



# Health Survey for England 2016

## Adult overweight and obesity

Published 13 December 2017

This report examines the prevalence of overweight and obesity in England in 2016. It compares the prevalence of overweight and obesity in different population groups by age, sex, region and area deprivation. Adults' perceptions of their weight, desire to lose weight and weight management behaviours are examined.

### Key findings

- 26% of men and 27% of women in England were obese, and a further 40% of men and 30% of women were overweight. 2% of men and 4% of women were morbidly obese.
- Obesity prevalence varied with area deprivation in women but not in men. 38% of women in the most deprived areas were obese, compared with 20% of women in the least deprived areas.
- Although women were less likely than men to be overweight or obese, they were more likely than men to say they were too heavy (50% and 40% respectively). Women were also more likely than men to be trying to lose weight (54% and 39% respectively).
- Participants were asked about their use of aids or services to help manage or change their weight. 39% of participants were using one of the aids or services asked about, most commonly going to the gym or doing exercise (29%). The next most commonly mentioned aids were websites or mobile phone apps (8%) and activity trackers or fitness monitors (6%).
- Half of people who reported they were trying to lose weight were not using any of the aids or support asked about.

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This report may be of interest to members of the public, policy officials, people working in public health and to commissioners of health and care services to see the prevalence of overweight and obesity among adults in England.

## Introduction

### Contents

This report presents height, weight, and waist circumference data from adult Health Survey for England participants in 2016. The data were based on measurements of a representative sample of the general population aged 16 and over, and are used to show the overall prevalence of overweight and obesity (including abdominal obesity, determined by waist circumference), in addition to comparisons by sex, age, region and deprivation.

Adults' perception of their weight, their desire to change their weight and the use of weight management aids (such as exercising, apps, activity trackers or diet clubs) are also discussed.

Detailed tables accompanying this report can be accessed via <http://digital.nhs.uk/pubs/hse2016>

### Background

Obesity has long been identified as a major public health problem, both internationally and within the UK. Being overweight or obese is associated with an increased risk of a number of common diseases and causes of premature death, including diabetes, cardiovascular disease and some cancers.<sup>1,2</sup> For individuals with excess weight, the risk of poor health increases sharply with increasing body mass index (BMI).<sup>3</sup>

BMI is a widely used value of weight that takes into account the individual's height, and is defined as weight in kilograms divided by the height in metres squared ( $\text{kg/m}^2$ ).<sup>4</sup> It has the advantage of being age-independent for adults, and comparable between men and women. However BMI does not distinguish between mass due to body fat and mass due to muscular physique. It also does not take account of the distribution of fat. It has therefore been suggested that waist circumference, waist to hip ratio or waist to height ratio may be useful supplements to BMI to identify central (abdominal) obesity, which increases the health risk from being overweight.<sup>5,6</sup> More recently, waist circumference has been identified as the most useful of these three measures of central obesity in determining health risk.<sup>7,8</sup>

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<sup>1</sup> Prospective Studies Collaboration. *Body-mass index and cause-specific mortality in 900,000 adults: collaborative analyses of 57 prospective studies*. *Lancet* 2009;**373**:1083-96.

<sup>2</sup> Calle E, Rodriguez C, Walker-Thurmond K et al. *Overweight, Obesity, and Mortality from Cancer in a Prospectively Studied Cohort of U.S. Adults*. *New England Journal of Medicine* 2003;**348**:1625-38.

<sup>3</sup> Kopelman P. *Health risks associated with overweight and obesity*. *Obesity reviews*. 2007 Mar 1;**8**(s1):13-7.

<sup>4</sup> Keys A, Fidanza F, Karvonen M et al. *Indices of relative weight and obesity*. *Journal of Chronic Diseases* 1972;**25**:329-343.

<sup>5</sup> Lean M, Han T, Morrison C. *Waist circumference as a measure for indicating need for weight management*. *BMJ* 1995;**311**:158-61.

<sup>6</sup> Schneider HJ, Friedrich N, Klotsche J et al. *The Predictive Value of Different Measures of Obesity for Incident Cardiovascular Events and Mortality*. *Journal of Clinical Endocrinology and Metabolism*. 2010;**95**:1777-1785.

<sup>7</sup> National Institute of Health and Care Excellence. *Obesity: Identification, assessment and management of overweight and obesity in children, young people and adults*. NICE, London, 2014. [www.nice.org.uk/guidance/cg189](http://www.nice.org.uk/guidance/cg189)

<sup>8</sup> National Heart, Lung and Blood Institute Obesity Education Initiative. *The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults*. National Institutes of Health, 2000. [www.nhlbi.nih.gov/files/docs/guidelines/prctgd\\_c.pdf](http://www.nhlbi.nih.gov/files/docs/guidelines/prctgd_c.pdf)

Previous surveys have shown that in recent years around a quarter of adults in England were obese (with a BMI of 30kg/m<sup>2</sup> or higher) and many had a very high waist circumference.<sup>9</sup> Other research has shown that the burden of obesity falls particularly on those in lower income households, and in more deprived areas of the country.<sup>10</sup> Obesity therefore continues to be an important public health concern, and a driver of health inequalities.

The *Health profile for England* reported that, in 2013, high BMI was identified as the single risk factor accounting for the most morbidity (disease) in England.<sup>11</sup> Both general and abdominal obesity are unequally distributed in the adult population in England, by sex, age and region. The HSE has shown a link between area deprivation and obesity.<sup>12</sup> This has consequences for health and health inequalities.

In the *Health profile for England*, Public Health England identified that men in the most deprived tenth of areas can expect to live nine years less and women seven years less than their counterparts in the least deprived tenth of areas.<sup>13</sup> It estimated that 'about half the gap in life expectancy [...] is due to excess deaths from heart disease, stroke and cancer in the most deprived areas'.<sup>13</sup> As discussed above, these are all conditions that have been linked to obesity.

Beyond life expectancy, healthy life expectancy, the amount of time people can expect to live in good health is also unequally distributed; adults in the most deprived tenth of areas can expect 20 fewer years of good health than their counterparts in the least deprived tenth of areas. In combination, this means that, on average, men and women in the most deprived tenth of areas have a healthy life expectancy of less than 52 years.<sup>13</sup> Along with smoking, excessive alcohol consumption and physical inactivity, excess weight has been identified as one of the behavioural factors that contributes to these inequalities.<sup>13</sup>

To address the issue of obesity, governments have put in place a number of policies and initiatives, aimed at individuals, the NHS, local authorities and food manufacturers and retailers. Physical activity and 'eatwell' guidelines give informed advice for a healthier lifestyle, including a healthier weight.<sup>14,15</sup> The Change4Life public information campaign aims to improve diet and activity levels of parents and children.<sup>16</sup> The Public

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<sup>9</sup> Moody A. *Health Survey for England 2015: Adult overweight and obesity*. NHS Digital, 2016. <http://www.content.digital.nhs.uk/catalogue/PUB22610/HSE2015-Adult-obe.pdf>

<sup>10</sup> Scantlebury R and Moody A. *Adult obesity and overweight*. Chapter 9 in Craig R, Fuller E, Mindell J (eds). *Health Survey for England 2014*. Health and Social Care Information Centre, 2015. <http://content.digital.nhs.uk/pubs/hse2014>

<sup>11</sup> Public Health England. *Health profile for England: Chapter 3, Trends in morbidity and behavioural risk*. Public Health England. 2017. <https://www.gov.uk/government/publications/health-profile-for-england/chapter-3-trends-in-morbidity-and-behavioural-risk-factors>

<sup>12</sup> Scantlebury R and Moody A. *Adult obesity and overweight in Health Survey for England 2014*. See note 10.

<sup>13</sup> Public Health England. *Health profile for England. Chapter 5, Inequality in health* in Public Health England. Public Health England. 2017. [www.gov.uk/government/publications/health-profile-for-england/chapter-5-inequality-in-health](http://www.gov.uk/government/publications/health-profile-for-england/chapter-5-inequality-in-health)

<sup>14</sup> Department of Health. *UK physical activity guidelines for adults (19-64 years) and (65+ years)*. Department of Health, London, 2011. <https://www.gov.uk/government/publications/uk-physical-activity-guidelines>

<sup>15</sup> Public Health England. *Eatwell guide*. Public Health England, London, 2017. <https://www.gov.uk/government/publications/the-eatwell-guide>

<sup>16</sup> NHS. *Change4Life campaign*. <https://www.nhs.uk/change4life-beta/about-change4life>

Health Responsibility Deal involved voluntary participation from food manufacturers and retailers in a number of areas including calorie reduction and improving food labelling systems.<sup>17</sup> The *Living Well for Longer* policy document aims to encourage local authorities and clinical commissioning groups (CCGs) to follow the lead of Public Health England in acting on obesity.<sup>18</sup> In particular, local authorities were encouraged to use their powers to curb fast-food outlets and to promote exercise and active travel.<sup>19,20</sup> The 2016 childhood obesity action plan included many measures that affect all ages including the PHE-led sugar reduction programme.<sup>21</sup> April 2018 will see the launch of the soft drinks industry levy which aims to reduce sugar intake from soft drinks and raise funds for sport in schools.<sup>22,23</sup>

There is evidence that a brief intervention from a GP with obese patients can be effective at achieving weight loss.<sup>24</sup> However earlier research suggested that GPs were reluctant to raise weight issues with patients.<sup>25,26</sup> In November 2014, NICE updated its guidance on the identification, assessment and management of overweight and obesity.<sup>27</sup> In March 2015, it produced guidance for health practitioners and the public on maintaining a healthy weight and preventing excess weight gain.<sup>28</sup> The guidance focused on diet and exercise and also highlighted the importance of

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<sup>17</sup> Department of Health. *Public Health Responsibility Deal*. Department of Health, London, 2011. <https://responsibilitydeal.dh.gov.uk/wp-content/uploads/2012/03/The-Public-Health-Responsibility-Deal-March-20111.pdf>

<sup>18</sup> Department of Health. *Living Well for Longer*. Department of Health, London, 2013. [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/181103/Living\\_well\\_for\\_longer.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181103/Living_well_for_longer.pdf)

<sup>19</sup> Public Health England. *Obesity and the environment briefing – regulating the growth of fast-food outlets*. Public Health England, London, 2014. [www.gov.uk/government/publications/obesity-and-the-environment-briefing-regulating-the-growth-of-fast-food-outlets](http://www.gov.uk/government/publications/obesity-and-the-environment-briefing-regulating-the-growth-of-fast-food-outlets)

<sup>20</sup> Public Health England. *Obesity and the environment briefing – increasing physical activity and active travel*. Public Health England, London, 2013. [www.gov.uk/government/publications/obesity-and-the-environment-briefing-increasing-physical-activity-and-active-travel](http://www.gov.uk/government/publications/obesity-and-the-environment-briefing-increasing-physical-activity-and-active-travel)

<sup>21</sup> HM Government. *Childhood Obesity: A Plan for Action* London, 2016. <https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action/childhood-obesity-a-plan-for-action>

<sup>22</sup> HM Revenue & Customs. Policy Paper: Soft Drinks Industry Levy. London, 2016. <https://www.gov.uk/government/publications/soft-drinks-industry-levy/soft-drinks-industry-levy>

<sup>23</sup> [HC Financial statement](#), 8 March 2017 c815

<sup>24</sup> Aveyard P et al. *Screening and brief intervention for obesity in primary care: a parallel, two-arm, randomised trial*. The Lancet, Volume 388, Issue 10059, 2492 – 2500. 2017. [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)31893-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)31893-1/fulltext)

<sup>25</sup> Michie S. *Talking to primary care patients about weight: a study of GPs and practice nurses in the UK*. Psychol Health Med, 2007, 12(5):521-5. [www.ncbi.nlm.nih.gov/pubmed/17828672](http://www.ncbi.nlm.nih.gov/pubmed/17828672)

<sup>26</sup> Blackburn M, Stathi A, Keogh E et al. Raising the topic of weight in general practice: perspectives of GPs and primary care nurses. BMJ Open 2015;5:e008546. <http://bmjopen.bmj.com/content/5/8/e008546>

<sup>27</sup> National Institute of Health and Care Excellence. Obesity: Identification, assessment and management of overweight and obesity in children, young people and adults. NICE, London, 2014. [www.nice.org.uk/guidance/cg189/chapter/1-recommendations#identification-and-classification-of-overweight-and-obesity](http://www.nice.org.uk/guidance/cg189/chapter/1-recommendations#identification-and-classification-of-overweight-and-obesity)

<sup>28</sup> National Institute of Health and Care Excellence Maintaining a healthy weight and preventing excess weight gain among adults and children NG7. NICE, London, 2015. [www.nice.org.uk/guidance/ng7](http://www.nice.org.uk/guidance/ng7)

self-monitoring of weight, exercise and diet. The NICE guidelines suggest that this should be done regardless of the primary reason for the consultation.<sup>29</sup>

This report presents key findings, charts, and tables primarily from the 2016 survey. Further details of trends are given in the HSE 2016 Trend tables and in previous reports, most recently the HSE 2015 report.<sup>30</sup> Advice for individuals and families can be found at Change4Life,<sup>16</sup> for health professionals from the National Institute for Clinical Excellence,<sup>31</sup> and for policy makers at Public Health England.<sup>32</sup>

## Methods and definitions

### Methods

Full details of the protocols for carrying out all the measurements are contained in the Methods report.<sup>33</sup>

Height and weight were measured during the interviewer visit, while waist and hip circumferences were measured during the nurse visit.

Participants were asked whether they thought they were about the right weight or too light or too heavy, and whether they were trying to change their weight as part of the self-completion questionnaire, administered during the interview. Questions about weight management were asked during the nurse visit.

### Height

Height was measured using a portable stadiometer with a sliding head plate, a base plate and connecting rods marked with a measuring scale. Participants were asked to remove their shoes. One measurement was taken, with the participant stretching to the maximum height and the head positioned in the Frankfort plane.<sup>34</sup> The reading was recorded to the nearest even millimetre. Participants who were unable to stand or were unsteady on their feet were not measured.

### Weight

Class III Seca scales were introduced for HSE 2011, and have been used since then. These measure up to a maximum of 200kg.

For the weight measurement, participants were asked to remove their shoes and any bulky clothing or heavy items in pockets etc. A single measurement was recorded to

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<sup>29</sup> National Institute of Health and Care Excellence Maintaining a healthy weight and preventing excess weight gain among adults and children NG7. See note 28.

<sup>30</sup> Health Survey for England, 2015 <https://digital.nhs.uk/pubs/hse2015>.

<sup>31</sup> National Institute for Clinical Excellence. <https://www.nice.org.uk/guidance/cg43>

<sup>32</sup> Public Health England. PHE Data and Analysis Tools. <https://www.gov.uk/guidance/phe-data-and-analysis-tools#obesity-diet-and-physical-activity>

<sup>33</sup> Health Survey for England 2016: Methods, available via the report website <https://digital.nhs.uk/pubs/hse2016>.

<sup>34</sup> The Frankfort Plane is an imaginary line passing through the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye. A participant's head is positioned so that the Frankfort Plane is horizontal. In this position the head plate of the stadiometer will rest on the crown of the head.

the nearest 100g. Participants who were pregnant, unable to stand, or unsteady on their feet were not weighed. Participants who weighed more than 200kg were asked for their estimated weight because the scales are inaccurate above this level. These estimates have been included in the analyses.

In the analysis of height and weight, data were excluded for those who were considered by the interviewer to have unreliable measurements, for example those who were too stooped or wearing excessive clothing.

### **Waist circumference**

The waist was defined as the midpoint between the lower rib and the upper margin of the iliac crest (hip bone). The measurement was taken twice, using the same tape (waist and hip measurements were alternated), and was recorded to the nearest even millimetre. Where the two waist measurements differed by more than 3cm, a third measurement was taken. The mean of the two valid measurements (the two out of the three measurements that were the closest to each other, if there were three measurements) was used in the analysis.

Participants were excluded from waist measurements if they reported that they were pregnant, had a colostomy or ileostomy, or were unable to stand. All those with measurements considered unreliable by the nurse, for example due to excessive clothing or movement, were also excluded from the analysis.

### **Response to measurements**

Within co-operating households, 72% of adults had their height measured and 71% had their weight measured. Women were more likely than men to take part in the interview and consequently were more likely to have their height and weight measured. Similarly, a lower proportion of adults aged between 16 and 24 were interviewed than other age groups, and they were therefore less likely to have their height and weight measured.

Around half of men and women had their waist and hip measurements taken during the nurse visit (48% of men, 54% of women).

Full details of response to the measurements are given in Section 6 of the Methods report.<sup>35</sup>

## **Definitions**

### **Body mass index (BMI)**

In order to define overweight or obesity, a measurement is required that allows for differences in weight due to height. A widely accepted measure of weight for height is the body mass index (BMI), defined as weight in kilograms divided by the height in metres squared ( $\text{kg/m}^2$ )<sup>36</sup> This has been used as a measure of obesity in the HSE

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<sup>35</sup> Health Survey for England 2016: Methods, available via the report website <https://digital.nhs.uk/pubs/hse2016>.

<sup>36</sup> Keys A, Fidanza F, Karvonen M et al., see note 4 for full reference.



series. Adult participants were classified into the following BMI groups according to the World Health Organization (WHO) BMI classification, shown in Table A below.<sup>37</sup>

**Table A: Classification of Body Mass Index (BMI) groups**

BMI (kg/m <sup>2</sup> )	Description
Less than 18.5	Underweight
18.5 to less than 25	Normal
25 to less than 30	Overweight, not obese
30 or more	Obese, including morbidly obese
40 or more	Morbidly obese

Within this report, BMI categories of overweight and obese have frequently been combined to show the proportion whose BMI is above the normal range. As in previous years' reports, a subset of the obese category has also been defined, namely those with morbid obesity (BMI 40kg/m<sup>2</sup> or more), who are at highest risk of morbidity and mortality.<sup>38</sup>

### Waist circumference

BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor the distribution of fat. In order to measure abdominal obesity, waist circumference is measured, and categorised into desirable, high and very high, by sex-specific thresholds.<sup>39</sup>

**Table B: Classification of waist circumference groups**

Men's waist circumference (cm)	Women's waist circumference (cm)	Description
Less than 94	Less than 80	Desirable
94-102	80-88	High
More than 102	More than 88	Very high

### Age-standardisation

Age-standardised data are presented in this report for some analyses shown in the text, tables and charts where appropriate. Age-standardisation allows comparisons between groups after adjusting for the effects of any differences in their age distributions.

For regions, both observed and age-standardised data are provided. Those wishing to ascertain the actual levels of overweight and obesity, etc. in each region should use the observed data, while those making comparisons between regions should use the age-standardised data. The comments on region in this report are based on age-standardised results.

<sup>37</sup> World Health Organization. *World Health Organization body mass index (BMI) classification*. <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi>

<sup>38</sup> NHS Consensus Development Conference. *Gastrointestinal surgery for severe obesity*. *Nutrition* 1996;**12**:397-402.

<sup>39</sup> World Health Organization, 2000. *Obesity: preventing and managing the global epidemic* (No. 894). World Health Organization.

## Index of Multiple Deprivation

The English Indices of Deprivation 2015, which measure and rank local levels of deprivation, are calculated by the Department for Communities and Local Government. The indices are based on 37 indicators, across seven domains of deprivation.<sup>40</sup> The Index of Multiple Deprivation (IMD) is a measure of the overall deprivation experienced by people living in a neighbourhood.<sup>41</sup>

In this publication IMD rankings have been split into quintiles. The lowest quintile indicates the lowest levels of deprivation; the highest quintile indicates that the neighbourhood experiences the highest levels of deprivation. Not everyone who lives in a deprived neighbourhood will be deprived themselves.

## About the survey estimates

The Health Survey for England, in common with other surveys, collects information from a sample of the population. The sample is designed to represent the whole population as accurately as possible within practical constraints, such as time and cost. Consequently, statistics based on the survey are estimates, rather than precise figures, and are subject to a margin of error, also known as a 95% confidence interval. For example the survey estimate might be 24% with a 95% confidence interval of 22% to 26%. A different sample might have given a different estimate, but we expect that the true value of the statistic in the population would be within the range given by the 95% confidence interval in 95 cases out of 100.

Where differences are commented on in this report, these reflect the same degree of certainty that these differences are real, and not just within the margins of sampling error. These differences can be described as statistically significant.<sup>42</sup>

Confidence intervals are quoted for key statistics within this report and are also shown in more detail in the Excel tables accompanying the Methods report. Confidence intervals are affected by the size of the sample on which the estimate is based. Generally, the larger the sample, the smaller the confidence interval, and hence the more precise the estimate.

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<sup>40</sup> The seven domains used to calculate IMD are: income deprivation; employment deprivation; health deprivation and disability; education; skills and training deprivation; crime; barriers to housing and services; and living environment deprivation.

<sup>41</sup> Department for Communities and Local Government. *The English Indices of Deprivation 2015*, London, 2015.

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/465791/English\\_Indices\\_of\\_Deprivation\\_2015\\_-\\_Statistical\\_Release.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/465791/English_Indices_of_Deprivation_2015_-_Statistical_Release.pdf)

<sup>42</sup> Statistical significance does not imply substantive importance; differences that are statistically significant are not necessarily meaningful or relevant.

## Prevalence of overweight, obesity, and high waist circumference

### Mean BMI, obesity and overweight, by age and sex

Mean BMI among adults was 27.3kg/m<sup>2</sup>. As explained in the Introduction to this report, survey estimates are subject to a margin of error. It is likely that the mean BMI among adults within the population was between 27.1kg/m<sup>2</sup> and 27.5 kg/m<sup>2</sup>.

Mean BMI was similar for men and women, 27.4kg/m<sup>2</sup> and 27.2kg/m<sup>2</sup> respectively. It increased with age, and was highest among adults between the ages of 45 and 74; 28.5kg/m<sup>2</sup> across these age groups.

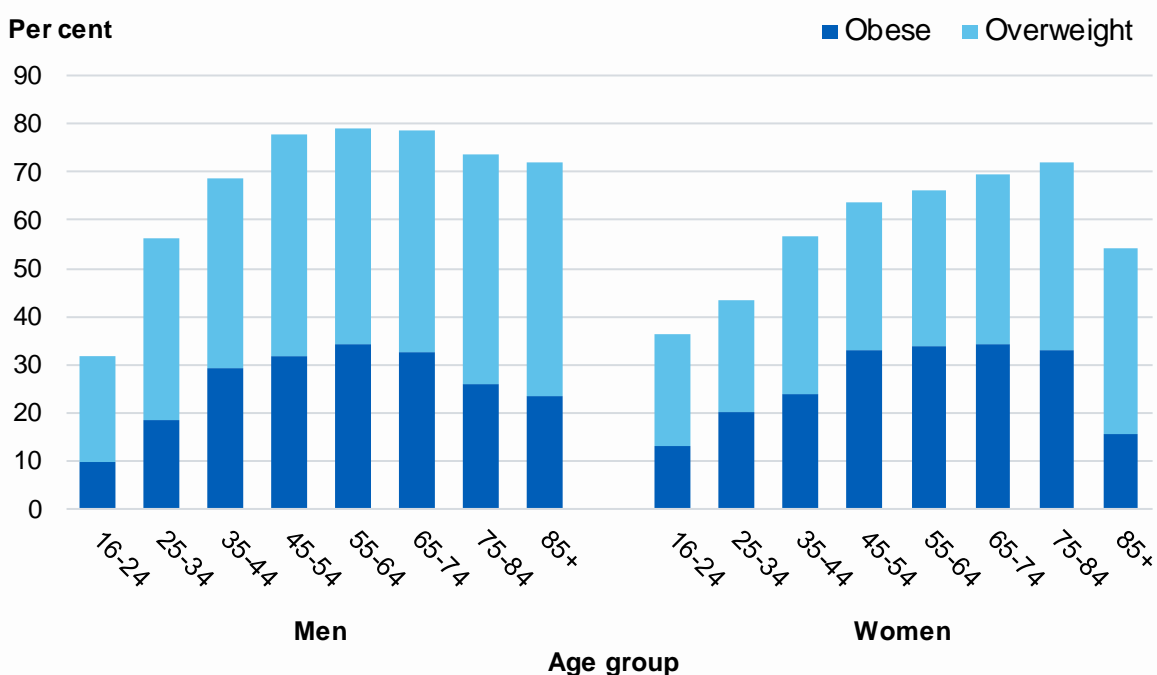
61% of adults were classified as overweight or obese. As noted above, this is an estimate and subject to a margin of error: the proportion in the population likely to be somewhere between 60% and 63%. Overall, 66% of men and 57% of women were classed as overweight or obese. Being overweight but not obese was more common among men (40%) than women (30%).

26% of adults were classified as obese. As noted above, this is an estimate and subject to a margin of error: the proportion in the population likely to be somewhere between 25% and 28%. Similar proportions of men and women were obese (26% and 27% respectively); this included 2% of men and 4% of women who were morbidly obese. The proportion of adults who were overweight or obese increased with age among both men and women and was highest among men aged between 45 and 74 (78% to 79% across these age groups) and women aged between 65 and 84 (70% to 72%). Similarly, around a third of men aged between 45 and 74 and women aged between 45 and 84 were obese (32% to 34%).

Figure 1, Table 1

**Figure 1: Overweight and obesity prevalence, by age and sex**

Base: Aged 16 and over



Source: NHS Digital

## Waist circumference, by age and sex

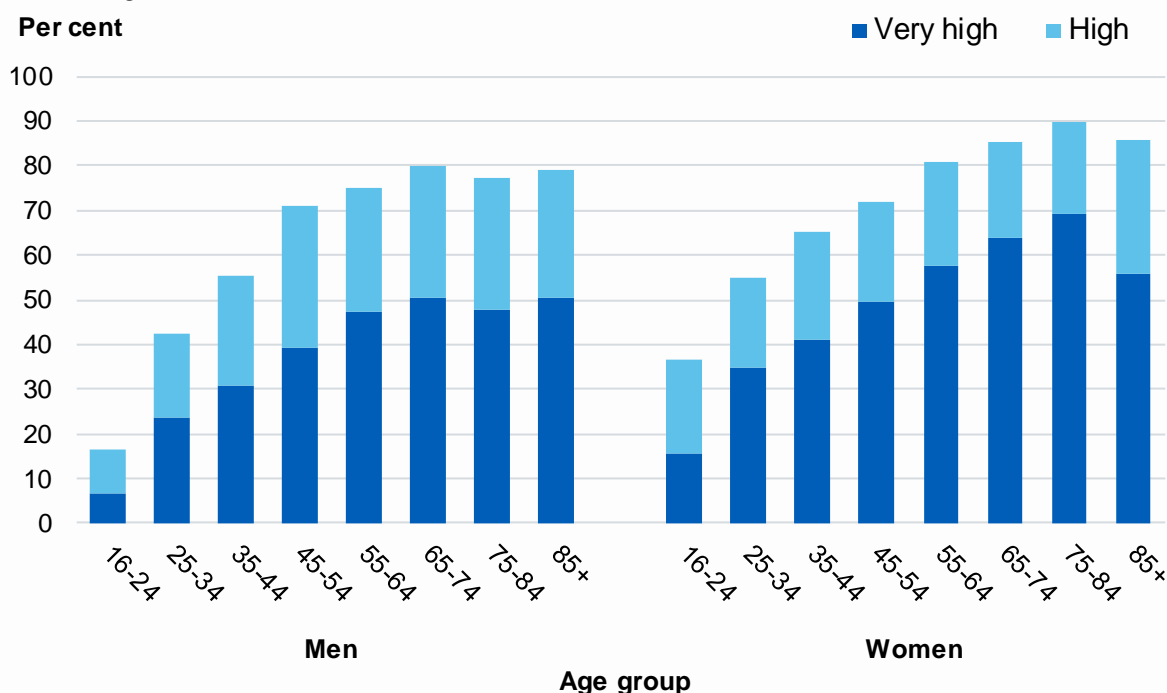
The mean waist circumference was 97.0cm for men and 88.1cm for women. Overall, 34% of men and 46% of women had very high waist measurements and a further 24% of men and 22% of women had high waist measurements. This was more common in middle and older age groups; among adults aged over 55, between 47% and 50% of men and between 56% and 69% of women in each age group had very high waist measurements.

Figure 2, Table 4

**Figure 2: High and very high waist circumference, by age and sex**

Base: Aged 16 and over

Per cent



Source: NHS Digital

## Prevalence of obesity, overweight and high waist circumference, by region

Estimates by region are shown in the tables as both observed and age-standardised. The latter enable comparisons between regions that take into account their different age profiles.

Overweight and obesity varied by region with no consistent pattern once age was taken into account. Similarly, the proportions of men and women with a high or very high waist circumference varied by region, with no clear pattern.

Tables 2 and 5

## Prevalence of obesity, overweight and high waist circumference, by Index of Multiple Deprivation (IMD)

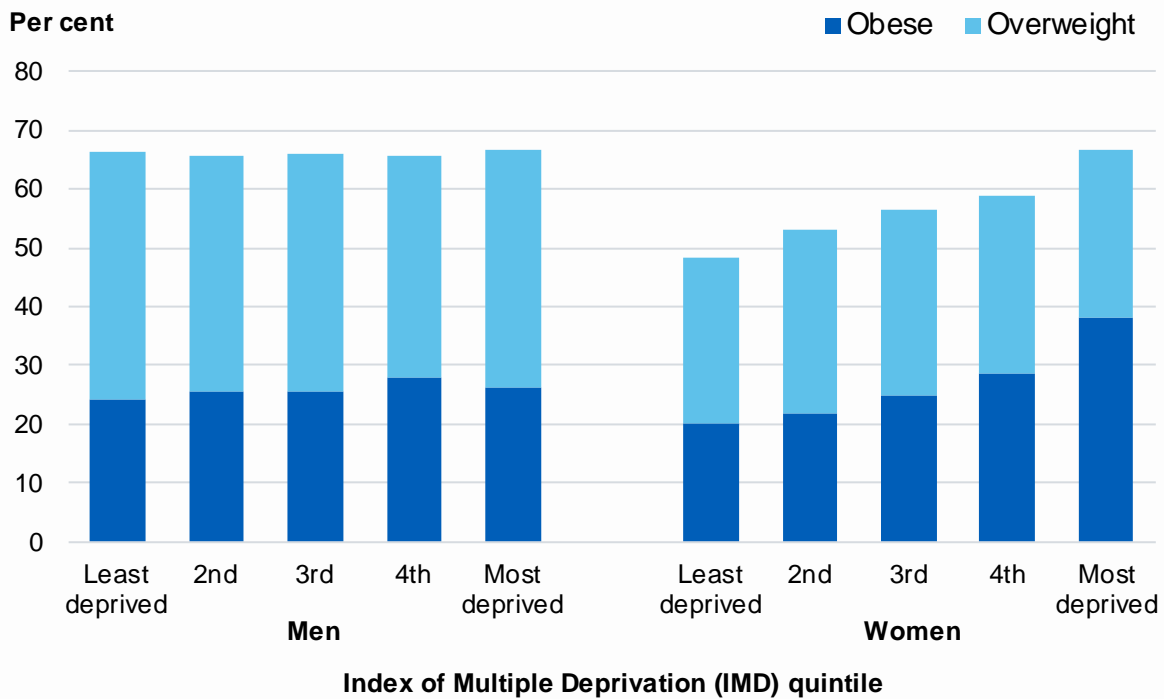
IMD is a measure of area deprivation, described in the Introduction to this report. To enable comparisons, areas are classified into quintiles (fifths). The age profile of the IMD quintiles have been age-standardised to account for different area age profiles.

Among women, but not men, mean BMI increased with area deprivation. Obesity varied by area deprivation in women but not in men. In the least deprived areas 20% of women were obese compared to 38% of women in the most deprived areas.

Figure 3, Table 3

**Figure 3: Overweight and obesity prevalence, by Index of Multiple Deprivation (IMD) and sex**

Base: Aged 16 and over



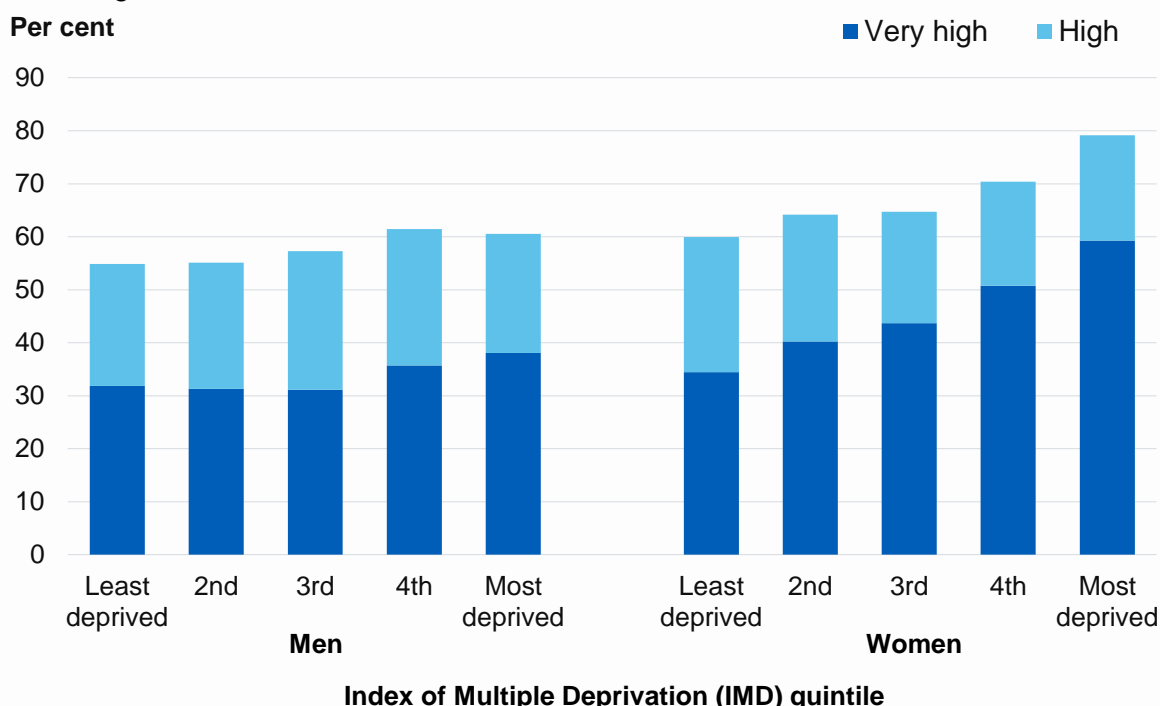
Source: NHS Digital

Waist circumference varied by area deprivation for both men and women, though not in the same way. For both men and women, the highest prevalence of very high waist circumference was in the most deprived areas. Among men the proportions with very high waist circumference were similar in the three least deprived quintiles, and higher in the two most deprived. Among women, there was a steady increase in the proportions with very high waist circumference from the least to the most deprived.

Figure 4, Table 6

**Figure 4: High and very high waist circumference, by Index of Multiple Deprivation (IMD) and sex**

Base: Aged 16 and over



Source: NHS Digital

## Trends in overweight and obesity

The increase in overweight and obesity during the 1990s was a cause for concern, because of the associated risks of ill-health and premature mortality. Between 1993 and 2001, the prevalence of overweight including obesity increased from 53% to 62% of adults in England. Since around 2001, the proportion of adults who are overweight or obese has changed little, and now stands at 61%.

In 2016, 34% of men and 46% of women had a very high waist circumference. These proportions rose from 20% and 26% respectively in 1993 to 31% and 38% in 2001. As with obesity, the increase since 2001 has been more gradual and occurred mostly between 2001 and 2010.<sup>43</sup>

<sup>43</sup> Further detail about trends in obesity can be found in the Adult Health Trends report <https://digital.nhs.uk/pubs/hse2016>.

## Perception of own weight

### Perception of own weight, by age and sex

Overall, 45% of adults said they were about the right weight, and the same proportion (45%) said they were too heavy. 4% said they were too light and the remaining 6% said they were not sure. Women were more likely than men to say they were too heavy (50% and 40% respectively). The proportion of people who described themselves as too heavy increased initially with age for both men and women, and was highest among those aged between 45 and 74, before decreasing among older adults.

Table 7

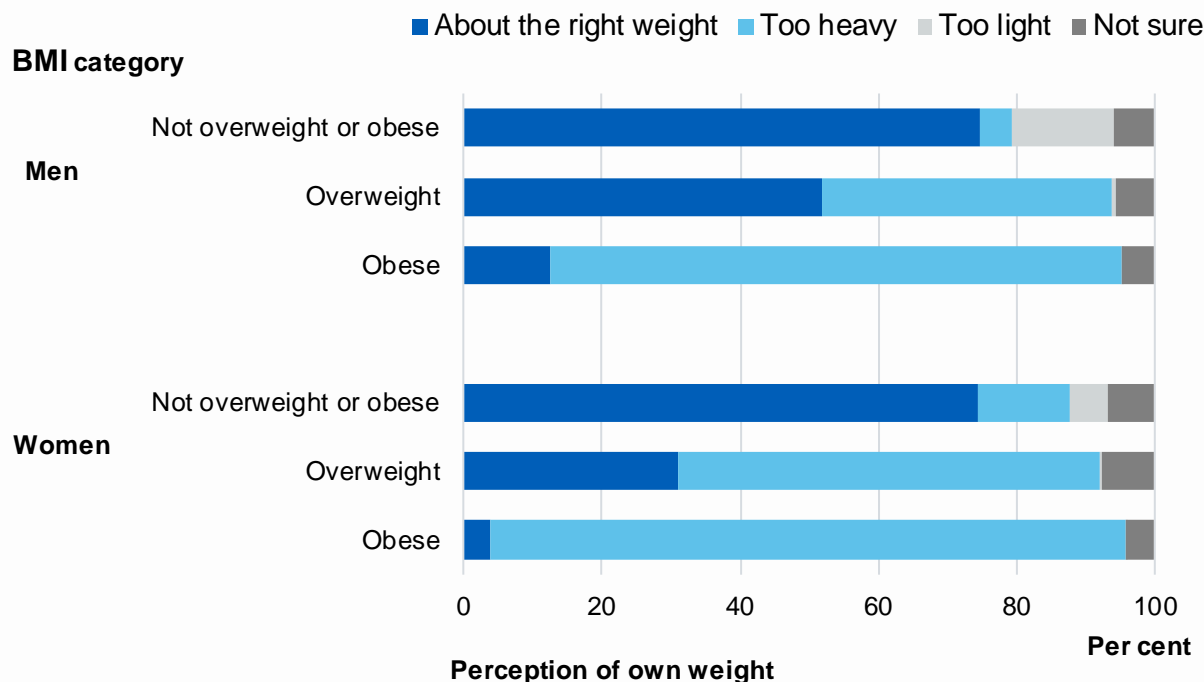
### Perception of own weight, by BMI category

The proportion of adults who said they were too heavy varied in line with BMI category. Most obese adults (87%) thought this, as did half (50%) of overweight adults. 9% of adults who were not overweight or obese also said they were too heavy. For all BMI categories, women were more likely than men to say they were too heavy.

Figure 5, Table 8

**Figure 5: Perception of own weight, by BMI category and sex**

Base: Aged 16 and over



Source: NHS Digital

## Weight management and the use of weight management aids

### Whether trying to change weight

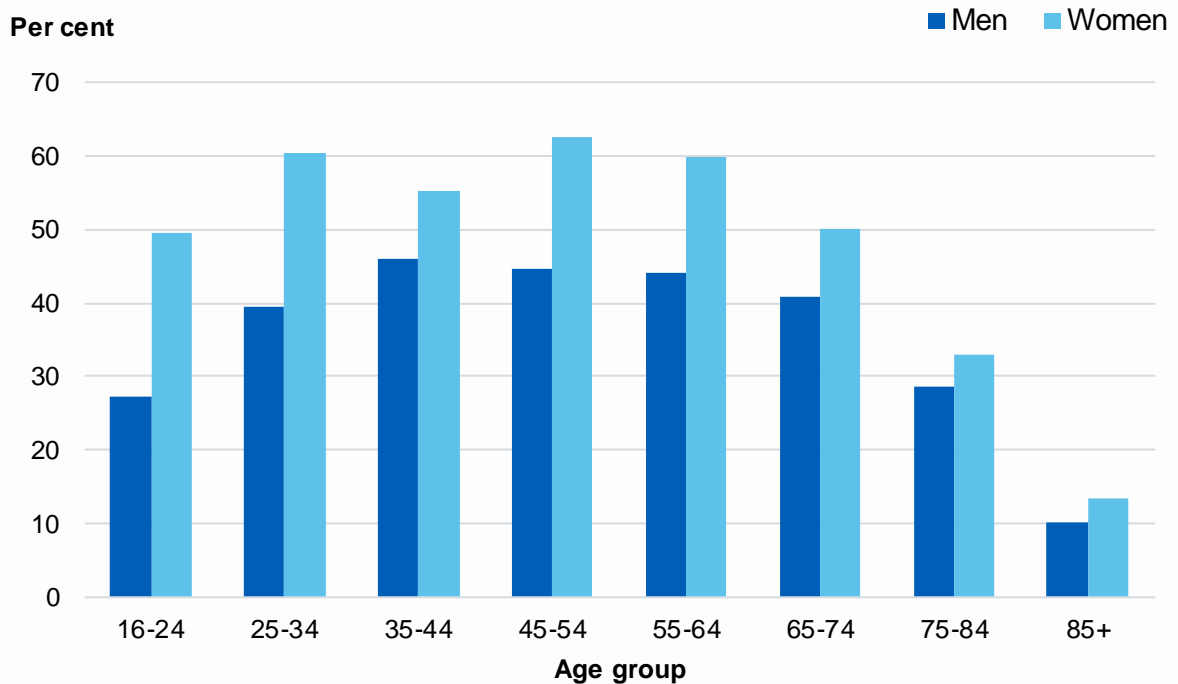
Just over half of adults (52%) were trying to change their weight. Most of these, 47%, were trying to lose weight. Just one in twenty (5%) said they were trying to gain weight.

Women were more likely than men to say they were trying to lose weight (54% and 39% respectively); this difference was seen in all age groups. The proportion of men trying to lose weight was highest among those aged between 35 and 64 (44% to 46% in each age group). Among women aged between 25 and 64, between 55% and 63% were trying to lose weight, with no clear pattern across age groups. Only in the oldest age groups (75 and over) were fewer than half of women trying to lose weight.

Figure 6, Table 9

**Figure 6: Proportion trying to lose weight, by age and sex**

Base: Aged 16 and over



Source: NHS Digital

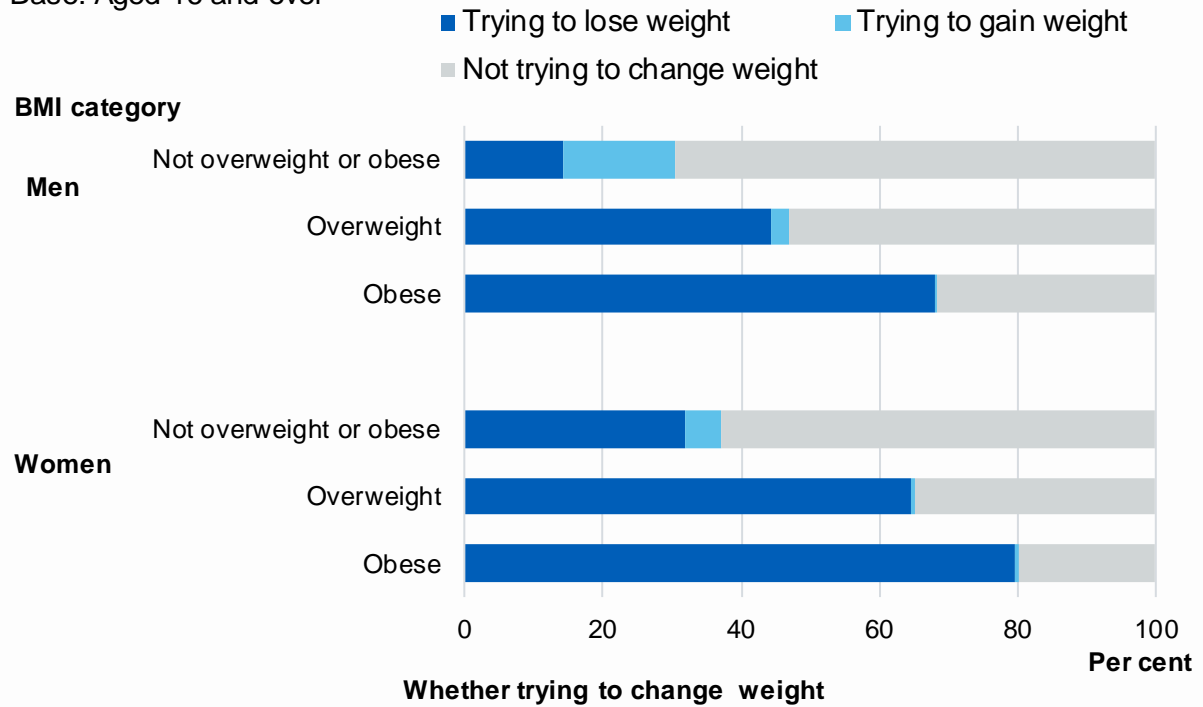


The proportion of adults trying to lose weight varied by BMI category, for both men and women. In all BMI categories, women were more likely than men to be trying to lose weight: 80% of obese women compared with 68% of obese men; 65% of overweight women compared with 44% of overweight men; and, among adults who were not overweight or obese, 32% of women compared with 14% of men.

Figure 7, Table 10

**Figure 7: Whether trying to change weight, by BMI category and sex**

Base: Aged 16 and over



Source: NHS Digital

## Current use of weight management aids

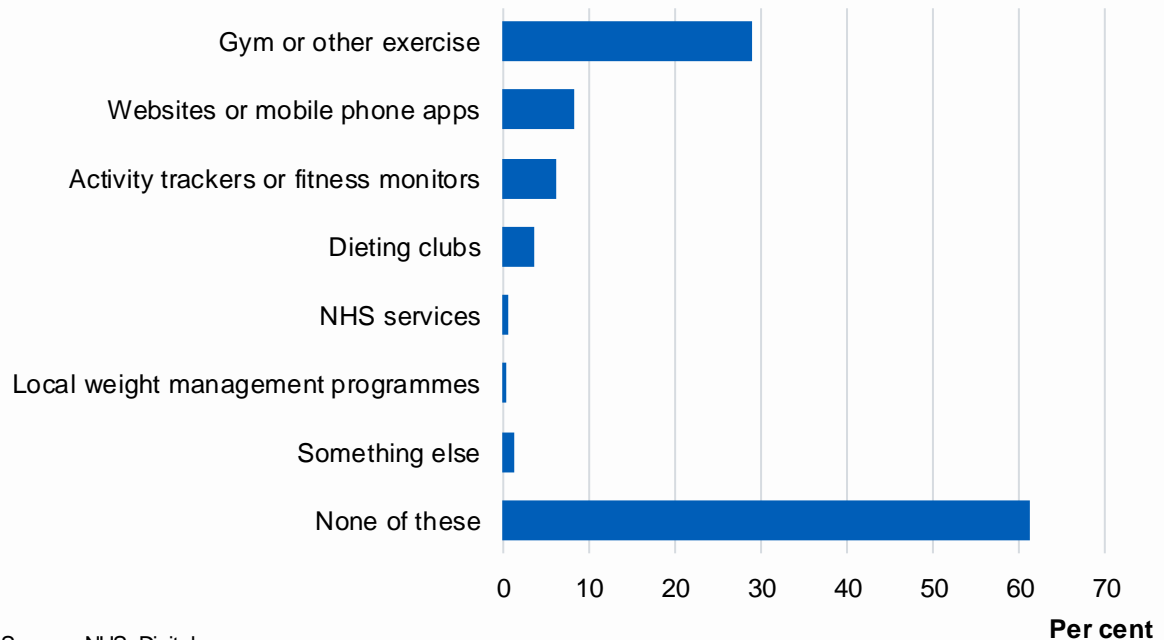
Participants were shown a list of aids and services and asked whether they were currently using any of them, or any other service or aid, to help manage or change their weight. Overall 39% of adults reported current use of at least one weight management aid. The majority of them said they were going to the gym or doing exercise (29%). Other aids were mentioned by smaller proportions of adults; the next most frequently mentioned were websites or mobile phone apps (8%), activity trackers and fitness monitors (6%), and dieting clubs (4%).

Figure 8, Table 11

### Figure 8: Current use of weight management aids

Base: Aged 16 and over

#### Weight management aid



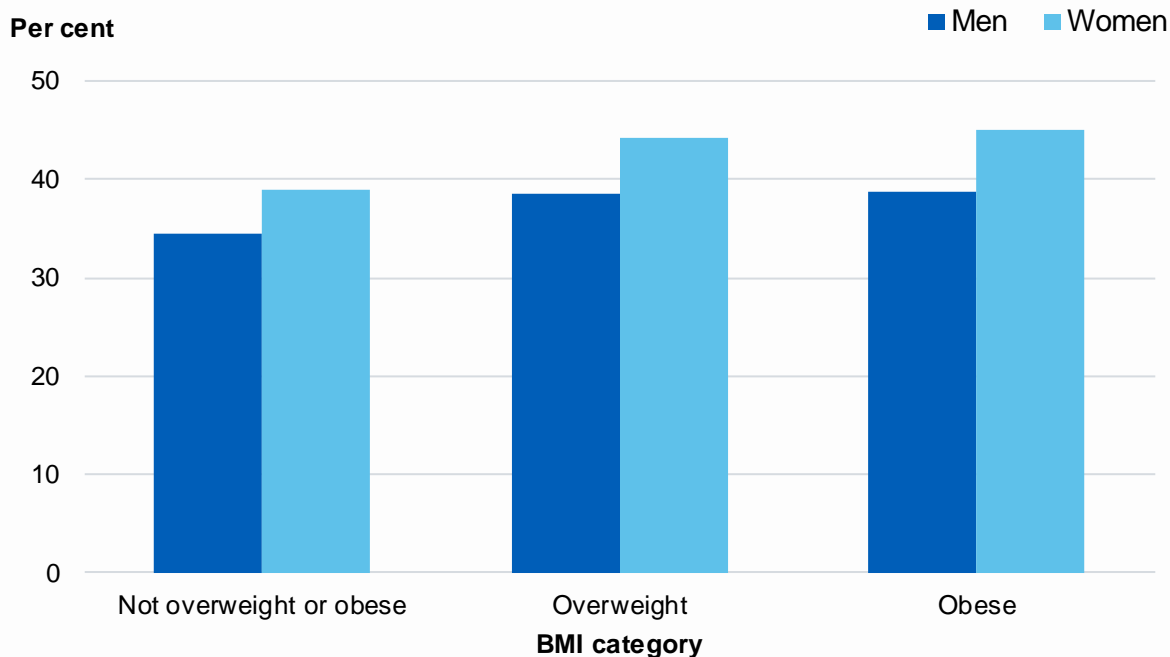
Source: NHS Digital

Women were more likely than men to use some kind of weight management aid (41% and 36% respectively). Their use was more common among people who were obese (42%) or overweight (41%) than among people who were neither (37%).<sup>44</sup>

Figure 9, Table 11

**Figure 9: Current use of any weight management aids, by BMI category and sex**

Base: Aged 16 and over



Source: NHS Digital

For individual aids, there were some variations. Men were more likely to use the gym or other exercise. Women were more likely than men to use apps, fitness monitors or dieting clubs. Dieting clubs, local weight management programmes and NHS services were most likely to be used by obese adults.

The use of weight management aids was more common among people who said they were trying to lose weight (50%) compared to those who were trying to gain weight (39%) and those who were not trying to change their weight (29%). However, half (50%) of people who said they were trying to lose weight were not currently using any weight management aids. Among those who were trying to lose weight, women were more likely than men to use dieting clubs (11% compared to 2% of men who were trying to lose weight). Going to the gym or doing exercise was more common for men who were trying to lose weight (39%) than women who were trying to lose weight (32%).

Table 12

<sup>44</sup> BMI category was collected at the time of interview; there is no indication from these data whether individuals had lost (or gained) weight since using these aids and no evidence as to what contribution, if any, particular aids made to any weight change.

Most people who were currently using a weight management tool had not been advised to do so by a health professional (88%). GPs or other doctors were the health professionals most likely to have advised people to use a weight management aid (8% of those currently using a weight management aid). Among those who had been advised to use a weight management aid by a health professional, recommendations were mostly given during a GP visit (48%), a hospital visit (20%) or during a visit to a practice nurse (18%).

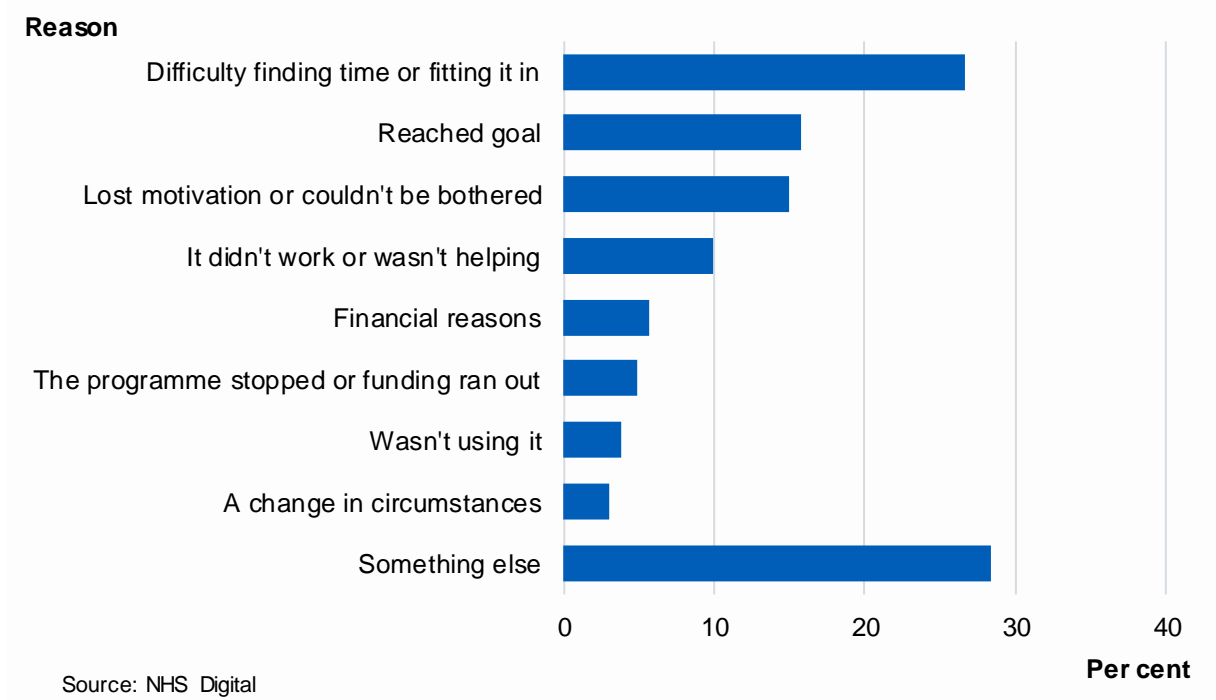
Tables 13 and 14

5% of adults reported that they had used a weight management aid in the last 12 months, but had stopped doing so.<sup>45</sup> Adults who had stopped using a weight management aid in the last 12 months were most likely to say they had stopped because they had difficulty finding time (27%), they had reached their goal (16%) or they had lost motivation (15%). 28% of those who stopped gave another reason. Women were more likely to say they had stopped because they had lost motivation (19%, compared to 10% of men) or because the aid was not working or helping (16% compared to 3% of men). Men were more likely to say they stopped because they had difficulty finding time (32%, compared to 23% of women).

Table 15, Figure 10

**Figure 10: Reasons for ceasing to use weight management aids in the last 12 months**

Base: Aged 16 and over, and stopped using a weight management aid in the last 12 months



<sup>45</sup> Data not shown. This excludes adults who are currently using a weight management aid.

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0300 303 5678

[enquiries@nhsdigital.nhs.uk](mailto:enquiries@nhsdigital.nhs.uk)

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