



## BRIEFING PAPER

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# Obesity Statistics

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2. Obesity among adults, England
3. Obesity among children, England
4. Obesity in Wales, Scotland and Northern Ireland
5. GP prescribing for obesity
6. Bariatric surgery
7. International comparisons



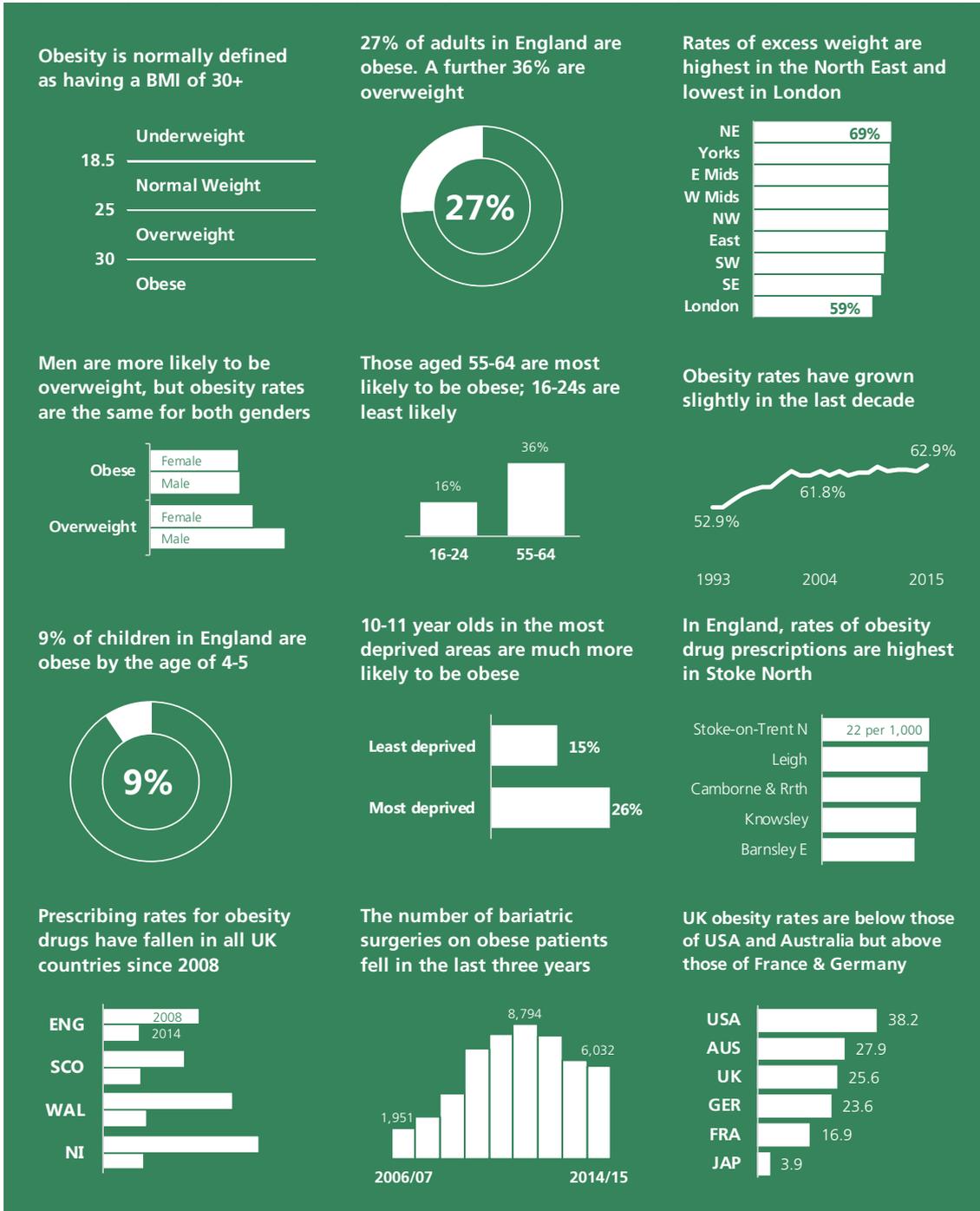
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## Summary

**27% of adults in England are obese and a further 36% are overweight.** This briefing gives statistics on obesity for England, Scotland, Wales and Northern Ireland with international comparisons. Breakdowns by age, gender, ethnicity, local authority and deprivation are given where possible, and data for both adult and child obesity is covered. In addition to statistics on the prevalence of obesity, this briefing gives statistics on prescriptions of drugs for obesity, trends in bariatric surgery, and the detrimental effect of obesity on health. For information on treatments for obesity, see the [recent note from POST](#) (the Parliamentary Office of Science and Technology).

## Summary Graphic



# 1. Measures of obesity

The most widely used measure of obesity is the Body Mass Index (BMI), defined as weight divided by the square of height ( $\text{kg}/\text{m}^2$ ). A person is classified as obese if their BMI is 30 or higher. A BMI of 40 or more is often known as 'morbid obesity'. The full range of classifications is as follows.

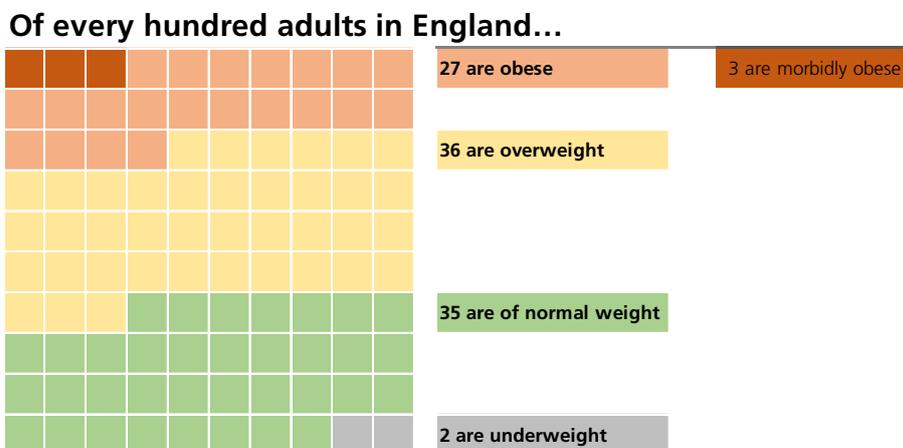
Classification	BMI
Underweight	< 18.5
Normal weight	18.5 - 24.9
Overweight	25.0 - 29.9
Obese: Class I	30.0 - 34.9
Obese: Class II	35.0 - 39.9
Obese: Class III	40.0+

This measure is not always definitive, and in some cases other measures are used.<sup>1</sup> These include waist circumference and the waist-hip ratio (defined as the waist circumference divided by the hip circumference which provides an indication of the distribution of fat on the body).

## 2. Obesity among adults, England

According to data from the 2015 Health Survey for England, 27% of adults in England are obese and a further 36% are overweight, making a total of 63% who are either overweight or obese.<sup>2</sup> Of obese adults, just under a tenth are morbidly obese (3% of all adults).

**Figure 1: Obesity among adults in England, 2015**



<sup>1</sup> NHS Choices, Obesity <http://www.nhs.uk/conditions/Obesity/Pages/Introduction.aspx>

<sup>2</sup> Health Survey for England, 2015  
<http://www.content.digital.nhs.uk/catalogue/PUB22610>

### Trends over the last decade

Between 2005<sup>3</sup> and 2015, the proportion of adults who were either overweight or obese rose from 60.5% to 62.9%. Over this period both men and women have seen an increase in excess weight.

The proportion of adults who are morbidly obese increased from 1.8% to 2.9% between 2005 and 2015. The proportion of adults who are underweight increased from 1.6% to 2.2%.

Percentage of adults overweight or obese, England, 1993-2015

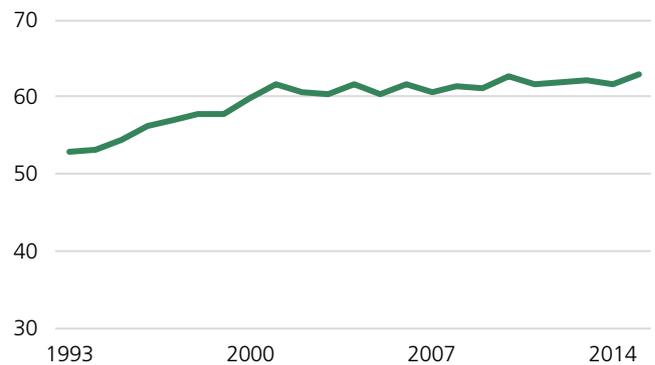
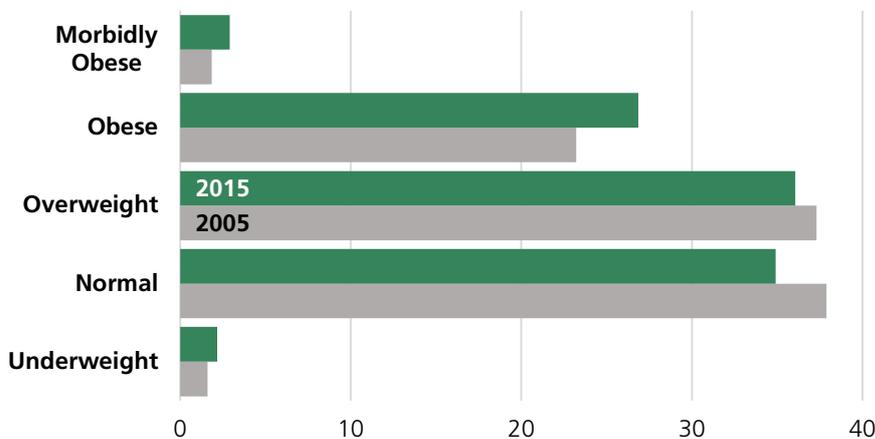


Chart 1: BMI classification, England, 2005 and 2015 (%)



#### Health Risks of Obesity

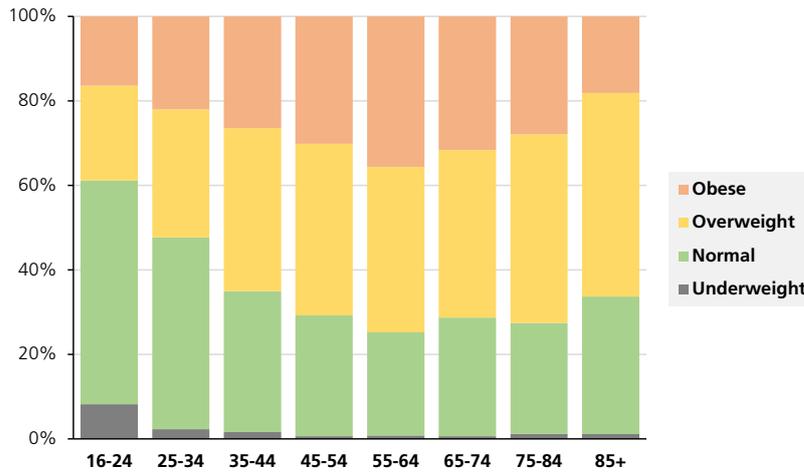
Obesity increases the risk of other health conditions, including:

- Joint problems
- Lower back pain
- Hypertension (high blood pressure)
- Coronary heart disease and stroke
- Deep vein thrombosis
- Type 2 diabetes
- Endometrial, breast and colon cancer
- Stress incontinence
- Menstrual abnormalities
- Erectile dysfunction
- Respiratory problems

Further information is available from [Public Health England](http://www.gov.uk/government/organisations/public-health-england).

<sup>3</sup> The different obesity categories were not measured in 2004

**Chart 2: Overweight and obese by age, England, 2015**



### Obesity by age

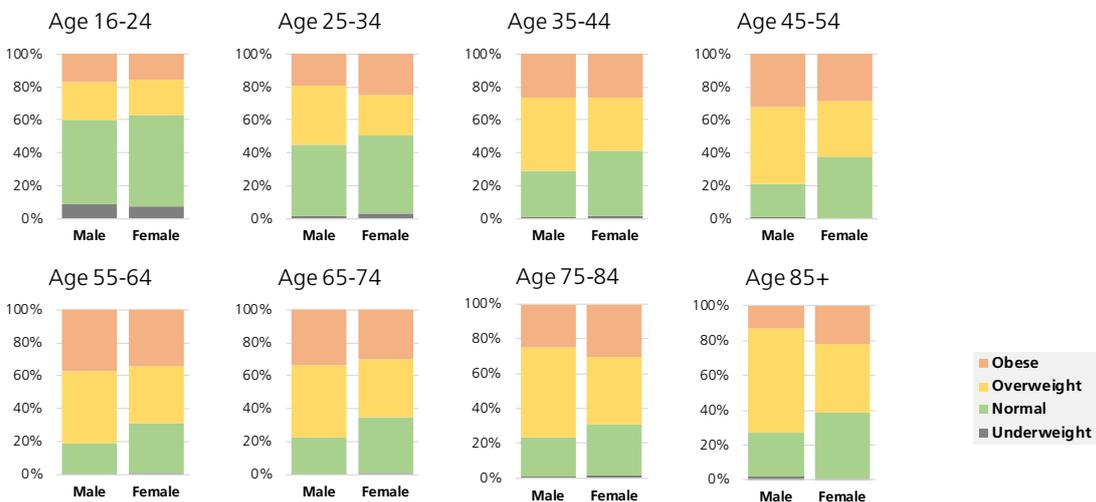
The age group most likely to be overweight or obese is age 55-64, but only by a small margin. Prevalence of overweight and obesity is between 71% and 75% among all age groups from 45 to 84. The adult age group least likely to be obese is 16-24 year olds, with 53% at normal weight and only 36% overweight or obese. **Chart 2** (above) illustrates this.

### Obesity by gender

Men in England are more likely to be overweight or obese than women. 68% of men were overweight or obese in 2015 compared with 58% of women. However, obesity was 27% in both men and women. These proportions vary by age, as the collection of charts overleaf shows. There is no age where women are more likely than men to be overweight or obese. The biggest gap is among 45-54 year olds, with 79% of men overweight and obese compared with 63% of women.

Women are more likely to be morbidly obese than men. 3.6% of women were morbidly obese in 2014, compared to 2.2% of men.

**Chart 3: BMI Classification by gender & age group, England, 2015**



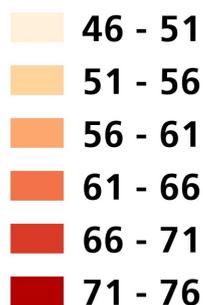
## Obesity by English local authority

The Active People Survey allows us to estimate variation in obesity across England. The most recent available data covers surveys from 2013-2015, and shows that levels of excess weight are highest in the North East and Yorkshire and the Humber.

The sample size for some local authorities is low, meaning that there is uncertainty surrounding the precise percentage of overweight and obese adults in each area. We should not put much weight on specific rankings of local authority – we cannot be sure, for instance, that Rotherham has the highest rates of overweight and obese adults in England, since its rates are not statistically significantly higher than Doncaster, Halton, Blackpool (etc). However, we can say with relative certainty that Rotherham's rates are higher than North Warwickshire, which King's Lynn and West Norfolk, which ranks 16<sup>th</sup> highest.

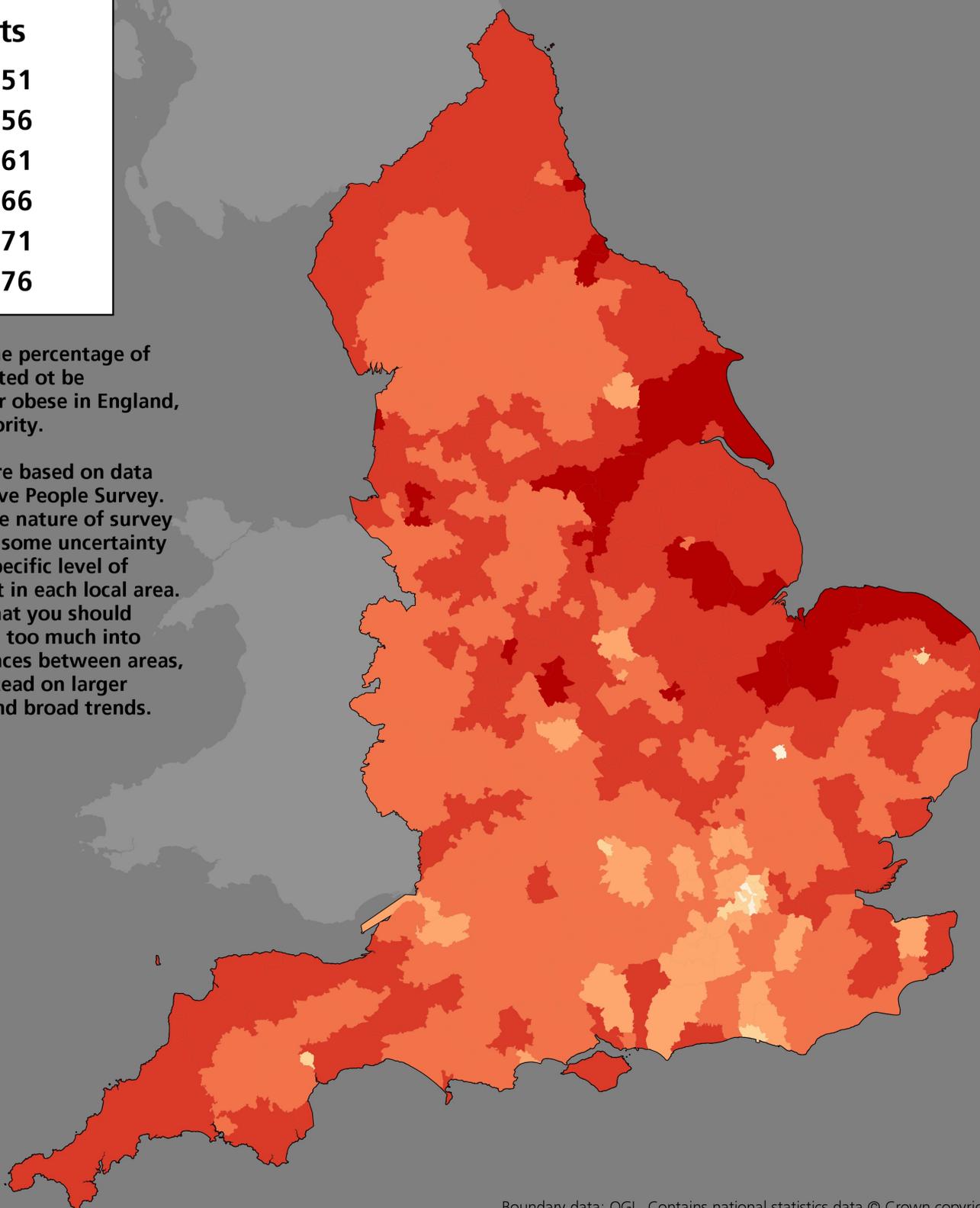
# Excess weight by local authority in England, 2013-2015

## % Adults



This shows the percentage of adults estimated to be overweight or obese in England, by local authority.

The figures are based on data from the Active People Survey. Because of the nature of survey data, there is some uncertainty around the specific level of excess weight in each local area. This means that you should avoid reading too much into small differences between areas, but focus instead on larger differences and broad trends.



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### Highest rates of excess weight

Rotherham	76%
Doncaster	75%
Halton	75%
Blackpool	74%
Boston	74%
Chesterfield	73%
Hartlepool	73%
Cannock Chase	73%
Fenland	73%
Corby	73%
North Norfolk	73%
Barnsley	72%

### Lowest rates of excess weight

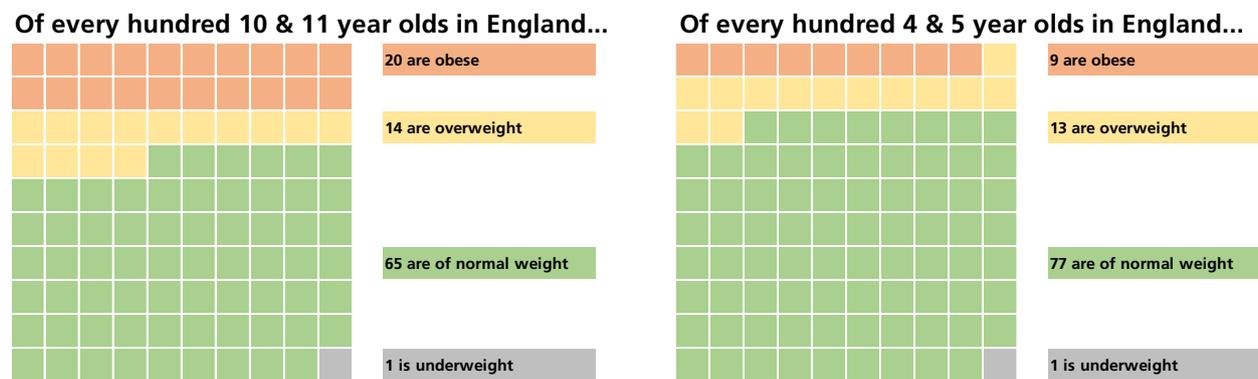
Camden	46%
Cambridge	47%
Kensington and Chelsea	47%
City of London	48%
Lambeth	51%
Hammersmith and Fulham	52%
Oxford	52%
Exeter	52%
Tower Hamlets	53%
Brighton and Hove	53%
Islington	53%
Richmond upon Thames	53%

### 3. Obesity among children, England

According to data from the [National Child Measurement Programme \(NCMP\)](#), 9% of reception age children (age 4-5) are obese, with a further 13% overweight. These proportions are higher among year 6 children (age 10-11), with 20% being obese and 14% overweight.

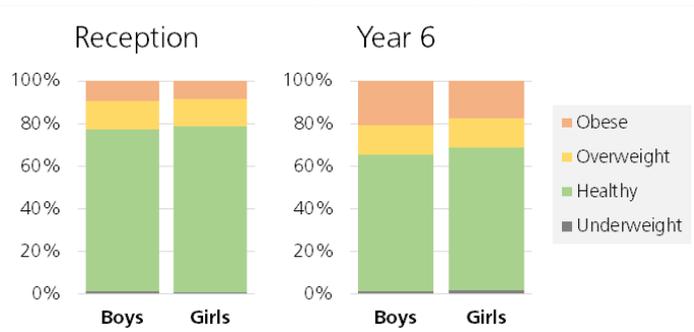
Note that these categories are not directly comparable to those used for adults, since measuring BMI and obesity for children is more complex than for adults. In the NCMP, obese is defined as having a BMI in the 95<sup>th</sup> percentile or higher of the [British 1990 growth reference](#). Overweight is defined as a BMI in the 85<sup>th</sup> percentile or higher.

**Figure 2: Obesity among children in England, 2015/16**



Small gender differences are present even at age 4-5, with 22.7% of boys being overweight or obese compared with 21.5% of girls. At age 10-11, the gap is wider: 36% of boys are overweight or obese compared with 32.3% of girls.

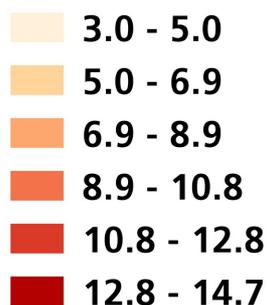
**Chart 4: Obesity among children by age, 2014/15**



The maps on the following two pages analyse the NCMP data by local authority. The maps show whether the rate of obesity among children is above or below the English average. As with the adult data, there is some uncertainty around the precise values.

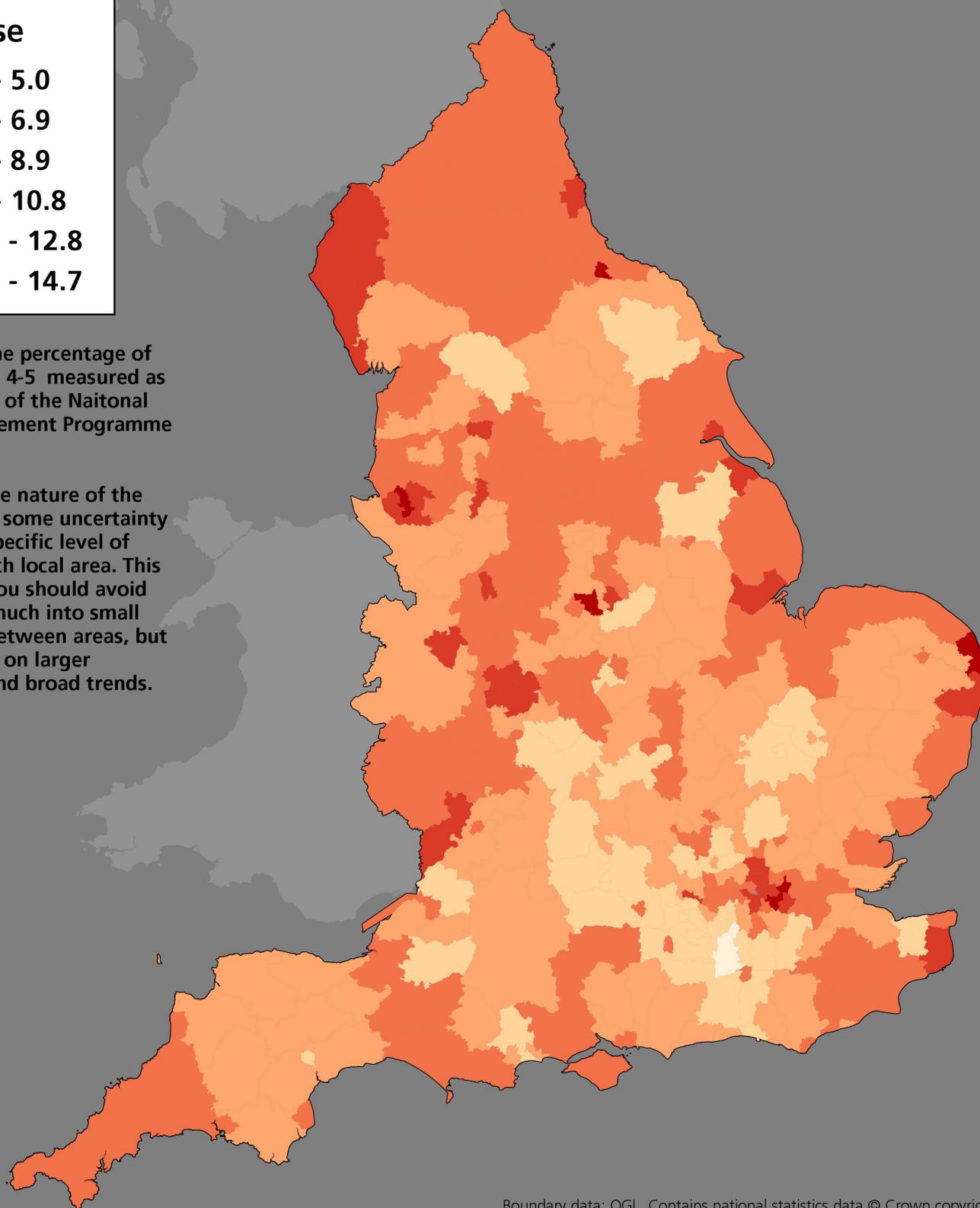
# Obesity at age 4-5 in English local authorities, 2015/16

## % Obese



This shows the percentage of children aged 4-5 measured as obese as part of the National Child Measurement Programme in 2015/16.

Because of the nature of the data, there is some uncertainty around the specific level of obesity in each local area. This means that you should avoid reading too much into small differences between areas, but focus instead on larger differences and broad trends.



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### Highest obesity among ages 4-5

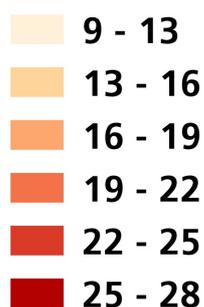
Middlesbrough	15%
Erewash	14%
Barking and Dagenham	14%
Knowsley	14%
Great Yarmouth	14%
Greenwich	13%
Hackney	13%
Barrow-in-Furness	13%
St Helens	12%
Kingston upon Hull	12%
Waveney	12%
Stoke-on-Trent	12%

### Lowest obesity among ages 4-5

Epsom and Ewell	3%
Mole Valley	4%
Richmond upon Thames	5%
Vale of White Horse	5%
Woking	5%
St Albans	5%
Ryedale	5%
Guildford	5%
Kingston upon Thames	6%
Rushcliffe	6%
Mendip	6%
Waverley	6%

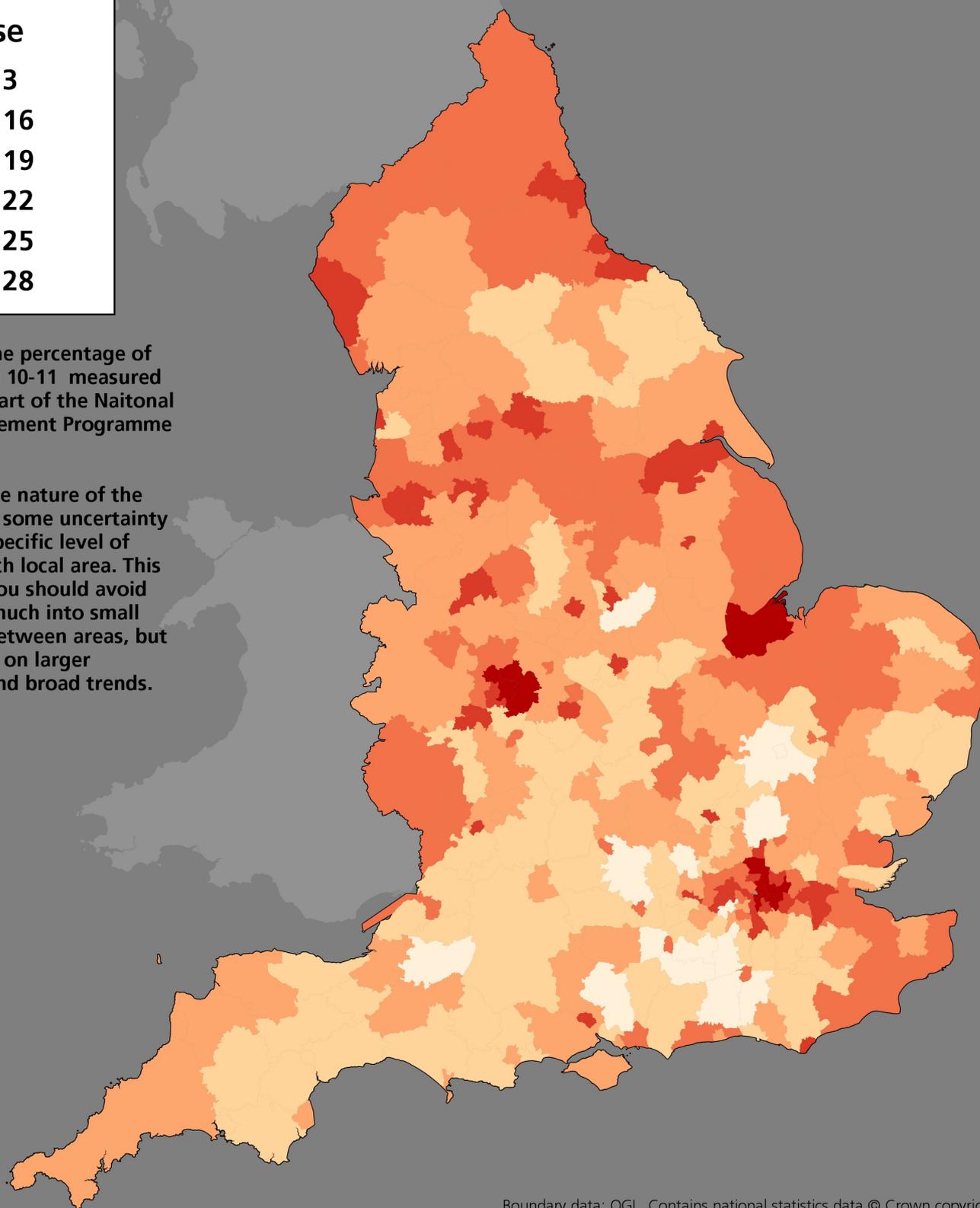
# Obesity at age 10-11 in English local authorities, 2015/16

## % Obese



This shows the percentage of children aged 10-11 measured as obese as part of the National Child Measurement Programme in 2015/16.

Because of the nature of the data, there is some uncertainty around the specific level of obesity in each local area. This means that you should avoid reading too much into small differences between areas, but focus instead on larger differences and broad trends.



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### Highest obesity among ages 10-11

Barking and Dagenham	28%
Newham	27%
Hackney	27%
Tower Hamlets	27%
Greenwich	27%
Southwark	27%
Wolverhampton	26%
Sandwell	26%
Waltham Forest	26%
South Holland	26%
Enfield	26%
Walsall	26%

### Lowest obesity among ages 10-11

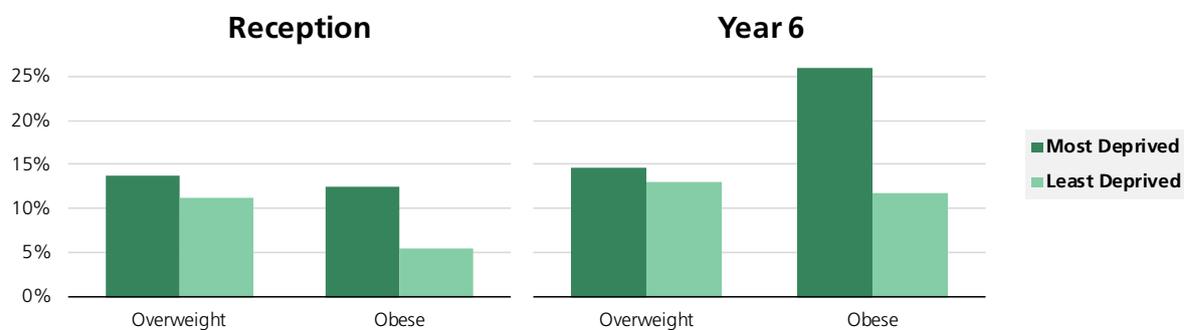
Rushcliffe	9%
Waverley	10%
Richmond upon Thames	11%
Cambridge	11%
Horsham	11%
Mid Sussex	12%
East Hertfordshire	12%
Mole Valley	12%
South Oxfordshire	12%
Epsom and Ewell	12%
Chiltern	12%
Hart	12%

## Childhood obesity and deprivation

Children living in deprived areas are substantially more likely to be obese. Among reception (age 4-5) children, 5.5% of those in the least deprived areas are obese compared with 12.5% of those in the most deprived areas. In Year 6 (age 10-11), 11.7% of children in the least deprived areas are obese, compared with 26.0% in the most deprived areas. So in both age groups, children in the most deprived areas are more than twice as likely to be obese.

Children in the most deprived areas are also marginally more likely to be underweight than those in the least deprived areas.

**Chart 5: Childhood obesity by deprivation decile, England, 2015/16**



### Economic Costs of Obesity

Estimates of the economic cost of obesity vary and are inherently uncertain. An influential [Foresight Report](#) from 2007 estimated that NHS costs attributed to elevated BMI (overweight and obesity) were £4.2 billion in 2007. This was forecast to rise to £6.3 billion in 2015, £8.3 billion in 2025 and £9.7 billion in 2050. This only reflects costs to the health service and not wider economic consequences for society. Estimates of future costs rely on the accuracy of obesity prevalence forecasts.

## 4. Obesity in Wales, Scotland and Northern Ireland

The data above covers obesity in England. Data for other UK countries is gathered and reported separately. Each country presents its data in a different format and level of detail.

In terms of comparability, a 2014 Government Statistical Society publication gave the following analysis:

Adult obesity is defined consistently across Scotland, England, Wales and Northern Ireland using the BMI scale. However, height and weight measurements are self-reported in the Welsh Health Survey and are therefore not directly comparable with equivalent statistics in Scotland, England and Northern Ireland, where direct measurements are taken.<sup>4</sup>

Consequently, no comparisons of adult obesity rates in England and Wales are made in this section.

### 4.1 Wales

#### Adult Obesity in Wales

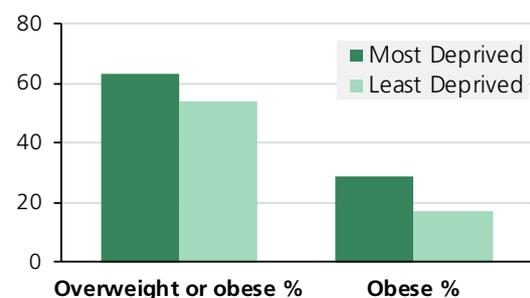
Obesity among adults in Wales is measured in the [Welsh Health Survey](#). The obesity rate among women in Wales is higher than among men, although more Welsh men are overweight or obese (63%) than women (56%). Analysis by deprivation shows that those in deprived areas are more likely to be overweight or obese.

**Chart 6: Obesity, aged 16+, Wales, 2015**

##### Summary Statistics

	Overweight or Obese	Obese
<b>ALL</b>	59%	24%
<b>Men</b>	63%	23%
<b>Women</b>	56%	24%
<b>All 16-44</b>	51%	20%
<b>All 45-64</b>	69%	29%
<b>All 65+</b>	62%	22%

##### Analysis by deprivation quintile



<sup>4</sup> Government Statistical Survey, [Comparing Official Statistics across the UK](#), 2014

## Child Obesity in Wales

According to the 2014/15 [Child Measurement Programme for Wales](#), 11.6% of children aged 4-5 in Wales are obese, and a further 14.5% are overweight.

Childhood obesity rates are lowest in the Cardiff & Vale of Glamorgan health area, and highest in Hywel Dda, which includes Ceredigion, Pembrokeshire and Carmarthenshire.

As in England, deprivation is a predictor of obesity. 13.2% of children are obese in the most deprived fifth of areas compared with 8.6% in the least deprived fifth.

## 4.2 Scotland

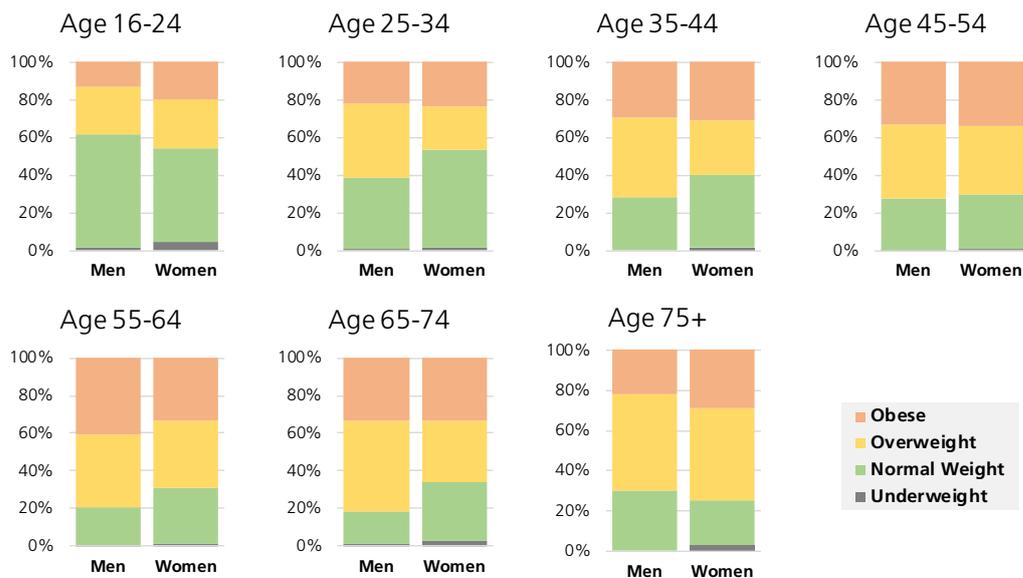
### Adult obesity in Scotland

67% of people aged 16 or above in Scotland are overweight or obese. Of these, 28% are obese.<sup>5</sup>

In Scotland, women are more likely to be obese (30%) than men (29%).

**Chart 7** shows a breakdown by age and gender.

**Chart 7: Scotland: BMI classification by age and gender, 2015**



<sup>5</sup> [Scottish Health Survey 2015](#)

## Child obesity in Scotland

Scotland does not have an equivalent of the National Child Measurement Programme, but data on children at risk of obesity is published in the [Scottish Health Survey](#). It is based on the same categories as the English and Welsh measurement programmes discussed above, but with different labels: a child with a BMI above the 95<sup>th</sup> percentile of expected is described 'at risk of obesity' where the English and Welsh data describes them as 'obese'. Scotland also uses different age categories.

16% of children in Scotland age 7-11 and 15% aged 12-15 are at risk of obesity:

**Table A: Obesity among children in Scotland, 2015**

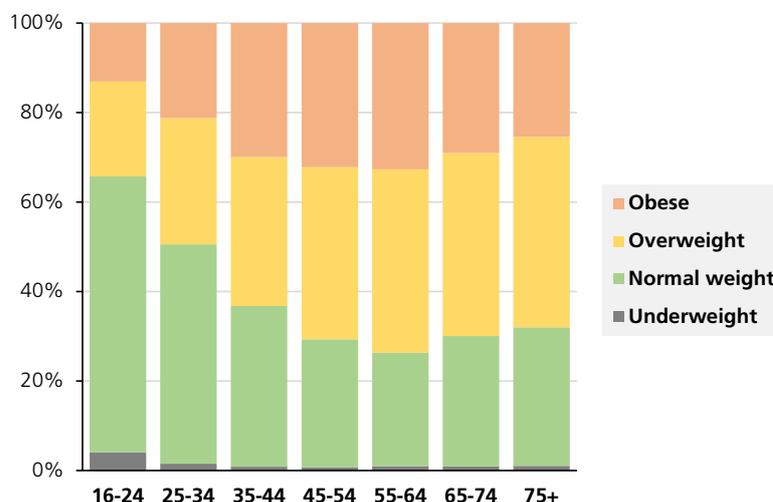
	%		
	Age 2-6	Age 7-11	Age 12-15
<b>At risk of underweight</b>	1%	1%	1%
<b>Healthy weight</b>	75%	69%	71%
<b>At risk of overweight</b>	11%	14%	14%
<b>At risk of obesity</b>	13%	16%	15%

## 4.3 Northern Ireland

### Adult Obesity in Northern Ireland

According to the [Health Survey Northern Ireland](#), in 2015/16 26% of those aged 16 and over are obese and a further 34% are overweight, making a total of 60% who are either overweight or obese. Men are more likely to be obese or overweight (65%) than women (57%). **Chart 8 below** shows a breakdown by age.

**Chart 8: Northern Ireland BMI classification by age, 2015/16**



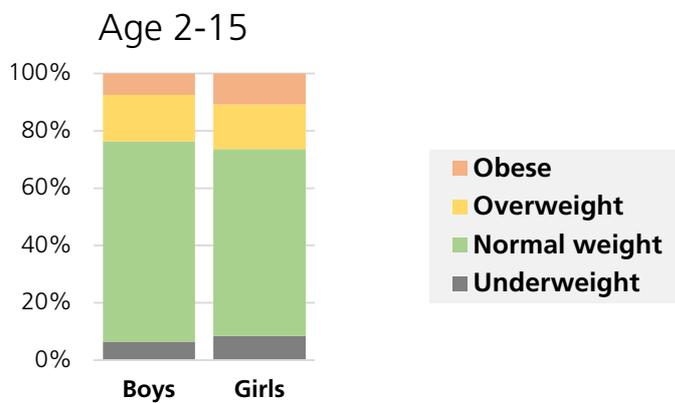
## Child Obesity in Northern Ireland

Childhood obesity in Northern Ireland, as reported in the Health Survey, covers children aged 2-15. It does not provide data in any age sub-groups as in England, Scotland and Wales.

9% of children in Northern Ireland are obese, and 16% are overweight. Girls are more likely than boys to be obese or underweight.

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**Chart 9: Childhood obesity in Northern Ireland by gender, 2015/16**



## 5. GP prescribing for obesity

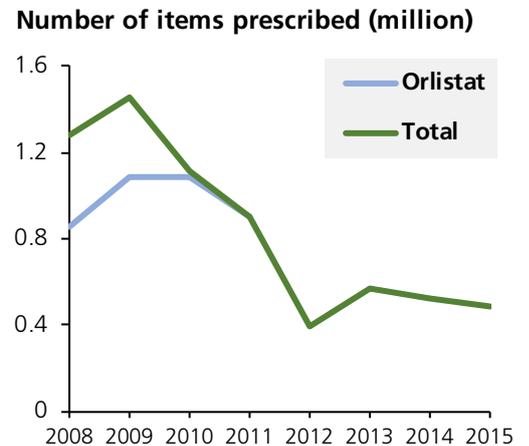
In England in 2015, pharmacies dispensed just under half a million items for treating obesity with a net ingredient cost of £13.9 million. Almost all of these prescriptions were for [Orlistat](#), which prevents the body from absorbing fat from food. This was a slight fall on the number of prescriptions in 2014, but a rise from 2012 (when there was a stock shortage of Orlistat). Until 2010, Sibumatrine was prescribed in addition to Orlistat, but its marketing authorisation was suspended in the light of concerns that it raised the risk of heart attacks and strokes. Another drug, Rimonabant, was withdrawn in 2009 for related reasons.

**Chart 10** shows trends in the number and cost of items prescribed in England since 2008. The point where the two lines converge (2011) represents the time at which Orlistat became the only drug prescribed for obesity in the community.

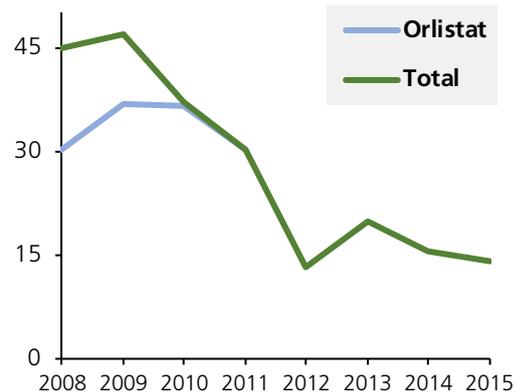
**Chart 11** below shows comparisons between UK countries in the number of drugs for obesity prescribed relative to population size since 2008. In 2014 the four countries had similar prescription rates for obesity drugs, at around 10 items per 1,000 population over the course of the year. Between 2008 and 2010, however, Northern Ireland had the highest rates by some margin. All constituent UK countries have seen a fall in prescriptions for obesity drugs over the period.

**Figure 3** (overleaf) shows a map of obesity prescription rates in England. These are calculated for Clinical Commissioning Group (CCG) areas relative to the number of people aged 15+ registered with a GP in each CCG area.

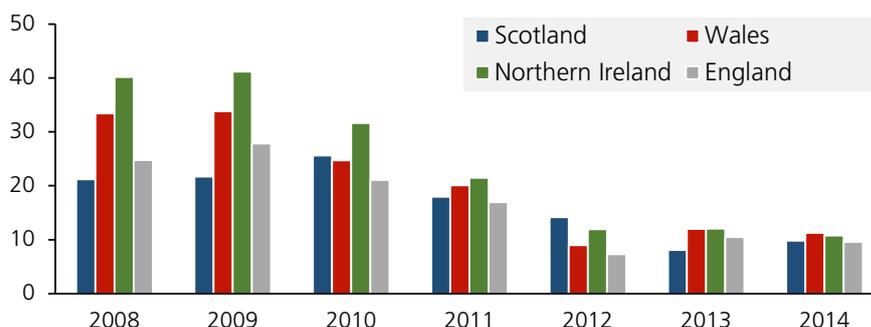
**Chart 10: Prescriptions for Obesity, England, 2008-2015**



**Net Ingredient Cost (£ million)**



**Chart 11: Obesity drugs prescribed per 1,000 population, UK countries, 2008-2014**

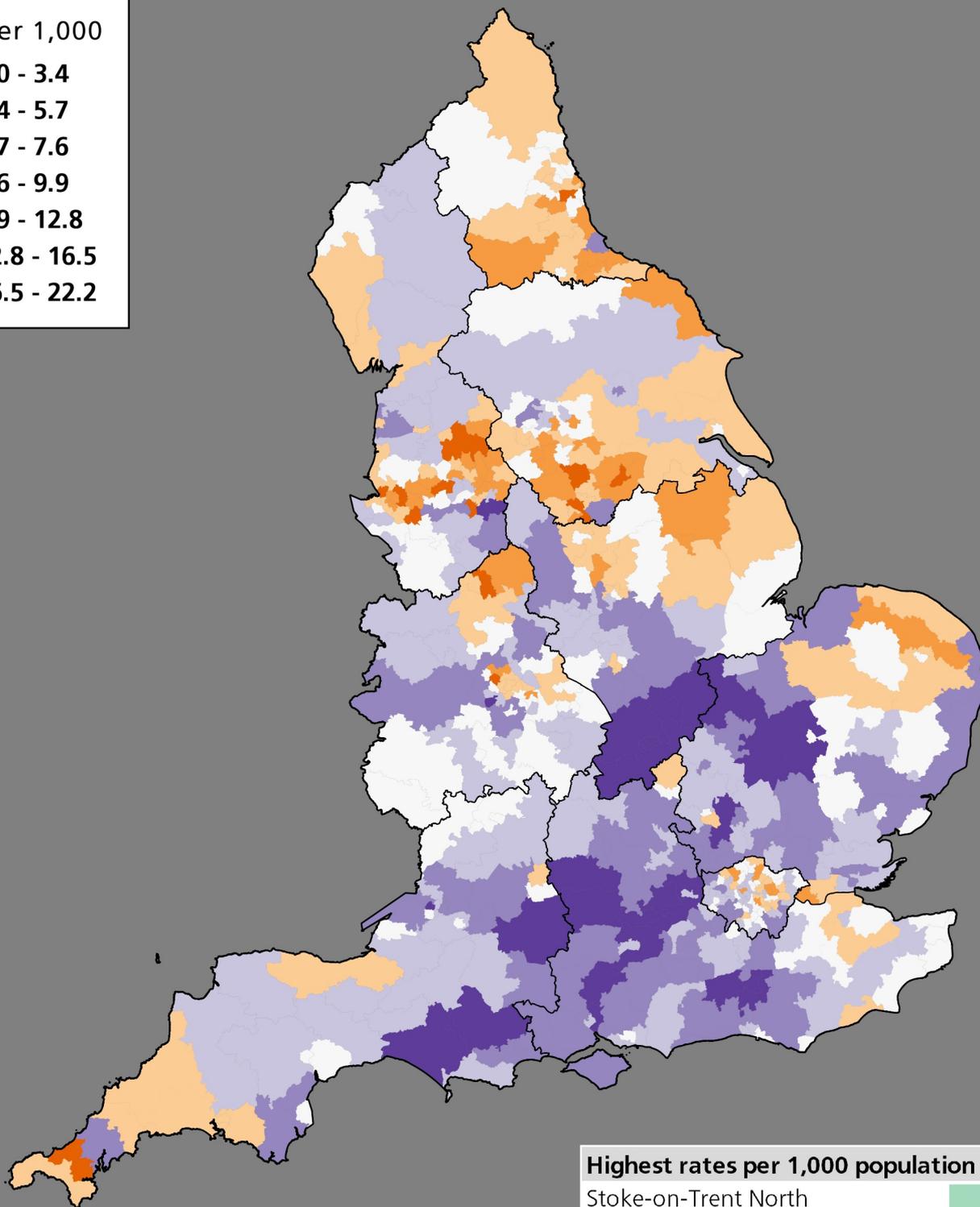
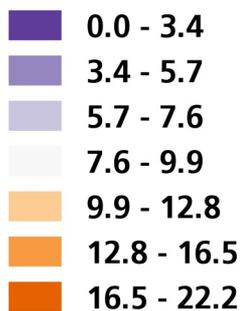


Sources: Prescription Cost Analyses for constituent UK countries; ONS mid-year population estimates; ONS 2012-based population projections

# Obesity prescriptions, 2015

## Rate per 1,000 population

Rate per 1,000



### Highest rates per 1,000 population

Stoke-on-Trent North	22.2
Leigh	21.7
Camborne and Redruth	20.3
Knowsley	19.3
Barnsley East	19.0
Hyndburn	18.7
Sheffield, Brightside and Hillsboro	18.6
Stoke-on-Trent Central	18.6
Bootle	18.1
Halton	17.9

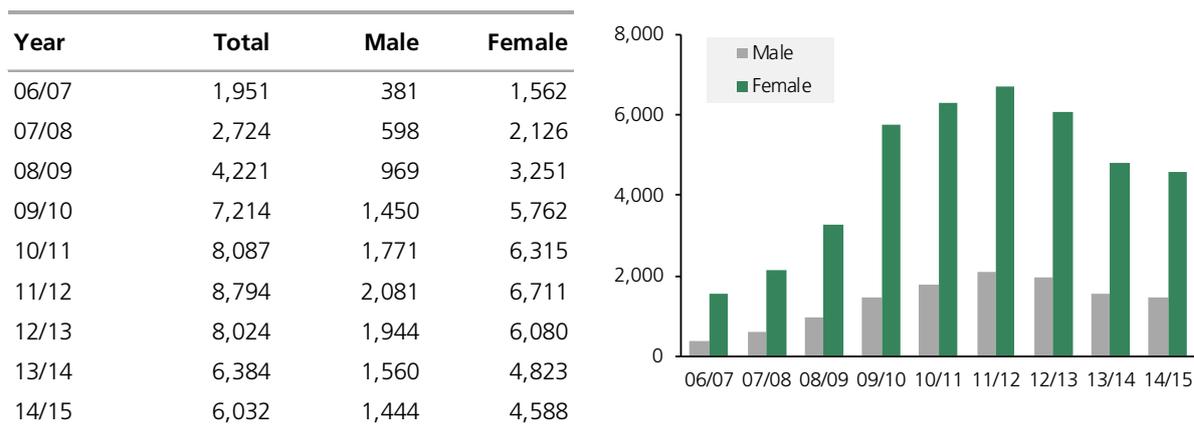
## 6. Bariatric surgery

Bariatric surgery refers to a range of procedures including gastric bypasses, stomach stapling and gastric band maintenance, often performed to limit the amount of food that an individual can consume. It is mainly used to treat those with a BMI of above 40, and in some cases where BMI is between 35 and 40 if the patient has health problems such as heart disease or diabetes.<sup>6</sup>

The number of admitted episodes for bariatric surgery which followed a diagnosis of obesity rose sharply between 2006/07 and 2011/12, but has fallen since. Three quarters of such procedures are carried out on women. **Chart 12** illustrates these trends.

**Chart 12: Bariatric surgeries after a diagnosis of obesity<sup>7</sup>, England, 2006-2015**

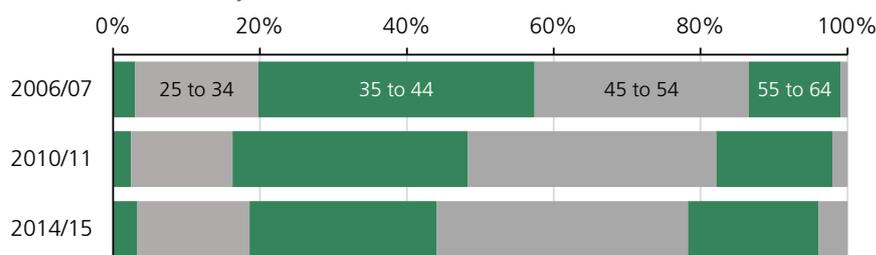
### Bariatric Surgery and diagnosis of obesity



The age breakdown of bariatric surgeries after a diagnosis of obesity has changed. In 2006/07, 57% of all surgeries were carried out on those aged under 44. By 2014/15 this had fallen to 44%. **Chart 13** illustrates this.

**Chart 13: Bariatric surgery by age, England**

2006-2015 (selected years)



<sup>6</sup> HSCIC, [Statistics on Obesity, Physical Activity and Diet 2015](#)

<sup>7</sup> Finished consultant episodes in an inpatient setting with a primary diagnosis of obesity and a main or secondary procedure of bariatric surgery.

Bariatric surgery after a diagnosis of obesity is most common in North East England: particularly in Sunderland, Durham and Middlesbrough. Relative to population size, these areas have rates of bariatric surgery of four to six times the average for England. Areas with above-average surgery rates outside of the North East include Stoke-on-Trent and Telford & Wrekin.

## 7. International comparisons

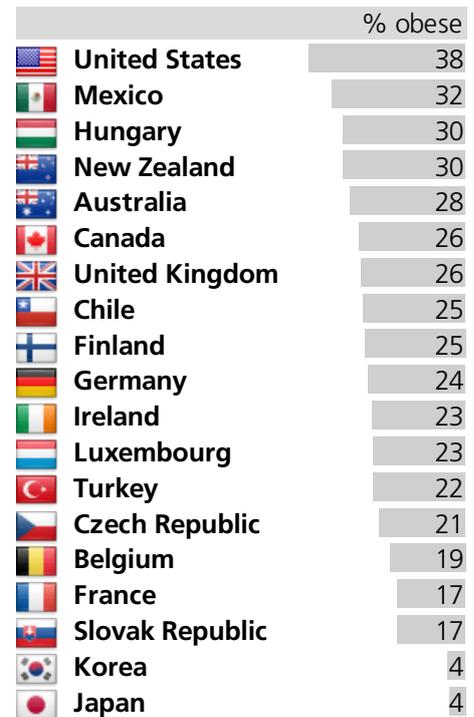
According to a 2014 report, a majority of the population in the OECD area<sup>8</sup> are overweight or obese.<sup>9</sup> 18% of the adult population in the OECD area are obese. Among countries reporting measured data (rather than self-reported data), the UK has the seventh-highest rates of obesity. Around 12% fewer adults are overweight or obese in the UK than in the highest-ranked country, the USA. **Chart 14** illustrates this.

### Chart 14: Obesity in OECD countries

Percentage of population aged 15 and over. Only countries with measured (rather than self-reported) data shown. 2014 or most recent year reported

Source: OECD, Health at a Glance

The [OECD report](#) contains further information on statistics and policy trends concerning obesity.



<sup>8</sup> See [List of OECD Member Countries](#).

<sup>9</sup> [OECD Obesity Update 2014](#).

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