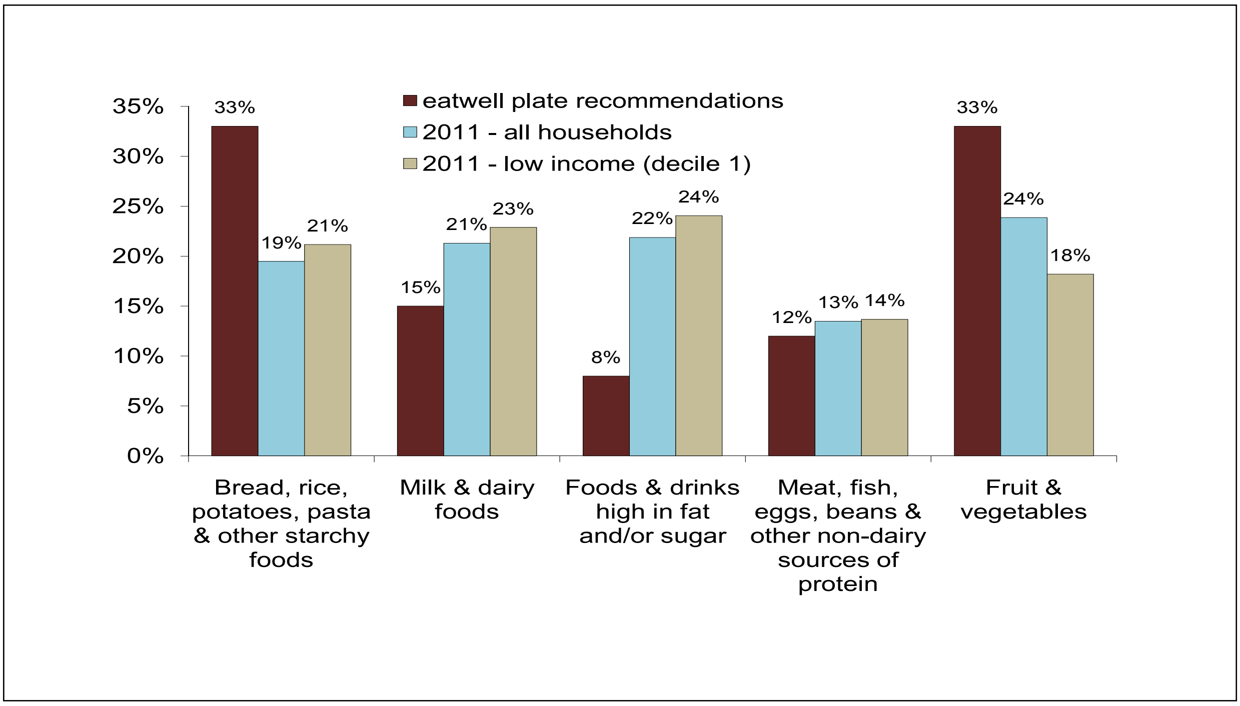
The National Diet and Nutrition Survey provides estimates of fruit and vegetable consumption that includes estimates for fruit and vegetables in composite foods such as manufactured products and homemade dishes.

5.5 Eatwell Plate

The eatwell plate forms the basis of the Government's healthy eating advice to the general population. It makes healthy eating easier to understand by giving a visual representation of the types and proportions of foods that should be eaten to make a well-balanced, healthy diet. This includes snacks as well as meals. The eatwell plate is intended as a guide to the overall balance of the diet over a day or a week rather than for any specific meal.

Food and drink purchases for household supplies were grouped approximately into the five eatwell plate groups. Based on these groupings, Chart 5.4 shows the average UK diet for all households and low income households (equivalised income decile 1) compared to the eatwell plate categories.

Chart 5.4: Eatwell plate comparison for low income and all households



Looking at balance of diet:
- Neither low income households or all households are close to the eatwell plate.
- Both low income households and all households have a relatively similar diet when compared to the eatwell plate.
- The main difference between low income households and all households is in fruit and vegetable purchases where low income buy less.

Comparing low income households to all households in 2011 shows that low income households are:
- Closer to eatwell for starchy foods.
- Further from eatwell for milk and dairy foods.
- Further from eatwell for foods high in fat and or sugar.
- Further from eatwell for fruit and vegetables.

5.6 Energy Intake

Levels of obesity are linked with the risk of developing diseases such as; diabetes, coronary heart disease and some cancers, all of which affect the future cost of health care. Energy intake together with energy expenditure determines the overall energy balance. Statistics on obesity levels in England are available on the NHS Information Centre website: http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles/obesity

To obtain the best estimates of trends in energy content of food purchases by households, an index is calculated such that year on year changes compare like with like, i.e. eating out energy is only added to the calculation once there are two years of data. This approach is required because the basis of estimation of energy intake has evolved over the years as shown in Table 5.5 and Chart 5.5.

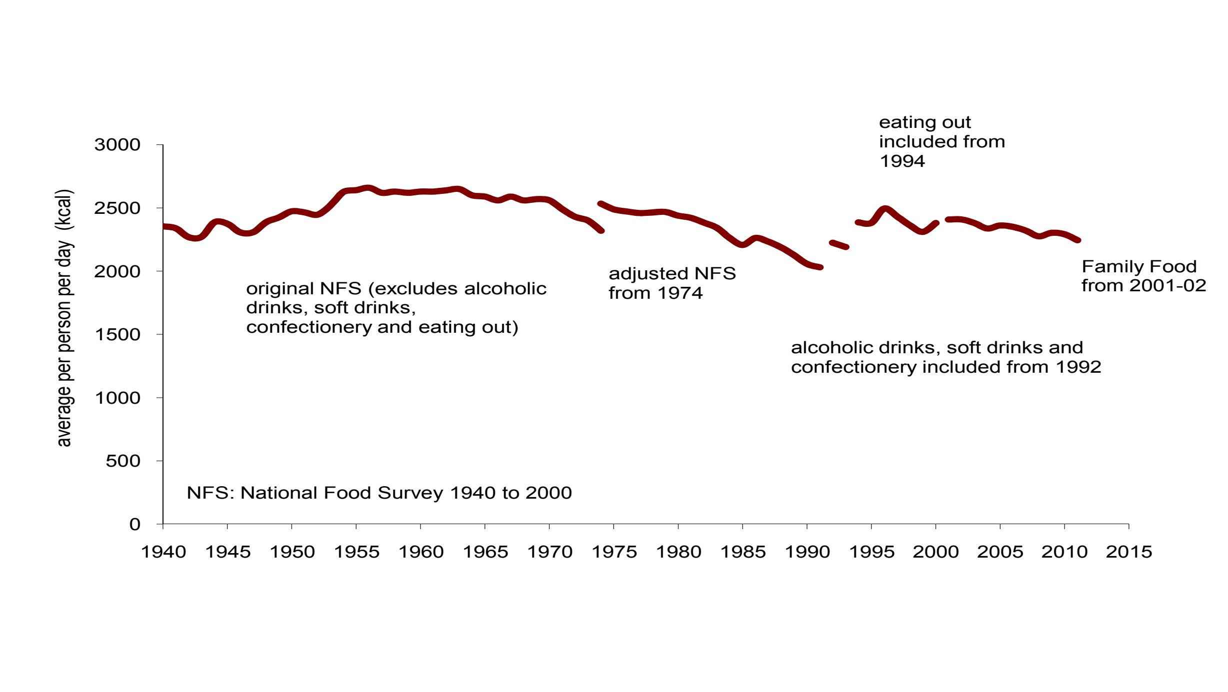
Table 5.5: Estimates of energy intake as the survey has evolved

	National Food Survey				Expenditure & Food Survey (EFS) and Living Costs & Food Survey (LCFS)			Combined Series (c)			Index of change
	Excluding asc (a)	Including asc (a)	Aligned with EFS (b)	NFS eating out	Household (HH)	Eating out (EO)	HH + EO	Household (HH)	Eating out (EO)	HH + EO (d)	
											kcals per person per day
1940	2355							2355		2355	
1974	2320		2534					2534		2534	100
1980	2230		2439					2439		2439	96
1990	1870		2058					2058		2058	81
1995	1780	1881	2143	240				2143	240	2383	77
2000 (e)	1750	1881	2152	230				2152	230	2382	78
2001-02					2098	310	2409	2098	310	2409	76
2003-04					2079	303	2381	2079	303	2381	75
2005-06					2082	280	2362	2082	280	2362	74
2006					2074	276	2351	2074	276	2351	74
2007					2052	268	2320	2052	268	2320	73
2008					2028	248	2276	2028	248	2276	71
2009					2054	250	2304	2054	250	2304	72
2010					2035	258	2292	2035	258	2292	72
2011					2009	236	2245	2009	236	2245	70

(a) "asc" is alcoholic drinks, soft drinks and confectionery
(b) includes alcoholic drinks, soft drinks and confectionery from 1992 onwards
(c) Uses fullest information available each year. Historical estimates of household purchases between 1974 and 2000 have been adjusted to align with the level of estimates from the Family Expenditure Survey in 2000. Estimates are generally higher than original data and indicate that the scaling has partially corrected for under-reporting in the National Food Survey.
(d) this is the series with breaks shown in chart 5.5.

(e) Change in methodology makes the estimate of the year on year change unreliable between 2000 and 2001-02.

Chart 5.5: Average energy intake from food and drink since 1940



- Energy content of food purchases has been on a downward trend since 1965 as shown in each section of Chart 5.5.
- Energy intake per person declined 30 per cent between 1974 and 2011 (shown in Table 5.5 as 70 for 2011 in the index of change).

Chart 5.6: Energy derived from household food and drink

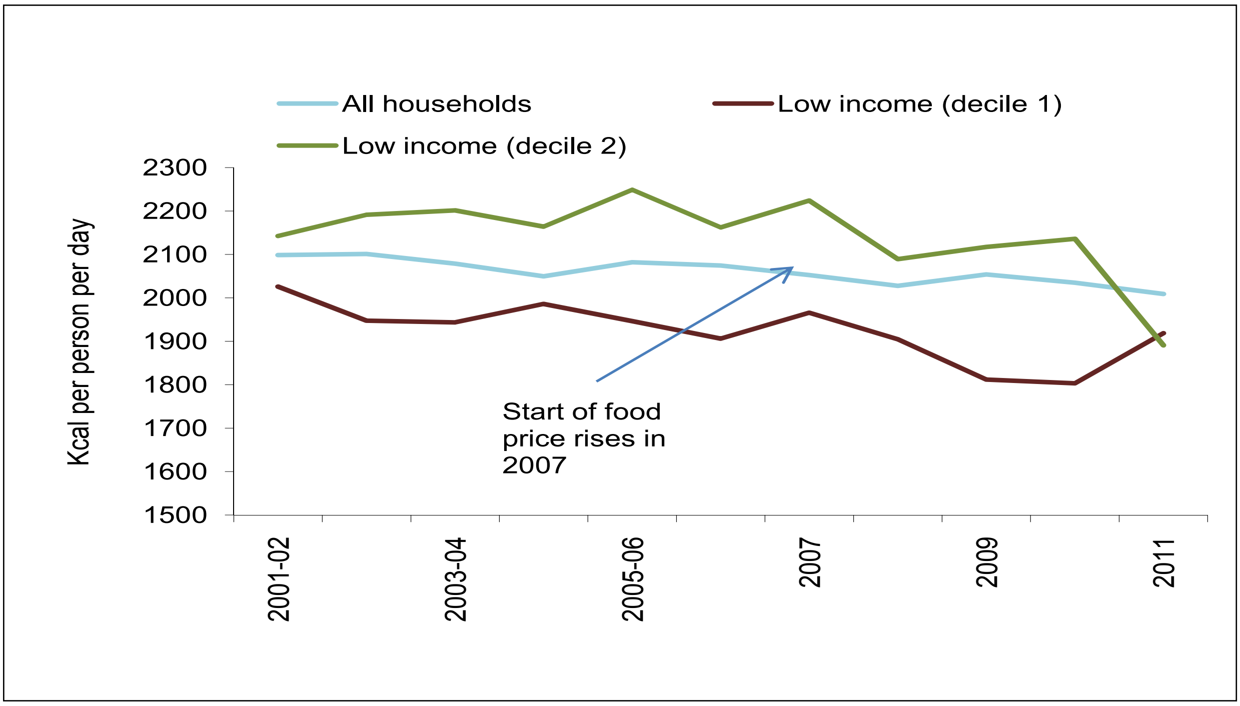


Chart 5.6 shows that:

- Income decile 2 households (second lowest group) reduced energy intake from household food in 2011 to 1891 Kcals per person per day 15 per cent less than in 2007.
- Income decile 2 households (second lowest group) had lower energy intake from household food than income decile 1 households in 2011, previously having had higher energy intake than the average of all households each year from 2001-02 until 2010.

- Income decile 1 households (lowest income group) increased energy intake from household food by 6.4 per cent in 2011 to 1919 Kcals per person per day, having fallen 8.3 per cent between 2007 and 2010.
- Income decile 1 households (lowest income group) had 2.4 per cent less energy intake from household food in 2011 than in 2007.
- In 2011 energy intake from household food in each of the lowest two income deciles was around 5 per cent lower than all households.
- Energy intake from household food across all households was 2.1 per cent lower in 2011 than in 2007.

Chapter 2, Table 2.4 shows that the food categories making the greatest contribution to household energy intake are bread, cereal products, and 'non-carcase meat and meat products' each of which contributes around 10-12 per cent of energy.

This analysis does not identify the group with the lowest energy intake because other demographic variables as well as income are important and not considered here. Chapter 4 looks at dietary intakes, but not energy, using more demographic characteristics

5.7 Nutrient intakes

Family Food data on food and drink purchases is converted into its energy and nutrient content, and thereby enables trends in energy and nutrient intakes to be monitored, based on purchases rather than consumption.

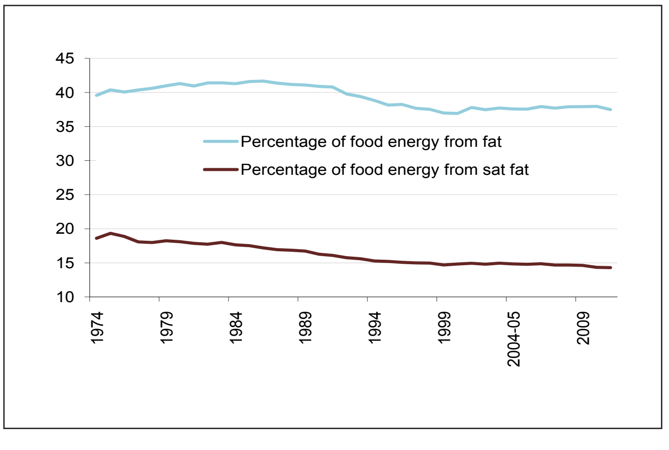
Recommendations for energy and nutrient intakes for the general UK population and age/sex sub-groups have been set by expert scientific advisory committees The Committee on Medical Aspects of Food and Nutrition Policy (COMA) set dietary reference values for population intakes of energy and a range of nutrients. Its successor the Scientific Advisory Committee on Nutrition (SACN) has recently published revised dietary reference values for the energy requirements of the population.
http://www.sacn.gov.uk/pdfs/sacn_energy_report_author_date_10th_oct_fin.pdf

Estimates of average nutrient intakes from this survey indicate that many of these recommendations are not being met. A large proportion of the population consumes less than the recommended amount of fibre and fruit and vegetables and more than the recommended amount of saturated fatty acids, total fat, salt and non-milk extrinsic sugars. A poor diet impacts on the prevalence of obesity, incidence of coronary heart disease, high blood pressure and strokes and the risk of cancer.

Dietary Reference Values (DRVs) for macronutrients are expressed as a percentage of food energy intake (excluding energy from alcohol) to take account of differing energy requirements. Intakes in this chapter are expressed on the same basis to allow comparison with the DRVs. Unless otherwise stated, all statistics in this chapter are based on food energy intake (excluding energy from alcohol). The estimates are based on food purchases and do not take edible food waste into account.

Fat and saturated fatty acids

Chart 5.7 Long term trends in the percentage of food energy derived from fat and saturated fatty acids from household and eating out food and drink



- The percentage of energy from fat declined 4.1 percentage points in the 1990s and is now stable at 37.5 per cent in 2011.
- The percentages of energy from saturated fatty acids declined 4.3 percentage points since 1974 to 14.2 per cent in 2011.
- Both are above the recommended levels.

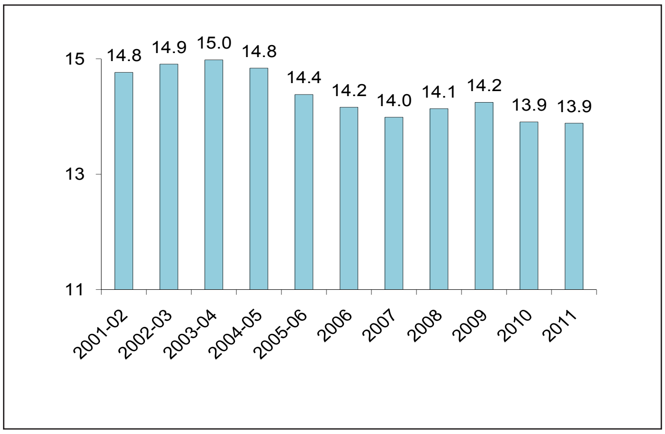
Average (population) intake of total fat should account for no more than 35 per cent and saturated fatty acids no more than 11 per cent of food energy intake. Having too much saturated fat in the diet can increase the amount of cholesterol in the blood, which increases the risk of developing heart disease which is the leading cause of premature death in the UK.

In Chapter 2, Table 2.4 shows that most saturated fatty acids come from purchases of 'oils and fats', 'non-carcase meats and meat products', 'milk and cream', cheese, 'biscuits and crispbreads', and confectionery. Reductions in purchases of carcase meat, fats and 'non-carcase meat and meat products' helped reduce intakes of saturated fatty acids in 2011.

The National Diet and Nutrition Survey provides supporting evidence that saturated fatty acid intakes exceed the recommended maximum in all age groups. It reports a lower estimate for total fat intake that is in line with the recommended level for most age groups.

Non-milk extrinsic sugars

Chart 5.8 Recent trend in the percentage of food energy derived from NMES from household and eating out food and drink



- 13.9 per cent of energy came from NMES in 2011.
- Between 2003 and 2007 the percentage of energy from NMES dropped from 15.0 to 14.0 per cent.
- Since 2007 the percentage of energy from NMES has hardly changed.

Chapter 2, Table 2.4 shows that most NMES come from the food categories; 'sugar and preserves', soft drinks and confectionery. The decrease in NMES intakes in 2011 was driven by a reduction in soft drink purchases.

Non-milk extrinsic sugars are a category of sugars that are considered to contribute to dental decay. The recommendation is that intake of NMES should account for no more than 11 per cent of food energy intake.

Extrinsic sugars are any sugars not contained within the cellular structure of a food, either because they have been added to a food in the form of table sugar, honey etc; or because the food has been processed which has released sugars from the cell structure e.g. fruit juice.

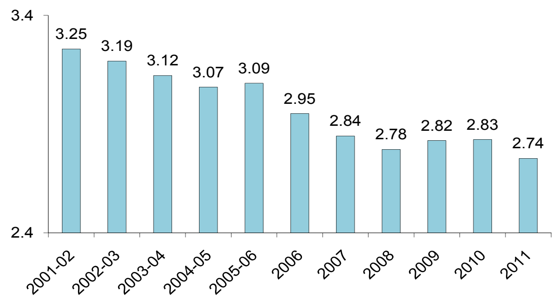
The sugar naturally present in milk and milk products (lactose) is excluded from the definition as it is not considered to have adverse effects on teeth.

According to Family Food the percentage of energy derived from NMES exceeds the recommended maximum levels for the population average diet. In 2011 the population derived 13.9 per cent of food energy from NMES which is 2.9 percentage points over the recommended level.

The National Diet and Nutrition Survey provides supporting evidence that mean intakes of NMES as a percentage of food energy exceed the recommended levels in all age groups.

Sodium

Chart 5.9 Recent trend in sodium intake from food for household and eating out (in grams per person per day)



- Sodium intakes fell by 0.46 grams between 2001-02 and 2008.
- Although sodium intake from foods fell to a new low level of 2.74 grams in 2011 it has hardly changed since 2008.
- Sodium intake from foods exceeds the maximum recommended level of 2.4 grams per person per day.

The biggest contributors to sodium intake, from Chapter 2, Table 2.4, were 'non-carcase meat and meat products' and bread. Reductions in purchases of both 'non-carcase meat and meat products' and bread have helped reduce sodium intakes in 2011.

Family Food provides evidence of trends in sodium intake but underestimates the actual intake levels as it excludes the contribution from table salt purchases (because table salt also has non-food uses in the household).

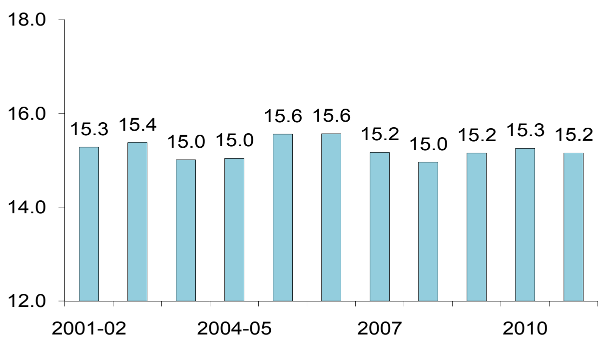
Salt (sodium chloride) is the major source of sodium in the UK diet. It is the sodium in salt that can be bad for health. High salt intake contributes to the development of high blood pressure. High blood pressure is a risk factor for cardiovascular disease and stroke. Salt is approximately equal to sodium multiplied by 2.5.

In the report 'Nutritional Aspects of Cardiovascular Disease' (1996), COMA recommended an average intake of salt of 6 grams per day or less for adults. This is equivalent to an intake of 2.4 grams of sodium per day. The amounts are lower for children. This recommendation was endorsed by the Scientific Advisory Committee on Nutrition in its 2003 report 'Salt and Health', available at: http://www.sacn.gov.uk/reports_position_statements/reports/salt_and_health_report.html

The National Diet and Nutrition Survey provides supporting evidence for the downward trend in sodium intake, reporting a reduction in mean salt intake between 2000-01 and 2011 from 9.5g to 8.1g per day.

Fibre

Chart 5.10 Recent trend in fibre intake in grams per person per day



- Fibre intake in 2011 was 15.2 grams per person per day, about the same as it was in 2001.
- A fall in fibre intake in 2011 suggests there is not an upwards trend despite increases between 2008 and 2010.
- Fibre intake is below the recommended level by 2.8 grams per person per day.

Most fibre intake comes from the food categories of vegetables, bread and 'other cereal and cereal products' (which includes breakfast cereals, rice and pasta). Reductions in bread and vegetable purchases are a downward push on fibre intakes.

Consumption of a high fibre diet is recommended for gastro-intestinal health and may also help to lower blood cholesterol levels.

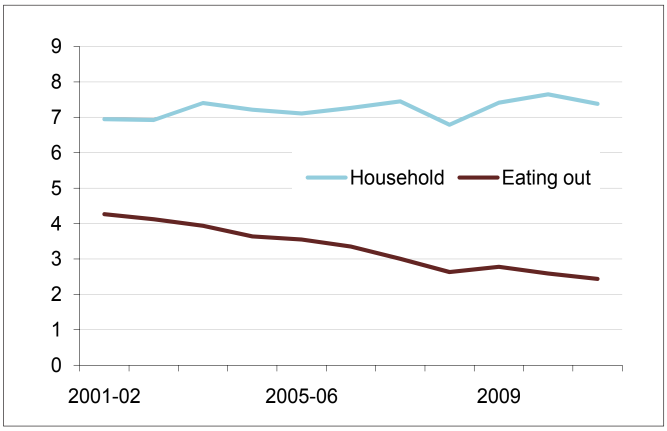
The COMA recommendation is for an average of 18 grams of fibre intake per person per day for adults. The report says that intakes for children should be proportionately less, but does not provide a specific figure.

Alcohol

Regularly drinking above the recommended daily limits for lower risk drinking of 2-3 units for women and 3-4 units for men, significantly increases the risk of ill health.

Chapter 1 shows that household purchases of alcoholic drinks fell by 4.4 per cent in 2011 but are 3.2 per cent higher than in 2008. Eating out purchases fell by 4.6 per cent in 2011 and are 11.2 per cent lower than 2008. Chapter 2 shows that alcohol intake from household and eating out combined in 2011 was 4.1 per cent lower than 2010, but 4.2 per cent higher than in 2008.

Chart 5.11 Trend in intake of alcohol in grams per person per day



- Alcohol intake from eating out purchases declined 43 per cent between 2001-02 and 2011.
- Alcohol intake from household supplies rose slightly between 2001-02 and 2011.
- Alcohol intake overall fell 4.1 per cent in 2011 to 9.8 grams per person per day (averaged over the entire UK population).

The Family Food estimate of the absolute level of intake is likely to be an underestimate due to under-reporting of alcoholic drinks, but the trends are likely to be valid.

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Chapter 6 Price Elasticities

6.1 Overview

This chapter presents estimates of how demand for different types of food varies with changing food prices and different levels of total expenditure on food. These estimates are known as price elasticities and are based on Family Food Survey data from 2001 to 2011. The underlying research was carried out by Reading University on behalf of Defra.

The previous estimates of price elasticities were carried out using Family Food data from the 1990s when the Family Food Survey was known as the National Food Survey. Food prices remained relatively stable from 2001 to 2007 followed by a period of rising food prices.

Price elasticities are used in a wide range of situations where food price changes are anticipated. These food price changes can be converted into demand changes by using price elasticities. The price elasticities can be used as a general tool for use in a wide range of analyses by Defra and by other organisations.

Own price elasticities measure the responsiveness of demand for a food to changes in the price of that food. Cross price elasticities measure the responsiveness of demand for one food to changes in the price of another food. Expenditure elasticities measure the responsiveness of demand for all foods to changes in the level of total expenditure on food. The estimates are presented as percentage changes in demand when there is a one per cent rise in a food price or a one per cent rise in total expenditure on food.

Price elasticities based on the Family Food Survey data are representative of the whole UK household population. Their strength is that the underlying data is collected accurately and with a view to minimising non-response. Although non-response rates are significant, having varied from 40 per cent to 50 per cent over the period, great effort is made to keep the rate to a minimum. To reduce the risk of non-response bias, post stratification weights are constructed using detailed matching to demographics in the population census. Other data sources used to estimate price elasticities tend not to be as representative of the UK even when demographic matching is applied.

To calculate the price elasticities Reading University used two alternative approaches, the Household AIDS model (Almost Ideal Demand System) and the Dynamic AIDS model. The Household AIDS model identifies differences in demand depending on prices faced and total amount spent on food by households that are identical in all other respects. The DAIDS model identifies differences in demand when prices change over time. The prices used in the analyses are unit values, calculated as ratios of total expenditure on a type of food to total quantity entering the home food supply
.

6.2 Household AIDS model

Comparisons between 2008 and 2011, which provide a reliable indication of change, are made for the main food. The Household AIDS model measures the extent to which demand for different foods varies with prices paid and with total expenditure on food. These differences relate to households that are identical in all respects other than the price they face or the total expenditure they make on food. The model controls for differences in demographic characteristics. It assumes that there is no difference between short and long run behaviour, such that the consumer is always in equilibrium.

The model was applied at three levels of food groupings. Level one was the highest level dividing foods into seven groups. The fats and starches group was used as a catch-all and includes potatoes, sweets, drinks and other foods. Level 2 models divided each level 1 group into several subcategories. Level 3 models divided level 2 groups of meat, fruit and vegetables into subcategories.

The level 1 model estimated for different subsamples including England, England & Wales (E&W), Scotland, Northern Ireland, UK households with children, and UK households in the lowest income quintile.

The statistics in this chapter are uncompensated elasticities that assume that a consumer's total expenditure on food is fixed and therefore when a food price rises they adjust their demand accordingly.

As well as uncompensated elasticities[1] there are alternative estimates for compensated elasticities in the project report on the Defra website downloadable at http://www.defra.gov.uk/statistics/foodfarm/food/

6.3 Level 1 groupings

The seven high level groupings cover dairy & eggs, meat, fish, fruit, vegetables, fats & starches and alcoholic drinks. The averages of the 9 sets of elasticities from 2001 to 2009 provide a useful summary in Table 6.1.

For low income households the elasticities in 2008 and 2009 showed difference to those from 2001 to 2007. Table 6.2 brings out these differences by separately averaging elasticities up to 2007 and after 2007.

Table 6.1 All households: own, cross price and expenditure elasticities of high level food groups from the household level AIDS

% change in demand

	Effect on demand when price rises by 1%							
Average elasticities 2001-2009	Dairy & egg	Meat	Fish	Fruit & nuts	Vegetables	Fats & starches	Alcoholic drinks	Expenditure on food rises 1%
Dairy & egg	-0.4	0.0	0.0	-0.1	-0.1	-0.3	0.0	0.9
Meat	0.0	-0.8	0.0	0.0	0.0	-0.2	0.0	1.1
Fish	-0.1	0.0	-0.4	0.0	0.0	-0.1	-0.1	0.7
Fruit & nuts	-0.1	0.1	0.0	-0.8	0.0	0.0	-0.2	0.9
Vegetables	-0.1	0.0	0.0	0.0	-0.6	0.0	-0.1	0.9
Fats & starches	-0.1	-0.1	0.0	0.0	0.0	-0.8	0.0	1.1
Alcoholic drinks	0.0	0.0	-0.1		-0.1	0.2	-0.8	0.9

- Foods where demand is more sensitive to changes in price are alcoholic drinks, 'fats & starches', 'fruit & nuts', and meat. On average, those paying a 1 per cent higher price buy 0.8 per cent less.
- Foods where demand is less sensitive to changes in price are fish and 'dairy & eggs'. On average, those paying a 1 per cent higher price buy 0.4 per cent less.
- Households that spend 1 per cent more on food than others tend on average to buy disproportionately more (1.1 per cent more) meat and 'fats & starches'. Similarly, those that spend 1 per cent less on food tend on average to buy less (1.1 per cent less) meat and less 'fats & starches'.
- Small reductions in demand for alcoholic drinks are linked with households that pay a 1 per cent higher price for fish, 'fruit & nuts', vegetables, and 'fats & starches'.
- Households that pay a 1 per cent higher price for alcoholic drinks have on average a lower demand for fish (0.1 per cent), 'fruit & nuts' (0.2 per cent) and vegetables (0.1 per cent).
- Households that pay a 1 per cent higher price for 'dairy& eggs' have on average a 0.1 per cent lower demand for fish, 'fruit & nuts', vegetables, 'fats & starches'.
- Households that pay 1 per cent higher prices for 'fats & starches' on average have a lower demand for 'dairy & eggs' (0.3 per cent), meat (0.2 per cent), fish (0.1 per cent) and alcoholic drinks (0.2 per cent).

Table 6.2 Low income households: own, cross price and expenditure elasticities of high level food groups from the Household AIDS model

% change in demand

Effect on demand when price rises by 1%, 2001 to 2007								
Average elasticities 2001-2007	Dairy & egg	Meat	Fish	Fruit & nuts	Vegetables	Fats & starches	Alcoholic drinks	Expenditure on food rises 1%
Dairy & egg	-0.4	-0.1	0.0	-0.1	-0.1	-0.3	0.1	0.9
Meat	-0.1	-0.8	0.0		-0.1	-0.1	0.0	1.1
Fish	-0.1	-0.1	-0.5		-0.1	-0.1	0.1	0.7
Fruit & nuts	-0.1	0.1	0.0	-0.8	-0.1	0.0	0.0	0.9
Vegetables	-0.1	-0.1	0.0	-0.1	-0.6	-0.1	0.1	1.0
Fats & starches	-0.1	-0.1	0.0	0.0	0.0	-0.9	0.0	1.1
Alcoholic drinks	0.1	0.1	0.0	0.0	0.1	0.2	-1.4	0.9
Effect on demand when price rises by 1%, 2008 and 2009								
Average elasticities 2008-2009	Dairy & egg	Meat	Fish	Fruit & nuts	Vegetables	Fats & starches	Alcoholic drinks	Expenditure on food rises 1%
Dairy & egg	-0.6		-0.1	-0.1	-0.1	-0.3	0.2	0.9
Meat		-0.8	0.0	-0.1	-0.1	-0.1		1.1
Fish	-0.3	-0.2	-0.5				0.4	0.6
Fruit & nuts	-0.1	-0.2		-0.6	-0.1		0.2	0.9
Vegetables	-0.1	-0.2		-0.1	-0.6	-0.1	0.2	0.9
Fats & starches	-0.1	-0.1		0.0	0.0	-1.0	0.1	1.1
Alcoholic drinks	0.4		0.2	0.2	0.2	0.6	-2.7	0.8

% change in demand

Empty cells are where the estimate was not statistically significantly different from zero.

- Demand for alcoholic drinks by low income households (bottom 10 per cent by equivalised income) became more sensitive to price in 2008 and 2009 than it had been between 2001 and 2007. Those paying a 1 per cent higher price for alcoholic drinks purchased on average 2.7 per cent less in 2008 and 2009. Previously in 2001 to 2007 they had purchased 1.4 per cent less.
- In 2008 and 2009 the demand by low income households (bottom 10 per cent by equivalised income) for fish, 'fruit & nuts' and vegetables was 0.2 per cent lower when paying a 1 per cent higher price for meat.
- In 2008 and 2009 the demand by low income households (bottom 10 per cent by equivalised income) for fish was 0.3 per cent lower when paying 1 per cent more for 'dairy & eggs'.
- When food prices rose low income households (bottom 10 per cent by equivalised income) did not in general change their food preferences, as evidenced by the expenditure elasticities remaining similar before and after the price rises.

6.4 Dynamic AIDS model

The DAIDS (Dynamic Almost Ideal Demand System) measures the way households in aggregate respond to price changes over time. Results for DAIDS are based on 2001 to 2011 data with a break in the responses in June 2008 to allow different responses after food prices rose in real terms in 2007 and 2008.

If food prices rise by 1 per cent then demand by low income households will be expected to change as shown in Table 6.3. If total expenditure on food rises 1 per cent then we would expect demand for different types of food to change as shown in the expenditure column in Table 6.3.

Short run elasticities measure how demand responds within a month to changes in prices. Long run elasticities measure the total response of demand to changes in prices, i.e. what happens if price stays like this for the rest of the year.

Table 6.3 Low income households: own price and expenditure elasticities from the Dynamic AIDS model 2001 to 2011 for a 1 per cent rise in prices

% change in demand after a 1% rise in price or food expenditure	Long run response (full response)		Short run response (one month)	
	Own price elasticity	Expenditure elasticity	Own price elasticity	Expenditure elasticity
Dairy & eggs	-0.5	0.94	-0.4	0.92
Fats & starches	-0.8	1.02	-0.7	1.02
Fish	-0.2	0.88	-0.2	0.86
Fruit & nuts	-0.8	1.00	-0.5	0.95
Meat	-0.3	0.97	-0.3	1.00
Vegetables	-0.6	0.87	-0.4	0.95
Alcoholic drinks	-1.0	1.43	-0.6	1.41

The model includes a structural break in the time series in mid 2008.

The long run own price elasticity for fish is not statistically significantly different from zero.

- Demand for alcoholic drinks by low income households (bottom 10 per cent by equivalised income) reduces by 1.0 per cent when the price of alcoholic drinks rises by 1 per cent and it reduces by 1.4 per cent when total expenditure on food and drink reduces by 1 per cent while prices are unchanged.
- A 1 per cent rise in the prices of foods produces smaller than proportionate reductions in demand by low income households (bottom 10 per cent by equivalised income), with reductions as low as 0.2 per cent for fish and 0.3 per cent for meat.
- Demand for 'fruit & nuts' reduces by 0.8 per cent when prices rise by 1 per cent, with a 0.5 per cent reduction in demand in the first month. Demand for 'fruit & nuts' reduces by 1.0 per cent when total expenditure on food reduces by 1 per cent with no change in prices.
- While demand for alcoholic drinks by low income households (bottom 10 per cent by equivalised income) is more sensitive to prices than foods, the effect in the first month is similar.

6.5 Level 2 food groupings

Using the Household AIDS model, elasticities are estimated for each year from 2001 to 2009. Table 6.4 provides averages of the nine sets of estimates as a useful summary. It reveals differences in demand by households that are identical in all respects apart from the price they pay or the total they spend on food.

Table 6.4 Level 2 groupings from the Household AIDS model

Percentage change in demand when price or food expenditure rises by 1%

	Cheeses	Eggs	Cream	Milk	Other	Expenditure
Cheeses	-0.6	0.0	0.0	-0.2	-0.1	0.9
Eggs	0.1	-0.6	0.0	-0.1	0.1	0.5
Cream	-0.3	-0.1	-0.5	0.8	-0.1	0.2
Milk	-0.2	-0.1	0.0	-0.7	-0.1	1.0
Other	-0.1	0.0	0.0	-0.2	-0.7	0.9

	Beef	Lamb	Pork	Bacon & ham	Poultry	Sausage	Other	Expenditure
Beef	-0.6	-0.1	0.0	0.0	0.0	0.0	-0.1	1.1
Lamb	-0.2	-0.6	0.1	-0.1	0.1	0.0	0.0	0.9
Pork	-0.1	0.1	-0.8	0.0	0.0	0.0	0.1	0.8
Bacon & ham	0.0	0.0	0.0	-0.7	0.0	0.0	0.0	1.0
Poultry	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	1.1
Sausage	0.0	0.0	-0.1	0.0	0.0	-0.6	0.2	0.7
Other	-0.1	0.0	0.0	-0.1	0.0	0.0	-1.0	1.3

	White fish	Salmon	Blue fish	Other	Expenditure
White fish	-0.7	0.0	-0.1	-0.1	0.6
Salmon	-0.1	-0.7	-0.1	-0.1	0.6
Blue fish	-0.2	-0.1	-0.5	0.0	0.5
Other	0.0	0.0	0.0	-0.9	0.7

	Fresh fruit	Processed fruit	Nuts	Fruit juice	Expenditure
Fresh fruit	-1.0	0.0	0.0	0.0	0.9
Processed fruit	0.1	-0.8	0.0	0.0	0.6
Nuts	0.0	0.0	-0.7	0.0	0.6
Fruit juice	0.0	0.0	0.0	-0.8	0.7

	Fresh veg	Processed veg	Expenditure
Fresh veg	-1.0	-0.1	1.0
Processed veg	0.1	-0.6	0.4

	Potato	Sweets	Starch	Drink	Other	Fat	Expenditure
Potato	-0.5	-0.1	-0.2	0.0	-0.1	0.0	1.0
Sweets	-0.1	-0.5	-0.2	-0.1	0.0	0.0	1.0
Starch	-0.1	-0.1	-0.8	0.0	0.0	-0.1	1.2
Drink	0.0	-0.1	0.0	-0.8	0.0	0.0	1.0
Other	-0.1	0.0	-0.1	0.0	-0.6	0.0	1.0
Fat	0.0	0.1	-0.3	0.1	0.1	-0.5	0.7

A substitute food is a food with a positive cross price elasticity of demand, i.e. demand increases when the price of another food increases. Apart from cream and milk, the substitute relationships identified are very small in magnitude.

- Demand for eggs was 0.1 per cent higher by households paying a 1 per cent higher price for cheese. This means that eggs are to a small extent a substitute for cheese.
- Demand for cream was 0.8 per cent higher by households paying a 1 per cent higher price for milk. This means that cream is a strong substitute for milk.
- Substitute relationships are apparent for eggs and cheese; cream and milk; lamb and pork; sausage and other meat; tinned fruit and fresh fruit; canned vegetables and fresh vegetables; fat and sweets; fat and drinks; fat and other foods.

A complementary food is a food with a negative cross elasticity of demand, i.e. demand increases when the price of another food group is decreased.

- Demand was lower for sweets (0.1 per cent) and starchy foods (0.1 per cent) by households paying a 1 per cent higher price for potatoes. This means starchy foods and sweets are complementary foods to potatoes.
- Demand was lower for fats (0.3 per cent), potatoes (0.2 per cent) and sweets (0.2 per cent) by households paying 1 per cent more for starchy foods. This means fats, potatoes and sweets are complementary foods to starchy foods.
- Complementary relationships are apparent for: cream and cheese; milk and cheese; cream and milk; milk with other dairy; cream with other dairy; lamb with beef; pork with other meat; blue fish with white fish; white fish with blue fish; canned vegetables with fresh vegetables; other foods with potatoes; fat with sweets; potato with starchy foods; sweets with starchy foods; other foods with starchy foods; fat with starchy foods; potato with other foods.

6.6 When to use each model

The Household AIDS is the preferred model because it makes most use of the information in the data. It can be used when changes in purchasing levels are anticipated to arise from changes in prices paid for foods, which may arise because of changes in underlying food prices or because of changes in household preferences such as trading up or trading down.

The DAIDS model is a simpler less powerful approach based on data that has been aggregated over all households on a monthly basis.

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Development Priorities

The development priorities for the Family Food Survey over the next year are:

1. updating nutrient composition data for our food codes,
2. monitor accuracy of reporting and coding,
3. checks on portion sizes,
4. assess non-response bias,
5. reduce the dependence of eating out estimates on unspecified meals,

(1) updating and accuracy of nutrient composition profiles

The conversion from food purchases to nutrient content requires nutrient composition factors for each of the 'Family Food' food codes. There are about 250 codes for household supplies of food and drink and another 250 for eating out categories. The Department of Health maintains a databank of nutrient compositions for a wide range of specific foods that are made available to Defra. These are updated as and when new data becomes available from DH's analytical programme or from manufacturers and retailers. Each Family Food code covers a number of foods so a weighted average nutrient composition is calculated for each code using data on the relative market share of foods within a code. Work is ongoing to update these market shares to ensure that the nutrient composition calculated for each Family Food code is as accurate as possible. One approach for household supplies is to obtain data from the KANTAR household panel which records household food purchases.

(2) accuracy of reporting and coding

Survey participants record their food and drink purchases in a two week diary. They are able to attach till receipts or to write in diary entries to cover amount spent and quantity purchased for each individual item. In many cases quantities are not properly recorded and to maintain good will and high response rates these omissions are frequently tolerated. As well as lack of quantity information there are also cases where there is insufficient detail recorded on the diary, possibly the till receipt, to identify the correct food code.

To deal with quantity omissions on the diary proxy quantities are found by searching on-line supermarket websites and matching the item description and expenditure. To deal with insufficient information to code default codes are used for generic type products such as breakfast cereals. These forms of imputation impact on the estimates.

(3) checks on portion sizes to improve the quality of eating out

Quantities are not recorded against eating out foods on the Family Food diaries because purchases are often in the form of meals and quantities are unknown. In the eating out section of the Family Food diary the survey participant records an itemised list of meal components. Defra uses a set of standard portion sizes for eating out food codes. These have not been updated since 2001.

(4) assess non-response bias

The response rate to the Family Food Survey has fallen from 60 per cent in 2001 to 54 per cent in 2011. The risk of non-response bias rises as the response rate falls. Significant survey resources are already targeted at achieving a high response rate.

(5) reduce the dependence of eating out estimates on unspecified meals

For most meals recorded in the diary respondents provide an itemised list of its components and we apply standard portion sizes. Unspecified meals arise in the survey when expenditure is recorded but no itemised list is provided. Unspecified meals are problematic in the Family Food Survey because they provide no details of the types of food being purchased or of its nutritional content. To obtain quantity, energy content and nutrient content of unspecified meals we use averages of portion sizes and energy and nutrient contents across the range of possible meal components. It is estimated that unspecified meals may account for over a third of the energy content of food purchases.

Links to Family Food Datasets on the Defra Website

Datasets for the Family Food publication can be accessed though the web at
http://www.defra.gov.uk/statistics/foodfarm/food/familyfood/datasets/

Information is available on purchases, expenditure and nutrient intakes for both household and eating out. Datasets available are:

- United Kingdom
- UK regions
- Gross income quintile
- Equivalised income decile
- Urban Rural
- Household composition
- Age group of household reference person
- Age at which household reference person ceased full-time education
- Ethnic origin of household reference person
- Socio-economic classification of household reference person
- Economic activity of household reference person

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The Family Food Committee

Defra are extremely grateful to the Family Food Committee whose advice on the conduct of the Family Food Module and quality assurance of the annual report is invaluable. The committee are selected from the devolved administrations, Department of Health, Food Standards Agency, Office for National Statistics, nutrition professionals and the food industry. The committee members are not paid a fee for their time spent advising Defra on the survey report.

Jim Holding (Chair)
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Andrew Barnard
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Gaynor Bussell
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Professor Judith Buttriss
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Dr Kathy Johnston
Scottish Government

Dr Laura Keyse
Office For National Statistics

Kirsty Pavey
Food And Drink Federation

Gillian Swan
Department of Health

Professor Martin Wiseman
University Of Southampton

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Data Downloads

Datasets in excel format are available at:
http://www.defra.gov.uk/evidence/statistics/foodfarm/food/familyfood/documents/index.htm

The Family Food datasets are excel spreadsheets containing data for years 2001/02 onwards. The UK household consumption and the UK household expenditure spreadsheets show data for 1974 onwards.

Information is available at United Kingdom level for both household and eating out on:

- purchases,
- expenditure and
- nutrient intakes

There is a further breakdown by:

UK regions
Scotland, Wales, Northern Ireland, English Government Office Region
Rural and Urban: England, Wales and Scotland
Gross income quintile
Equivalised income decile
Household composition
Age group of household reference person
Age at which household reference person ceased full-time education
Ethnic origin of household reference person
Socio-economic classification of household reference person
Economic activity of household reference person

Economic and Social Data Service

Survey data for the Expenditure and Food Survey (2000/01 to 2007) and subsequently the Living Costs and Food Survey (2008 to 2010) is available to download via the Data Archive on the Economic and Social Data Service website:
http://www.esds.ac.uk/findingData/efsTitles.asp

National Food Survey data from 1974 to 2000 is available from:
http://www.esds.ac.uk/findingData/nfsTitles.asp

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Glossary

General

Term	Meaning
Household Reference Person (HRP)	The HRP is the person who: owns the household accommodation, or is legally responsible for the rent of the accommodation, or has the household accommodation by virtue of their employment or personal relationship to the owner who is not a member of the household. If more than one person meets these criteria the HRP will be the one with the higher income. If the incomes are the same then the eldest is chosen.
Consumer Price Index (CPI)	The Consumer Price Index is a statistical measure of a weighted average of prices of a specified set of goods and services. It is used as an indicator of inflation, which is the percentage change in the index compared with the same month one year previously.

Nutrients

Macronutrients	Major nutrients that are consumed in largest amounts and provide bulk energy – protein, carbohydrate and fat.
Micronutrients	A substance needed only in small amounts for normal body function; e.g. vitamins and minerals.
Sodium	Sodium Chloride in the diet is more commonly known as salt. It is the sodium in salt that can be bad for health. Too high an intake of sodium can raise blood pressure, which triples the risk of developing heart disease or having a stroke at any age. Salt is approximately equal to sodium multiplied by 2.5.
Non-milk extrinsic sugar (NMES)	These sugars are more likely to damage teeth than other types of sugar. Products that contain this sugar include fruit juices and honey and 'added sugars', which comprise recipe and table sugars. NMES are found in a wide range of foods, the main sources in the diet being table sugar, confectionery, soft drinks and fruit juices and biscuits and cakes.
Fibre	Non-starch polysaccharides as determined by the Englyst method.
COMA	Committee on Medical Aspects of Food and Nutrition Policy (COMA)
Scientific Advisory Committee on Nutrition (SACN)	A UK-wide advisory committee set up to replace COMA. It advises UK health Departments.
Dietary Reference Values (DRV)	Department of Health, 'Dietary Reference Values for Food Energy and Nutrients for the United Kingdom', HMSO 1991.
Reference Nutrient Intakes (RNI)	Reference Nutrient Intake (RNI) values for protein, vitamins and minerals are set for each age/sex group at a level of intake considered likely to be sufficient to meet the requirements of 97.5% of the group.
Estimated Average Requirement (EAR)	Estimates of energy intake required to meet the average needs of the group to which they apply. About half the people in the group will usually need more energy than EAR and half the people will need less.

Statistical terms

Main effect regression	A statistical technique that does not allow the effect of an explanatory variable (e.g. age) to change when another explanatory variable (e.g. region) changes.
Multiple regression modelling	A statistical technique that predicts values of one variable (e.g. intake of fat) on the basis of two or more other variables (e.g. age, region and income)
Equivalised income	The income a household needs to attain a given standard of living will depend on its size and composition. Equivalisation means adjusting a household's income for size and composition so that the incomes of all households are on a comparable basis. To calculate equivalised income using the 'Modified OECD' equivalence scale, each household member is given an equivalence value. This scale, first proposed by Haagenars et al. (1994), assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child. Additional household members are assigned smaller values to reflect the economies of scale achieved when people live together. Economies of scale arise when households share resources such as water and electricity, which reduces the living costs per person.
Trading Down	Trading down is used in this Family Food report to mean switching to purchases of cheaper products within a food grouping. Cheaper is equivalent to lower quality in some way. The reduction in quality could be in any quality attribute of the product such as packaging, brand name, provenance, nutrient content or taste. Trading down into a completely different type of food is not captured.

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