Health Survey for England 2004 - updating of trend tables to include 2004 data
HEALTH SURVEY FOR ENGLAND 2004
LATEST TRENDS

Introduction

Adults
Blood pressure
- Table 1 Mean systolic blood pressure by survey year, age and sex
- Table 2 Mean diastolic blood pressure by survey year, age and sex
- Table 3a Blood pressure level, using 1998 definition by survey year, age and sex
Height and weight
- Table 4 Mean height, by survey year, age and sex
- Table 5 Mean weight, by survey year, age and sex
Obesity
- Table 6 Body mass index (BMI), by survey year, age and sex
- Table 7 Mean waist-hip ratio, by survey year, age and sex
Cigarette smoking and alcohol
- Table 8 Self-reported cigarette smoking status, by survey year and sex
- Table 9 Self-reported cigarette smoking status, by survey year, age and sex
- Table 10 Estimated usual weekly alcohol consumption level, by survey year and sex
- Table 11 Estimated usual weekly alcohol consumption levels, by survey year, age and sex
- Table 12 Estimated alcohol consumption on heaviest drinking day in the last week by, survey year, age and sex
Fruit and vegetable consumption
- Table 13 Fruit and vegetable consumption by survey year, age and sex
General health
- Table 14 General health, longstanding illness and acute sickness, by survey year and sex
Cardiovascular Disease
- Table 15 IHD, stroke, IHD or stroke (ever), 1994, 1998, 2003, by age and sex
Diabetes
Physical activity

Children
Blood pressure
- Table 1 Children’s systolic blood pressure, by survey year, age and sex
- Table 2 Children’s diastolic blood pressure, by survey year, age and sex
Height and weight
- Table 3 Children’s mean height, by survey year, age and sex
- Table 4 Children’s mean weight, by survey year, age and sex
Obesity
- Table 5 Children’s body mass index (BMI), by survey year, age and sex
Cigarette smoking and alcohol
- Table 6 Children’s self-reported cigarette smoking status, by survey year, age and sex
- Table 7 Children’s self-reported experience of alcohol, by survey year, age and sex
Fruit and vegetable consumption
- Table 8 Children’s fruit and vegetable consumption, by survey year, age and sex
General health
- Table 9 Children’s self-assessed general health, by survey year, age and sex
- Table 10 Children’s longstanding illness, by survey year, age and sex
- Table 11 Children’s acute sickness, by survey year, age and sex
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 is commissioned by the Department of Health and, since 1994, 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 and 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 2001. 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. In 2004, there was a half size general population sample and a boost sample selected of Minority Ethnic groups.

The trend tables focus upon key changes in core topics and measurements. Trend tables reflect the results within the general population sample, although in some years boost sample data are included. For example, 2002 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 was 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 1999 and 2004 surveys included a boost sample of informants in selected minority ethnic groups. Data from the ethnic boost sample are not included in the trend tables as they are likely to differ from that for the general population sample. Tables produced from nurse data i.e. blood pressure and waist hip measurements have not been updated to include 2004 data as the general population sample were not offered a nurse visit.

The following commentary focuses on key trends in the health of adults and children since 1993. Only significant differences are reported. 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. In order to allow direct comparison with previous years, the following analysis of trends focuses on the unweighted 2004 estimates.
Commentary

Adults

Blood pressure

Table 1 shows mean systolic blood pressure, by survey year and sex. Between 1993 and 2003, systolic blood pressure among men decreased from 139 mmHg to 135 mmHg and among women from 136 mmHg to 130 mmHg. Between 1993 and 2003, the observed reduction in systolic blood pressure was larger for women aged 65 and over (13 mmHg) than for those under 65 (between 4 and 9 mmHg). Equivalent figures for men were a reduction between 10 and 11 mmHg for those aged 65 and over compared with a reduction between 3 and 7 mmHg for those aged under 65. There are no general population figures for blood pressure in 2004 as only the boost sample was measured.

- Table 1 Mean systolic blood pressure by survey year, age and sex

The pattern for mean diastolic blood pressure (shown in table 2) mirrors that observed for systolic blood pressure, though the decrease was less marked. Among men, mean diastolic blood pressure decreased from 78 mmHg to 73 mmHg and among women from 74 mmHg to 72 mmHg between 1993 and 2003. For men, mean diastolic blood pressure decreased in most age bands (by at least 1 mmHg) and the decrease was larger among those aged 65 and over (at least 9 mmHg). For women aged under 65, mean diastolic blood pressure decreased in most age bands (between 1 to 3 mmHg), and the decrease was greatest (between 6 and 10 mmHg) among those aged 65 and over. There are no general population figures for blood pressure in 2004 as only the boost sample was measured.

- Table 2 Mean diastolic blood pressure by survey year, age and sex

Table 3A shows blood pressure level, by survey year and sex. High blood pressure is defined as a systolic blood pressure ≥140 mmHg or diastolic blood pressure ≥90 mmHg or on anti-hypertensive drugs, as described in the 1998 report. In 1998 and in 2001 the prevalence of high blood pressure among men was 40.8%, but this decreased to 37.8% in 2003. The proportion of women with high blood pressure decreased from 34.7% in 2001 to 31.7% in 2003. Between 1998 and 2003, there was a reduction in the prevalence of those with high blood pressure who had not been prescribed anti-hypertensive drugs, of around 8 percentage points for men and 5 percentage points for women. There are no general population figures for blood pressure in 2004 as only the boost sample was measured.

- Table 3A Blood pressure level using 1998 definition by survey year, age and sex

Height and Weight

Table 4 shows mean height, by survey year, age and sex. Between 1993 and 2002, mean height varied from year to year with a change of 1 to 2 mm between consecutive years. Overall, for both men and women, there was no systematic variation in height between 1993 and 2004, though, among men there were some significant increases between certain survey years (to 174.4cm in 2000 and to 174.8cm in 2002). There was no marked pattern of height variation for men and women within any age band.

- Table 4 Mean height, by survey year, age and sex

Table 5 shows the pattern of mean weight from 1993 to 2004. Over this period, mean weight increased from 78.9 kg to 83.2 kg among men and from 66.6 kg to 70.0 kg among women. Among men, the greatest increase in mean weight occurred within the older age groups, where mean weight for those aged 65 and over increased by around 5 kg between 1993 and 2004. For women, there was no marked pattern between age groups.

- Table 5 Mean weight, by survey year, age and sex
Obesity

Table 6 shows categories of body mass index (BMI, weight in kg divided by the square of height in metres) by survey year, age and sex. Adult informants can be classified into the following BMI groups:

<table>
<thead>
<tr>
<th>BMI (kg/m²)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 or less</td>
<td>Underweight</td>
</tr>
<tr>
<td>Over 20 to 25</td>
<td>Desirable</td>
</tr>
<tr>
<td>Over 25 to 30</td>
<td>Overweight</td>
</tr>
<tr>
<td>Over 30</td>
<td>Obese</td>
</tr>
</tbody>
</table>

The proportion of adults with a desirable BMI decreased between 1993 and 2004, from 37.8% to 27.2% among men and from 44.3% to 35.8% among women. There was no significant change in the proportion of adults who were overweight, though there was a marked increase in the proportion who were obese. The proportion who were categorised as obese (BMI over 30) increased from 13.2% of men in 1993 to 23.6% in 2004 and from 16.4% of women in 1993 to 23.8% in 2004.

Mean waist-hip ratio, by survey year, age and sex is shown in Table 7. Waist-hip ratio is defined as the waist circumference divided by the hip circumference and provides an indication of the distribution of fat on the body, particularly the deposition of abdominal fat. A raised waist-hip ratio is defined as a waist-hip ratio of 0.95 or above for men and of 0.85 and above in women. There was no significant change in mean waist-hip ratio among men (0.90 in 1993, 0.93 in 2003) or women (0.79 in 1993, 0.82 in 2003). There are no general population figures for waist hip ratio in 2004 as only the boost sample was measured.

Cigarette smoking and Alcohol

Table 8 shows self-reported smoking status, by survey year and sex and Table 9 shows more detailed trends in self-reported cigarette smoking status, by survey year, age and sex.

Among men there was an increase in the proportion who never regularly smoked cigarettes (from 39% in 1993 to 45% in 2004). Correspondingly, the proportion of men who were smokers declined from 28% in 1993 to 22% in 2004. Among current smokers, the proportion of men who smoked 20 or more cigarettes per day fell from 11% in 1993 to 7% in 2004. The proportion who were moderate (10 to <20 a day) or light smokers (<10 cigarettes a day) showed no marked change.

The percentage of women who had never smoked increased from 52% in 1993 to 55% in 2004. Whilst the proportion of current smokers decreased between 1993 and 2004, falling from 26% to 23%. There were no significant changes in the proportion of women who were classed as light (<10 cigarettes per day) or medium (10 to <20 per day) or heavy smokers (20 or more cigarettes per day). Estimates in 2004 were 7%, 10% and 6% respectively.

Trends in alcohol consumption between 1993 and 2002 are shown in tables 10 and 11. Table 10 shows estimated weekly alcohol consumption level, by survey year and sex and table 11 shows trends in estimated usual weekly alcohol consumption, by survey year, age and sex.
Since 1993, the proportion of men with weekly alcohol consumption of over 1 to 10 units decreased (from 34% in 1993 to 31% in 2002) and the proportion consuming over 10 to 21 units increased (from 21% in 1993 to 23% in 2002). There were no changes in the proportion of men consuming less than 1 unit, or more than 21 units per week. Among women a different pattern was observed. Since 1993, there was an overall decrease in the proportion of women consuming 1-7 units (from 38% in 1993 to 36% in 2002), but the proportion of women drinking over 21 units increased from 2% in 1993 to 6% in 2002.

For both males and females, the greatest changes in drinking behaviour were found among those aged 16-24. Among young men of this age, the proportion consuming 1-10 units per week decreased from 32% in 1993 to 23% in 2002 while the proportion consuming more than 28 units per week increased from 22% in 1993 to 34% in 2002. Among women aged 16-24, the proportion consuming 1-7 units per week decreased from 41% to 29% while the proportion consuming over 21 units per week increased from 9% in 1993 to 23% in 2002. There was little variation with age for those aged 25 and over.

- Table 10 Estimated usual weekly alcohol consumption level, by survey year and sex
- Table 11 Estimated usual weekly alcohol consumption level, by survey year, age and sex

Table 12 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 2004, the proportion of adults who had consumed no alcohol in the previous week ranged between 23% to 25% for men and between 38% and 40% among women.

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 days drinking was relatively stable over time, with 33% of men and 32% of women having consumed alcohol within these limits in 2004.

Since 1998, the proportion of men consuming more than 4 units on the heaviest day’s drinking ranged between 43% and 46%, equivalent estimates for women were between 28% and 30% (consuming more than 3 units). Overall, these estimates varied with no clear pattern, though among women, there were significant differences between some years.

There was some variation in alcohol consumption across the age range, with younger men and women being more likely to exceed the limits of 4 units for men and 3 units for women. Between 1998 and 2004 significant trends in alcohol consumption were apparent for those aged 16-24. Among men aged 16-24, there was a significant increase in the proportion who had consumed more than 4 units, from 52% in 1998 to 58% in 2004. This pattern was more notable among women aged 16-24, with the proportion consuming more than 3 units increasing from 39% in 1998, to 49% in 2002, and falling to 43% in 2004.

- Table 12 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 more than 5 portions per day has increased between 2001 and 2004, rising from 22% to 24% for men and 25% to 27% for women.

- Table 13 Fruit and vegetable consumption by survey year, age and sex
General health
Table 14 shows trends in general health, longstanding illness and acute sickness. Between 1993 and 2004, there was a decrease in the prevalence of very good and good general health (2 percentage points for men and 3 percentage points for women) and a corresponding increase in the prevalence of very bad or bad general health (2 percentage points for men and 4 percentage points for women). The prevalence of longstanding illness increased over this period from 40% to 47% for men and from 40% to 50% for women) as did the prevalence of acute sickness (from 12% to 14% of men and from 14% to 19% of women).

Cardiovascular disease
Table 15 presents variations between 1994, 1998 and 2003 in IHD, stroke, and IHD or stroke.

The prevalence of IHD did not show substantial changes between 1994 and 2003 in most age groups. Overall, male prevalence was 6.0% in 1994, 7.1% in 1998 and 7.4% in 2003. The oldest age group (75 and over) was the only one showing a consistent increase across survey years. In women, overall estimates were 4.1%, 4.6% and 4.5%, with very small changes in all age groups.

The prevalence of stroke increased in both sexes: in men from 1.8% in 1994, to 2.3% in 1998 and 2.7% in 2003, and in women from 1.6% to 2.1% and 2.3% respectively. The increase was mainly seen among the older age groups, 65-74 and 75 and over.

The prevalence of IHD or stroke increased in men, from 7.1% in 1994, to 8.5% in 1998 and 9.1% in 2003. In women the increase was smaller, from 5.2% to 6.2% and 6.3% respectively.

Diabetes
Diabetes prevalence increased in men from 2.9% in 1994 to 3.3% in 1998 and 4.8% in 2003. The prevalence increased among women from 1.9% to 2.5% and 3.6% respectively. It increased in all age groups from 35 upwards in men and age 25 upwards in women.

Physical activity
Table 17 shows the percentage of the population achieving the physical activity recommendations between 1997, 1998, 2003 and 2004. By current definitions this consists of undertaking a minimum of 30 minutes of at least moderate intensity activity at least five times a week. For both men and women the proportion achieving this level of physical activity has increased from 32% in 1997 to 35% in 2004, and 21% to 24% respectively. For both sexes the proportion reaching this high activity level fell steadily with age.
Children

Blood pressure

Tables 1 and 2 show mean systolic (Table 1) and diastolic (Table 2) blood pressure among children, by survey year and sex. There are no general population figures for blood pressure in 2004 as only the boost sample was measured.

Among boys, systolic blood pressure varied between 112.1 mmHg and 111.0 mmHg, but there was no significant difference between 1995 (111.7 mmHg) and 2003 (112.1 mmHg). Among girls systolic blood pressure varied between 110.1 and 111.8 mmHg, but there was no significant difference between 1995 (111.8 mmHg) and 2003 (111.8 mmHg). Systolic blood pressure increased with age in all survey years: between the ages of 5 and 15 systolic blood pressure increased by 14 to 20 mmHg among boys and by 11 to 14 mmHg among girls.

• Table 1 Children’s systolic blood pressure, by survey year, age and sex

Among boys, diastolic blood pressure was similar in 1995 (56.6 mmHg) and 2003 (57.1 mmHg). There was an increase in diastolic blood pressure among girls and from 57.2 mmHg in 1995 to 58.3 mmHg in 2003.

• Table 2 Children’s diastolic blood pressure, by survey year, age and sex

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 2004 (ages 0-15).

Table 3 shows children’s mean height, by survey year and sex. Overall, children’s mean height increased between 1995 and 2003. Mean height increased from 130.6 cm in 1995 to 132.2 cm in 2001 among boys aged 2-15, and from 129.7 cm in 1995 to 131.6 cm in 2001 among girls aged 2-15. Among boys aged 0-15, mean height increased from 127.6 cm in 2001 to 133.7 cm in 2003, and among girls of the same age mean height increased from 126.9 cm in 2001 to 133.7 cm in 2004. There was no clear pattern of trends within different age groups.

• Table 3 Children’s mean height, by survey year, age and sex

Table 4 shows children’s mean weight, by survey year and sex. Between 1995 and 2001, mean weight of children aged 2-15 increased from 32.0 kg to 33.2 kg among boys, and from 32.0 kg to 33.6 kg among girls. Between 2001 and 2004 mean weight for both sexes, aged 0-15, increased from 31.0 kg to 32.9 kg for boys, and from 31.1 kg to 33.7 kg among girls.

• Table 4 Children’s mean weight, by survey year, age and sex

Obesity

Mean body mass index (BMI, weight in kg divided by the square of height in metres), by survey year and sex is shown in Table 5. Between 1995 and 2001, mean BMI increased among boys (from 17.6 to 18.1) and girls (from 18.0 to 18.4) aged 2-15. Among girls aged 0-15, mean BMI increased from 18.2 in 2001 to 19.0 in 2004, but there was no significant increase among boys aged 0-15 over that period.

• Table 5 Children’s body mass index (BMI), by survey year, age and sex

Cigarette smoking and alcohol

Table 6 shows children’s self-reported cigarette smoking status, by survey year and sex. The proportion of children who had ever smoked decreased from 22% of boys in 1995 to 16% in 2004, but there was no marked change in the prevalence of smoking among girls.
In all survey years, the proportion of boys and girls who had ever tried smoking increased with age from around a tenth of those aged 8-9 to about half of those aged 14-15.

- Table 6  Children’s self-reported cigarette smoking status, by survey year, age and sex

Table 7 shows children’s reported experience of alcohol, by survey year and sex. Trends are examined between 1998 and 2004, as the question was altered prior to the 1998 survey. The prevalence for boys ranged from 37% to 39% between 1998 and 2003, dropping to 31% in 2004 (but it should be noted that the 2004 sample is quite small, and this change is likely to be due to sampling error). The percentage of girls who had ever had a proper alcoholic drink varied between 30% and 34% from 1998 to 2004.

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 half of boys and girls aged 13, and around three quarters of those aged 15. A similar pattern was reported for all survey years and there were no marked trends within different age groups.

- Table 7  Children’s self-reported experience of alcohol, by survey year, age and sex

**Fruit and vegetable consumption**

Between 2001 and 2004, there were no changes in mean portions of fruit and vegetables consumed: boys consumed, on average, 2.4 to 2.7 portions per day while girls consumed between 2.6 and 2.7 portions per day. There were no clear trends in the proportion of children in different consumption bands.

- Table 8  Children’s fruit and vegetable consumption, by survey year, age and sex

**General health**

Table 9 shows the prevalence of very good or good general health, by survey year and sex. Overall, 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 between 1995 and 2004, from 90% to 95% among boys and from 92% to 95% among girls, although this was not statistically significant.

- Table 9  Children’s self-assessed general health, by survey year, age and sex

Table 10 shows the prevalence of longstanding illness, by survey year and sex. Among boys, prevalence of longstanding illness varied between survey years (from 21% to 29%), while that for limiting longstanding illness varied between 7% and 11%. Among girls, prevalence of longstanding illness between 1995 and 2004 varied between 16% and 25%, while that for limiting longstanding illness varied between 6% and 9%. Table 10  Children’s longstanding illness, by survey year, age and sex

Table 11 shows the prevalence of acute sickness, by survey year and sex. Prevalence of acute sickness varied between 9% and 14% for boys and girls, but there were no marked trends in acute sickness between 1995 and 2004.

- Table 11  Children’s acute sickness, 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, Primastata 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, Primastata P (eds) Health Survey for England 2003: Volume 2: Risk factors for cardiovascular disease.


4 In HSE03, 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. Whilst the HSE03 report has used this revised definition, for purpose of trends analysis the former definition has been retained. See Hirani V, Chapter 6: Anthropometric measures, overweight, and obesity in Health Survey for England 2003: Volume 2: Risk factors for cardiovascular disease.

5 In 2003, drinking questions focused upon drinking on the heaviest drinking day, rather than weekly consumption. Therefore tables 9 and 10 do not include trend data for 2003 onwards, however, for completeness commentary on the available data from 1993 to 2002 has been included.