HEALTH SURVEY FOR ENGLAND

2006

LATEST TRENDS

A survey carried out for The Information Centre
Edited by Rachel Craig and Jennifer Mindell

Joint Health Surveys Unit:

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# HEALTH SURVEY FOR ENGLAND 2006

## LATEST TRENDS

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Introduction

The Health Survey for England is a series of annual surveys designed to measure health and health related behaviours in adults and children living in private households in England. The survey was commissioned originally by the Department of Health and, from April 2005 by the National Health Service’s Information Centre for health and social care. Since 1994, the survey has been carried out by the National Centre for Social Research and the Department of Epidemiology at Royal Free and University College Medical School.

The survey consists of an interview and nurse visit. It has a series of core elements that are included every year and special topics that are included in selected years. Core topics include general health, smoking, drinking, fruit and vegetable consumption, height, weight, blood pressure measurements and blood and saliva samples. Special topics include cardiovascular disease, physical activity, accidents, lung function measurement and certain blood analytes.

Each year there is a general population sample in which adults and children in selected households are eligible for inclusion. Adults aged 16 and over have been included since the start of the survey, children aged 2-15 were first included in 1995, and infants aged 0-1 have been included since 2000. In some years the size of the general population sample is reduced and a boost sample used to increase the proportion of informants from certain population groups, such as in 2002 when a boost sample of children and young adults was included, and 2005 when a boost of older people aged 65 and over was included. In 2006, there was a full size general population sample and an additional boost sample of children aged 2-15.

The trend tables focus upon key changes in core topics and measurements. Trend tables present the results within the general population sample, although in some years boost sample data are included. For example, 2002, 2005 and 2006 trends among children and young people are calculated on the basis of data from children and young adults in boost and general population samples. Data from older people in care homes collected for the 2000 survey were not included in trend tables as there were likely to be significant differences in the health of older people living in private households and care homes. The 2005 data for adults is based on the general population sample, excluding the boost of older people.

The trend tables have been revised and reformatted in 2006, with the following key changes:

- Adults’ and children’s data are presented in separate workbooks
- Data are provided for ‘All adults’ as well as Men and Women, and for ‘All Children’ as well as Boys and Girls
- For all tables, years are presented as column headings to facilitate identification of trends
- New tables have been included on some topics: waist circumference (adults table 5) a combination of BMI and waist circumference (adults table 6) and physical activity levels for children (children’s table 11)
- The table on adults’ physical activity has been extended to include categories of high, medium and low levels of physical activity (adults table 14).

Some tables are no longer included in this series. These are mean systolic and diastolic blood pressure for adults and children, waist-hip ratio for adults, and usual weekly alcohol consumption for adults (questions were discontinued on weekly consumption after 2002). The 2005 trend tables (available at www.ic.nhs.uk/pubs/hse05trends) provide the latest update for these tables.

The following commentary focuses on key trends in the health of adults and children since 1993. Only statistically significant differences are reported. As results are based on a survey
they may be affected by sampling error. In 2003, non-response weighting was introduced for
the first time in the HSE series, and therefore both unweighted and weighted estimates are
available from 2003 onwards for adults. Since the weighted data provide more accurate
information for the individual years for which they are available, the following analysis of
trends focuses on the weighted estimates for 2003-2006.¹ For children, data for all years
have been weighted to adjust for the probabilities of selection, since a maximum of two
children are included in each household; from 2003 children's data have also included non-
response weighting. As with the adults’ tables, children’s results are presented both with
selection weighting only (directly comparable with previous years) and with selection and
non-response weighting.

In the tables, ‘-’ represents zero, and ‘0.0’ represents a percentage less than 0.5 but not
zero.
Commentary

Adults

Blood pressure

Table 1 shows blood pressure level, by survey year, age and sex. High blood pressure is defined as a systolic blood pressure at or above 140 mmHg or diastolic blood pressure at or above 90 mmHg or on medication for high blood pressure, as described in the 1998 report. The prevalence of high blood pressure in 2006 was at 33.5% among men and 28.8% among women. Compared with 2003, the proportion in 2006 with high blood pressure (treated or untreated) was similar among men but decreased among women (34.3% to 33.5% among men and 30.1% to 28.8% among women). The proportion of people with untreated hypertension decreased from 2003 to 2006 for both sexes (22.6% to 20.4% among men and 16.5% to 13.8% among women). The proportion of men and women with controlled hypertension increased since 2003 (5.2% to 6.4% in men and 5.6% to 7.6% in women).

Blood pressure is a measure where there is a notable difference between weighted and unweighted data, particularly for men (suggesting that non-response bias has more impact on estimates for men). This makes comparisons with years before 2003 more difficult. It appears that after a period of stability in men, and a slight increase in the proportion with high blood pressure in women between 1998 and 2001, there has been a gradual downward trend since then.

There are no general population figures for blood pressure in 1999 and 2004 as only the boost sample was measured in those years.

- Table 1  Blood pressure level using 1998 definition, by survey year, age and sex

Height and Weight

Table 2 shows mean height, by survey year, age and sex. Between 1993 and 2006, mean height varied little from year to year with a change of 1 to 2 mm between consecutive years, except for an increase of 3 mm for men between 2004 and 2005, the only significant year on year increase. For both men and women, there was a gradual increase in height over the period between 2000 and 2006 (from 174.4 to 175.2cm for men, and from 161.0 to 161.6 for women). There was no obvious pattern of height variation across years for men and women within any age band.

- Table 2  Mean height, by survey year, age and sex

Table 3 shows the pattern of mean weight from 1993 to 2006. Over this period, mean weight increased from 78.9 kg to 83.6 kg among men and from 66.6 kg to 69.9 kg among women. Among men, while there was relatively little change between 1993 and 2006 among those aged 16-24 (2.3kg), the largest increases in mean weight occurred among those aged 55-74 (6.0 to 6.2kg). There was a similar pattern among women, although increases were smaller overall: mean weight increased least among those aged 16-24 (1.8kg between 1993 and 2006) and most among those aged 65 and over (4.1kg to 4.5kg).

- Table 3  Mean weight, by survey year, age and sex

Obesity

Table 4 shows categories of body mass index (BMI) by survey year, age and sex. BMI is defined as weight in kg divided by the square of height in metres. Adult informants can be classified into the following BMI groups:

<table>
<thead>
<tr>
<th>BMI (kg/m²)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Under 18.5</td>
<td>Underweight</td>
</tr>
<tr>
<td>18.5 to less than 25</td>
<td>Normal</td>
</tr>
<tr>
<td>25 to less than 30</td>
<td>Overweight</td>
</tr>
<tr>
<td>30 and over</td>
<td>Obese</td>
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A further category, 40 kg/m² and over, representing those morbidly obese, is also shown.

The proportion of adults with a normal BMI decreased between 1993 and 2006, from 41.0% to 31.7% among men and from 49.5% to 41.8% among women. There was no significant change overall in the proportion of adults who were overweight, with some fluctuation between years. There was, however, a marked increase in the proportion who were obese, a proportion that has gradually increased over the period examined. The proportion who were categorised as obese (BMI 30 or over) increased from 13.2% of men in 1993 to 23.7% in 2006 and from 16.4% of women in 1993 to 24.2% in 2006.

- Table 4 Body mass index (BMI), by survey year, age and sex

Waist circumference, a measure of central adiposity, has been measured in a number of years of HSE: 1993-4, 1997-8, 2001-2006. Following the same pattern as for BMI, there have been significant increases for both men and women in mean waist circumference, and in the proportion with a raised waist circumference. Among men, the mean has risen from 93.2cm in 1993 to 96.8cm in 2006, and among women from 81.7cm to 86.4cm over the same period. The proportion of men with a raised waist circumference (more than 102 cm) rose from 20% in 1993 to 32% in 2006, while for women the proportion with a raised waist circumference (more than 88cm) rose from 26% to 41%.

Guidance from the National Institute of Health and Clinical Excellence (NICE) currently states that the assessment of the health risks associated with overweight and obesity should be based on both BMI and waist circumference in adults with a BMI less than 35 kg/m² as follows:

<table>
<thead>
<tr>
<th>BMI classification</th>
<th>Low</th>
<th>High</th>
<th>Very high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal weight</td>
<td>No increased risk</td>
<td>No increased risk</td>
<td>Increased risk</td>
</tr>
<tr>
<td>Overweight (25 to less than 30 kg/m²)</td>
<td>No increased risk</td>
<td>Increased risk</td>
<td>High risk</td>
</tr>
<tr>
<td>Obesity I (30 to less than 35 kg/m²)</td>
<td>Increased risk</td>
<td>High risk</td>
<td>Very high risk</td>
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For men, low waist circumference is defined as less than 94 cm, high as 94–102 cm, and very high as greater than 102 cm. For women, low waist circumference is less than 80 cm, high is 80–88 cm and very high is greater than 88 cm. NICE also defines categories of Obesity II (35 to less than 40 kg/m²) and Obesity III (40 kg/m² or more). For adults with a BMI of 35 kg/m² or more, risks are assumed to be very high with any waist circumference.

Table 5 shows combined categories of BMI and waist circumference by survey year and sex. Using these categories to assess risk, for men 20% were estimated to be at increased risk, 13% at high risk and 21% at very high risk. The equivalent percentages for women were 14% at increased risk, 16% at high risk and 23% at very high risk.

- Table 5 Mean waist circumference and proportion with raised waist circumference, by survey year, age and sex
- Table 6 Combined BMI categories and waist circumference, by survey year and sex

**Cigarette smoking and Alcohol**

Table 7 shows self-reported smoking status, by survey year and sex and Table 8 shows self-reported cigarette smoking status, by survey year, age and sex.

Among men there was an increase overall in the proportion who never regularly smoked cigarettes (from 39% in 1993 to 49% in 2006). Correspondingly, the proportion of men who were smokers declined overall from 28% in 1993 to 24% in 2006. Among current smokers,
the proportion of men who smoked 20 or more cigarettes per day fell from 11% in 1993 to 7% in 2006. The proportion who smoked fewer than 10 cigarettes or 10 to 19 cigarettes a day showed little change (8% and 9% respectively in 2006).

The percentage of women who had never regularly smoked increased from 52% in 1993 to 57% in 2006, while the proportion of current smokers decreased overall in the same period, falling from 26% to 21%. As with men, there were no significant changes in the proportion of women who smoked fewer than 10 cigarettes or 10 to 19 cigarettes per day (8% and 9% in 2006), and a decrease in those who smoked 20 or more cigarettes per day, from 8% to 5%.

- Table 7 Self-reported cigarette smoking status, by survey year and sex
- Table 8 Self-reported cigarette smoking status, by survey year, age and sex

Trends in alcohol consumption between 1998 and 2002 are shown in table 9, based on the heaviest drinking day in the past week. Up to 2002, questions were also asked about usual weekly alcohol consumption, and trend tables from 1992-2002 based on these questions were included in the 2005 trend tables (www.ic.nhs.uk/pubs/hse05trends). In these 2006 trend tables, the thresholds for drinking at recommended levels, and at twice recommended levels (binge drinking) have been revised for all survey years to correspond to those used by the General Household Survey (GHS) and other surveys. The tables show the proportion drinking up to and including four units for men, three units for women (rather than up to but below four or three units as in previous tables) for recommended levels. For drinking at twice the recommended levels, the thresholds have changed to more than eight units for men and more than six units for women (rather than eight or more/ six or more as in previous tables).

Table 9 shows estimated alcohol consumption on the heaviest drinking day (the day on which individuals consumed the most alcohol) in the previous week. Between 1998 and 2006, the proportion of adults who had consumed no alcohol in the previous week ranged between 24% and 26% up to 2005 for men, increasing slightly to 28% in 2006. The equivalent proportions for women ranged between 38% and 42%.

Current government guidelines advise that daily drinking should not regularly exceed 4 units for men and 3 units for women. The proportion of men and women who had not exceeded this limit on the heaviest day’s drinking was relatively stable over time, with 38% of both men and women having consumed alcohol within the recommended limits in 2006.

Since 1998, the proportion of men consuming more than 4 units on the heaviest day’s drinking ranged between 36% and 39% up to 2005, with a slightly lower proportion, 34%, in 2006. Equivalent estimates for women consuming more than 3 units were between 20% and 23%, with little variation over the period.

Among men aged 16-24, the proportion who had consumed more than 4 units fluctuated between 46% and 52% up to 2005, but reflecting the overall drop among men, was slightly lower at 40% in 2006. The pattern was different among women aged 16-24, with the proportion consuming 3 or more units increasing with some fluctuation from 33% in 1998 to 43% in 2002, and falling since then to 33% in 2006.

The method used by the HSE to convert drinks to units remained essentially unchanged from 1991 until 2005, based on assumptions introduced by the General Household Survey (GHS) in 1990. In recent years, it has become clear that these assumptions are no longer valid. The average strengths of beers and wines have increased in the intervening years, and pubs, bars and restaurants now serve drinks in a broader range of measures; specifically, standard glasses of wine, formerly 125ml, are likely to be 175ml or even 250ml. From 2006, changes have been made in the way HSE and other surveys estimate alcohol consumption. The changes have an impact on the estimated consumption of beer, wine and alcopops; the most significant of these is the revision to the unit equivalent of a glass of wine from one unit...
to two units. Table 9 shows both the original and revised estimates for 2006, and the revised methodology will be used to measure trends in future years.

41% of men and 33% of women drank above the recommended amounts according to the revised method (compared with 34% and 20% respectively using the original method). Similarly, 24% of men and 16% of women drank more than twice the recommended amount using revised estimates (compared with 19% and 8% using original estimates). Among men aged 16-24, the differences between estimates were relatively small (3 percentage points both for drinking above recommended levels, and for drinking at more than twice recommended levels). Differences were relatively large among men aged 25-74 and women up to 74, those most likely to drink wine.

Revising the way surveys calculate adults’ alcohol consumption enables a better understanding of how much adults in England currently drink, but it is important to note that the difference between the original and revised measures do not reflect actual changes in consumption.

• Table 9 Estimated alcohol consumption on heaviest drinking day in the last week, by survey year, age and sex

Fruit and vegetable consumption

Questions about fruit and vegetable consumption were first included in 2001, and are designed to assess fruit and vegetable consumption in terms of portions per day. For both men and women the proportion who consumed five or more portions per day remained generally steady between 2001 and 2004, with significant increases in 2005 and 2006 among both men and women. Among men the proportion has increased from 22% in 2001 to 28% in 2006, and from 25% to 32% for women.

• Table 10 Fruit and vegetable consumption, by survey year, age and sex

General health

Table 11 shows trends in general health, longstanding illness and acute sickness. Between 1993 and 2006, the proportion reporting very good and good general health has fluctuated between 73% and 78% among both men and women (77% and 75% respectively in 2006), with no clear pattern of variation. The prevalence of very bad or bad general health has ranged from 4% to 8% over the same period. The prevalence of longstanding illness among men increased overall from 40% in 1993 to around 44% between 1997 and 2003, but appears to have decreased gradually over the last three years to 41% in 2006. Among women, prevalence increased from 40% in 1993 to 47% in 2004, but has decreased slightly in 2006 (44%). The prevalence of acute sickness ranged from 12% to 16% of men and from 14% to 19% of women, with levels since 1996 generally slightly higher than previous years.

• Table 11 General health, longstanding illness and acute sickness, by survey year and sex

Cardiovascular disease

Table 12 presents variations between 1994, 1998, 2003 and 2006 in IHD (ischaemic heart disease), stroke, and IHD or stroke.

The prevalence of IHD did not show substantial changes between 1994 and 2006 in most age groups. Overall, male prevalence was 6.0% in 1994, 7.1% in 1998 and 6.5% in 2006. The oldest age group (75 and over) was the only one showing a consistent increase across survey years. In women, estimates remained similar over the years examined, being 4.0% in 2006. There was no obvious pattern up to the age of 64, but a gradual increase among those aged 75 and over.
The prevalence of stroke in women increased from 1.6% in 1994 to 2.2% in 2006; similarly, the overall rate of stroke in men has risen from 1.8% to 2.4%. Most of this change is accounted for by increases among those aged 75 and over. For men up to the age of 74, the prevalence of IHD, stroke, and IHD or stroke has remained relatively unchanged since 1994, while the respective prevalence rates among men aged 75 and over have risen markedly (stroke 8.6% to 13.1% from 1994 to 2006, and IHD or stroke 27.7% to 36.9%).


**Diabetes**

Diabetes prevalence was measured in 1994, 1998, 2003 and 2006. Prevalence almost doubled between 1994 and 2003; the largest increases were in men and women aged 45 and over. There has been a further rise since 2003 from 4.3% to 5.6% in men and from 3.4% to 4.2% in women.


**Physical activity**

Table 14 shows the proportion achieving different levels of physical activity in 1997, 1998, 2003, 2004 and 2006. Definitions of these categories are as follows:

- High activity: 20 or more occasions of moderate or vigorous activity of at least 30 minutes duration in the last four weeks (at least five days per week on average)
- Medium activity: four to 19 occasions of moderate or vigorous activity of at least 30 minutes’ duration in the last four weeks (one to five days per week on average)
- Low activity: up to three occasions of moderate or vigorous activity of at least 30 minutes’ duration in the last four weeks (less than once per week on average).

The ‘high’ category corresponds to meeting the current physical activity recommendations and is the minimum activity level required to gain some general health benefits (e.g. reduction in the relative risk for cardiovascular morbidity).

For both men and women the proportion achieving high levels of physical activity has increased. This has been a gradual increase over the period, from 32% in 1997 to 40% in 2006 for men, and from 21% to 28% for women. For both sexes the proportion reaching this level of activity fell steadily with age.

There have been small decreases in the proportions of men and women in the medium and low physical activity categories. Among both men and women, the main change between 2003 and 2006 has been among those aged 25-44: a decrease in the proportion in the medium category and a compensatory gain in the high category.

Children

Height and weight

Infants (aged 0-1) were first included in the survey in 2001. Therefore, trends in height, weight and obesity are examined separately for the periods 1995 to 2001 (ages 2-15) and 2001 to 2006 (ages 0-15).

Table 1 shows children’s mean height, by survey year, age and sex. Overall, children’s mean height increased between 1995 and 2001. Mean height increased from 131.9 cm in 1995 to 133.9 cm in 2001 among boys aged 2-15, and from 130.6 cm in 1995 to 132.8 cm in 2001 among girls aged 2-15. There was a further increase between 2001 and 2006 among boys aged 0-15 from 129.3 cm to 131.8 cm, and among girls aged 0-15 from 128.1 cm to 130.5 cm. There was no clear pattern of trends within different age groups.

Table 2 shows children’s mean weight, by survey year and sex. Between 1995 and 2001, mean weight of children aged 2-15 increased overall from 33.0 kg to 34.5 kg among boys, and from 32.8 kg to 34.6 kg among girls. Between 2001 and 2006 mean weight for boys aged 0-15 increased from 32.2 kg to 33.7 kg; there was no significant increase among girls aged 0-15.

Obesity

Body mass index (BMI) is defined as weight in kilograms divided by the square of height in metres. Mean BMI by survey year and sex is shown in Table 3 and the prevalence of obesity and overweight among children aged 2-15 is shown in Table 4. The UK National BMI percentiles have been used to define overweight and obesity in children as over the 85th or 95th BMI percentiles respectively of the 1990 reference population.

Between 1995 and 2001, mean BMI increased overall among boys (from 17.7 to 18.2) and girls (from 18.1 to 18.6) aged 2-15. Among boys and girls aged 0-15, mean BMI rose between 2001 and 2004 (from 18.1 to 18.6 among boys and 18.4 to 19.3 among girls) though it has dropped back to 18.3 and 18.5 respectively in 2006, not significantly different from 2001.

Among boys and girls aged 2-15, the proportion who were obese increased overall between 1995 and 2006, from 10.9% in 1995 to 17.3% in 2006 among boys, and from 12.0% in 1995 to 14.7% in 2006 among girls. The 2006 estimate for girls represents a decrease from the 2005 figure of 18.3%, and future years’ data will show whether this is part of a downward trend.

The same overall increase was apparent both among younger children aged 2-10 and boys aged 11-15. Among those aged 2-10, the prevalence of obesity increased from 9.6% to 17.1% among boys, and from 10.3% to 13.2% among girls between 1995 and 2006. In the 11-15 age group, the prevalence of obesity increased overall from 13.5% to 17.7% among boys; among girls the change over this period was from 15.4% to 17.0% although this was not statistically significant. For boys aged 11-15 there was a significant decrease between 2004 and 2006 from 24.2% to 17.7%. Again, future years’ data will confirm whether this forms part of a trend.
### Cigarette smoking and alcohol

Table 5 shows children's self-reported cigarette smoking status, by survey year, age and sex. The proportion of children aged 8-15 who had ever smoked decreased overall from 22% of boys in 1995 to 15% in 2006, and from 21% to 17% of girls. On average over survey years, the proportion of boys and girls who had ever tried smoking increased with age.

- **Table 5** Children’s self-reported cigarette smoking status, by survey year, age and sex

Table 6 shows children's reported experience of drinking alcohol, by survey year and sex. Trends are examined between 1998 and 2006, as the questions were changed in 1998. The prevalence of boys ever having had a proper alcoholic drink ranged from 37% to 40% between 1998 and 2003, dropping in the following three years to 29% in 2006. The proportion of girls who had ever had a proper alcoholic drink varied between 30% and 38% from 1998 to 2005, dropping to 28% in 2006.

In broad terms since 1998 the proportion of boys and girls (aged 8-15) who had ever drunk a proper alcoholic drink increased with age from a fifth or less of those aged 8-10, to around 40-50% of boys and girls aged 13, and around three quarters of those aged 15. A similar pattern was reported for all survey years. The largest decreases between 2005 and 2006 were among boys aged 8 and 11-12, and girls aged 11-13.

- **Table 6** Children’s self-reported experience of alcohol, by survey year, age and sex

### Fruit and vegetable consumption

Between 2001 and 2004, there were no significant changes in mean portions of fruit and vegetables consumed among children aged 5-15, but there was an increase in 2005 both in the average number of portions of fruit and vegetables eaten daily and the proportion of boys and girls eating five or more portions per day (meeting the recommended guidelines). There was a further significant increase among girls in 2006. This reflects increases in fruit and vegetable consumption reported by adults (see Adults Table 10). In 2006, boys consumed an average of 3.2 portions of fruit and vegetables per day and girls an average of 3.4, compared with an average of between 2.4 to 2.7 portions per day among boys and between 2.6 and 2.7 portions per day among girls in 2001 to 2004. 19% of boys and 22% of girls consumed at least 5 portions per day in 2006, compared with 10% to 13% in 2001 to 2004. There were no clear trends in the proportion of children in different consumption bands, or trends by age.

- **Table 7** Children's fruit and vegetable consumption, by survey year, age and sex

### General health

Table 8 shows the prevalence of very good or good general health, by survey year and sex. Overall, over the period from 1995 to 2006 at least 90% of boys and girls reported very good or good general health. The proportion of children reporting very good or good health increased overall between 1995 and 2006, from 90% to 94% among boys and from 92% to 94% among girls.

- **Table 8** Children's self-assessed general health, by survey year, age and sex

Table 9 shows the prevalence of longstanding illness, by survey year, age and sex. Among boys, prevalence of longstanding illness varied between survey years (from 20% to 29%), while that for limiting longstanding illness varied between 7% and 11%. Among girls, prevalence of longstanding illness between 1995 and 2006 varied between 16% and 25%, while that for limiting longstanding illness varied between 5% and 9%. While year on year changes were generally small, prevalence of both longstanding and limiting longstanding illnesses appears to be decreasing gradually.

- **Table 9** Children’s longstanding illness, by survey year, age and sex

Table 10 shows the prevalence of acute sickness, by survey year, age and sex. Acute sickness is defined as any illness or injury (including any longstanding conditions) in the last
two weeks that have caused the informant to cut down on things they usually did. Prevalence of acute sickness varied between 8% and 14% for boys and girls, but there were no obvious trends in acute sickness between 1995 and 2006.

- Table 10 Children’s acute sickness, by survey year, age and sex

**Physical activity**

Table 11 shows the proportion of children in different physical activity categories for 2002 and 2006. The categories were defined as follows:

- High: active for at least 60 minutes on seven days
- Medium: active for 30-59 minutes on seven days
- Low: lower level of activity than that described above

These categories were based on the CMO’s recommendations for physical activity for children and young people, with the ‘high’ category representing the recommended level of activity of at least moderate intensity.

There was little variation across years in the proportions of children in each of the levels of physical activity, with 70% of boys and 59% of girls in the high category in 2006, and 15% of boys and 22% of girls in the low category. Among girls, the proportion in the high category decreased with age.

- Table 11 Children’s physical activity levels, by survey year, age and sex

**References and notes**

1 In 2003, key survey variables using weighted and unweighted estimates were compared. This showed that there are small differences between weighted and unweighted results, which are generally larger for men than women. See Blake, M. ‘Weighting the data’ in Sproston K, Primatesa P (eds) *Health Survey for England 2003. Volume 3: Methodology and documentation*, Section 7.4.2.

2 In 2003, a new automated device, the Omron HEM 907, was introduced to measure blood pressure, as a replacement for the Dinamap 8100, which had become obsolete. To allow for trends comparisons the Omron values have been translated into Dinamap values. For the equations used see: Falaschetti E, *Chapter 7 Blood Pressure* in Sproston K, Primatesa P (eds) *Health Survey for England 2003: Volume 2: Risk factors for cardiovascular disease*. Note that Omron values have been used in the 2006 report.


4 In HSE 2003, the categorisation of BMI changed to reflect recent medical opinion which now regards it as more appropriate to define 18.5 to 25 kg/m² as desirable and less than 18.5 as undesirable. Reports for HSE 2003 to 2005 have used this revised definition, and for the purpose of trends analysis the revised definition has also been used for 1993 to 2002. This replaces the earlier definition of desirable weight of over 20 to 25kg/m². See Hirani V, *Chapter 6: Anthropometric measures, overweight, and obesity in Health Survey for England 2003: Volume 2: Risk factors for cardiovascular disease*.

5 Waist circumference was also measured among adults aged 65 and over in 2000.


9 The table below shows the original conversion factors used by the HSE until 2005 and the revised conversion factors also shown in Table 9.

<table>
<thead>
<tr>
<th>Type of drink</th>
<th>Measure</th>
<th>Original equivalent units of alcohol</th>
<th>Revised equivalent units of alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal strength beer, lager, stout, cider, shandy (less than 6% ABV)</td>
<td>Pint Can or bottle</td>
<td>2 amount in pints multiplied by 2</td>
<td>2 amount in pints multiplied by 2.5</td>
</tr>
<tr>
<td></td>
<td>Small cans (size unknown)</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Large cans or bottles (size unknown)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Strong beer, lager, stout, cider (6% ABV or more)</td>
<td>Pint Can or bottle</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Small cans (size unknown)</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Large cans or bottles (size unknown)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Spirits and liqueurs</td>
<td>Glass (single measure)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sherry, martini and other fortified wines</td>
<td>Glass</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Wine</td>
<td>Glass</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Alcopops</td>
<td>Small can or bottle</td>
<td>1</td>
<td>1.5</td>
</tr>
</tbody>
</table>

10 The question on limiting longstanding illness was introduced in 1996.