

# Adult Weight

## Key points

- In 2011 an estimated 62% of adults (aged 16 and over) were overweight or obese (Table 1). Around 2% were underweight and 2.5% had severe obesity.
- Men and women have a similar prevalence of obesity, but men are more likely to be overweight (41% compared to 33%) (Table 1).
- The prevalence of obesity in adults rose from 15% in 1993 to 25% in 2011 (Figure 2).
- Many of those in the obese category have a body mass index (BMI) much higher than 30 (Figure 3). There are more women than men with extremely high BMI values.
- The prevalence of obesity and overweight changes with age. Prevalence of overweight and obesity is lowest in the 16-24 years age group, and generally higher in the older age groups among both men and women (Figure 4).
- Women living in more deprived areas have the highest prevalence of obesity and those living in less deprived areas have the lowest. There is no clear pattern for men (Figure 5).
- Women from Black African groups appear to have the highest prevalence of obesity and men from Chinese and Bangladeshi groups the lowest, based on the most recent data (2004) (Figure 6). However, research has shown that BMI may overestimate obesity among Africans and underestimate obesity in South Asians. Using adjusted thresholds for these ethnic groups could improve obesity estimates.

## Current figures

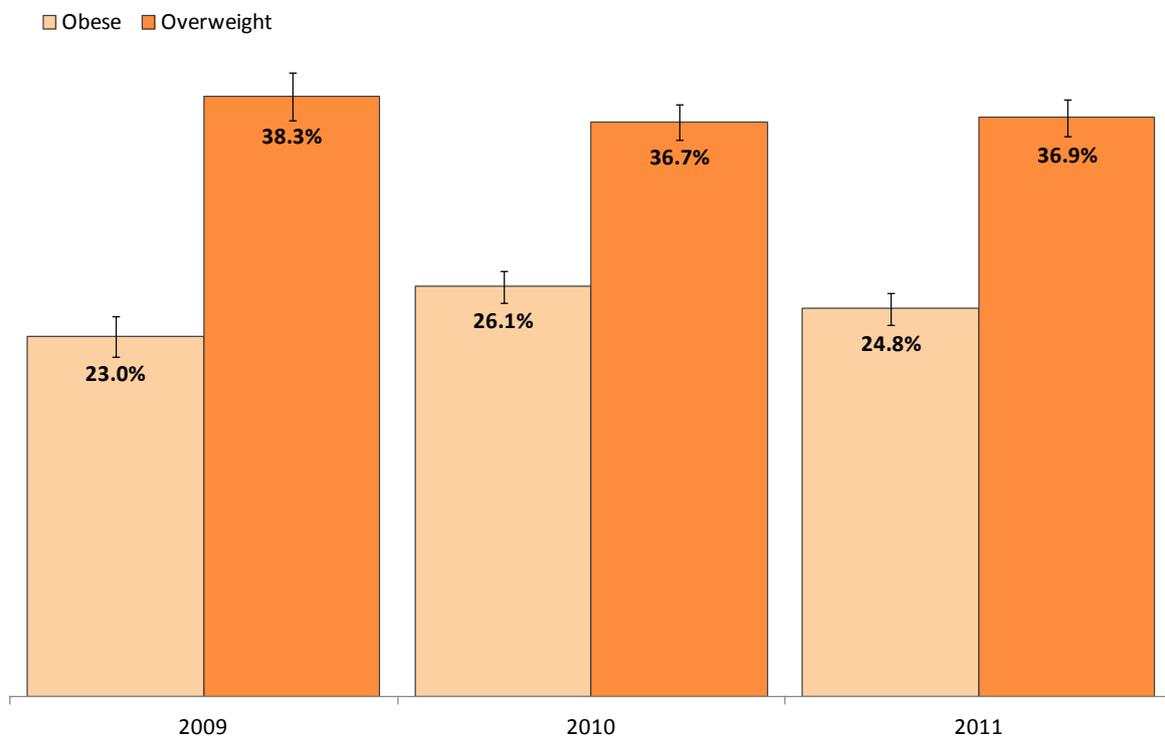
Table 1 and Figure 1 give a detailed breakdown of weight status in recent years, based on Health Survey for England (HSE) data. They show that in 2011 around 62% of adults were overweight or obese (BMI  $\geq 25\text{kg/m}^2$ ); this equates to 58% of women and 65% of men. Men and women have a similar prevalence of obesity (25%), but men are more likely to be overweight (33% for women and 41% for men). The adult prevalence of severe obesity (obesity III: BMI  $\geq 40\text{kg/m}^2$ ) is around 2.5%, and the prevalence of underweight is around 2%.

**Table 1:** Weight status among adults (aged 16 and over)

| Weight Status Category | 2009 (%) |       |        | 2010 (%) |       |        | 2011 (%) |       |        |
|------------------------|----------|-------|--------|----------|-------|--------|----------|-------|--------|
|                        | Men      | Women | Adults | Men      | Women | Adults | Men      | Women | Adults |
| Underweight            | 2.2      | 2.5   | 2.3    | 1.3      | 1.9   | 1.6    | 1.4      | 2.2   | 1.8    |
| Healthy weight         | 32.0     | 40.8  | 36.4   | 30.9     | 40.4  | 35.6   | 33.6     | 39.4  | 36.5   |
| Overweight             | 43.7     | 32.8  | 38.3   | 41.6     | 31.7  | 36.7   | 41.4     | 32.5  | 36.9   |
| Obese                  | 22.1     | 23.9  | 23.0   | 26.2     | 26.1  | 26.1   | 23.6     | 25.9  | 24.8   |

Source: Health Survey for England

**Figure 1:** Adult (aged 16 and over) overweight and obesity prevalence



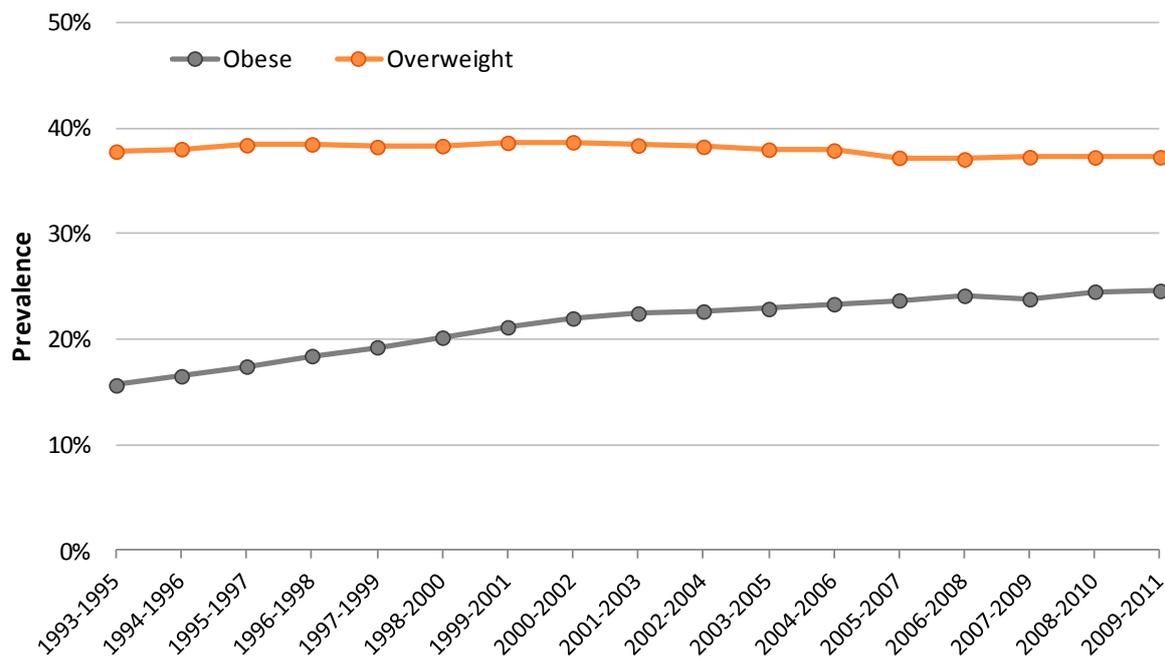
Source: Health Survey for England

## Trends

Figure 2 shows the changing prevalence of overweight and obesity in adults (aged 16 years and over) since 1993 from the HSE. It shows a rise in obesity from about 15% in 1993–1995 to just below 25% in 2009–2011. The rate of increase was higher between 1993 and 2001 than it has been since 2001. The HSE report indicates that there has been no significant change since 2008 for men or women.

The prevalence of overweight has remained broadly stable during this time at 37–39%. This suggests that roughly the same number of people have moved from the normal to the overweight category as have moved from overweight to obese.

**Figure 2:** Prevalence of overweight and obesity among adults (aged 16 and over), 3-year moving averages, 1993 to 2011



Source: Health Survey for England

The latest HSE report states that there are indications that the trend may be flattening out, at least temporarily. However, it is too soon to tell whether this is the case.

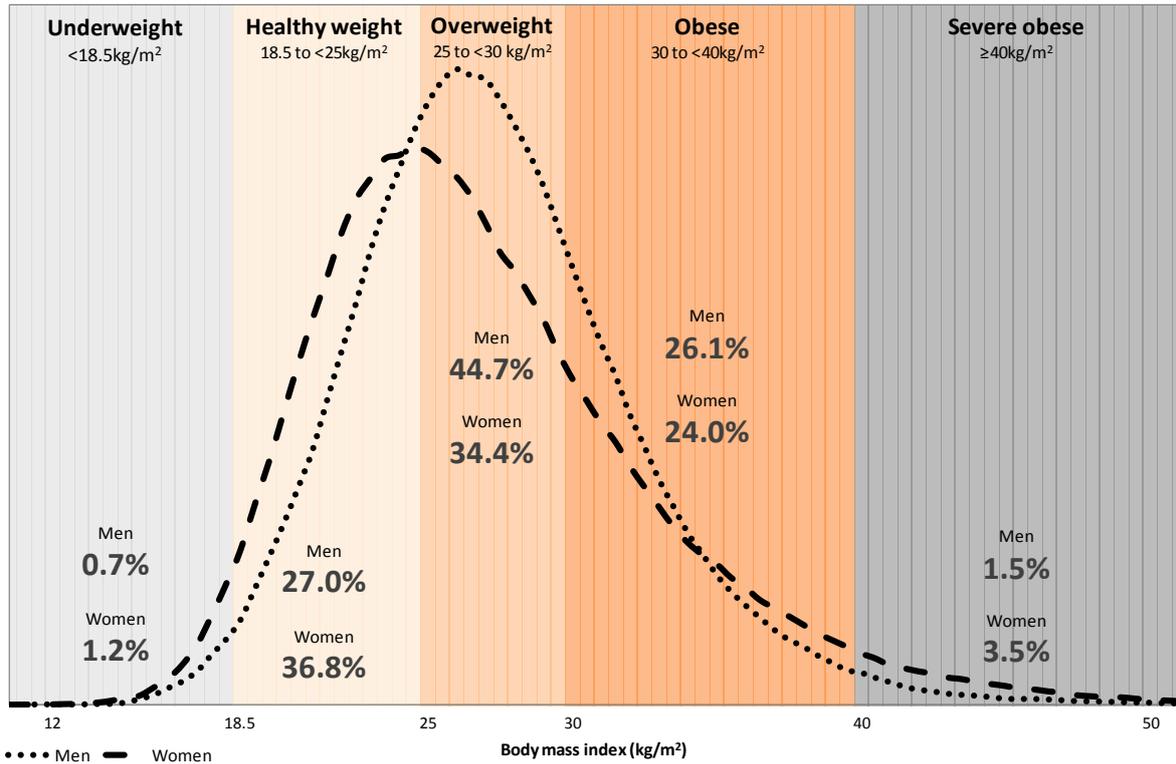
Future projections<sup>1</sup> do not indicate any flattening out of the current rising obesity trend in adults. By 2020 for men aged 20–65, projections signal a clear decline in the prevalence of healthy weight accompanied by significant increases in the prevalence of obesity and severe obesity. For women there is also a projected rise in obesity and severe obesity but to a lesser extent than for men. This is the opposite of the current situation where severe obesity is more common in women than in men.

<sup>1</sup> Brown M, Byatt T, Marsh T, McPherson K (2010) A prediction of Obesity Trends for Adults and their associated diseases: Analysis from the Health Survey for England 1993 – 2007. Report. London; National Heart Forum

### BMI distribution

Figure 3 shows the difference in the distribution of BMI between men and women. It combines HSE data from three years (2008–2010) to get a more reliable picture. A higher proportion of women are underweight or at a healthy weight compared to men, but as BMI increases the pattern changes - a higher proportion of men than women are overweight or obese. These charts make it very clear that many men and women have a BMI greater than the 'healthy weight' range (18.5 to 25). The right hand 'tail' (skewness) of the curve indicates the range of extremely high BMI values observed for both sexes. A higher proportion of women than men have severe obesity.

**Figure 3:** Distribution of BMI for men and women (aged 18 and over), 2008 – 2010



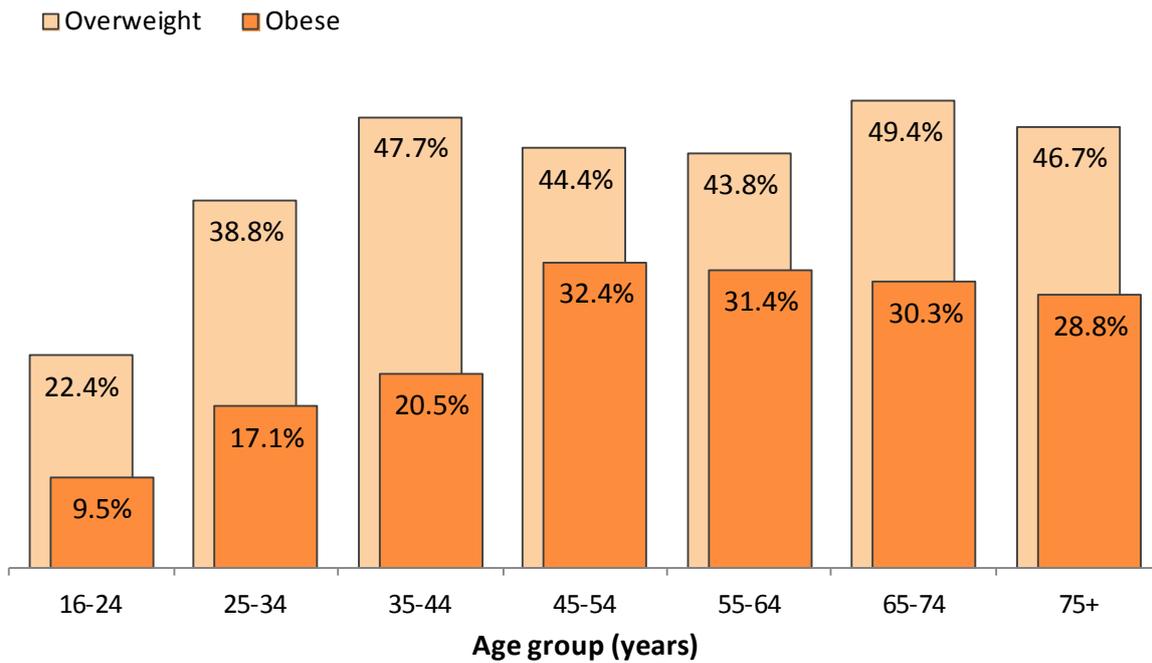
Source: Health Survey for England

## Obesity and age group

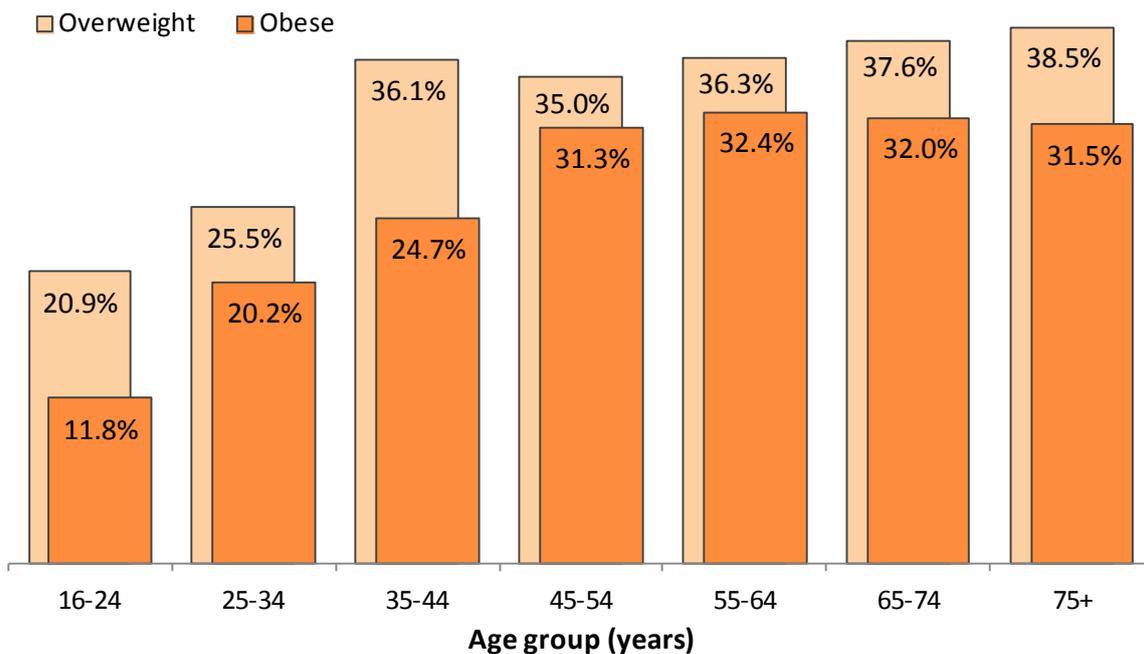
Figure 4 shows how the prevalence of obesity and overweight changes with age. Prevalence of overweight and obesity is lowest in the 16–24 age group, and generally higher in the older age groups among both men and women. There is a decline in prevalence in the oldest age group which is especially clear in men. This pattern has remained consistent over time.

Figure 4: Prevalence of overweight and obesity, by age group, 2011

### Men



### Women

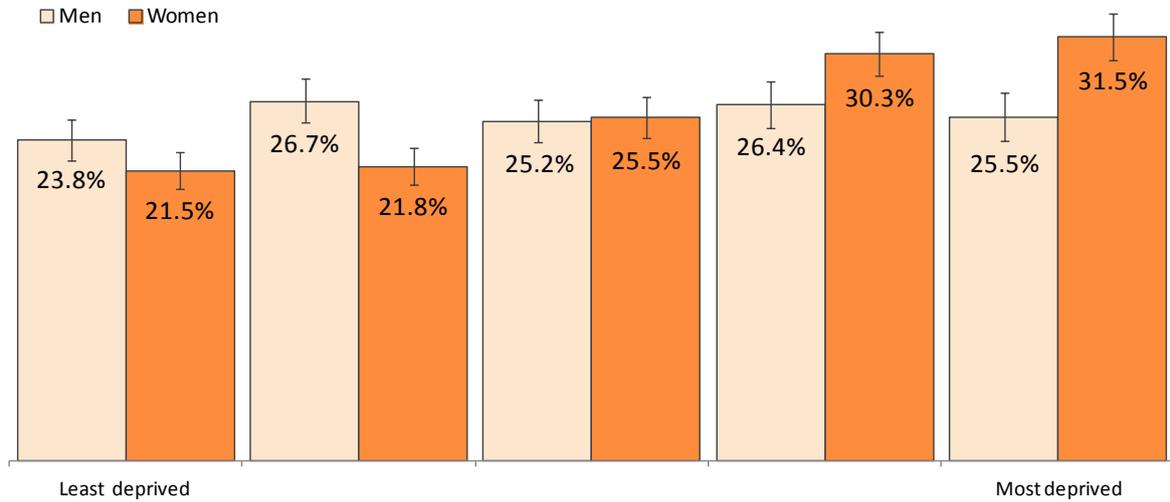


Source: Health Survey for England

## Obesity and deprivation

Figure 5 shows the prevalence of obesity by deprivation quintile. Women living in more deprived areas are more likely to be obese: obesity prevalence rises from 21.5% in the least deprived quintile to 31.5% in the most deprived quintile. There is no clear pattern for men.

**Figure 5:** Prevalence of obesity in adults (aged 16 and over) by deprivation quintile based on IMD 2007, England, 2007–2010



Source: Health Survey for England

For this chart, adults have been divided into five groups (quintiles) according to the 2007 Index of Multiple Deprivation (IMD) score of where they live. Obesity prevalence figures have then been calculated for each group.

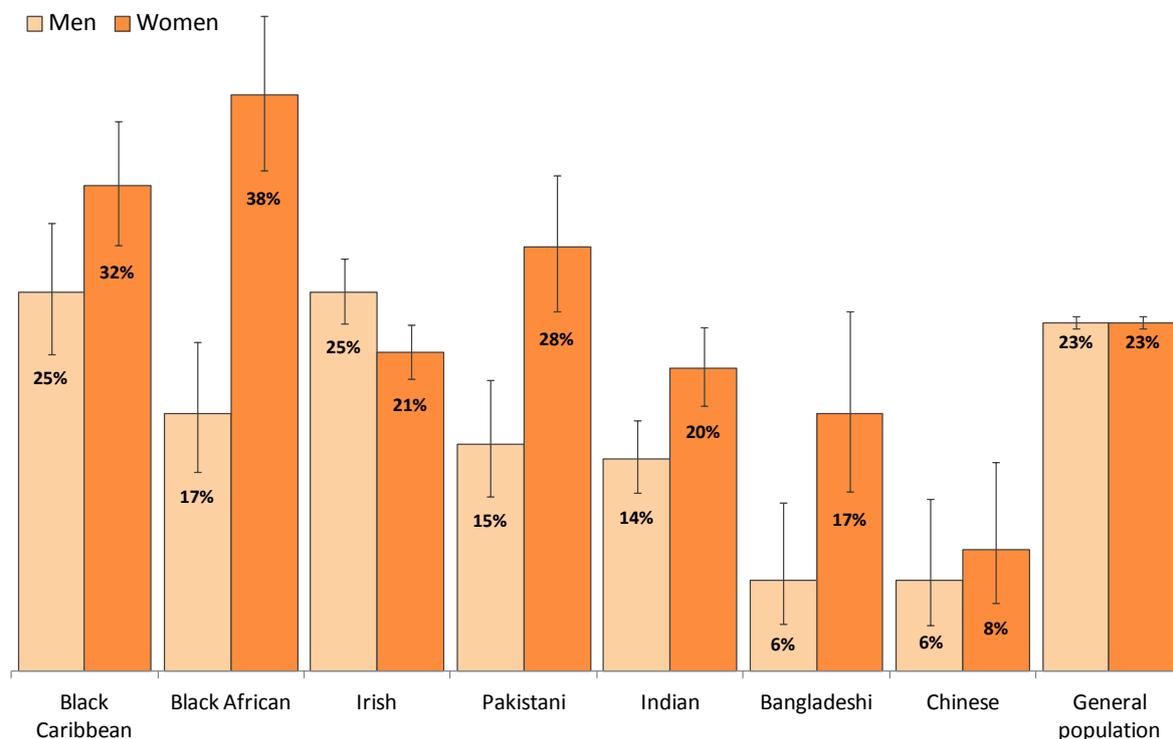
## Obesity and ethnicity

Figure 6 presents HSE 2004 data, which included a 'boost sample' from minority ethnic groups, enabling more detailed analysis of data by ethnicity. Women from Black African groups appear to have the highest prevalence of obesity and men from Chinese and Bangladeshi groups the lowest. Women appear to have a higher prevalence in almost every minority ethnic group, with a significant difference between women and men among the Pakistani, Bangladeshi and Black African groups.

However, there is ongoing debate as to whether the current criteria for defining obesity in both adults and children are appropriate for non-European populations. BMI is not always an accurate predictor of body fat or fat distribution in individuals. Research has shown that for the same BMI, people of African ethnicity are likely to carry less fat and people of South Asian ethnicity more fat than the general population. This indicates that BMI overestimates obesity among Africans and underestimates obesity in South Asians. Using adjusted thresholds for these ethnic groups could improve obesity estimates.

These data are the most recent data on adult obesity by ethnic group and are now nine years old. Future boosted samples are needed to make it possible to monitor trends over time in these populations.

**Figure 6:** Prevalence of obesity in adults (aged 16 and over) by ethnic group and sex, 2004



Source: Health Survey for England

## Data sources

### Health Survey for England

All data presented here are from the HSE and were the most recent data available at the time of writing. The HSE is a cross-sectional survey which samples a representative proportion of the population.

*Timing of data collection:* The survey is conducted annually. Data for some of the time series are available from 1993 onwards. Certain years include 'boost samples' which focus on specific population groups: e.g. 2004 included a boost of individuals from minority ethnic groups.

*Date of next release:* The report on the HSE 2012 should be published online in December 2013. The data should be available from the UK Data Archive in the spring following publication of the report.

## Definitions

### Body mass index and weight classification in adults

BMI is a measure of weight status. BMI is a person's weight in kilograms divided by the square of their height in metres. The following cut-offs are used to classify adults:

| BMI range (kg/m <sup>2</sup> ) | Classification |
|--------------------------------|----------------|
| Less than 18.5                 | Underweight    |
| 18.5 – 24.9                    | Healthy weight |
| 25.0 – 29.9                    | Overweight     |
| 30.0 – 39.9                    | Obese I and II |
| Greater than or equal to 40    | Obese III      |

In this briefing the definition 'overweight' does not include obese. The definition 'obese' includes obese III (BMI  $\geq 40$ kg/m<sup>2</sup>), except in Figure 3. The term 'severe obesity' refers to obese class III (BMI  $\geq 40$ kg/m<sup>2</sup>), previously often referred to as morbid obesity.

### Confidence intervals on the charts

Error bars (I) on the charts are 95% confidence intervals. These indicate the level of uncertainty about each value on the chart. Wider intervals mean more uncertainty.

## Useful resources

### Health Survey for England

<http://www.ic.nhs.uk/catalogue/PUB09300>

### A prediction of obesity trends for adults and their associated diseases

<http://www.heartforum.org.uk/resources/nhf-publications/?entryid30=3983&p=5>

### Statistics on Obesity, Physical Activity and Diet: England, February 2012

<http://www.ic.nhs.uk/searchcatalogue?productid=4787&topics=2%2fPublic+health%2fLifestyle%2fDiet&sort=Relevance&size=10&page=1#top>

## Changes summary

- March 2010 - original report.
- February 2011 - updated to include 2009 Health Survey for England data where available.
- July 2012 - updated to include 2010 Health Survey for England data where available.
- February 2013 - updated to include 2011 Health Survey for England data where available.

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