

# 5. Diet

Unhealthy diets are a cause of CHD. It is estimated that up to 30% of deaths from CHD are due to unhealthy diets<sup>1</sup>.

The dietary changes which would help to reduce rates of CHD in the UK population have been identified by various expert bodies, including the Government's Committee on the Medical Aspects of Food and Nutrition Policy (COMA)<sup>2,3</sup>. The 1994 COMA report recommended a reduction in fat intake, particularly saturated fat intake, a reduction in salt intake and an increase in carbohydrate intake. The committee also recommended that the consumption of fruit and vegetables be increased by 50% to about 400g per day, which is equivalent to at least five daily portions (Table 5.1). In the 2003 report *Salt and Health*, the Scientific Advisory Committee on Nutrition (which replaced COMA in 2000) repeated COMA's guidance on salt intake in adults and introduced additional guidance on reducing salt intake in children<sup>4</sup>.

More recently the World Health Organization published its *Global strategy on diet, physical activity and health*<sup>5</sup>. This outlines the need to limit the consumption of saturated fats, salt and "free" sugars and to increase the consumption of fruit, vegetables, legumes and whole grains in individuals and populations across the world.

Research from the World Health Organization highlights the specific importance of low fruit and vegetable consumption as a cause of CHD. *The World Health Report 2002* estimates that just under 4% of all disease burden in developed countries is caused by low fruit and vegetable consumption, and that between 25% and 49% of CHD in developed countries is due to fruit and vegetable consumption levels below 600g/day<sup>6</sup>.

## *Overall levels of consumption*

Levels of consumption of food and nutrients are difficult to assess. In the UK food consumption patterns within the home have been tracked for over 50 years: between 1942 and 2000 by the National Food Survey, and from 2001 by the Expenditure and Food Survey. While this survey is useful for investigating trends over time, it only provides a general idea about individual levels of consumption. It suggests that overall in 2001/02 British adults derived around 37% of food energy from total fat, and between 14 and 15% from saturated fat<sup>7</sup>.

Data from the 2000/01 National Diet and Nutrition Survey (NDNS), a more rigorous survey based on food consumption in and outside the home, suggest the percentage of energy derived from total fat is lower, currently around 36% in men and 35% in women, and from saturated fat is just over 13% in both men and women (Table 5.2). However, in both surveys the consumption of fat and saturated fat are significantly higher than the COMA targets, and less than one in seven adults (12% men and 17% women) consume the recommended amount of saturated fat (Table 5.2).

The best estimate of fruit and vegetable consumption in adults comes from the 2000/01 National Diet and Nutrition Survey. On average both men and women consume fewer than three portions of fruit and vegetables a day - 2.7 for men and 2.9 for women (Table 5.3). Overall, just 13% of

men and 15% of women consume the recommended five or more portions of fruit and vegetables a day. These proportions increase with age: none of the men and just 4% of the women aged 19-24 years surveyed in the National Diet and Nutrition Survey consumed five or more portions of fruit and vegetables, compared with 24% of men and 22% of women aged 50-64 years.

The best estimate of overall consumption of salt again comes from the National Diet and Nutrition Survey, which utilises 24-hour urine collections to determine salt intake. Data from 2000/01 suggest that the average daily salt intake for men is 11.0g and for women 8.1g – both significantly higher than the Scientific Advisory Committee on Nutrition target of no more than 6g a day (Table 5.4). The proportion of British adults exceeding the daily recommended salt intake is highest in the youngest age group: 98% of men and 83% of women aged 19-24 years consume more than 6 grams of salt daily compared to 85% of men and 69% of women overall (Table and Fig 5.4).

## *Temporal trends*

Data from the National Food Survey (and the more recent Expenditure and Food Survey) allow us to look at general trends in the British diet from 1942.

The percentage of food energy derived from total fat in the British diet is falling, but only gradually: from 42% in the mid 1970's to around 37% in 2001. The type of fat eaten has changed more dramatically: the percentage of food energy derived from saturated fat falling from around 20% to just under 15% (Fig 5.1a)

The trends in fat consumption can be explained by changes in food consumption patterns. For example, since the 1970's there have been falls in the consumption of many different types of foods with a relatively high total fat and saturated fat content, including whole milk and butter. There have also been increases in the consumption of foods which are relatively low in total fat and/or saturated fat, for example reduced fat milks and spreads with a reduced content of fat or saturated fat (Table 5.5 and Figures 5.5a and 5.5b).

Trends in fruit and vegetable consumption over the last sixty years are mixed. Data from the National Food Survey suggest that total fresh fruit consumption has increased around four fold since the early 1940's, but total fresh vegetable consumption has declined (Table 5.5 and Fig 5.5c). More recent data from the Expenditure and Food Survey show that between 1996/97 and 2001/02 the consumption of fruit and vegetables was stable (Fig 5.1b)<sup>7</sup>.

Trends in the consumption of salt are harder to assess than for other nutrients. Data from the National Food Survey suggest that the consumption of salt added to cooking and at the table has declined considerably over the last half century (Fig 5.5d). However, this does not mean that total salt intake has declined because around 70% of dietary salt in the UK is obtained from manufactured foods, and the reliance on some such foods – particularly convenience foods that are often high in salt – has increased in recent years. Comparing average salt consumption in the 1986/87 and the 2000/01 National Diet and Nutrition Surveys shows an increase in both men (up by 9% from 10.1g to 11.0g) and in women (up by 5% from 7.7g to 8.1g) over the last 15 years<sup>8</sup>.

## *Eating habits in children*

Consumption of fruit and vegetables in children is low. The 2002 Health Survey for England measured self-reported<sup>9</sup> fruit and vegetable consumption in children aged 2-15 years. Overall, only 12% of boys and girls reported eating the recommended 5 portions of fruit and vegetables daily, and 10% reported eating no portions of fruit and vegetables in the previous day (Table 5.6). The 1997 National Diet and Nutrition Survey for children, which used the more rigorous method of measured dietary records to assess food consumption, also found very low levels of consumption with one in five 4-18 year olds eating no fruit at all during the week of the survey<sup>10</sup>.

The 1997 National Diet and Nutrition Survey for children found that the average proportion of children's food energy derived from fat was 35.4% for boys and 35.9% for girls, and from saturated fat was 14.2% for boys and 14.3% for girls<sup>10</sup>. Fat intake for children while lower than that found in adults was just above the COMA target of 35%. Saturated fat intake was well above the COMA target of 10% (COMA targets for fat and saturated fat apply to everyone over the age of 5 years).

In 2003 the Scientific Advisory Committee on Nutrition introduced new guidance on salt consumption in children. Data from the 1997 National Diet and Nutrition Survey for children suggest that salt consumption in children is well above the level recommended. This is most marked in children aged 4-6 years who in 1997 consumed almost twice the recommended amount of salt (Table 5.7). Around 40% of the salt children consume comes from cereal and cereal products, such as breakfast cereals, bread and pasta (Table 5.7).

## *Regional differences*

It is often suggested that the diets of people in Scotland and the North of England are less healthy than in the South. When regional differences in total fat and saturated fat consumption are examined no clear pattern emerges (Table 5.8) and in any case differences between regions are small.

Data from the Expenditure and Food Survey suggest there is a strong North-South gradient in both fruit and vegetable consumption with people in Northern Ireland, Scotland and the North of England eating considerably less than in the South. For example, in 2001/02, people living in the South West consumed over 50% more fruit and vegetables (excluding potatoes) than people living in Northern Ireland (Table 5.8). However, data from the 2000/01 National Diet and Nutrition Survey showed no significant regional differences in the number of portions of fruit and vegetables consumed, or the proportion of men and women who consumed five or more portions a day<sup>11</sup> (Table 5.9).

The consumption of table salt appears to be higher in Wales, Scotland, Northern Ireland and London, compared to the rest of England (Table 5.8).

## *Socio-economic differences*

While there is little difference in the fat and saturated fat intake of income level groups, with fresh fruit and vegetables there is a much higher intake in those in households with higher incomes (Table 5.10). Data from the 2001/02 Expenditure and Food Survey show that the volume of fruit (including fruit juices) consumed in the richest 20% of households is double that consumed in the poorest 20% of households (Table 5.10).

Data from the 2000/01 National Diet and Nutrition Survey show that men and women living in households in receipt of state benefits consume fewer portions of fruit and vegetables than those in non-benefit households. About one third of those in benefit households (35% of men and 30% of women) ate no fruit at all during the week of the survey compared with around one seventh (19% men and 12% women) in non-benefit households<sup>12</sup>.

Fruit and vegetable consumption also varies with social class in children. The 2002 Health Survey for England found that children living in managerial and professional households were the most likely to eat five portions of fruit and vegetables, and ate, on average, the highest number of portions<sup>13</sup>.

## *Ethnic differences*

The Health Survey for England 1999 asked questions about the frequency of consumption of a range of foods, (including fruit and vegetables and a number of high fat and high sugar foodstuffs), to assess the eating habits of minority ethnic groups in the UK. Results show considerable variation in eating habits by ethnic group.

Bangladeshi men and women were more likely to frequently consume both red meat and fried foods than adults from other ethnic minority groups. In contrast, Indian men and women were the least likely to frequently eat red meat and Indian men were the least likely to frequently eat fried foods (Table 5.11).

These differences were reflected in the overall fat score (calculated from the food-frequency questionnaire). The proportions with a high fat score were highest in Bangladeshi (22%) and Irish (21%) and lowest in Indian (11%) men. In women 27% of Bangladeshi women had a high fat score compared with 8% of Indian women<sup>14</sup>.

Amongst minority ethnic groups, Chinese men and women have the highest levels of fruit and vegetable consumption, with 46% of men and 60% of women consuming fruit, and 53% of men and 69% of women consuming vegetables, six or more times per week. Bangladeshi adults have the lowest levels of fruit consumption with only 15% of men and 16% women consuming fruit six or more times a week. The lowest levels of vegetable consumption are amongst the Pakistani community, with just 7% of men and 11% of women eating vegetables on six or more days a week (Table 5.11).

## *International differences*

The proportion of energy available from fat varies across European countries, from 16% in Kyrgyzstan to 42% in France. The UK figure of 38%, while around the EU average of 39%, is still markedly higher than the European average of 32% (Table and Fig 5.12).

Dietary intake data show that consumption of fruit and vegetables is generally higher in Southern European countries than it is in Northern, Western, Central and Eastern European countries. Consumption of fruit and vegetables in the UK is around half that found in Spain and around 50% higher than that found in Azerbaijan (Table 5.13).

## Targets

Progress towards the COMA targets for saturated fat and total fat has been disappointing (Fig 5.1a). COMA does not specify by when it considers the 50% increase in fruit and vegetable consumption should be achieved, but the current rate of increase in consumption is exceedingly slow (Fig 5.1b). Salt consumption remains well above the levels recommended by the Scientific Advisory Committee on Nutrition salt subgroup in 2002. A reduction in the salt content of processed foods and drinks is required if the target is to be met.

1. European Heart Network (1998) *Food, Nutrition and Cardiovascular Disease in the European Union*. EHN: Brussels.
2. Department of Health (1994) *Nutritional Aspects of Cardiovascular Disease. Report of the Cardiovascular Review Group of the Committee on Medical Aspects of Food Policy*. HMSO: London
3. COMA was disbanded in March 2000 and a new committee, the Scientific Advisory Committee on Nutrition (SACN), set up to advise the Department of Health and the Food Standards Agency on matters relating to food, diet and health. The committee is currently working in partnership with the Department of Health reviewing national dietary guidance and nutrition policy to produce a Food and Health Action Plan for England. This was due for publication Spring 2004. In Scotland, the equivalent Diet and Nutrition Action Plan was launched in April 2004. See [www.foodstandards.gov.uk/news/newsarchive/scotdietstrat](http://www.foodstandards.gov.uk/news/newsarchive/scotdietstrat)
4. Scientific Advisory Committee on Nutrition (2003) *Salt and Health*. The Stationery Office: London. See [www.sacn.gov.uk/pdfs/sacn\\_salt\\_final.pdf](http://www.sacn.gov.uk/pdfs/sacn_salt_final.pdf)
5. World Health Organization (2004) *Global strategy on diet and physical activity*. WHO: Geneva. See [www.who.int/gb/ebwha/pdf\\_files/WHA57/A57\\_9-en.pdf](http://www.who.int/gb/ebwha/pdf_files/WHA57/A57_9-en.pdf)
6. World Health Organization (2002) *The World Health Report 2002. Reducing Risks, Promoting Healthy Life*. World Health Organization: Geneva.
7. Office for National Statistics (2003) *Family Food in 2001/02: a National Statistics Publication by Defra*. The Stationery Office: London. See <http://statistics.defra.gov.uk/esg/publications/efs/2002/contents.pdf>
8. Social Survey Division of the Office of National Statistics and Medical Research Council Human Nutrition Unit (2003) *The National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 3. Vitamin and mineral intake and urinary analytes*. The Stationery Office: London. [www.foodstandards.gov.uk/multimedia/pdfs/ndns3.pdf](http://www.foodstandards.gov.uk/multimedia/pdfs/ndns3.pdf)
9. Parents of children aged 12 years and under answered questions on fruit and vegetable consumption on behalf of the child, those aged 13-15 years answered the questions themselves.
10. Social Survey Division of the Office of National Statistics and Medical Research Council Human Nutrition Unit (2000) *National Diet and Nutrition Survey: young people aged 4 to 18 years*. The Stationery Office: London.
11. The National Food and Nutrition Survey does not include respondents from Northern Ireland.
12. For more details, see Social Survey Division of the Office of National Statistics and Medical Research Council Human Nutrition Unit (2002) *The National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 1. Types and quantities of food consumed*. The Stationery Office: London. See [www.statistics.gov.uk/downloads/theme\\_health/NDNS.pdf](http://www.statistics.gov.uk/downloads/theme_health/NDNS.pdf)
13. Joint Health Surveys Unit (2003) *Health Survey for England 2002: The Health of Children and Young people*. The Stationery Office: England.
14. See Table 9.3 p240: Joint Health Surveys Unit (2001) *Health Survey for England: The Health of Ethnic Minority Groups 1999*. The Stationery Office: London.

**Table 5.1 Selected dietary targets for the United Kingdom**

<b>England<sup>1,2</sup></b>	
Total fat – <i>COMA target</i>	To reduce the average contribution of total fat to dietary energy to about 35%
Saturated fat – <i>COMA target</i>	To reduce the average contribution of saturated fatty acids to dietary energy to no more than about 10%
Fruit and vegetables – <i>COMA target</i>	To increase the consumption of fruit and vegetables by at least 50%
Salt – <i>SACN targets</i>	To reduce consumption of salt to 6g per day  To reduce consumption of salt to less than 1g in children aged 0-6 months, to 1g in children aged 7-12 months, to 2g in children aged 1-3 years, to 3g in children aged 4-6 years, to 5g in children aged 7-10 years and 6g in children aged 11-14 years
<b>Wales<sup>3</sup></b>	
	No targets set
<b>Scotland<sup>4</sup></b>	
Fat	To reduce the average percentage of food energy from total fat to no more than 35% by the year 2005
Saturated fat	To reduce the average percentage of food energy from saturated fatty acids to no more than 11% by the year 2005
Fruit and vegetables	To double the average intake of fruit and vegetables to more than 400g per day by the year 2005
Salt	To reduce the average intake of salt from 9.6g to 6g per day by the year 2005
<b>Northern Ireland<sup>5</sup></b>	
	No targets set

1. Department of Health (1994) *Nutritional Aspects of Cardiovascular Disease. Report of the Cardiovascular Review Group of the Committee on Medical Aspects of Food Policy.* HMSO: London.

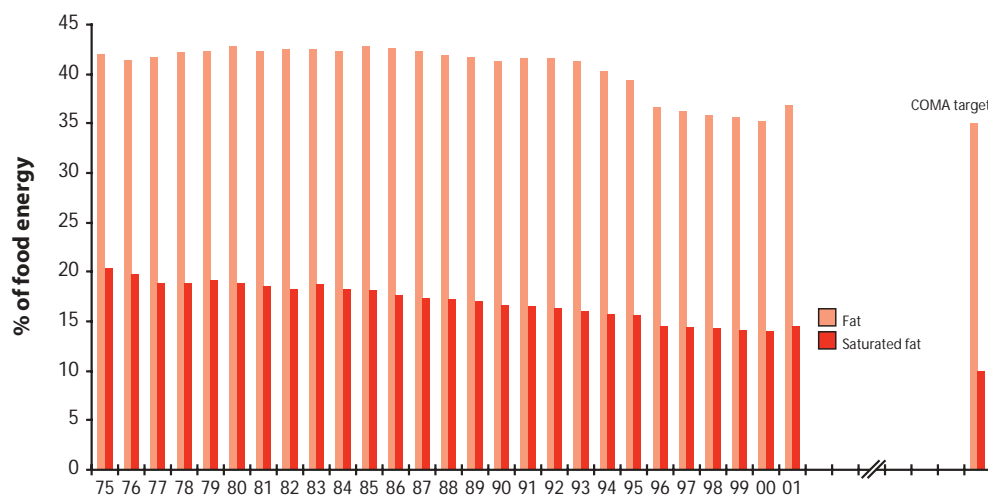
2. Scientific Advisory Committee on Nutrition (2003) *Salt and Health.* The Stationery Office: London.

3. The Welsh Assembly Government is currently developing new determinants of health indicators. The first stage of this work is underway and includes a focus on CHD. See the Chief Medical Officer Wales website, [www.cmo.wales.gov.uk/content/work/health-gain-targets/determinants-of-health-e.htm](http://www.cmo.wales.gov.uk/content/work/health-gain-targets/determinants-of-health-e.htm)

4. The Scottish Office (1996) *Eating for Health. A Diet Action Plan for Scotland.* The Scottish Office: Edinburgh.

5. New strategies for CVD in Northern Ireland are being developed by the Department of Health, Social Services and Public Safety and will be issued for consultation later in 2004.

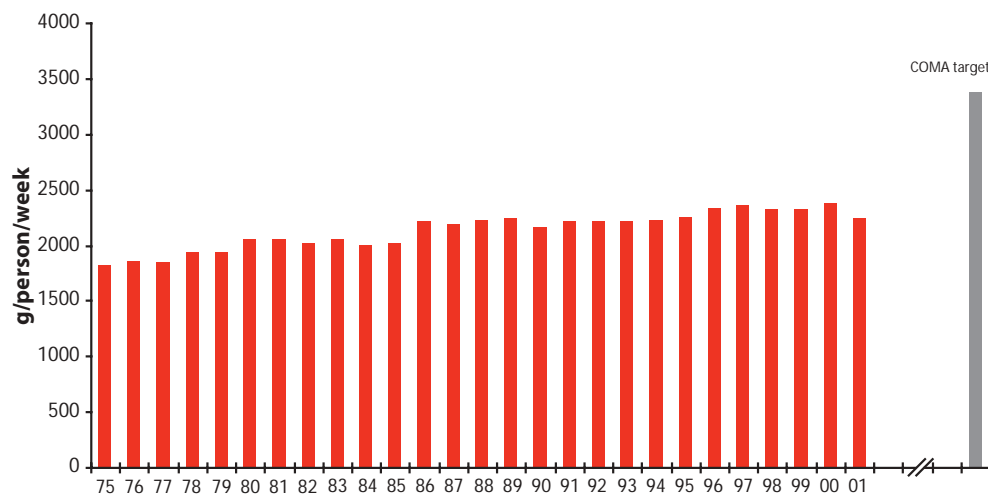
**Fig 5.1a** Consumption of total and saturated fat, adults aged 16 and above, 1975-2001, Great Britain, with COMA target



Data pre-1996 are unadjusted National Food Survey data. 2001 data are Expenditure and Food Survey data. 1996 to 2000 data are adjusted estimates from the National Food Survey. Because of the discontinuity between datasets, these trends need to be interpreted with caution.

Sources: Office for National Statistics (2003) Expenditure and Food Survey 2001/02. The Stationery Office: London; Department for Environment, Food and Rural Affairs (2003) National Food Survey 2000. The Stationery Office: London and previous editions.

**Fig 5.1b** Consumption of fruit and vegetables, adults aged 16 and above, 1975-2001, Great Britain, with COMA target



Data pre-1996 are unadjusted National Food Survey data. 2001 data are Expenditure and Food Survey data. 1996 to 2000 data are adjusted estimates from the National Food Survey. Because of the discontinuity between datasets, these trends need to be interpreted with caution.

Sources: Office for National Statistics (2003) Expenditure and Food Survey 2001/02. The Stationery Office: London; Department for Environment, Food and Rural Affairs (2003) National Food Survey 2000. The Stationery Office: London and previous editions.

**Table 5.2 Percentage of food energy from fat and saturated fatty acids by sex and age, 2000/01, Great Britain**

Percentage of food energy	MEN					WOMEN				
	19-24	25-34	35-49	50-64	All	19-24	25-34	35-49	50-64	All
<b>Total Fat</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>
25% or less	3	2	4	3	3	5	4	8	8	7
27% or less	7	4	8	8	7	10	8	12	15	12
30% or less	17	10	15	17	14	23	19	22	23	22
33% or less	28	27	27	32	29	37	30	34	43	36
35% or less	46	44	40	45	43	49	45	49	56	50
38% or less	65	66	63	63	64	66	68	70	69	69
40% or less	73	82	77	77	78	83	77	82	79	80
45% or less	93	97	96	97	96	95	96	96	93	95
All	100	100	100	100	100	100.0	100	100	100	100
<i>Mean</i>	<i>36.0</i>	<i>35.8</i>	<i>35.9</i>	<i>35.6</i>	<i>35.8</i>	<i>35.5</i>	<i>35.4</i>	<i>34.7</i>	<i>34.5</i>	<i>34.9</i>
<b>% exceeding recommended daily total fat consumption</b>	<b>54</b>	<b>56</b>	<b>60</b>	<b>55</b>	<b>57</b>	<b>51</b>	<b>55</b>	<b>51</b>	<b>44</b>	<b>50</b>
<b>Saturated fatty acids</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>
8% or less	3	2	3	3	3	4	4	7	6	6
10% or less	14	8	12	13	12	18	16	16	20	17
12% or less	22	36	26	36	31	44	32	33	36	35
14% or less	60	60	59	58	59	71	55	61	62	61
16% or less	81	88	82	80	83	88	85	83	80	83
18% or less	91	97	94	93	94	95	95	95	89	93
20% or less	98	100	98	98	98	97	100	98	95	98
All	100	100	100	100	100	100	100	100	100	100
<i>Mean</i>	<i>13.5</i>	<i>13.2</i>	<i>13.5</i>	<i>13.4</i>	<i>13.4</i>	<i>12.9</i>	<i>13.2</i>	<i>13.2</i>	<i>13.3</i>	<i>13.2</i>
<b>% exceeding recommended daily saturated fat consumption</b>	<b>86</b>	<b>92</b>	<b>88</b>	<b>87</b>	<b>88</b>	<b>82</b>	<b>84</b>	<b>84</b>	<b>80</b>	<b>83</b>
<i>Base</i>	<i>108</i>	<i>219</i>	<i>253</i>	<i>253</i>	<i>833</i>	<i>104</i>	<i>210</i>	<i>318</i>	<i>259</i>	<i>891</i>

Data are weighted for non-response.

Source: Office for National Statistics (2003) *The National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 2. Energy, protein, carbohydrate, fat and alcohol intake.* The Stationery Office: London.

**Table 5.3 Consumption of fruit and vegetable portions by sex and age, 2000/01, Great Britain**

Average daily number of portions of fruit and vegetables consumed	MEN					WOMEN				
	19-24	25-34	35-49	50-64	All	19-24	25-34	35-49	50-64	All
	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>	<b>cum %</b>
None	6	1	0	1	1	2	1	1	0	1
Less than one portion	38	27	14	7	18	36	19	16	7	16
Less than two portions	86	54	36	29	45	64	46	41	20	39
Less than three portions	95	76	59	45	64	83	71	61	44	61
Less than four portions	95	86	75	60	76	96	82	73	60	74
Less than five portions	100	93	86	76	87	96	91	83	78	85
All	100	100	100	100	100	100	100	100	100	100
<i>Mean number of portions</i>	<i>1.3</i>	<i>2.2</i>	<i>3.0</i>	<i>3.6</i>	<i>2.7</i>	<i>1.8</i>	<i>2.4</i>	<i>2.9</i>	<i>3.8</i>	<i>2.9</i>
<b>% eating recommended 5 or more portions a day</b>	<b>0</b>	<b>7</b>	<b>14</b>	<b>24</b>	<b>13</b>	<b>4</b>	<b>9</b>	<b>17</b>	<b>22</b>	<b>15</b>
<i>Bases</i>	<i>108</i>	<i>219</i>	<i>253</i>	<i>253</i>	<i>833</i>	<i>104</i>	<i>210</i>	<i>318</i>	<i>259</i>	<i>891</i>

Portions include fruit and vegetables consumed in composite dishes such as fruit pies, vegetable lasagne, cauliflower cheese and vegetable samosas.

Data are weighted for non-response.

Source: Office for National Statistics (2002) *The National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 1. Types and quantities of foods consumed.* The Stationery Office: London.

**Table 5.4** *Daily salt consumption estimated from total urinary sodium by sex and age, 2000/01, Great Britain*

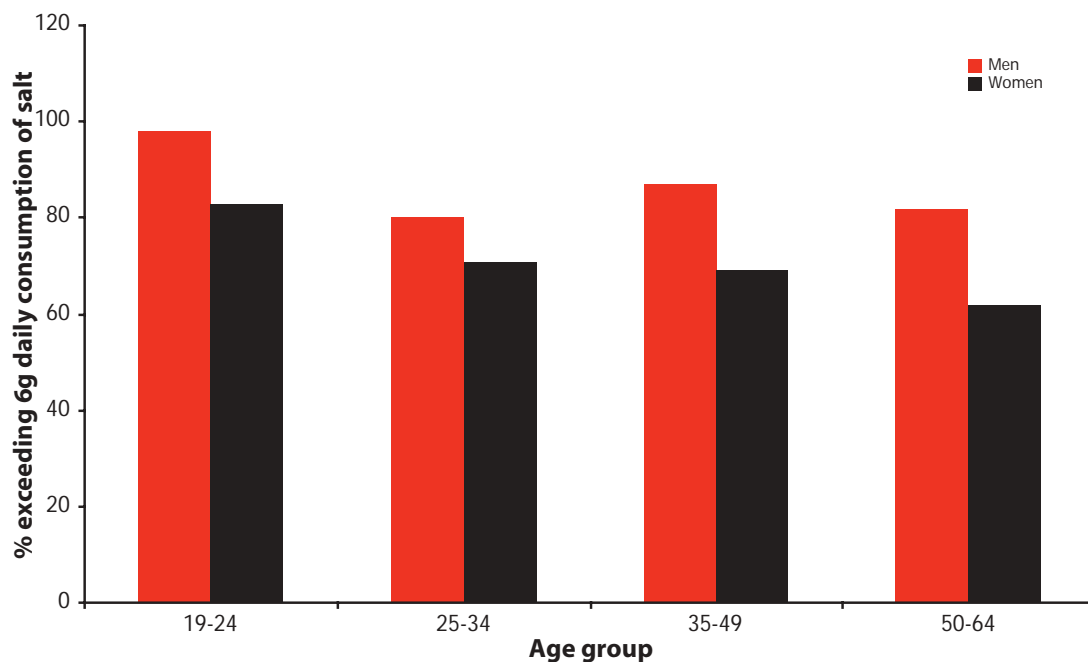
Salt consumption (grams per day)	MEN					WOMEN				
	19-24 cum %	25-34 cum %	35-49 cum %	50-64 cum %	All cum %	19-24 cum %	25-34 cum %	35-49 cum %	50-64 cum %	All cum %
3 or less	-	5	2	5	4	4	6	5	7	6
6 or less	2	20	13	18	15	17	29	31	38	31
9 or less	37	34	39	42	39	66	59	68	69	66
12 or less	60	57	58	65	60	84	81	85	91	86
15 or less	81	73	80	83	79	90	92	96	96	95
18 or less	100	89	91	91	91	92	97	100	99	98
All	100	100	100	100	100	100	100	100	100	100
Mean	11.0	11.4	11.1	10.5	11.0	9.1	8.7	8.0	7.5	8.1
% exceeding recommended daily salt consumption	<b>98</b>	<b>80</b>	<b>87</b>	<b>82</b>	<b>85</b>	<b>83</b>	<b>71</b>	<b>69</b>	<b>62</b>	<b>69</b>
Base	62	152	170	183	567	60	129	203	187	580

Respondents who reported making a full 24-hour urine collection.

Data are weighted for non-response.

Source: Office for National Statistics (2003) *The National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 3. Vitamin and mineral intake and urinary analytes.* The Stationery Office: London.

**Fig 5.4** *Percentage of adults exceeding daily recommended consumption of salt by sex and age, 2000/01, Great Britain*



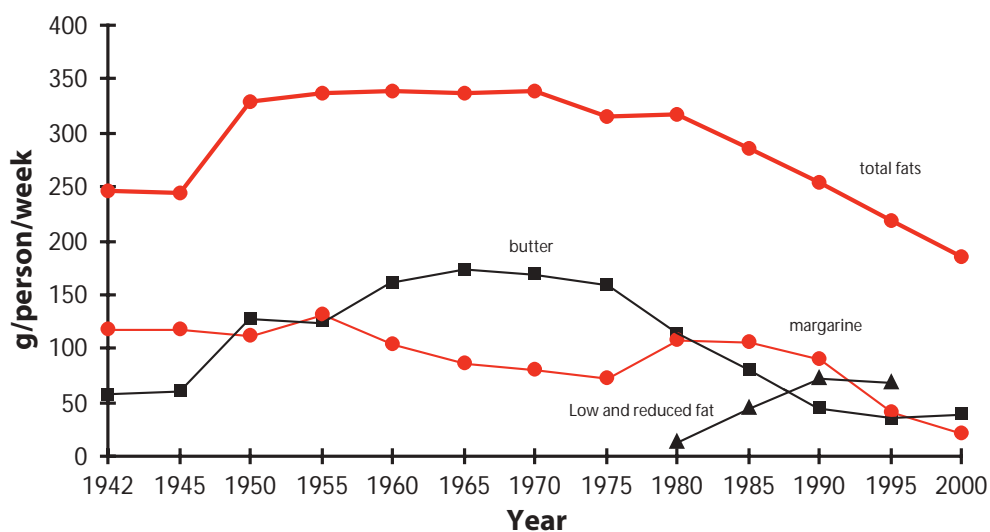
**Table 5.5 Household consumption of selected foods, 1942-2000, Great Britain**

	1942	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000
<i>litres per person per week</i>													
Liquid wholemilk	1.98	2.34	2.72	2.73	2.75	2.76	2.63	2.71	2.36	1.89	1.23	0.81	0.66
Skimmed milks								0.01	0.02	0.24	0.71	1.10	1.14
Yoghurt								0.02	0.05	0.07	0.10	0.13	0.14
<b>Total milk and cream</b>	<b>2.14</b>	<b>2.52</b>	<b>2.94</b>	<b>2.89</b>	<b>2.92</b>	<b>2.95</b>	<b>2.89</b>	<b>2.91</b>	<b>2.60</b>	<b>2.35</b>	<b>2.17</b>	<b>2.17</b>	<b>2.08</b>
<i>number per person per week</i>													
Eggs	1.40	3.01	3.50	4.19	4.64	4.78	4.66	4.14	3.69	3.15	2.20	1.85	1.75
<i>grams per person per week</i>													
Natural cheese				70	75	81	92	99	104	103	105	98	99
Processed cheese				10	11	10	10	8	6	7	9	10	12
<b>Total cheese</b>	<b>101</b>	<b>71</b>	<b>72</b>	<b>80</b>	<b>86</b>	<b>91</b>	<b>102</b>	<b>107</b>	<b>110</b>	<b>111</b>	<b>113</b>	<b>108</b>	<b>110</b>
Oranges and other citrus fruits		75	93	108	124	122	142	140	149	117	134	133	135
Apples and pears			201	190	230	231	234	211	250	227	239	224	226
Bananas			37	83	96	101	85	81	87	80	125	176	206
<b>Total fresh fruit</b>	<b>197</b>	<b>318</b>	<b>409</b>	<b>457</b>	<b>522</b>	<b>533</b>	<b>543</b>	<b>495</b>	<b>590</b>	<b>524</b>	<b>605</b>	<b>672</b>	<b>745</b>
Fruit juice (ml)			7	8	14	19	17	38	87	148	202	244	303
Total other fruit			97	156	162	173	163	143	118	94	88	80	72
<b>Total fruit</b>	<b>197</b>	<b>318</b>	<b>513</b>	<b>621</b>	<b>698</b>	<b>725</b>	<b>723</b>	<b>676</b>	<b>795</b>	<b>766</b>	<b>895</b>	<b>996</b>	<b>1120</b>
Fresh green vegetables	438	517	392	415	430	407	372	327	353	276	277	225	240
Other fresh vegetables	450	442	433	415	427	406	394	390	449	445	459	470	492
<b>Total fresh vegetables (excludes potatoes)</b>	<b>888</b>	<b>959</b>	<b>825</b>	<b>830</b>	<b>857</b>	<b>813</b>	<b>766</b>	<b>717</b>	<b>802</b>	<b>721</b>	<b>736</b>	<b>695</b>	<b>732</b>
Other vegetables and products (includes frozen and canned)	136	188	214	224	260	304	382	417	458	525	529	563	547
Fresh potatoes	1877	1863	1759	1698	1588	1509	1470	1243	1163	1162	996	803	707
Bread	1718	1752	1637	1563	1289	1151	1080	956	882	878	797	756	720
Flour	181	176	206	243	192	173	161	149	161	115	91	57	67
Cakes and pastries (includes scones)			190	158	179	191	161	88	79	70	70	85	89
Biscuits (includes crispbreads)	74	82	104	145	161	165	163	157	154	147	149	135	141
Breakfast cereals	23	26	40	48	51	56	78	87	99	114	127	135	143
<b>Total cereals (excludes breads)</b>	<b>593</b>	<b>672</b>	<b>678</b>	<b>706</b>	<b>711</b>	<b>729</b>	<b>711</b>	<b>668</b>	<b>689</b>	<b>648</b>	<b>673</b>	<b>712</b>	<b>788</b>
<b>Bread and cereal products</b>	<b>2310</b>	<b>2424</b>	<b>2315</b>	<b>2269</b>	<b>2000</b>	<b>1880</b>	<b>1791</b>	<b>1624</b>	<b>1571</b>	<b>1526</b>	<b>1470</b>	<b>1468</b>	<b>1508</b>
Sugar	238	259	287	500	503	498	480	319	317	238	171	136	105
Preserves	140	155	179	116	91	85	73	69	58	53	48	39	33
Tea			61	79	79	74	73	62	58	49	43	39	34
Coffee			6	10	11	12	16	18	19	19	18	16	15
<b>Total beverages</b>			<b>77</b>	<b>100</b>	<b>101</b>	<b>98</b>	<b>102</b>	<b>88</b>	<b>85</b>	<b>77</b>	<b>70</b>	<b>63</b>	<b>58</b>
Fresh white fish			89	90	67	64	50	37	32	29	24	20	15
Fresh fatty fish			16	11	9	7	6	5	7	7	8	10	14
Shell fish			3	3	3	2	1	2	3	4	5	6	7
Cooked fish			29	23	24	28	29	19	21	17	15	15	8
<b>Total fish and fish products</b>	<b>187</b>	<b>261</b>	<b>188</b>	<b>169</b>	<b>166</b>	<b>164</b>	<b>152</b>	<b>127</b>	<b>136</b>	<b>139</b>	<b>144</b>	<b>144</b>	<b>143</b>
<b>Salt</b>					<b>26</b>	<b>25</b>	<b>28</b>	<b>21</b>	<b>26</b>	<b>22</b>	<b>12</b>	<b>11</b>	<b>7</b>
Butter	56	61	129	127	161	173	170	160	115	80	46	36	39
Margarine	118	119	112	133	104	86	81	74	108	106	91	41	21
Low fat spreads										13	26	26	20
Reduced fat spreads											19	46	48
Lard	50	43	56	62	58	60	63	55	51	41	23	13	6
<b>Total fats</b>	<b>245</b>	<b>245</b>	<b>329</b>	<b>337</b>	<b>339</b>	<b>336</b>	<b>339</b>	<b>315</b>	<b>318</b>	<b>286</b>	<b>255</b>	<b>218</b>	<b>186</b>
Beef and veal	230	179	228	265	248	229	221	238	231	185	149	121	124
Mutton and lamb	150	173	154	186	188	167	149	120	128	93	83	54	55
Pork	11	40	9	66	57	79	80	78	117	98	84	71	68
Bacon and ham	112	100	128	172	175	179	177	142	149	137	118	115	112
Poultry			10	14	50	100	143	160	189	195	226	237	253
Sausages	113	110	114	99	103	106	106	92	92	84	68	63	60
<b>Total meat and meat products</b>	<b>746</b>	<b>746</b>	<b>846</b>	<b>976</b>	<b>1017</b>	<b>1066</b>	<b>1121</b>	<b>1054</b>	<b>1140</b>	<b>1042</b>	<b>968</b>	<b>945</b>	<b>966</b>

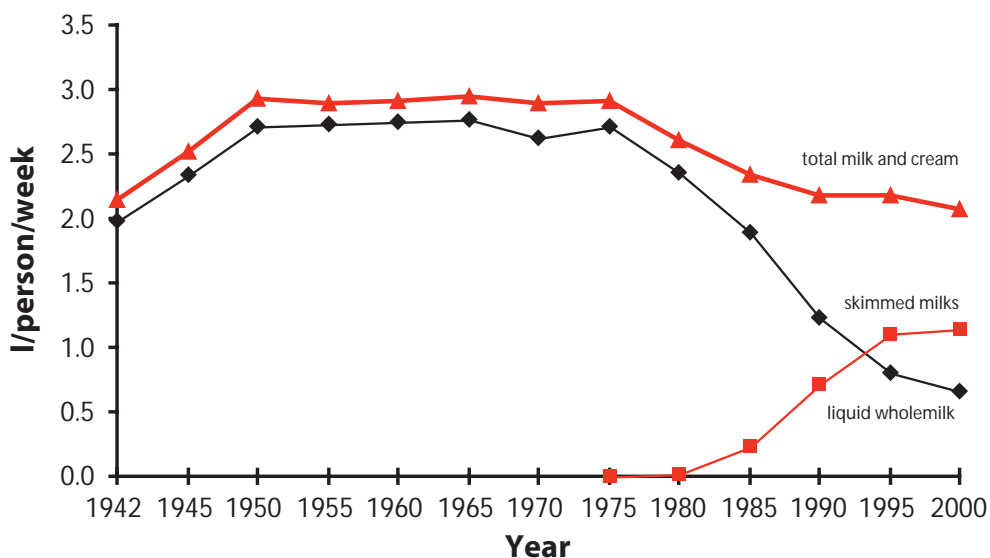
Men and women aged 16 and above.

Source: Department for Environment, Food and Rural Affairs (2001) National Food Survey 2000. The Stationery Office: London and previous editions.

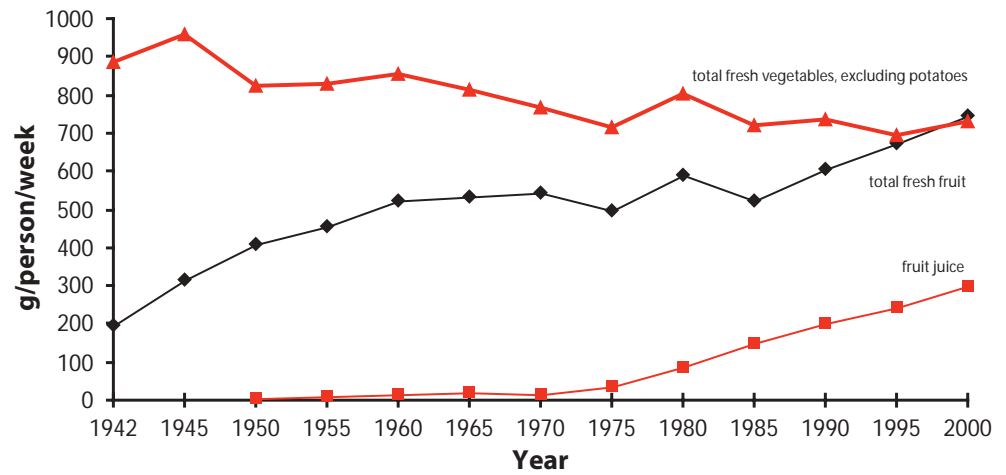
**Fig 5.5a** Household consumption of fats, 1942-2000, Great Britain



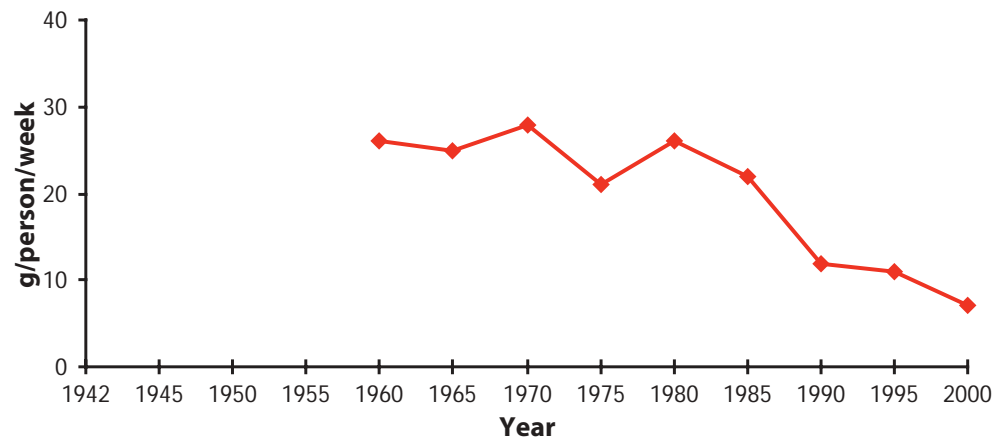
**Fig 5.5b** Household consumption of milk and milk products, 1942-2000, Great Britain



**Fig 5.5c** Household consumption of fresh fruit and vegetables, 1942-2000, Great Britain



**Fig 5.5d** Household consumption of table salt, 1960-2000, Great Britain



**Table 5.6 Fruit and vegetable consumption by sex and age, children aged 5 to 15, 2002, England**

<i>Fruit and vegetable consumption (portions per day)</i>	<b>All ages</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
	%	%	%	%	%	%	%	%	%	%	%	%
<b>BOYS</b>												
None	11	7	10	10	10	13	11	12	10	13	13	16
Less than 1 portion	5	6	5	7	7	4	7	3	4	4	3	3
1 portion or more but less than 2	24	25	25	22	25	27	22	24	25	23	26	24
2 portions or more but less than 3	24	22	27	30	25	24	24	23	21	23	21	21
3 portions or more but less than 4	15	18	13	14	14	15	17	16	15	13	14	14
4 portions or more but less than 5	9	10	11	8	9	8	9	9	10	11	10	8
5 portions or more	12	12	10	10	10	9	10	12	15	12	15	14
<i>Mean</i>	2.5	2.6	2.4	2.5	2.4	2.4	2.4	2.5	2.7	2.5	2.7	2.5
<b>% consuming less than the recommended number of portions per day</b>	<b>88</b>	<b>88</b>	<b>90</b>	<b>90</b>	<b>99</b>	<b>91</b>	<b>90</b>	<b>88</b>	<b>85</b>	<b>88</b>	<b>85</b>	<b>86</b>
<i>Base</i>	3367	287	304	336	317	296	331	322	299	290	309	275
<b>GIRLS</b>												
None	8	8	10	8	7	4	9	6	7	9	8	9
Less than 1 portion	5	6	4	3	7	3	7	5	7	5	3	3
1 portion or more but less than 2	26	24	30	26	23	35	26	26	24	25	19	25
2 portions or more but less than 3	22	25	22	23	25	21	22	19	21	23	25	17
3 portions or more but less than 4	18	12	15	18	19	16	15	22	21	16	21	19
4 portions or more but less than 5	10	13	11	9	8	10	9	9	6	9	9	13
5 portions or more	12	11	9	13	11	10	11	13	13	11	15	14
<i>Mean</i>	2.6	2.6	2.5	2.7	2.5	2.6	2.6	2.7	2.6	2.5	2.9	2.8
<b>% consuming less than the recommended number of portions per day</b>	<b>88</b>	<b>89</b>	<b>91</b>	<b>87</b>	<b>89</b>	<b>90</b>	<b>89</b>	<b>87</b>	<b>87</b>	<b>89</b>	<b>85</b>	<b>86</b>
<i>Base</i>	3236	301	296	298	300	300	281	310	304	296	280	270
<b>ALL</b>												
None	10	8	10	9	9	8	10	9	9	11	11	13
Less than 1 portion	5	6	4	5	7	4	7	4	6	5	3	3
1 portion or more but less than 2	25	24	27	24	24	31	24	25	25	24	23	25
2 portions or more but less than 3	23	24	25	27	25	23	23	21	21	23	23	19
3 portions or more but less than 4	16	15	14	16	16	16	16	19	18	15	17	16
4 portions or more but less than 5	10	12	11	8	9	9	9	9	8	10	9	10
5 portions or more	12	12	9	11	10	9	11	13	14	11	15	14
<i>Mean</i>	2.6	2.6	2.4	2.6	2.4	2.5	2.5	2.6	2.7	2.5	2.8	2.6
<b>% consuming less than the recommended number of portions per day</b>	<b>88</b>	<b>88</b>	<b>91</b>	<b>89</b>	<b>90</b>	<b>91</b>	<b>89</b>	<b>87</b>	<b>86</b>	<b>89</b>	<b>85</b>	<b>86</b>
<i>Base</i>	6603	588	600	634	617	596	611	632	603	586	589	545

Source: Joint Health Surveys Unit (2003) Health Survey for England 2002: The Health of Children and Young People. The Stationery Office: London. See [www.publications.doh.gov.uk/stats/trends1.htm](http://www.publications.doh.gov.uk/stats/trends1.htm) Children 1995-2002, Table 8.

**Table 5.7** *Salt consumption and percentage contribution of food types to average daily salt intake by sex and age, young people aged 4 to 18 years, 1997, Great Britain*

<i>Food type</i>	<b>4-6 years</b>		<b>7-10 years</b>		<b>11-14 years</b>		<b>15-18 years</b>	
	<b>Salt (g)</b>	<b>%</b>	<b>Salt (g)</b>	<b>%</b>	<b>Salt (g)</b>	<b>%</b>	<b>Salt (g)</b>	<b>%</b>
<b>BOYS</b>								
Cereals & cereal products	2.1	40	2.6	42	2.7	40	3.2	38
Meat and meat products	1.1	20	1.3	21	1.6	24	2.3	28
Savoury snacks	0.4	7	0.4	7	0.4	6	0.3	4
Vegetables and potatoes	0.5	10	0.4	7	0.6	9	0.8	9
Milk and cheese	0.5	9	0.5	8	0.5	7	0.8	7
Other foods	0.7	14	0.9	15	1.0	14	1.0	14
<b>Total (average daily intake)</b>	<b>5.3</b>	<b>100</b>	<b>6.1</b>	<b>100</b>	<b>6.8</b>	<b>100</b>	<b>8.3</b>	<b>100</b>
<b>GIRLS</b>								
Cereals & cereal products	1.9	39	2.3	42	2.6	38	3.1	38
Meat and meat products	0.9	19	1.2	21	1.5	22	1.8	28
Savoury snacks	0.4	8	0.4	8	0.6	8	0.4	4
Vegetables and potatoes	0.4	8	0.3	6	0.6	8	0.8	9
Milk and cheese	0.5	10	0.4	8	0.5	7	0.6	7
Other foods	0.8	16	0.8	15	0.1	17	1.7	14
<b>Total (average daily intake)</b>	<b>4.7</b>	<b>100</b>	<b>5.5</b>	<b>100</b>	<b>5.8</b>	<b>100</b>	<b>8.3</b>	<b>100</b>

Source: *Scientific Advisory Committee on Nutrition (2003) Salt and Health. The Stationery Office: London. Data from the 1997 National Diet and Nutrition Survey: young people aged 4-18 years.*

**Table 5.8 Household consumption of (a) energy, fat and saturated fat, (b) fruit and vegetables, and (c) salt by country of the United Kingdom, and by Government Office Region in England, 2001/02, United Kingdom**

	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West	England	Wales	Scotland	Northern Ireland
<b>(a) energy and fat</b>													
Consumption per person per day													
Energy (kcal)	1943	2052	1959	2119	2039	2122	1919	2023	2111	2078	2235	2093	2155
(MJ)	8.2	8.6	8.2	8.9	8.6	8.9	8.1	8.5	8.9	8.7	9.4	8.8	9.1
Percentage of food energy from fats													
Total fat	35.8	37.1	36.2	37.0	36.7	37.0	37.4	37.0	36.6	37.0	37.4	36.3	36.0
Saturated fatty acids	14.5	14.5	14.5	14.8	14.4	14.8	14.1	14.9	14.9	14.6	14.7	14.7	14.6
<b>(b) fruit and vegetables</b>													
Consumption per person per day													
Fruit (grams)	140	152	135	162	144	186	192	182	206	169	145	149	120
Vegetables - excluding potatoes (grams)	143	146	154	167	157	167	161	166	171	160	157	129	118
<b>(c) salt</b>													
Consumption per person per day													
Sodium (grams)	2.8	2.9	2.9	3.0	2.9	3.0	2.5	2.8	2.9	2.8	3.1	3.1	3.1
Salt* (grams)	7.1	7.3	7.2	7.5	7.2	7.5	6.2	7.1	7.3	7.1	7.9	7.7	7.7

\*Conversion factor: salt (g) = sodium (g) x 2.52

Source: Office for National Statistics (2003) Family Food in 2001/02: a National Statistics Publication by Defra. The Stationery Office: London. See <http://statistics.defra.gov.uk/esg/publications/efs/2002/contents.pdf>

**Table 5.9 Consumption of fruit and vegetable portions by sex and region, 2000/01, Great Britain**

Average daily number of portions of fruit and vegetables consumed	MEN					WOMEN						
	Scotland	Northern	Central, South West and Wales	London and the South East	Scotland	Northern	Central, South West and Wales	London and the South East	Scotland	Northern	Central, South West and Wales	London and the South East
	cum %	cum %	cum %	cum %	cum %	cum %	cum %	cum %	cum %	cum %	cum %	cum %
None	0	2	1	1	1	2	1	0	1	2	1	0
Less than one portion	18	19	20	17	17	17	13	12	17	25	13	12
Less than two portions	44	47	48	40	35	46	40	32	35	46	40	32
Less than three portions	67	67	67	56	60	65	63	54	60	65	63	54
Less than four portions	73	77	78	72	65	76	78	70	65	76	78	70
Less than five portions	83	88	90	83	84	83	87	85	84	83	87	85
All	100	100	100	100	100	100	100	100	100	100	100	100
Mean number of portions	2.9	2.6	2.6	3.0	3.0	2.7	2.8	3.2	3.0	2.7	2.8	3.2
<b>% eating recommended 5 or more portions a day</b>	<b>17</b>	<b>12</b>	<b>10</b>	<b>17</b>	<b>16</b>	<b>17</b>	<b>13</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>13</b>	<b>15</b>
Bases	65	234	294	240	66	229	327	268	66	229	327	268

Portions include fruit and vegetables consumed in composite dishes such as fruit pies, vegetable lasagne, cauliflower cheese and vegetable samosas. Data are weighted for non-response.

Source: Office for National Statistics (2002) The National Diet and Nutrition Survey: adults aged 19 to 64 years. Volume 1. Types and quantities of foods consumed. The Stationery Office: London.

**Table 5.10 Household consumption of (a) energy, fat and saturated fat, (b) fruit and vegetables, and (c) salt by income quintile, 2001/02, United Kingdom**

	Quintile 1 (Lowest income)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (Highest income)
<b>(a) energy and fat</b>					
<i>Consumption per person per day</i>					
Energy (kcal)	1968	2119	2157	2133	2078
Energy (MJ)	8.3	8.9	9.1	9.0	8.7
<i>Percentage of food energy from fats</i>					
Total fat	37.3	37.1	37.1	36.7	36.2
Saturated fatty acids	14.3	14.7	15.0	14.6	14.3
<b>(b) fruit and vegetables</b>					
<i>Consumption per person per day</i>					
Fruit (grams)	113	148	158	187	233
Vegetables - excluding potatoes (grams)	125	146	159	169	188
<b>(c) salt</b>					
<i>Consumption per person per day</i>					
Sodium (grams)	2.6	2.9	3.0	3.0	2.9
Salt* (grams)	6.6	7.2	7.5	7.6	7.3

\*Conversion factor: salt (g) = sodium (g) x 2.52

Source: Office for National Statistics (2003) *Family Food in 2001/02: a National Statistics Publication* by Defra. The Stationery Office: London. See <http://statistics.defra.gov.uk/esg/publications/efs/2002/contents.pdf>

Table 5.11 Eating habits by sex and minority ethnic group, 1999, England

Type of food and frequency of consumption	Minority ethnic group				Type of food and frequency of consumption	Minority ethnic group						
	Black Caribbean	Indian	Pakistani	Bangladeshi		Chinese	Irish	Black Caribbean	Indian	Pakistani	Bangladeshi	Chinese
	%	%	%	%		%	%	%	%	%	%	%
<b>MALES</b>												
<b>Fruit (fresh, frozen and tinned)</b>												
6 or more times per week	22	24	24	15	46	23	37	28	24	16	60	44
1-5 times per week	58	61	56	62	42	58	50	57	62	54	35	45
Less than once a week	13	8	11	13	9	11	8	9	9	18	4	8
Rarely/never	7	6	8	10	4	8	5	7	5	12	2	4
<b>Vegetables (fresh, frozen, tinned)*</b>												
6 or more times per week	18	23	7	30	53	22	29	28	11	35	69	38
1-5 times per week	70	69	78	61	41	71	64	67	75	53	30	57
Less than once a week	8	6	12	7	4	3	5	4	11	8	1	2
Rarely/never	5	2	3	3	2	3	2	1	3	4	0	2
<b>Red meat (including red meat products)</b>												
6 or more times per week	3	2	3	13	11	4	2	0	3	11	7	2
1-5 times per week	68	45	64	57	80	79	61	34	62	55	72	67
Less than once a week	14	15	10	8	4	13	21	13	7	12	13	19
Rarely/never	15	38	23	22	5	5	17	52	28	23	8	12
<b>Fried foods</b>												
6 or more times per week	5	2	4	13	8	4	2	2	3	8	3	1
1-5 times per week	63	63	65	52	59	68	58	55	66	60	57	43
Less than once a week	23	21	20	22	21	17	25	26	22	23	29	33
Rarely/never	10	14	11	13	12	12	16	17	10	9	11	23
<b>Sweet/savoury snacks**</b>												
6 or more times per week	13	14	16	18	14	22	13	15	16	21	11	19
1-5 times per week	55	58	49	43	53	56	60	60	56	40	55	59
Less than once a week	17	18	19	16	17	12	16	18	14	13	21	13
Rarely/never	15	10	16	22	16	10	11	7	14	26	14	9
<b>Cakes/pastries***</b>												
6 or more times per week	4	3	4	4	2	3	2	2	4	5	1	6
1-5 times per week	45	43	41	39	43	58	49	48	50	32	43	51
Less than once a week	23	34	28	30	34	23	31	32	26	28	36	25
Rarely/never	29	21	28	27	22	17	18	18	20	35	20	17
Bases	359	464	379	273	194	400	520	468	414	302	253	546

Bases (unweighted) vary; those shown are for the fried food sample.

Adults 16 and over.

\* Excludes chips. \*\* Includes chocolates/crisps/biscuits. \*\*\* Includes Indian sweets.

**Table 5.12** *Percentage of total energy available from fat by country, 2001, selected European countries*

Albania	27.4	Lithuania	26.5
Armenia	17.2	Luxembourg	39.6
Austria	38.0	Netherlands	38.7
Azerbaijan	14.3	Norway	36.3
Belarus	29.2	Poland	30.9
Belgium	39.6	Portugal	33.0
Bosnia and Herzegovina	23.6	Republic of Moldova	16.7
Bulgaria	32.1	Romania	24.2
Croatia	29.7	Russia	36.5
Cyprus	36.8	Serbia and Montenegro	33.8
Czech Republic	34.1	Slovakia	33.8
Denmark	37.0	Slovenia	33.7
Estonia	28.6	Spain	40.5
Finland	35.3	Sweden	35.9
France	41.7	Switzerland	40.3
Georgia	18.5	Tajikistan	18.0
Germany	39.5	FYR of Macedonia	29.8
Greece	36.6	Turkey	24.0
Hungary	37.1	Turkmenistan	22.5
Iceland	35.8	Ukraine	22.7
Ireland	32.3	United Kingdom	37.8
Israel	31.9	Uzbekistan	23.1
Italy	38.3		
Kazakhstan	26.2	<i>Europe average</i>	<i>32.1</i>
Kyrgyzstan	16.1	<i>EU(15) average</i>	<i>39.0</i>
Latvia	34.1		

Source: World Health Organization (2004) *European Health for All* statistical database.  
See <http://hfadb.who.dk/hfa/>

**Fig 5.12** *Percentage of total energy available from fat by country, 2001, Europe*

