

Fruit and vegetable consumption

7

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Summary

- The '5 A DAY' programme is part of a preventative strategy aimed at improving diet and nutrition in the general population. Current guidelines recommend that adults and children should aim to eat five or more portions of fruit and vegetables each day.
- For adults, fewer men than women consumed the recommended five or more portions of fruit and vegetables on the previous day (25% and 28% respectively). For children, 16% of boys and 17% of girls consumed at least five portions on the previous day.
- Consumption varied with age among both adults and children. Children aged 11-12 and adults aged 16-24 consumed, on average, the lowest number of portions of fruit and vegetables and were least likely to meet the '5 A DAY' recommendation.
- Both men and women living in London and other regions in the South consumed, on average, the highest number of portions. Adults living in London were also most likely to meet the '5 A DAY' recommendation.
- Higher consumption was also associated with higher income, and vice versa: 30% of men and 35% of women in the highest income quintile had consumed five or more portions on the previous day compared with only 19% of men and 23% of women in the lowest quintile. The same pattern was seen in children.
- For both men and women, the proportion consuming five or more portions per day increased from 2001 (when measurements started) reaching a peak in 2006 at around 28% for men and 32% for women. Levels have dropped since then.
- There was a similar trend for children. There was an increase in the proportion consuming five or more portions per day from 2005, and prevalence fluctuated around 19% - 21% for boys and 20% - 22% for girls between 2006 and 2010. Since then the prevalence has dropped to the 2005 levels.

7.1 Introduction

In 2002 the World Health Organization (WHO) began to develop a global strategy on diet, physical activity and health in the context of the rising burden of chronic diseases. Diseases like cardiovascular disease, stroke, diabetes and cancer present a major challenge to public health, particularly in developed countries. These diseases, and the associated unhealthy behaviours, cluster among poor communities and contribute to social and economic inequalities.¹ A commitment to tackling health inequalities was set out in the government's 2010 Healthy Lives, Healthy People White Paper in England.²

A 2005 report estimated that food-related ill health is responsible for about 10% of deaths and illness, costing the NHS £6 billion annually. The vast majority of this burden is due to unhealthy diets.³ Dietary goals to prevent chronic diseases emphasise eating more fresh vegetables, fruits, and pulses.⁴ The '5 A DAY' guidelines were developed based on the recommendation from the WHO that consuming 400g of fruit and vegetables a day can reduce risks of chronic diseases, such as heart disease, stroke, and some cancers.⁵ These guidelines state that everyone should eat at least five portions of a variety of fruit and vegetables every day.⁶ Fruit and vegetables may also play an important role in weight management when combined with reduced fat intake,⁷ and may reduce the risk of Type 2 diabetes⁸ and impaired cognitive function.⁹

7.2 Methods and definitions

7.2.1 Methods

Questions about fruit and vegetable consumption have been included in the HSE since 2001. All participants aged 5 and over are asked about fruit and vegetable consumption as part of the CAPI (computer assisted personal interview). From 2011, the fruit and vegetable consumption questions have been included in alternate years of the survey, so have been included in 2011 and 2013; however there is no data for 2012.

The questions are designed to assess fruit and vegetable consumption in the context of the '5 A DAY' programme. Consumption is measured in terms of the number of 'portions' of fruit and vegetables eaten per day.

Participants are asked about any fruit and vegetables consumed on the day before the interview. The time period covered, the 24 hours from midnight to midnight, means that variation in working patterns and times of meals does not affect the measure of average daily consumption. Any seasonal or weekly variation in eating habits is minimised in the aggregate data, as interviewing is carried out throughout the year and on every day of the week.

Age-standardisation has been used in most of the tables for adults, including by region, income and deprivation, to allow comparisons between groups after adjusting for the effects of any differences in their age distributions.

7.2.2 Portion size

According to the '5 A DAY' guidelines, recommended daily consumption for adults is 400g of fruit and vegetables, with one portion defined as 80g.⁶ There is currently no recommended portion size for children. The Children's Food Trust suggests a good guide is at least half an adult portion, 40g, for primary school aged pupils, and a move towards the adult size portion, 80g, for secondary school aged pupils.¹⁰ However, an 80g portion size is assumed for all ages in the HSE, and this should be borne in mind when interpreting data for children.

A variety of foods contribute to daily fruit and vegetable intake. These include fresh, frozen and tinned vegetables; salads; pulses; fresh, tinned, frozen and dried fruit; and fruit or vegetables in composite dishes.¹¹

Portion sizes for different food items have been converted to everyday units to make it easier for people to calculate (and monitor) their daily consumption. For example, an 80g portion is equal to three tablespoons of vegetables, a cereal bowlful of salad or a medium fruit (such as an apple). This approach has also been used in the HSE to help participants to report their consumption more accurately.

Table 7A shows the measures of portion size for different food items.

Table 7A	
Portion size for different food items	
Food item	Portion size
Vegetables (fresh, raw, tinned and frozen)	3 tablespoons
Pulses	3 tablespoons
Salad	1 cereal bowl
Vegetables in composites, e.g. vegetable curry	3 tablespoons
Very large fruit, e.g. melon	1 average slice
Large fruit, e.g. grapefruit	Half a fruit
Medium fruit, e.g. apples	1 fruit
Small fruit, e.g. plums	2 fruits
Very small fruit and berries	1 average handful
Dried fruit	1 tablespoon
Frozen fruit/tinned fruit	3 tablespoons
Fruit in composites, e.g. stewed fruit	3 tablespoons
Fruit juice	1 small glass (150ml)

The '5 A DAY' guidelines also indicate which foods do not count as part of daily fruit and vegetable consumption. These guidelines were incorporated into the HSE questions. For example, potatoes or rice do not count as these are regarded as a starchy staple.

According to the '5 A DAY' guidelines, it is important to eat a variety of fruit and vegetables. Eating different fruit and vegetables provides the range of vitamins, minerals and nutrients needed. In the HSE, the number of portions of fruit juice, pulses and dried fruit were capped at one portion each, even if the participant had consumed more than one portion the previous day.¹²

7.2.3 Interpretation of data

The fruit and vegetable consumption module is based on self-reported information which is collected for a 24 hour recall period. Every attempt has been made to ensure that participants report an accurate picture of consumption by using everyday measures to identify portions. However, there may be variations in the way questions are interpreted by participants, for example, in assessing the number of portions in composite foods such as fruit pie.

It has also been suggested that some participants might intentionally over-report their consumption to indicate socially desirable behaviour.¹³ Nevertheless, survey estimates can still provide useful comparisons of consumption patterns of the population, particularly when consistent measures are repeated over time.¹⁴

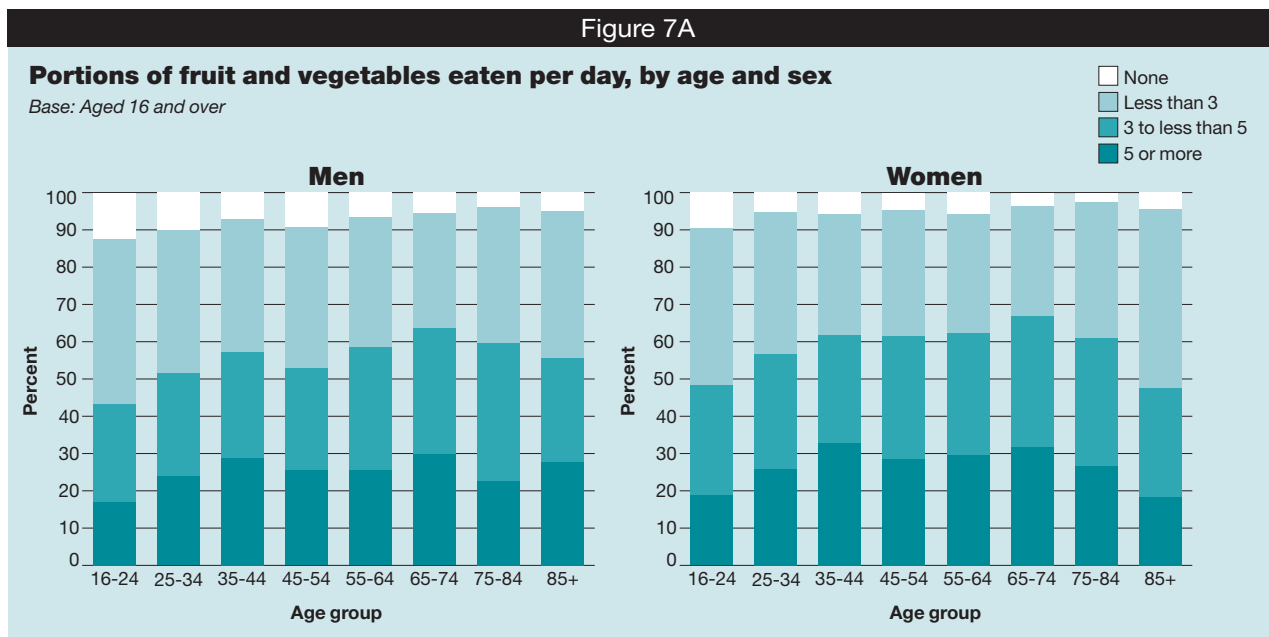
7.3 Fruit and vegetable consumption for adults

7.3.1 Fruit and vegetable consumption by age and sex

Mean daily fruit and vegetable consumption was higher in women than in men. Women consumed, on average, 3.7 portions per day compared with 3.5 for men and 28% of women ate five or more portions per day compared with 25% of men.

Mean daily fruit and vegetable consumption varied with age, with intake lowest among those aged 16-24 for both men and women. Adults in the 16-24 age group were also among those least likely to eat the recommended five or more portions (see Figure 7A).

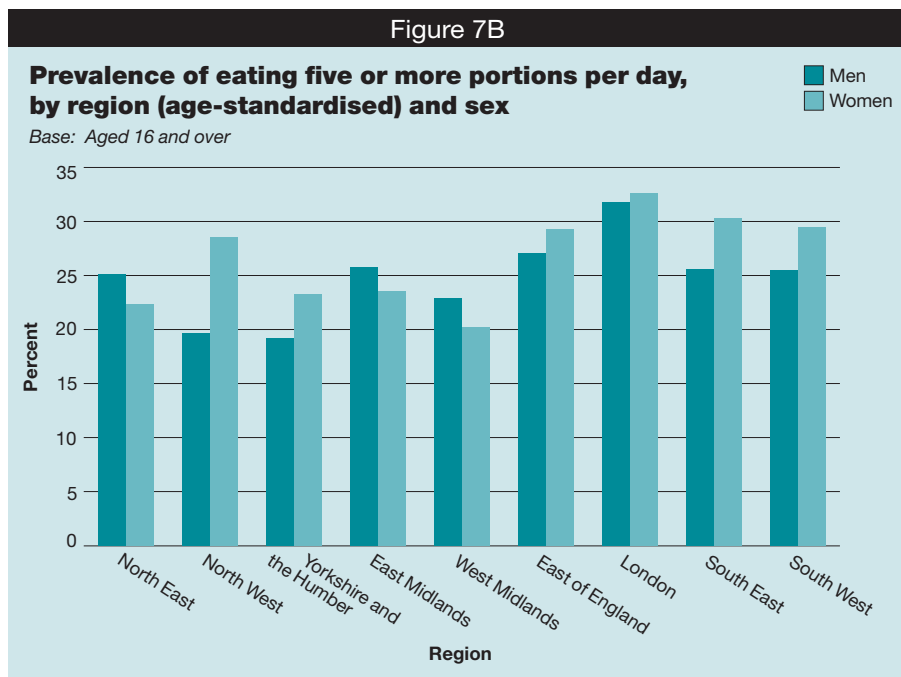
Table 7.1, Figure 7A



7.3.2 Fruit and vegetable consumption by region

Mean daily fruit and vegetable consumption in adults varied by region and was highest in London (4.0 portions for men and 4.1 for women) and the other regions in the South and lowest in regions in the North (3.0–3.8 portions). Adults in London were most likely to eat the recommended five or more portions (32% of men and 33% of women) as shown in Figure 7B. For men, those in the North West and Yorkshire and the Humber were least likely to meet the recommendation (20% and 19% respectively). For women, those in the West Midlands were least likely to achieve the recommendation (20%).

Table 7.2, Figure 7B

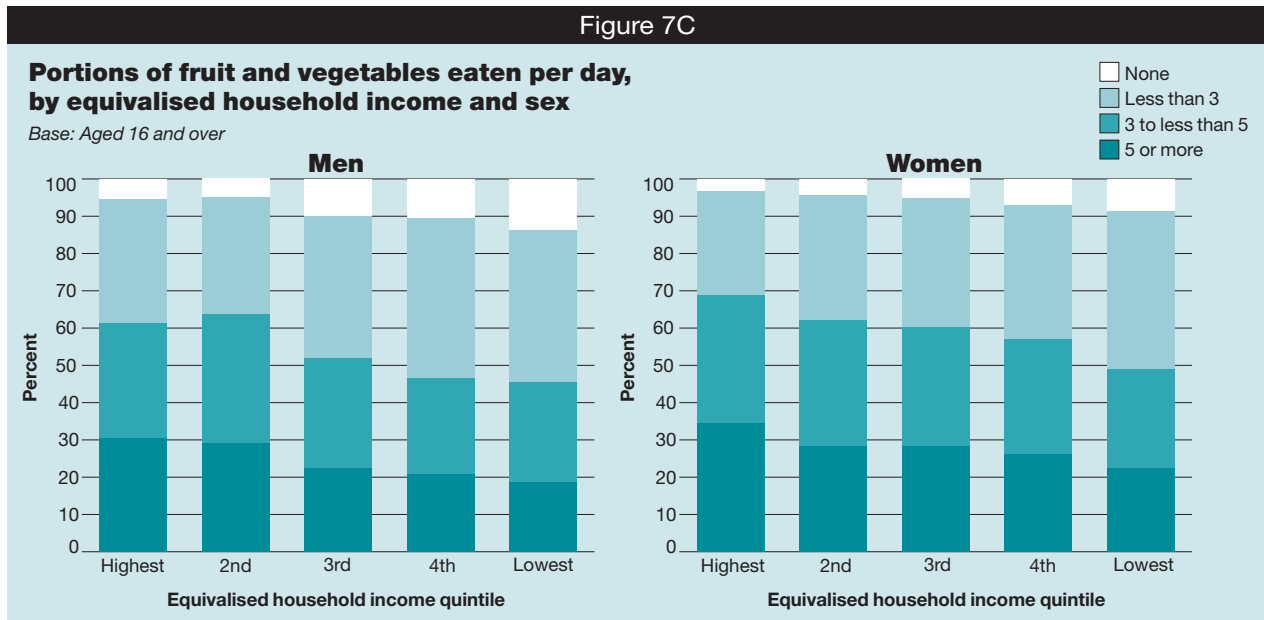


7.3.3 Fruit and vegetable consumption by equivalised household income

Fruit and vegetable consumption in adults was associated with equivalised household income. The mean number of portions of fruit and vegetables consumed declined from the highest to the lowest income quintile, with 3.9 portions for men and 4.3 portions for women in the highest quintile and 2.9 portions and 3.2 portions respectively in the lowest quintile.

Adults in the higher income quintiles were more likely than those in the lower income quintiles to meet the recommendation: 30% of men and 35% of women in the highest quintile ate five or more portions the previous day compared with 19% and 23% respectively in the lowest quintile (see Figure 7C).

Table 7.3, Figure 7C



7.3.4 Fruit and vegetable consumption by Index of Multiple Deprivation

Consumption of fruit and vegetables in adults by Index of Multiple Deprivation (IMD) quintile followed a similar pattern to household income. The mean number of portions of fruit and vegetables consumed declined from the least deprived to the most deprived quintile, with 3.8 portions for men and 4.0 portions for women in the least deprived quintile and 3.1 portions and 3.3 portions respectively in the most deprived quintile.

Adults in the least deprived quintile were more likely to eat the recommended five or more portions than those in the most deprived quintile: 28% of men and 32% of women in the least deprived quintile met the recommendation compared with 22% of men and 23% of women in the most deprived (see Figure 7D).

Table 7.4, Figure 7D

7.3.5 Trends in fruit and vegetable consumption

For both men and women, the proportion consuming five or more portions per day increased from 2001 reaching a peak in 2006. Since then, the proportion has dropped slightly, and in the last four or five years the proportions have been stable at around 24-25% of men and 27-29% of women meeting the recommendation, as shown in Figure 7E.

Table 7.5, Figure 7E

7.3.6 Types of fruit and vegetables consumed, by age and income

Fresh fruit and vegetables (fresh, raw, tinned and frozen) were the most commonly consumed types of fruit and vegetables in adults, followed by fruit juice, pulses and salad. Women were more likely than men to consume most food types. For example, 60% of women consumed vegetables compared with 57% of men and 68% of women consumed fresh fruit compared with 60% of men. Pulses, however, were more likely to be eaten by men than women (35% and 31% respectively).

Figure 7D

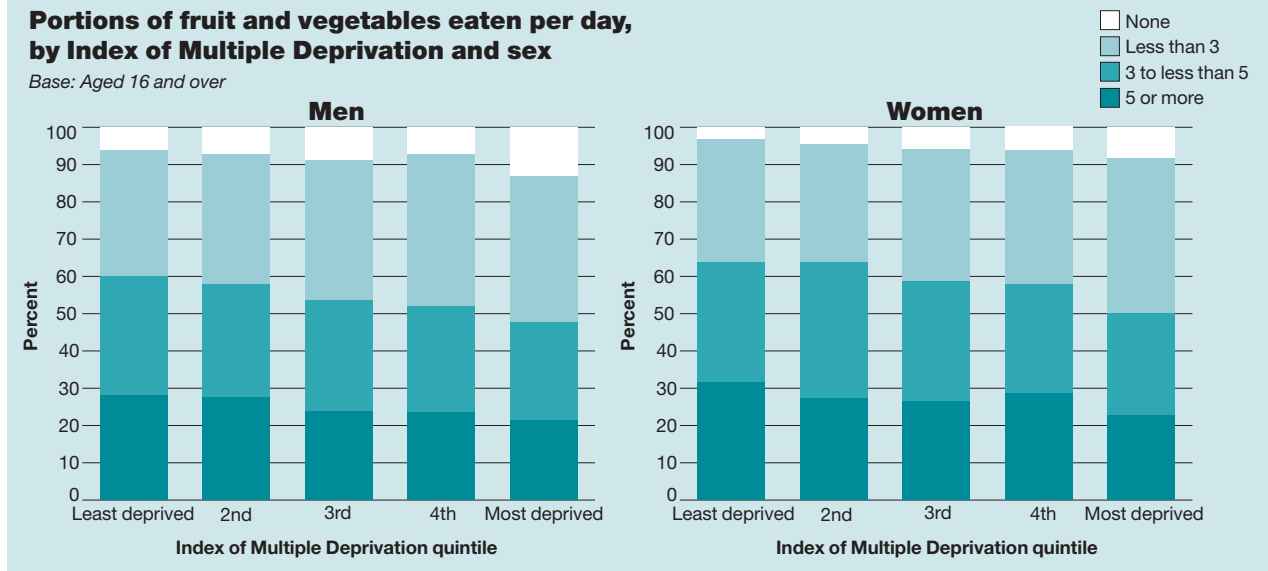
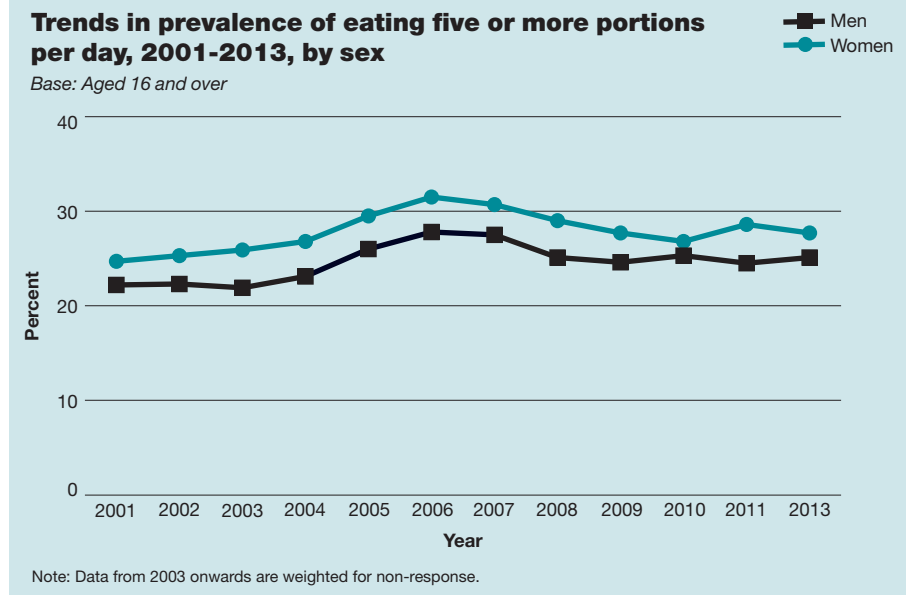


Figure 7E



The pattern of consumption with age varied across categories of fruit and vegetables, and was similar for men and women (see Figure 7F). Consumption tended to increase with age for vegetables and fruit, including fresh fruit. Salad was more likely to be eaten by those in the middle age groups while fruit juice was more likely to be consumed by those in the youngest and oldest age groups.

Table 7.6, Figure 7F

The proportion of consumers of most types of fruit and vegetables declined from the highest to lowest income quintile, as shown in Figure 7G. The exception to the general pattern was pulses: consumption of pulses did not vary significantly across income groups.

Table 7.7, Figure 7G

Figure 7F

Types of fruit and vegetables eaten, by age and sex

Base: Aged 16 and over

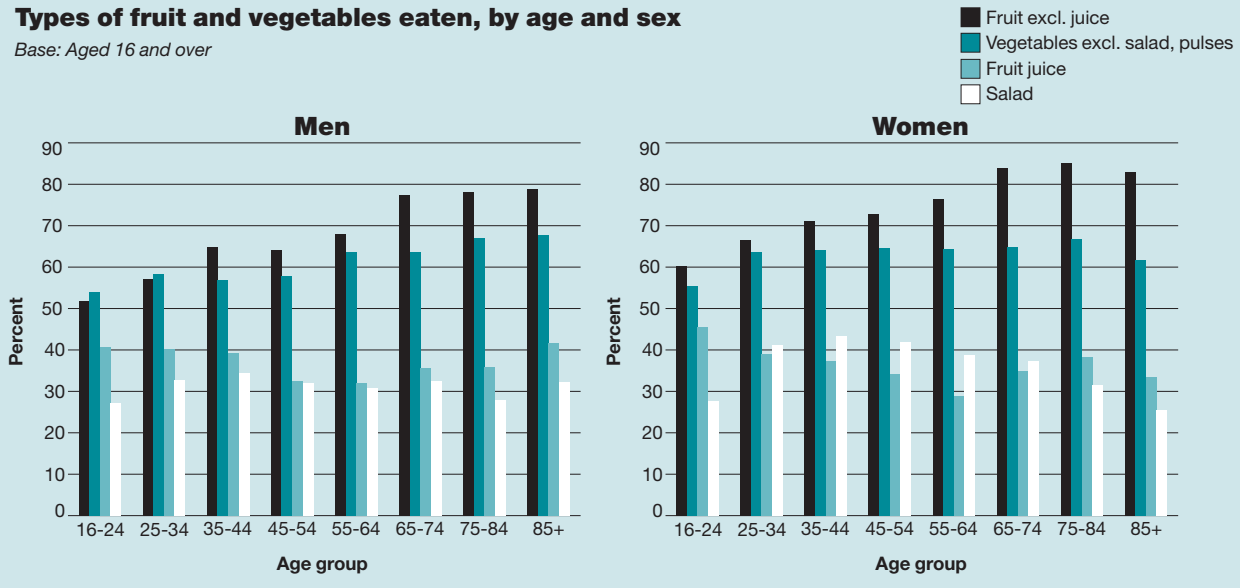
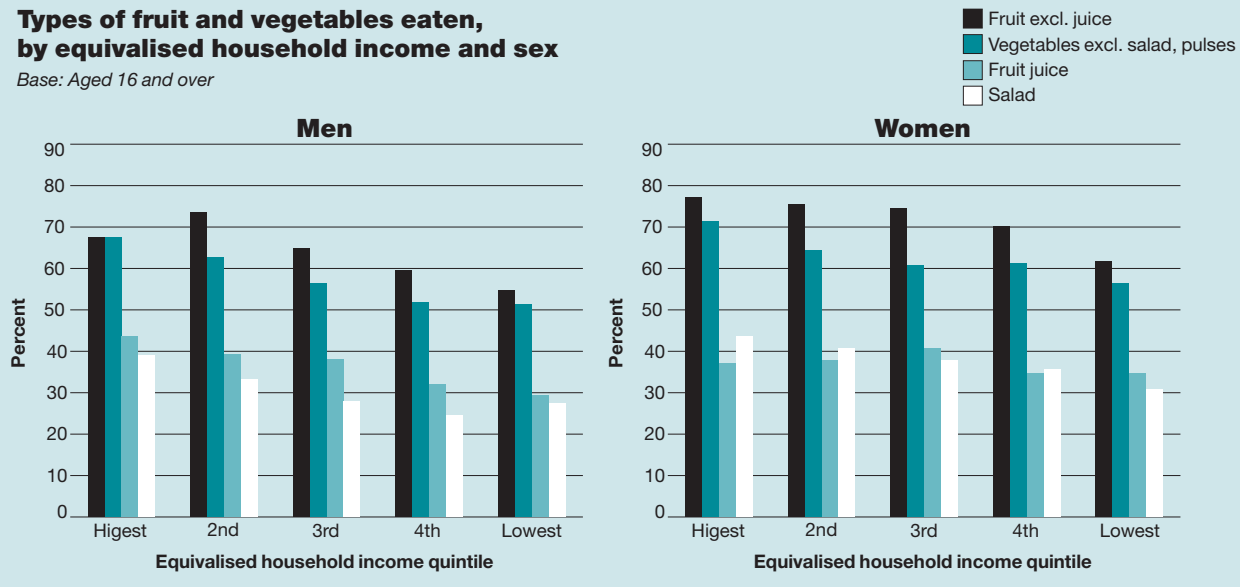


Figure 7G

Types of fruit and vegetables eaten, by equivalised household income and sex

Base: Aged 16 and over



7.4 Fruit and vegetable consumption for children

7.4.1 Fruit and vegetable consumption by age and sex

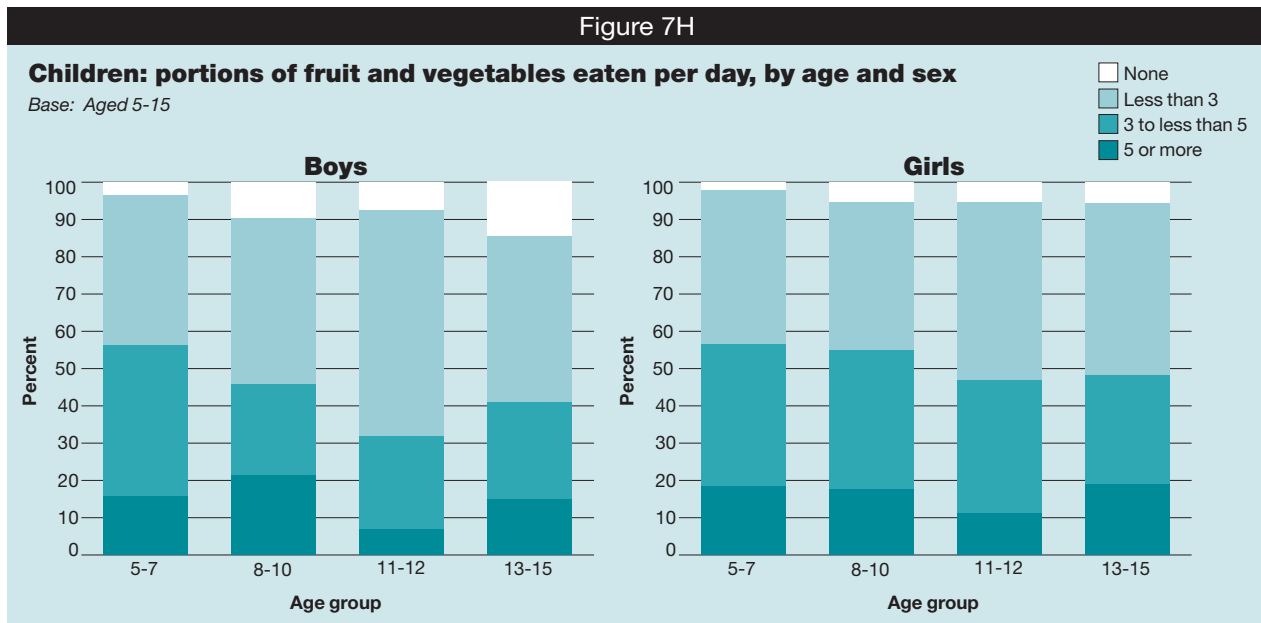
Mean daily fruit and vegetable consumption was higher in girls than in boys. Girls consumed, on average, 3.1 portions compared with 2.8 portions for boys. A similar proportion of boys and girls consumed five or more portions per day (16% of boys, 17% of girls).

Mean daily fruit and vegetable consumption varied with age, with intake lowest among those aged 11-12 for both boys and girls. Children in the 11-12 age group were also least likely to eat the recommended five or more portions (see Figure 7H). **Table 7.8, Figure 7H**

7.4.2 Fruit and vegetable consumption by equivalised household income

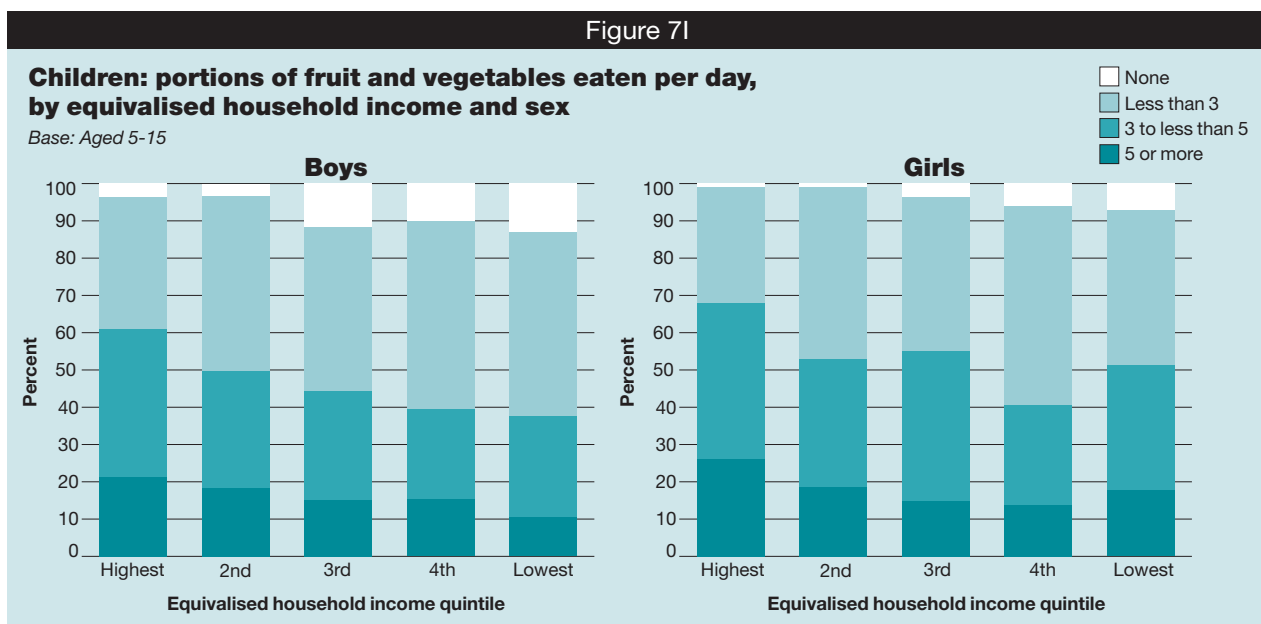
Fruit and vegetable consumption in children varied by equivalised household income, following the same pattern as for adults. The mean number of portions of fruit and vegetables consumed was highest among those in the highest income quintile (3.5 portions for boys and 3.9 portions for girls).

Figure 7H



The pattern was less clear across income quintiles for the proportion of children eating five or more portions the previous day, as shown in Figure 7I. However, the proportions eating at least three portions per day (the lowest two sections of the bars in Figure 7I) showed a clearer pattern for boys, being highest in the highest income quintile and lowest in the lowest. The pattern was slightly different for girls, and while those in the highest quintile were most likely to eat three or more portions, those in the fourth lowest quintile were the least likely to do so, and the proportion was similar in the remaining quintiles.

Table 7.9, Figure 7I



7.4.3 Fruit and vegetable consumption by Index of Multiple Deprivation

Consumption of fruit and vegetables in children varied by IMD quintile. Following a similar pattern to income (and similar to adults) the mean number of portions of fruit and vegetables consumed was highest for children in the least deprived quintile (3.1 portions for boys and 3.4 portions for girls).

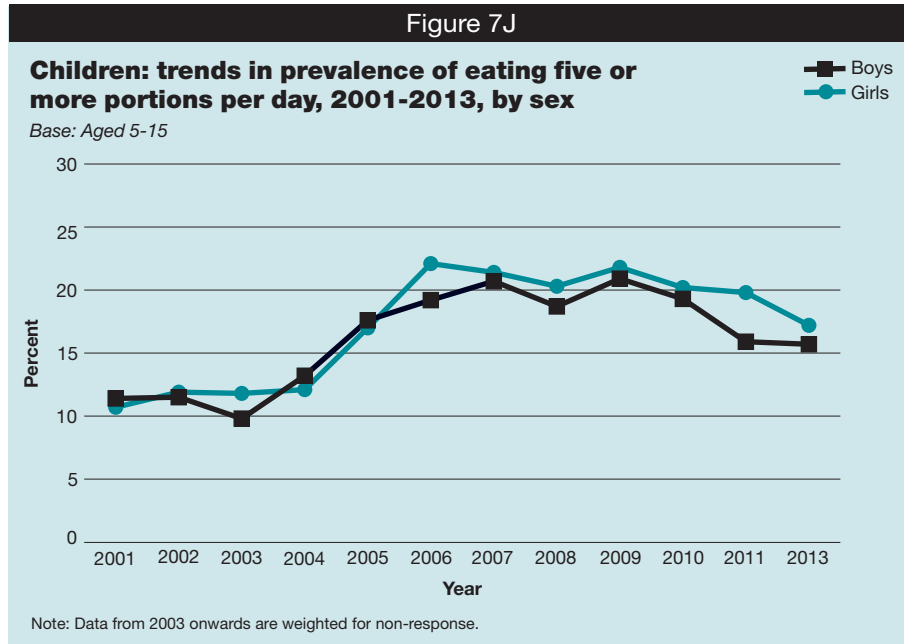
There was no significant difference across quintiles of IMD in the proportions of children eating five or more portions per day.

Table 7.10

7.4.4 Trends in fruit and vegetable consumption

For both boys and girls, there was an increase in the proportion consuming five or more portions per day after 2004, reaching a peak around 2006. Between 2006 and 2010 the prevalence had been fluctuating around 19% - 21% for boys and 20% - 22% for girls. In 2011, the proportion dropped slightly for boys from 19% to 16% and this has been maintained in 2013. For girls, there was a drop between 2011 and 2013 from 20% to 17% (see Figure 7J). This broadly mirrors the pattern for adults, where there was a peak around 2006 and lower levels since then.

Table 7.11, Figure 7J

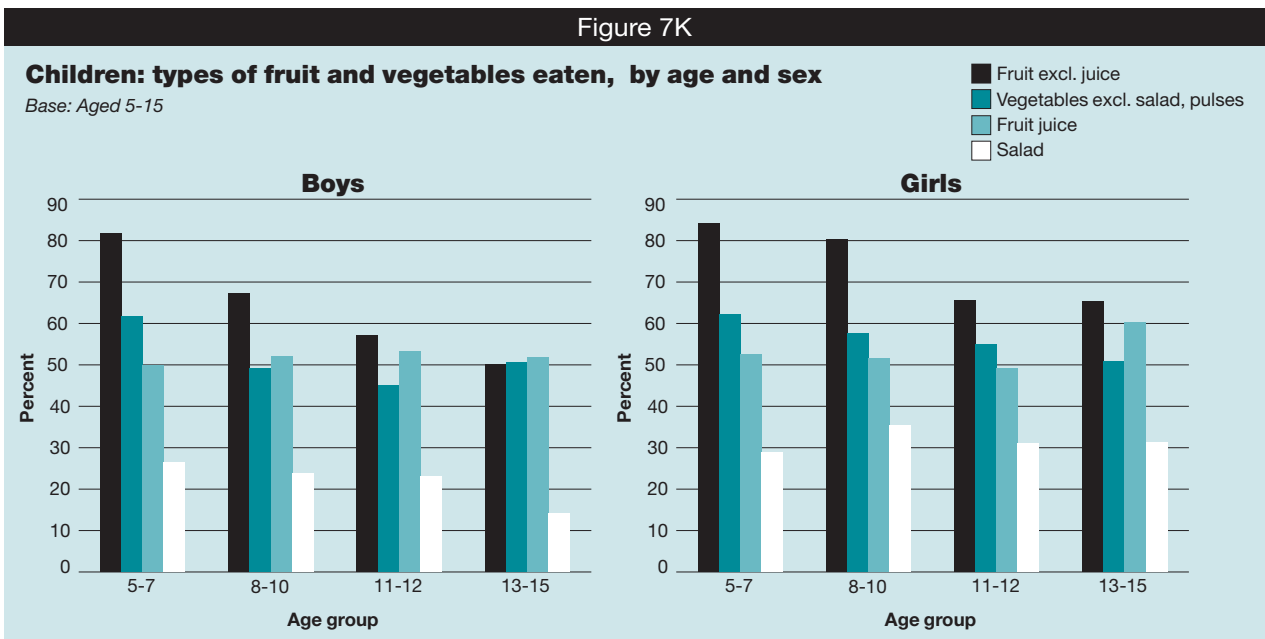


7.4.5 Types of fruit and vegetables consumed, by age and sex

Fruit, primarily fresh fruit, vegetables (fresh, raw, tinned and frozen) and fruit juice were the most commonly consumed types of fruit and vegetables in children, followed by pulses and salad. Girls were more likely than boys to consume salad and fresh fruit.

Fresh fruit and vegetables were more likely to be eaten by those in the younger age groups, as shown in Figure 7K. There were no differences in the pattern of consumption with age across other categories of fruit and vegetables.

Table 7.12, Figure 7K



7.5 Discussion

Public health strategies to encourage people to eat more fruit and vegetables centre on the '5 A DAY', 'eatwell plate' and '8 tips for healthy eating'.¹⁵ Alongside these, the Change4Life programme¹⁶ is the main campaign for healthy eating and increasing physical activity for families, with a focus on reducing health inequalities. There are also several strategies to improve fruit and vegetable intake for children at school including national food and nutrient standards and the Healthy Schools Programme.¹⁷ However, these findings indicate that a substantial proportion of adults and children are not meeting the recommended daily intake of fruit and vegetables. Results from the National Diet and Nutrition Survey combined also show that adults and, to an even greater extent, children are not eating enough fruit and vegetables.¹⁸ For children, the results suggest that levels in the proportion achieving the recommended five portions are lower than the peak around the mid-2000s.

Differences in fruit and vegetable intake within population sub-groups for adults and children are evident. Inequalities in consumption by equivalised household income continue to exist: data from the 2009 HSE showed the same disparity between adults in higher and lower income households with 32% of men and 37% of women in the highest quintile eating five or more portions of fruit and vegetables compared with 18% and 19% respectively in the lowest quintile.

Understanding the barriers to people improving their diet is key to developing strategies. The 2007 HSE report¹⁹ indicated that, of those participants who felt that they would benefit from making changes to their diet,²⁰ most common barriers were 'I don't have time' (28% of men and 29% of women), 'It is hard to change my eating habits' (29% of men and 28% of women) followed by 'It costs too much' (22% of men and 21% of women). It would be interesting to see if the proportion that cite price as a barrier has increased since 2007 given the rise in food prices and the austerity measures taken by some households in recent years. Certainly household purchases of fruit and vegetables have gone down since 2007, with larger falls for lower income groups.²¹ Accessibility has also been identified as a major factor in enabling people to eat more healthily, and ongoing public health strategies are aiming to introduce more opportunities in people's daily lives to eat fruit and vegetables, for instance in the workplace and at school.

These latest findings from the HSE suggest that more still needs to be done to increase fruit and vegetable consumption, in particular among those from low income households.

References and notes

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www.ncbi.nlm.nih.gov/pmc/articles/PMC2696613/
- 10 www.childrensfoodtrust.org.uk/the-standards/the-food-based-standards/final-food-based-standards/more-fruit-and-vegetables
- 11 Composite dishes refers to dishes made **mainly** from vegetables or pulses, such as vegetable lasagne or vegetable curry, or dishes made **mainly** from fruit, such as apple crumble.
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- 16 www.nhs.uk/change4life/Pages/change-for-life.aspx
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Adults

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Children

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Notes on the tables

- 1. The group on which the figures in the table are based is stated at the upper left corner of the table.
- 2. The data in most tables have been weighted. See Volume 2, Chapter 7 of this report for more detail. Both unweighted and weighted sample sizes are shown at the foot of each table.
- 3. Apart from tables showing age breakdowns, data for adults have been age-standardised to allow comparisons between groups after adjusting for the effects of any differences in their age distributions. See Volume 2, Chapter 8.4 of this report for more detail.
- 4. The following conventions have been used in tables:
 - no observations (zero value)
 - 0 non-zero values of less than 0.5% and thus rounded to zero
 - [] used to warn of small sample bases, if the unweighted base is less than 50. If a group's unweighted base is less than 30, data are normally not shown for that group.
- 5. Because of rounding, row or column percentages may not add exactly to 100%.
- 6. 'Missing values' occur for several reasons, including refusal or inability to answer a particular question; refusal to co-operate in an entire section of the survey (such as the nurse visit or a self-completion questionnaire); and cases where the question is not applicable to the participant. In general, missing values have been omitted from all tables and analyses.

Table 7.1

Adults: Daily fruit and vegetable consumption, by age and sex

Aged 16 and over

2013

Portions per day	Age group								Total %
	16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75-84 %	85+ %	
Men									
None	12	10	7	9	7	5	4	5	8
Less than 1 portion	5	3	2	3	3	2	4	5	3
1 portion or more but less than 2	22	18	19	17	16	13	18	14	18
2 portions or more but less than 3	18	17	15	17	16	16	15	21	17
3 portions or more but less than 4	13	16	16	17	18	19	22	17	17
4 portions or more but less than 5	13	12	12	11	15	14	15	11	13
5 portions or more	17	24	29	26	26	30	23	28	25
Mean	2.9	3.4	3.7	3.5	3.5	3.8	3.5	3.5	3.5
Standard error of the mean	0.15	0.12	0.11	0.11	0.10	0.10	0.13	0.27	0.05
Median	2.3	3.0	3.0	3.0	3.2	3.5	3.3	3.0	3.0
Women									
None	10	5	6	5	6	3	2	4	5
Less than 1 portion	4	2	3	3	4	3	4	5	3
1 portion or more but less than 2	19	16	14	13	12	12	13	15	14
2 portions or more but less than 3	19	19	15	17	17	15	19	29	18
3 portions or more but less than 4	16	17	17	18	19	19	19	20	18
4 portions or more but less than 5	14	14	12	15	14	16	15	9	14
5 portions or more	19	26	33	29	30	32	27	18	28
Mean	3.1	3.6	4.0	3.9	3.8	4.0	3.6	3.0	3.7
Standard error of the mean	0.13	0.10	0.11	0.09	0.10	0.09	0.11	0.16	0.04
Median	2.7	3.0	3.7	3.5	3.3	3.8	3.3	2.7	3.3
<i>Base (unweighted)</i>									
Men	392	542	629	704	604	616	348	89	3924
Women	477	755	827	884	742	651	386	144	4866
<i>Base (weighted)</i>									
Men	632	733	748	764	620	479	273	69	4316
Women	637	752	759	779	637	516	342	129	4549

Table 7.2

Adults: Daily fruit and vegetable consumption (observed and age-standardised), by region^a and sex

Aged 16 and over

2013

Portions per day	Region									
	North East	North West	Yorkshire & the Humber	East Midlands	West Midlands	East of England	London	South East	South West	
	%	%	%	%	%	%	%	%	%	
Men										
Observed										
None	8	10	9	8	10	10	5	7	7	
Less than 1 portion	5	5	4	2	4	3	3	3	2	
1 portion or more but less than 2	25	21	20	19	17	16	16	15	16	
2 portions or more but less than 3	16	17	20	15	17	15	14	18	17	
3 portions or more but less than 4	15	15	19	18	16	16	16	19	16	
4 portions or more but less than 5	7	14	9	12	13	12	14	13	16	
5 portions or more	25	19	20	26	23	27	32	26	26	
Mean	3.2	3.1	3.0	3.4	3.3	3.5	4.0	3.7	3.6	
Standard error of the mean	0.16	0.13	0.13	0.17	0.14	0.17	0.14	0.12	0.14	
Median	2.7	2.7	2.7	3.0	3.0	3.0	3.7	3.0	3.3	
Standardised										
None	8	10	9	8	10	11	4	7	7	
Less than 1 portion	4	4	4	2	4	3	2	3	2	
1 portion or more but less than 2	24	21	19	19	17	16	16	15	17	
2 portions or more but less than 3	16	17	20	15	18	15	15	18	17	
3 portions or more but less than 4	15	15	19	18	16	16	17	19	16	
4 portions or more but less than 5	7	13	9	12	13	12	14	13	16	
5 portions or more	25	20	19	26	23	27	32	26	26	
Mean	3.3	3.1	3.0	3.4	3.3	3.5	4.0	3.7	3.6	
Standard error of the mean	0.16	0.13	0.13	0.17	0.14	0.18	0.14	0.12	0.14	
Median	2.7	2.7	2.7	3.0	3.0	3.0	3.7	3.0	3.3	
Women										
Observed										
None	11	5	7	5	7	5	4	4	6	
Less than 1 portion	6	3	5	3	5	3	3	2	3	
1 portion or more but less than 2	16	15	16	16	13	14	14	14	13	
2 portions or more but less than 3	18	19	17	17	21	17	16	17	18	
3 portions or more but less than 4	13	18	18	20	21	18	15	18	17	
4 portions or more but less than 5	13	12	12	16	14	14	15	15	13	
5 portions or more	22	29	23	24	20	30	33	30	30	
Mean	3.2	3.8	3.4	3.6	3.3	3.8	4.0	4.0	3.9	
Standard error of the mean	0.15	0.13	0.15	0.12	0.12	0.11	0.10	0.11	0.16	
Median	2.7	3.3	3.0	3.3	3.0	3.5	3.7	3.7	3.5	
Standardised										
None	11	5	7	5	7	5	4	4	6	
Less than 1 portion	6	3	5	3	5	3	3	2	3	
1 portion or more but less than 2	16	15	17	16	13	14	14	14	13	
2 portions or more but less than 3	18	19	17	17	21	17	15	17	18	
3 portions or more but less than 4	13	18	18	20	21	17	15	18	17	
4 portions or more but less than 5	13	11	13	16	14	14	16	15	13	
5 portions or more	22	29	23	24	20	29	33	30	30	
Mean	3.2	3.8	3.4	3.6	3.3	3.7	4.1	4.0	3.9	
Standard error of the mean	0.15	0.14	0.15	0.12	0.13	0.12	0.10	0.11	0.16	
Median	2.7	3.2	3.0	3.3	3.0	3.3	3.7	3.7	3.5	
<i>Base (unweighted)</i>										
Men	340	569	353	363	389	413	493	625	379	
Women	431	662	463	440	481	505	645	741	498	
<i>Base (weighted)</i>										
Men	217	590	410	388	454	474	644	713	427	
Women	226	587	462	397	484	483	696	729	485	

^a Regions defined as the former Government Office Regions.

Table 7.3

Adults: Daily fruit and vegetable consumption (age-standardised), by equivalised household income and sex

Aged 16 and over

2013

Portions per day	Equivalised household income quintile				
	Highest %	2nd %	3rd %	4th %	Lowest %
Men					
None	5	5	10	10	14
Less than 1 portion	1	3	3	4	5
1 portion or more but less than 2	16	14	17	22	19
2 portions or more but less than 3	16	14	18	17	17
3 portions or more but less than 4	18	18	18	14	18
4 portions or more but less than 5	13	17	12	12	8
5 portions or more	30	29	23	21	19
Mean	3.9	3.8	3.2	3.1	2.9
Standard error of the mean	0.12	0.10	0.11	0.13	0.11
Median	3.5	3.7	3.0	2.7	2.3
Women					
None	3	4	5	7	8
Less than 1 portion	1	2	4	3	6
1 portion or more but less than 2	11	14	14	14	17
2 portions or more but less than 3	15	18	17	19	19
3 portions or more but less than 4	16	17	16	19	18
4 portions or more but less than 5	18	17	15	11	9
5 portions or more	35	28	28	26	23
Mean	4.3	3.9	3.9	3.5	3.2
Standard error of the mean	0.13	0.10	0.13	0.10	0.10
Median	4.0	3.5	3.3	3.2	2.7
<i>Base (unweighted)</i>					
Men	712	698	580	590	556
Women	720	802	733	770	787
<i>Base (weighted)</i>					
Men	813	767	617	585	638
Women	695	762	679	680	706

Table 7.4

Adults: Daily fruit and vegetable consumption (age-standardised), by Index of Multiple Deprivation (IMD)^a and sex

Aged 16 and over

2013

Portions per day	IMD quintile				
	Least deprived	2nd	3rd	4th	Most deprived
	%	%	%	%	%
Men					
None	6	7	9	7	13
Less than 1 portion	2	3	3	4	3
1 portion or more but less than 2	15	16	17	19	21
2 portions or more but less than 3	17	16	17	18	16
3 portions or more but less than 4	17	17	18	16	16
4 portions or more but less than 5	15	13	12	13	11
5 portions or more	28	28	24	24	22
Mean	3.8	3.6	3.4	3.4	3.1
Standard error of the mean	0.11	0.10	0.11	0.11	0.10
Median	3.3	3.2	3.0	3.0	2.7
Women					
None	3	5	6	6	8
Less than 1 portion	2	3	4	3	5
1 portion or more but less than 2	13	13	14	15	18
2 portions or more but less than 3	18	16	17	18	19
3 portions or more but less than 4	15	19	19	18	16
4 portions or more but less than 5	17	17	13	12	11
5 portions or more	32	28	27	29	23
Mean	4.0	3.8	3.7	3.6	3.3
Standard error of the mean	0.10	0.09	0.10	0.09	0.10
Median	3.7	3.7	3.3	3.3	3.0
<i>Base (unweighted)</i>					
<i>Men</i>	796	853	840	715	720
<i>Women</i>	974	998	1025	947	922
<i>Base (weighted)</i>					
<i>Men</i>	845	921	930	825	796
<i>Women</i>	901	943	964	917	825

^a The Index of Multiple Deprivation 2010 combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score at the small area level in England.

Table 7.5

Adults: Trends in daily fruit and vegetable consumption, 2001-2013,^a by sex

Aged 16 and over

2001-2013

Portions per day	Survey year											
	2001	2002	2003 ^b	2004	2005	2006	2007	2008	2009	2010	2011	2013
	%	%	%	%	%	%	%	%	%	%	%	%
Men												
None	8	8	9	8	7	7	7	7	7	8	8	8
Less than 1 portion	4	4	3	4	3	3	2	3	3	3	3	3
1 portion or more but less than 2	19	19	18	16	16	16	16	16	18	17	17	18
2 portions or more but less than 3	19	19	18	19	18	17	18	18	19	18	17	17
3 portions or more but less than 4	17	17	17	16	15	16	16	17	16	16	17	17
4 portions or more but less than 5	12	12	12	14	14	13	13	15	13	13	13	13
5 portions or more	22	22	22	23	26	28	27	25	25	25	24	25
Mean	3.3	3.3	3.2	3.3	3.5	3.6	3.6	3.5	3.4	3.4	3.5	3.5
Standard error of the mean	0.03	0.04	0.03	0.05	0.06	0.05	0.06	0.03	0.07	0.05	0.06	0.05
Median	3.0	3.0	3.0	3.0	3.0	3.0	3.2	3.0	3.0	3.0	3.0	3.0
Women												
None	6	6	6	6	5	5	5	6	6	6	5	5
Less than 1 portion	4	3	4	3	3	3	3	3	3	3	3	3
1 portion or more but less than 2	15	16	16	16	15	14	13	14	14	15	15	14
2 portions or more but less than 3	18	18	17	18	17	16	17	16	17	18	17	18
3 portions or more but less than 4	18	17	17	16	16	17	17	17	17	17	17	18
4 portions or more but less than 5	14	14	14	14	16	14	15	15	15	15	14	14
5 portions or more	25	25	26	27	30	32	31	29	28	27	29	28
Mean	3.5	3.5	3.5	3.6	3.8	3.9	3.9	3.8	3.7	3.7	3.8	3.7
Standard error of the mean	0.03	0.04	0.03	0.05	0.05	0.04	0.05	0.03	0.06	0.05	0.05	0.04
Median	3.0	3.2	3.0	3.3	3.5	3.6	3.5	3.5	3.3	3.3	3.3	3.0
<i>Bases (unweighted)</i>												
<i>Men</i>	6966	3317	6602	2878	3455	6321	3069	6756	2107	3701	3817	3924
<i>Women</i>	8681	4077	8234	3825	4170	7817	3809	8342	2537	4718	4783	4866
<i>Bases (weighted)^b</i>												
<i>Men</i>	6966	3317	7202	3262	3701	6850	3383	7325	2340	4178	4216	4316
<i>Women</i>	8681	4077	7634	3441	3926	7309	3550	7682	2443	4329	4382	4549

^a Data was not collected in 2012.^b Data for all years have been weighted to correct for the probability of selection. From 2003, non-response weighting has also been applied.

Table 7.6

Adults: Types of fruit and vegetables consumed daily, by age and sex

Aged 16 and over

2013

Types of fruit and vegetables consumed	Age group								Total %
	16-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65-74 %	75-84 %	85+ %	
Men									
Any fruit and vegetables	88	90	93	91	93	95	96	95	92
Any vegetables including salad (excludes pulses)	64	68	72	70	76	76	76	80	71
Any vegetables excluding salad and pulses	54	58	57	58	64	64	67	68	59
Any fruit including fruit juice	70	71	75	73	75	84	83	85	75
Any fruit excluding fruit juice	52	57	65	64	68	77	78	79	64
Vegetables (fresh, raw, tinned and frozen)	52	54	53	55	61	61	65	66	57
Pulses	32	34	34	36	36	34	37	45	35
Salad	27	33	34	32	31	33	28	32	31
Vegetables in composites	5	8	10	8	7	6	5	4	7
Fresh fruit	50	55	61	59	63	70	68	68	60
Frozen/ tinned fruit	2	2	2	3	3	7	8	9	3
Dried fruit	7	8	10	9	10	13	15	17	10
Fruit in composites	4	3	4	6	7	12	14	5	6
Fruit juice	41	40	39	33	32	36	36	42	37
Women									
Any fruit and vegetables	90	95	94	95	94	97	98	96	95
Any vegetables including salad (excludes pulses)	66	76	79	80	79	79	78	76	77
Any vegetables excluding salad and pulses	56	64	64	65	64	65	67	62	63
Any fruit including fruit juice	77	78	79	80	82	88	89	90	81
Any fruit excluding fruit juice	60	67	71	73	76	84	85	83	73
Vegetables (fresh, raw, tinned and frozen)	53	60	60	61	61	61	64	61	60
Pulses	30	30	32	33	32	30	29	28	31
Salad	28	41	43	42	39	37	31	26	38
Vegetables in composites	7	10	11	8	9	7	7	4	9
Fresh fruit	56	62	66	68	72	77	80	76	68
Frozen/ tinned fruit	3	3	3	3	4	6	8	6	4
Dried fruit	8	10	12	14	15	19	16	17	13
Fruit in composites	5	4	5	7	6	11	10	6	6
Fruit juice	45	39	37	34	29	35	38	33	37
<i>Base (unweighted)</i>									
Men	392	542	629	704	604	616	348	89	3924
Women	477	755	827	884	742	651	386	144	4866
<i>Base (weighted)</i>									
Men	632	733	748	764	620	479	273	69	4316
Women	637	752	759	779	637	516	342	129	4549

Table 7.7

Adults: Types of fruit and vegetables consumed daily (age-standardised), by equivalised household income and sex

Aged 16 and over

2013

Types of fruit and vegetables	Equivalised household income quintile				
	Highest %	2nd %	3rd %	4th %	Lowest %
Men					
Any fruit and vegetables	95	95	90	90	86
Any vegetables including salad (excludes pulses)	81	74	71	62	62
Any vegetables excluding salad and pulses	68	63	56	52	51
Any fruit including fruit juice	79	81	76	69	66
Any fruit excluding fruit juice	68	73	65	59	55
Vegetables (fresh, raw, tinned and frozen)	64	60	54	50	49
Pulses	32	33	31	37	37
Salad	39	33	28	24	28
Vegetables in composites	9	7	6	3	7
Fresh fruit	63	69	60	55	49
Frozen/ tinned fruit	3	2	4	3	4
Dried fruit	12	11	9	6	8
Fruit in composites	9	7	6	4	6
Fruit juice	43	39	38	32	29
Women					
Any fruit and vegetables	97	96	95	93	92
Any vegetables including salad (excludes pulses)	84	79	75	75	70
Any vegetables excluding salad and pulses	71	64	61	61	56
Any fruit including fruit juice	85	83	83	79	73
Any fruit excluding fruit juice	77	75	75	70	62
Vegetables (fresh, raw, tinned and frozen)	68	62	57	58	54
Pulses	35	29	30	32	30
Salad	44	41	38	36	31
Vegetables in composites	11	8	9	7	9
Fresh fruit	69	72	71	64	57
Frozen/ tinned fruit	4	3	3	4	5
Dried fruit	20	13	15	12	10
Fruit in composites	10	7	7	5	5
Fruit juice	37	38	41	35	35
<i>Base (unweighted)</i>					
Men	712	698	580	590	556
Women	720	802	733	770	787
<i>Base (weighted)</i>					
Men	813	767	617	585	638
Women	695	762	679	680	706

Table 7.8

Children: Daily fruit and vegetable consumption, by age and sex

Aged 5-15

2013

Portions per day	Age group				Total
	5-7	8-10	11-12	13-15	
	%	%	%	%	%
Boys					
None	3	10	8	14	9
Less than 1 portion	3	4	7	3	4
1 portion or more but less than 2	13	19	26	23	20
2 portions or more but less than 3	24	22	28	18	22
3 portions or more but less than 4	26	15	19	16	19
4 portions or more but less than 5	15	9	6	10	10
5 portions or more	16	22	7	15	16
Mean	3.2	3.1	2.3	2.6	2.8
Standard error of the mean	0.13	0.18	0.16	0.17	0.09
Median	3.0	2.5	2.0	2.0	2.5
Girls					
None	2	5	5	5	4
Less than 1 portion	3	3	6	4	4
1 portion or more but less than 2	18	15	22	20	19
2 portions or more but less than 3	20	21	20	22	21
3 portions or more but less than 4	25	19	25	16	21
4 portions or more but less than 5	13	18	11	13	14
5 portions or more	19	18	11	19	17
Mean	3.3	3.3	2.8	3.1	3.1
Standard error of the mean	0.14	0.16	0.17	0.18	0.09
Median	3.2	3.0	2.7	2.7	3.0
<i>Base (unweighted)</i>					
Boys	198	201	122	180	701
Girls	198	191	133	194	716
<i>Base (weighted)</i>					
Boys	195	195	120	206	717
Girls	196	175	127	186	683

Table 7.9

Children: Daily fruit and vegetable consumption, by equivalised household income and sex

Aged 5-15

2013

Portions per day	Equivalised household income quintile				
	Highest %	2nd %	3rd %	4th %	Lowest %
Boys					
None	4	3	12	10	13
Less than 1 portion	4	6	5	1	3
1 portion or more but less than 2	21	21	18	25	21
2 portions or more but less than 3	11	20	21	25	25
3 portions or more but less than 4	22	23	22	12	21
4 portions or more but less than 5	17	9	8	12	6
5 portions or more	21	18	15	16	11
Mean	3.5	3.0	2.6	2.8	2.5
Standard error of the mean	0.30	0.21	0.20	0.21	0.17
Median	3.3	2.7	2.5	2.2	2.0
Girls					
None	1	1	3	6	7
Less than 1 portion	3	7	3	3	5
1 portion or more but less than 2	13	20	18	21	20
2 portions or more but less than 3	16	19	20	30	17
3 portions or more but less than 4	18	19	24	20	20
4 portions or more but less than 5	23	15	16	6	14
5 portions or more	26	19	15	14	18
Mean	3.9	3.1	3.1	2.7	3.2
Standard error of the mean	0.23	0.20	0.17	0.17	0.26
Median	3.8	3.0	3.0	2.5	3.0
<i>Base (unweighted)</i>					
Boys	93	106	115	107	167
Girls	96	107	122	122	161
<i>Base (weighted)</i>					
Boys	87	107	122	108	176
Girls	89	95	118	120	161

Table 7.10

Children: Daily fruit and vegetable consumption, by Index of Multiple Deprivation (IMD)^a and sex

Aged 5-15

2013

Portions per day	IMD quintile				
	Least deprived	2nd	3rd	4th	Most deprived
	%	%	%	%	%
Boys					
None	5	6	8	10	14
Less than 1 portion	10	1	3	5	2
1 portion or more but less than 2	12	20	23	19	23
2 portions or more but less than 3	25	20	24	17	24
3 portions or more but less than 4	20	25	20	17	13
4 portions or more but less than 5	11	12	9	11	9
5 portions or more	17	15	13	19	15
Mean	3.1	3.0	2.7	2.9	2.5
Standard error of the mean	0.21	0.17	0.17	0.22	0.20
Median	2.7	3.0	2.3	2.7	2.0
Girls					
None	3	5	5	4	5
Less than 1 portion	4	3	8	3	2
1 portion or more but less than 2	14	17	23	19	21
2 portions or more but less than 3	18	24	23	20	19
3 portions or more but less than 4	23	19	20	21	20
4 portions or more but less than 5	17	10	12	16	17
5 portions or more	21	22	11	17	16
Mean	3.4	3.2	2.7	3.2	3.2
Standard error of the mean	0.15	0.20	0.17	0.18	0.27
Median	3.0	3.0	2.3	3.0	3.0
<i>Base (unweighted)</i>					
Boys	139	131	135	139	157
Girls	163	126	148	134	145
<i>Base (weighted)</i>					
Boys	140	136	140	137	164
Girls	151	119	142	128	143

^a The Index of Multiple Deprivation 2010 combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score at the small area level in England.

Table 7.11

Children: Trends in daily fruit and vegetable consumption, 2001-2013,^a by sex

Aged 5-15

2001-2013

Portions per day	Survey year											
	2001	2002	2003 ^b	2004	2005	2006	2007	2008	2009	2010	2011	2013
	%	%	%	%	%	%	%	%	%	%	%	%
Men												
None	12	11	11	10	6	7	6	7	5	6	5	9
Less than 1 portion	6	5	7	3	3	3	3	4	2	4	3	4
1 portion or more but less than 2	26	24	28	24	20	19	19	17	20	19	20	20
2 portions or more but less than 3	21	24	20	19	22	20	21	22	22	19	26	22
3 portions or more but less than 4	15	15	16	17	19	18	18	18	16	17	17	19
4 portions or more but less than 5	8	9	10	13	12	13	13	13	13	15	13	10
5 portions or more	11	12	10	13	18	19	21	19	21	19	16	16
Mean	2.4	2.5	2.4	2.7	3.1	3.2	3.3	3.1	3.3	3.2	3.0	2.8
Standard error of the mean	0.06	0.03	0.06	0.09	0.10	0.05	0.06	0.05	0.07	0.06	0.09	0.09
Median	2.0	2.0	2.0	2.3	2.7	3.0	3.0	3.0	3.0	3.0	2.7	2.5
Girls												
None	10	8	9	8	5	6	4	4	4	6	4	4
Less than 1 portion	4	5	7	7	4	3	3	2	4	4	3	4
1 portion or more but less than 2	24	26	24	21	18	17	16	17	15	17	18	19
2 portions or more but less than 3	23	22	22	21	22	20	22	22	22	21	20	21
3 portions or more but less than 4	18	18	17	18	21	19	21	19	19	18	20	21
4 portions or more but less than 5	11	10	10	13	14	14	13	15	15	14	15	14
5 portions or more	11	12	12	12	17	22	21	20	22	20	20	17
Mean	2.6	2.6	2.6	2.7	3.1	3.4	3.4	3.3	3.4	3.3	3.3	3.1
Standard error of the mean	0.05	0.04	0.06	0.09	0.07	0.05	0.05	0.05	0.08	0.06	0.10	0.09
Median	2.3	2.3	2.0	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<i>Bases (unweighted)</i>												
Boys	1359	2901	1298	612	1115	2784	2975	2765	1549	2102	634	701
Girls	1404	2774	1321	548	1100	2726	2799	2820	1409	1977	645	716
<i>Bases (weighted)^b</i>												
Boys	1498	3367	1350	599	1070	2632	2670	2640	1367	1934	682	717
Girls	1560	3236	1285	568	1021	2480	2541	2514	1312	1844	653	683

^a Data was not collected in 2012.^b Data for all years have been weighted to correct for the probability of selection. From 2003, non-response weighting has also been applied.

Table 7.12

Children: Types of fruit and vegetables consumed daily, by age and sex

Aged 5-15

2013

Types of fruit and vegetables consumed	Age group				Total
	5-7	8-10	11-12	13-15	
	%	%	%	%	%
Boys					
Any fruit and vegetables	97	90	92	86	91
Any vegetables including salad (excludes pulses)	70	60	56	59	62
Any vegetables excluding salad and pulses	62	49	45	51	52
Any fruit including fruit juice	90	79	79	67	78
Any fruit excluding fruit juice	82	67	57	50	65
Vegetables (fresh, raw, tinned and frozen)	59	47	42	49	50
Pulses	34	36	31	28	34
Salad	27	24	23	14	22
Vegetables in composites	9	5	5	7	6
Fresh fruit	79	65	53	47	62
Frozen/ tinned fruit	2	1	1	2	1
Dried fruit	10	10	6	4	8
Fruit in composites	4	3	3	1	3
Fruit juice	50	52	53	52	52
Girls					
Any fruit and vegetables	98	95	95	95	96
Any vegetables including salad (excludes pulses)	72	72	67	65	69
Any vegetables excluding salad and pulses	62	57	55	51	57
Any fruit including fruit juice	92	87	77	82	85
Any fruit excluding fruit juice	84	80	66	65	75
Vegetables (fresh, raw, tinned and frozen)	59	53	52	47	53
Pulses	28	32	35	28	31
Salad	29	35	31	31	32
Vegetables in composites	7	9	8	8	8
Fresh fruit	83	76	59	63	71
Frozen/ tinned fruit	1	3	2	2	2
Dried fruit	11	11	6	8	9
Fruit in composites	5	3	5	4	4
Fruit juice	52	51	49	60	54
<i>Base (unweighted)</i>					
Boys	198	201	122	180	701
Girls	198	191	133	194	716
<i>Base (weighted)</i>					
Boys	195	195	120	206	717
Girls	196	175	127	186	683