



BRIEFING PAPER

Number 3336, 6 August 2019

Obesity Statistics

By Carl Baker

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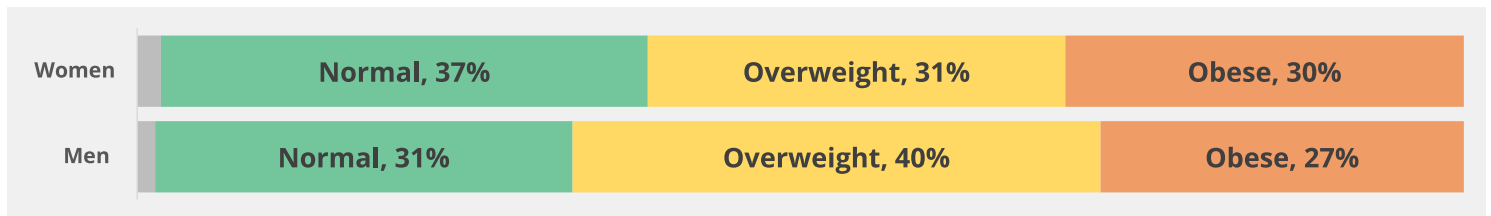


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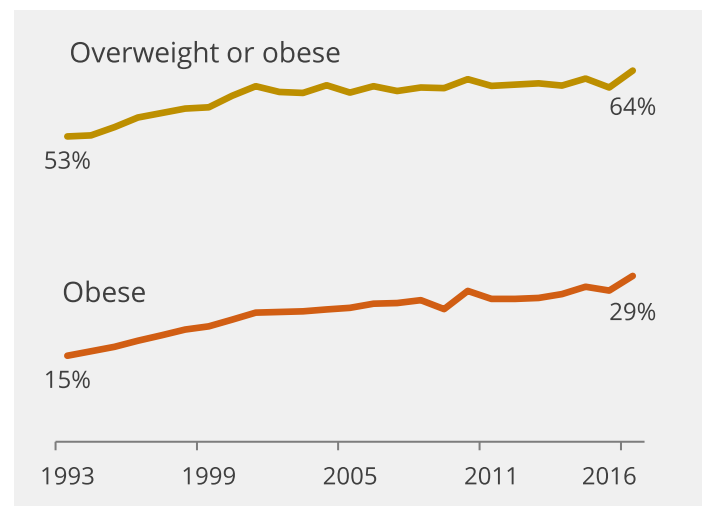
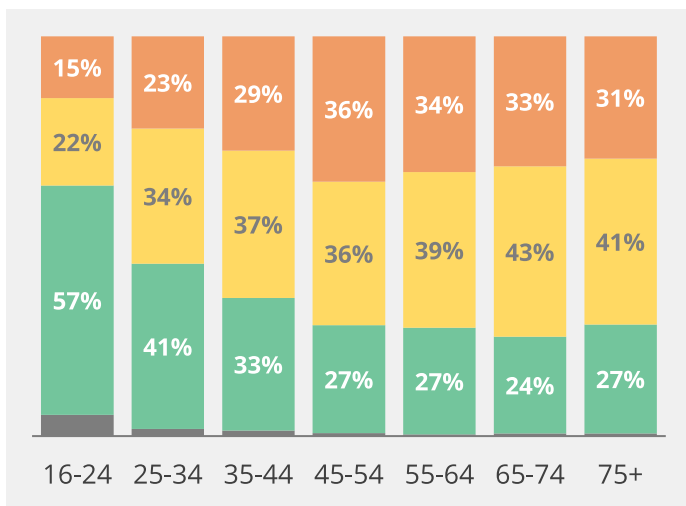
Obesity in England: summary

In England, men are more likely to have a body mass index measurement above normal than women.



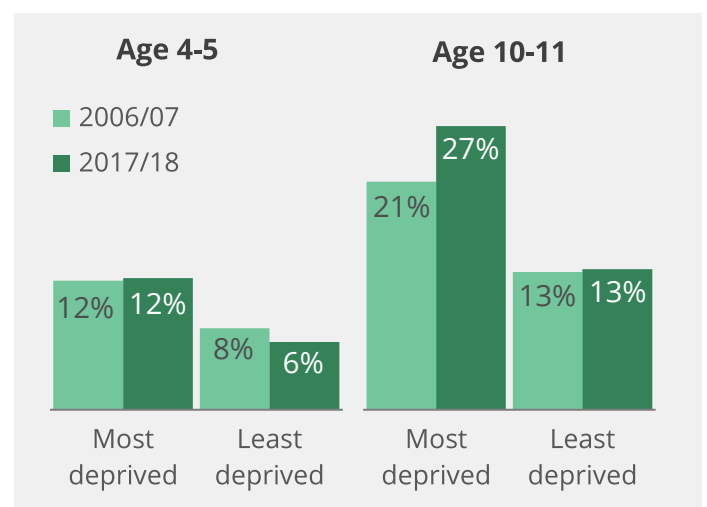
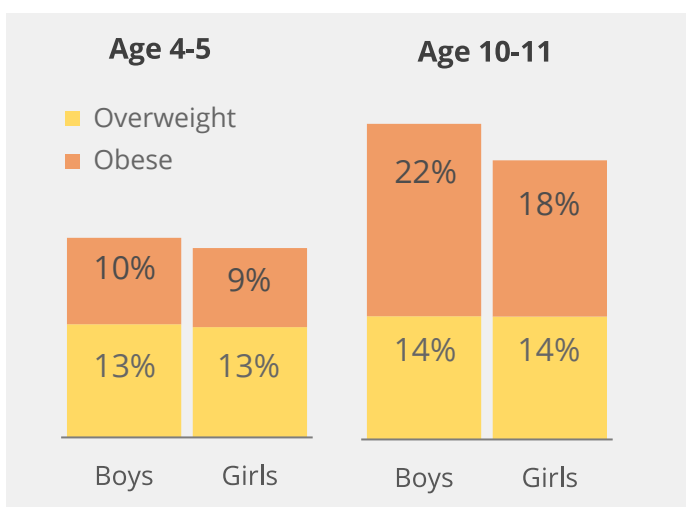
Obesity levels are highest among ages 45-54.

Obesity levels have increased from 15% to 29% since 1993.



One in ten children is obese by age 5, rising to one in five by age 11.

Deprived children are more likely to be obese, and the gap has risen.



This briefing also contains information on: adult and child obesity rates in Scotland, Wales, and Northern Ireland; bariatric surgery for obesity; and international comparisons.

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 (kg/m²). 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.

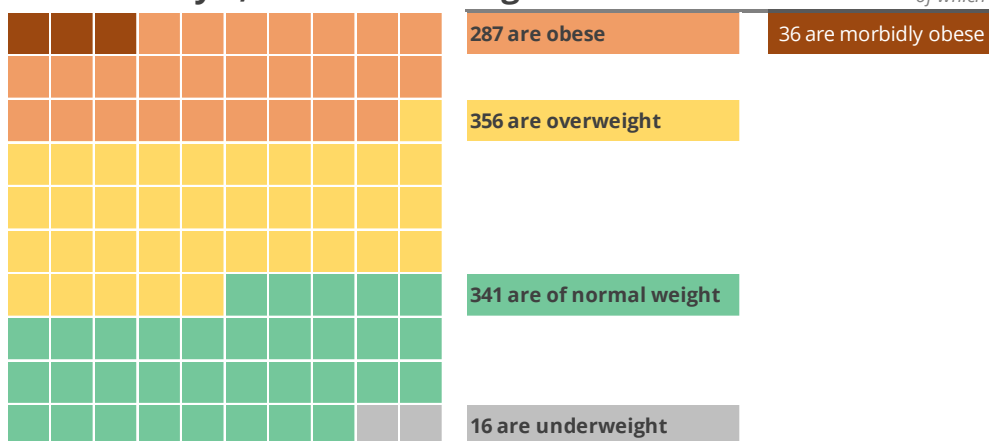
This measure is not always definitive, and sometimes other measures are used.¹ These include waist circumference and the waist-hip ratio (defined as the waist circumference divided by the hip circumference which provides an indication of the distribution of fat on the body).

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+

1. Obesity among adults, England

The [Health Survey for England](#) measures a representative sample of adults aged 16+ and provides estimates of obesity levels in the country. In the 2017 survey, it found that 28.7% of adults in England are obese and a further 35.6% are overweight, making a total of 64.3% who are either overweight or obese.² Of obese adults, around one in eight are morbidly obese (3.6% of all adults). Men are more likely than women to be overweight or obese (67.2% of men compared with 61.5% of women).

Out of every 1,000 adults in England...



Trends over time

Between 2006 and 2016, the proportion of adults who were either overweight or obese changed little. In 2017, however, the survey returned the highest recorded level of obesity at 28.7%. Some annual fluctuation is to be expected since this data comes from a survey.

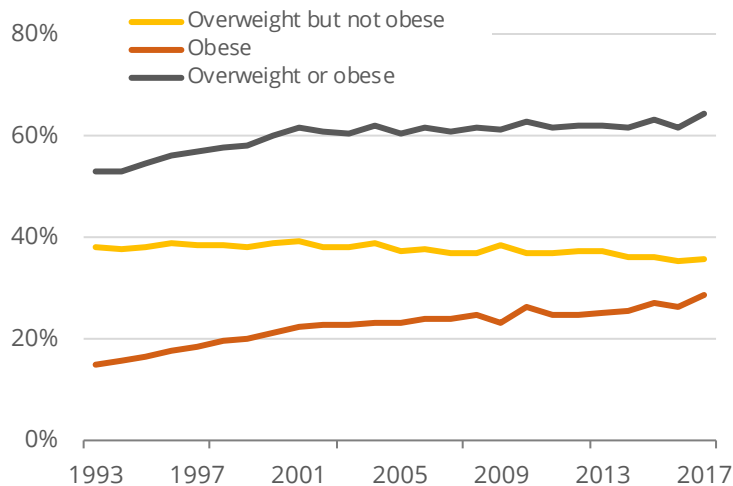
¹ NHS.uk, Obesity <https://www.nhs.uk/conditions/obesity/>

² NHS Digital, Health Survey for England, 2017 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017>

5 Obesity Statistics

Looking further back, there has been a clear increase in obesity levels since 1993, from 14.9% to 28.7%. Correspondingly, the percentage of adults who are either overweight or obese has risen from 52.9% to 64.3%.³

Adult obesity in England has risen from 15% in 1993 to 29% in 2017.



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
- Respiratory problems

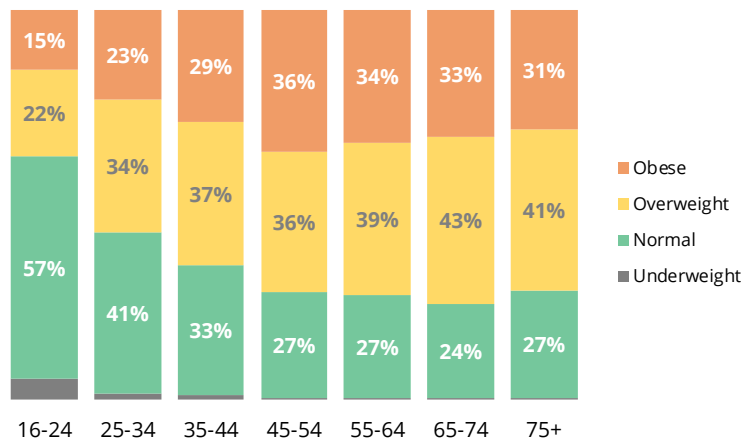
More information is available from the [NHS website](https://www.nhs.uk).

Age and gender differences

The age group most likely to be overweight or obese is age 66-74. Prevalence of overweight and obesity is above 70% among all age groups from 45 upwards. The adult age group least likely to be obese is 16-24 year olds, with 57% at normal weight and only 37% overweight or obese, as the chart below shows.

³ NHS Digital, Health Survey for England, 2017 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017>

Obesity levels are over 30% among those aged 45 and over



As noted above, men are more likely than women to be overweight or obese. However, obesity levels among women (30.0%) are slightly above those of men (27.4%). These proportions vary by age, as the collection of charts below shows. 16-24 is the only age group where women are more likely to be overweight or obese than men.

In most age groups, men are more likely than women to be overweight or obese



Other inequalities

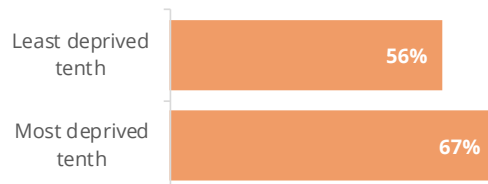
The charts below show data from the Active Lives Survey as published via Public Health England's data dashboard.⁴ The results show how

⁴ Active Lives Survey data 2017/18, extracted from [Public Health England Profiles](#)

excess weight in adults (the percentage either overweight or obese) is not equally distributed among social groups:

- In the most deprived areas in England, prevalence of excess weight is 11 percentage points higher than the least deprived areas
- Among people with disabilities, excess weight is 11 percentage points higher than among those without disabilities.
- People with Black ethnicity have the highest rates of excess weight, and White British people have higher rates of excess weight than other ethnic groups except Black.
- Among people with no qualifications, rates of excess weight are 12 percentage points higher than among people with level 4 qualifications or higher (i.e. a degree).

Deprivation

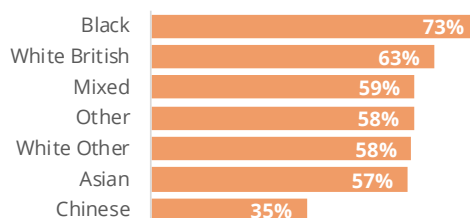


Disability

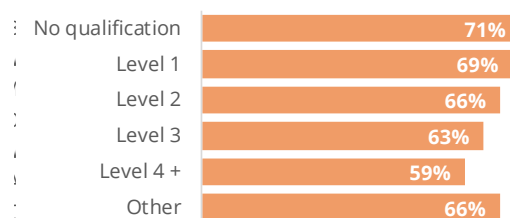
% overweight or obese



Ethnicity



Qualifications



Variation in different parts of England

The Active Lives Survey allows us to estimate variation in the proportion of adults that are overweight or obese in different local authorities.⁵ The most recent available data covers surveys from 2017/18, and shows that levels of excess weight are estimated to be highest in the North East and the West Midlands. The **map on the following page** and the tables that follow show data for each local authority in England.

Because of the small sample size for these local authority estimates there is some uncertainty around the exact levels of overweight and obesity. For instance, the central estimate for Hyndburn is 77.6%, but the nature of the survey means that we can only say with relative certainty that the value is between 73.5% and 81.5%. So we do not know for sure that Hyndburn has the highest rates. But we can be fairly certain that Doncaster's rates are higher than South Somerset's, which are estimated to be between 64.4% and 73.3%.

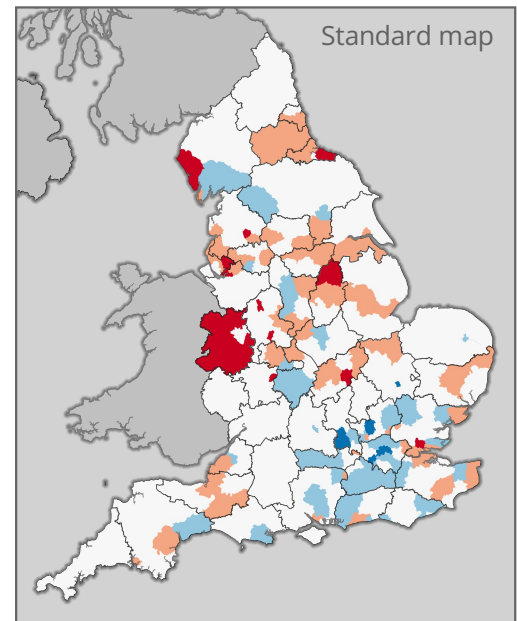
⁵ Active Lives Survey data 2017/18, extracted from [Public Health England Profiles](#)

Excess weight in England: adults

How to read this population-based map

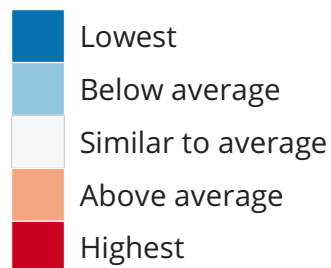
On this map, areas are approximately **scaled in size according to their populations**: each small hexagon represents a population of around 8,000 people. Areas are grouped by traditional counties and other recognisable areas - these groups include unitary authorities and **don't all reflect current local government structures**. Lines between hexagons show local authority boundaries. Extra labels are provided for large towns & cities to help you locate particular places (e.g. 'Sou.' = Southend).

On traditional maps (such as the inset, right), sparsely-populated rural areas are visually over-represented since they appear much larger than densely-populated urban areas. Since rural and urban areas can be very different to one another, this means that traditional maps don't always give a full picture of the data when viewed on their own.

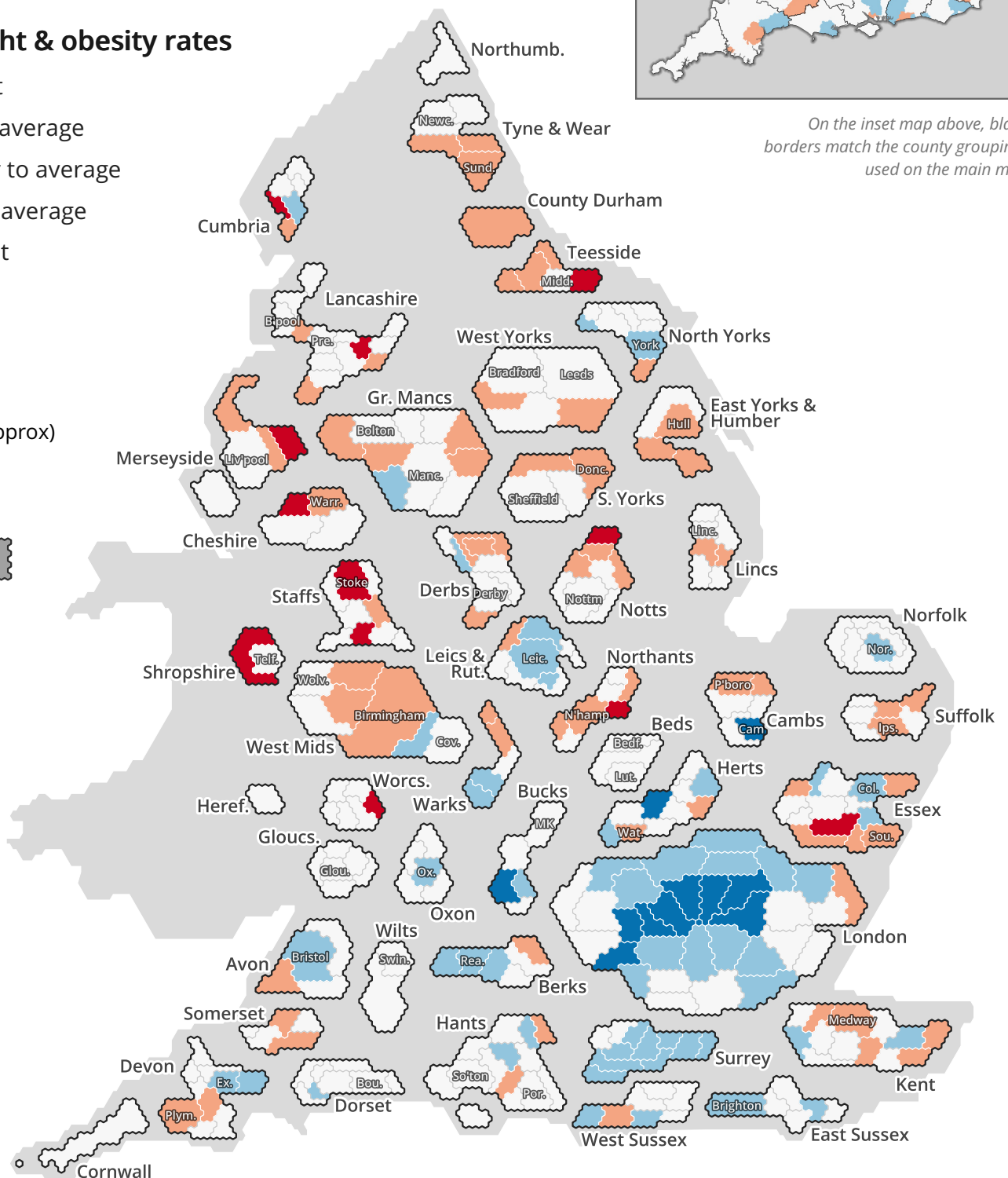
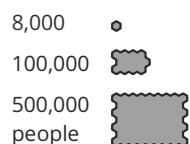


On the inset map above, black borders match the county groupings used on the main map

Overweight & obesity rates



Map scale (approx)



Data source: Active Lives Survey via Public Health England

Adult excess weight by local authority, 2017/18

High percentage overweight or obese				Low percentage overweight or obese			
Local Authority	Main estimate	Low Estimate	High Estimate	Local Authority	Main estimate	Low Estimate	High Estimate
Hyndburn, Lancs	77.6%	73.5%	81.5%	Cambridge	43.4%	39.7%	47.2%
Wellingborough, Northants	75.8%	71.6%	80.0%	City of London	45.4%	38.3%	52.6%
Redditch, Worcs	74.7%	70.6%	78.7%	Camden	46.5%	41.8%	51.0%
Halton	74.4%	70.2%	78.5%	Wycombe, Bucks	47.5%	42.7%	52.4%
Cannock Chase, Staffs	74.0%	69.7%	78.2%	Richmond upon Thames	47.7%	42.8%	52.5%
Bassetlaw, Notts	73.5%	69.3%	77.5%	Westminster	48.0%	43.2%	52.7%
Shropshire	73.2%	69.0%	77.3%	St Albans, Herts	48.9%	44.3%	53.5%
Copeland, Cumbria	73.1%	68.8%	77.4%	Hammersmith and Fulham	49.0%	44.3%	54.0%
Stoke-on-Trent	72.8%	68.5%	77.1%	Islington	49.1%	44.3%	54.2%
Basildon, Essex	72.8%	68.5%	77.2%	Tower Hamlets	49.1%	44.1%	54.1%
St. Helens, Merseyside	72.6%	68.2%	76.8%	Hackney	49.2%	44.5%	53.9%
Redcar and Cleveland	72.5%	68.2%	76.6%	Kensington and Chelsea	50.0%	45.1%	54.9%

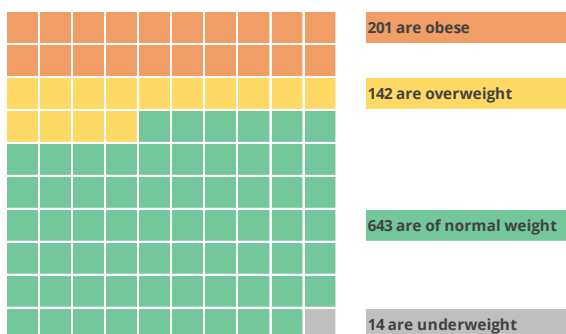
Active Lives Survey data 2017/18, extracted from [Public Health England Profiles](#)

2. Obesity in children, England

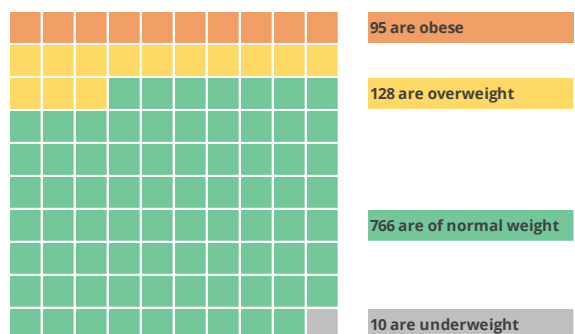
The [National Child Measurement Programme](#) (NCMP) shows that 9.5% of reception age children in England (age 4-5) were obese in 2017/18, with a further 12.8% overweight. These proportions were higher among year 6 children (age 10-11), with 20.1% being obese and 14.2% overweight.

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 95th percentile or higher of the [British 1990 growth reference](#).

Of every thousand 10 & 11 year olds in England...



Of every thousand 4 & 5 year olds in England...



In both age groups, boys are slightly more likely than girls to be obese. This difference is one percentage point at age 4-5, but rises to almost four percentage points by age 10-11.

Boys are more likely to be obese than girls

Reception

Girls	Overweight, 12.7%	Obese, 9.1%
Boys	Overweight, 13.0%	Obese, 9.9%

Year 6

Girls	Overweight, 14.2%	Obese, 18.0%
Boys	Overweight, 14.2%	Obese, 22.2%

The maps on the following two pages analyse the NCMP data by local authority. The maps show whether the rate of excess weight among children is above or below the English average.

Reception (age 4-5) excess weight by local authority, 2017/18

High percentage overweight or obese			
Local Authority	Main estimate	Low Estimate	High Estimate
Barrow-in-Furness, Cumbria	31.2%	27.8%	34.8%
Knowsley, Merseyside	29.6%	27.6%	31.8%
Hartlepool	29.2%	26.5%	31.9%
Middlesbrough	28.8%	26.8%	30.8%
Kingston upon Hull	28.6%	27.1%	30.2%
St. Helens, Merseyside	28.6%	26.6%	30.5%
Brent, London	28.5%	27.1%	30.0%
Maldon, Essex	28.1%	24.6%	31.8%
South Holland, Lincs	27.9%	25.1%	30.8%
Allerdale, Cumbria	27.8%	25.0%	30.9%
Scarborough, North Yorks	27.8%	25.1%	30.7%
Wolverhampton	27.6%	26.1%	29.2%

Low percentage overweight or obese			
Local Authority	Main estimate	Low Estimate	High Estimate
Guildford, Surrey	13.7%	11.2%	16.6%
Kingston upon Thames	13.9%	12.4%	15.6%
Waverley, Surrey	14.4%	12.4%	16.8%
Epsom and Ewell, Surrey	14.7%	12.5%	17.3%
East Riding of Yorkshire	15.0%	13.9%	16.3%
Elmbridge, Surrey	15.3%	13.4%	17.5%
Cambridge	15.4%	13.3%	17.6%
Hart, Hampshire	15.7%	13.6%	18.0%
Richmond upon Thames	16.0%	14.5%	17.6%
Oadby and Wigston, Leics	16.0%	13.3%	19.1%
East Cambridgeshire	16.0%	13.9%	18.5%
Mole Valley, Surrey	16.1%	13.6%	19.0%

Year 6 (age 10-11) excess weight by local authority, 2017/18

High percentage overweight or obese			
Local Authority	Main estimate	Low Estimate	High Estimate
Barking and Dagenham	44.5%	42.8%	46.2%
Brent, London	43.3%	41.7%	44.9%
Newham, London	43.2%	41.8%	44.7%
Wolverhampton	42.9%	41.2%	44.6%
Sandwell, West Mids	42.3%	40.8%	43.8%
Tower Hamlets	42.1%	40.3%	43.9%
Walsall, West Mids	41.1%	39.5%	42.8%
Enfield	41.1%	39.6%	42.6%
Slough, Berks	41.0%	39.0%	43.1%
Sunderland	40.9%	39.2%	42.7%
Manchester	40.8%	39.6%	42.0%
Nottingham	40.8%	39.1%	42.4%

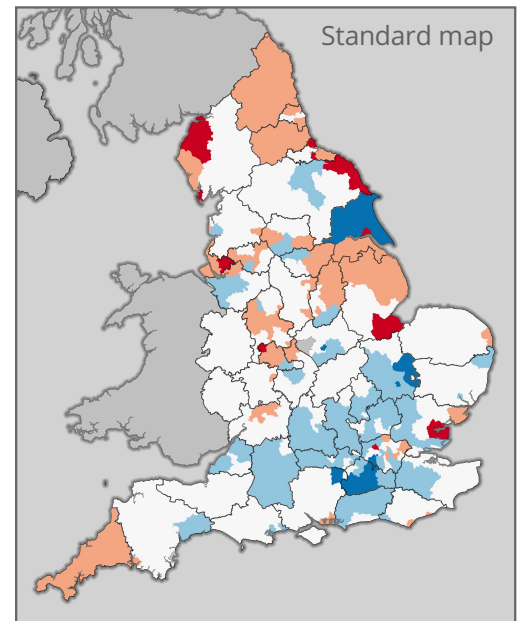
Low percentage overweight or obese			
Local Authority	Main estimate	Low Estimate	High Estimate
Waverley, Surrey	20.5%	18.2%	22.9%
St Albans, Herts	21.4%	19.5%	23.4%
Richmond upon Thames	21.7%	19.9%	23.6%
Elmbridge, Surrey	22.3%	20.1%	24.8%
Horsham, West Sussex	22.7%	20.6%	25.0%
Epsom and Ewell, Surrey	22.8%	20.1%	25.9%
Rushcliffe, Notts	23.6%	21.4%	26.0%
South Hams, Devon	23.7%	20.8%	26.9%
Hart, Hampshire	23.7%	21.2%	26.4%
Chiltern, Bucks	23.8%	21.2%	26.5%
South Cambridgeshire	23.9%	21.9%	26.0%
East Hertfordshire	24.2%	22.0%	26.4%

Excess weight in England: ages 4-5

How to read this population-based map

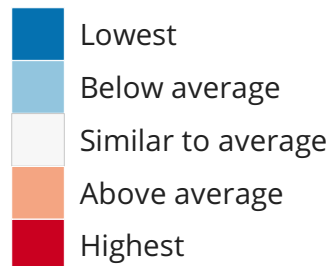
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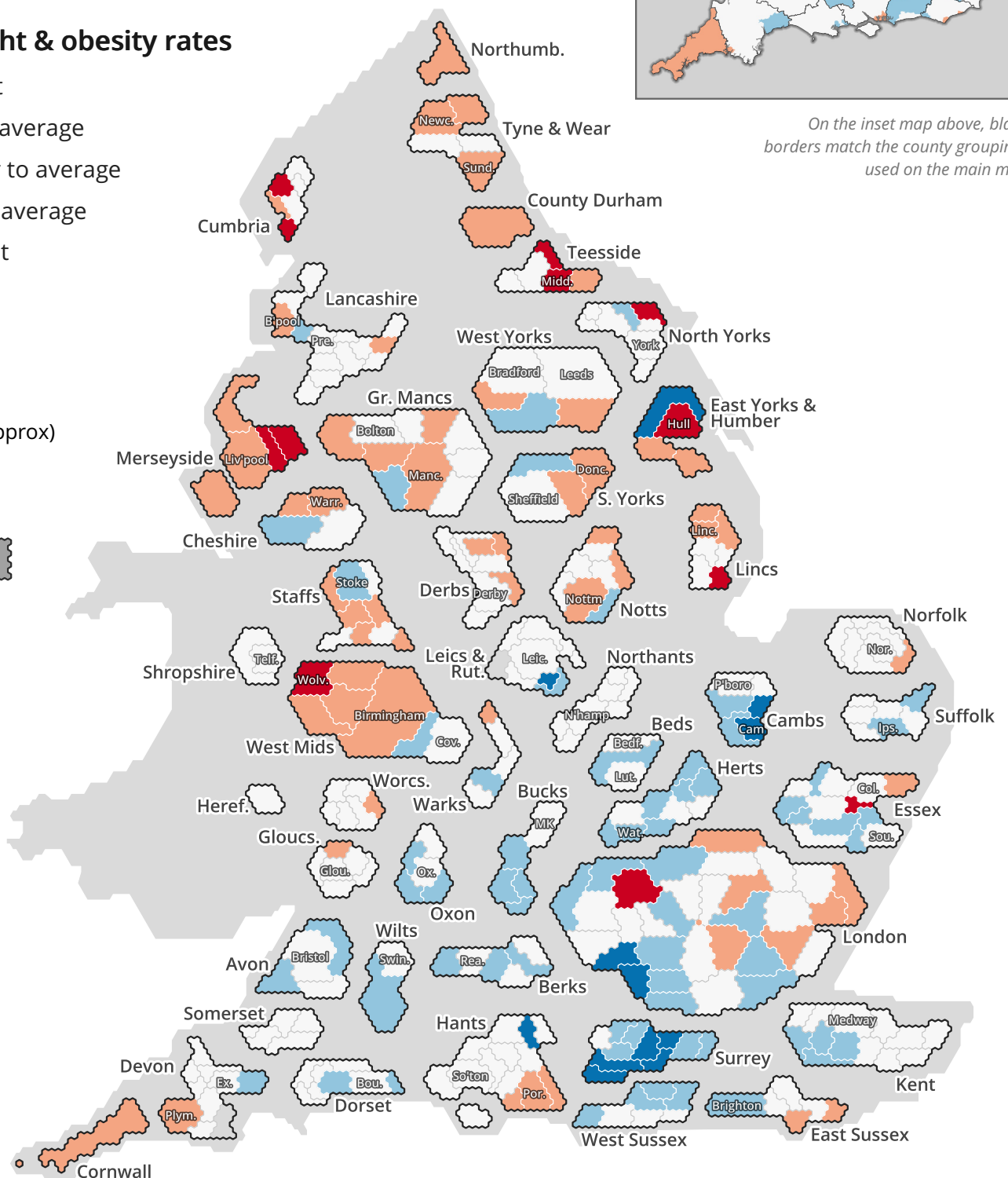
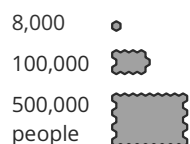


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Overweight & obesity rates



Map scale (approx)

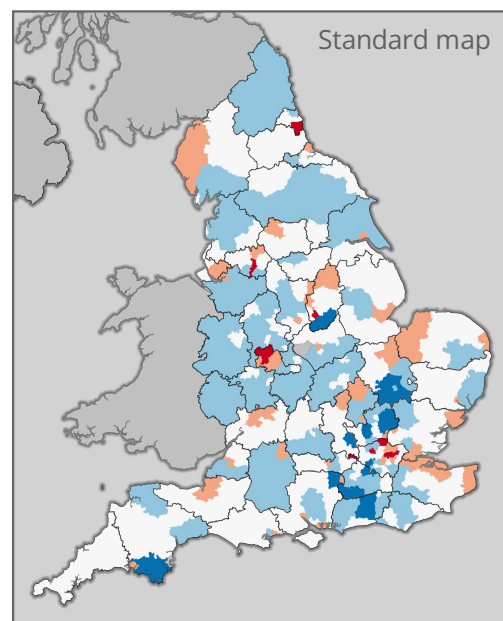


Excess weight in England: ages 10-11

How to read this population-based map

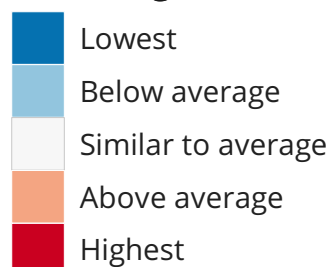
On this map, areas are approximately **scaled in size according to their total populations**: each small hexagon represents a population of around 8,000 people. Areas are grouped by traditional counties and other recognisable areas - these groups include unitary authorities and **don't all reflect current local government structures**. Lines between hexagons show local authority boundaries. Extra labels are provided for large towns & cities to help you locate particular places (e.g. 'Sou.' = Southend).

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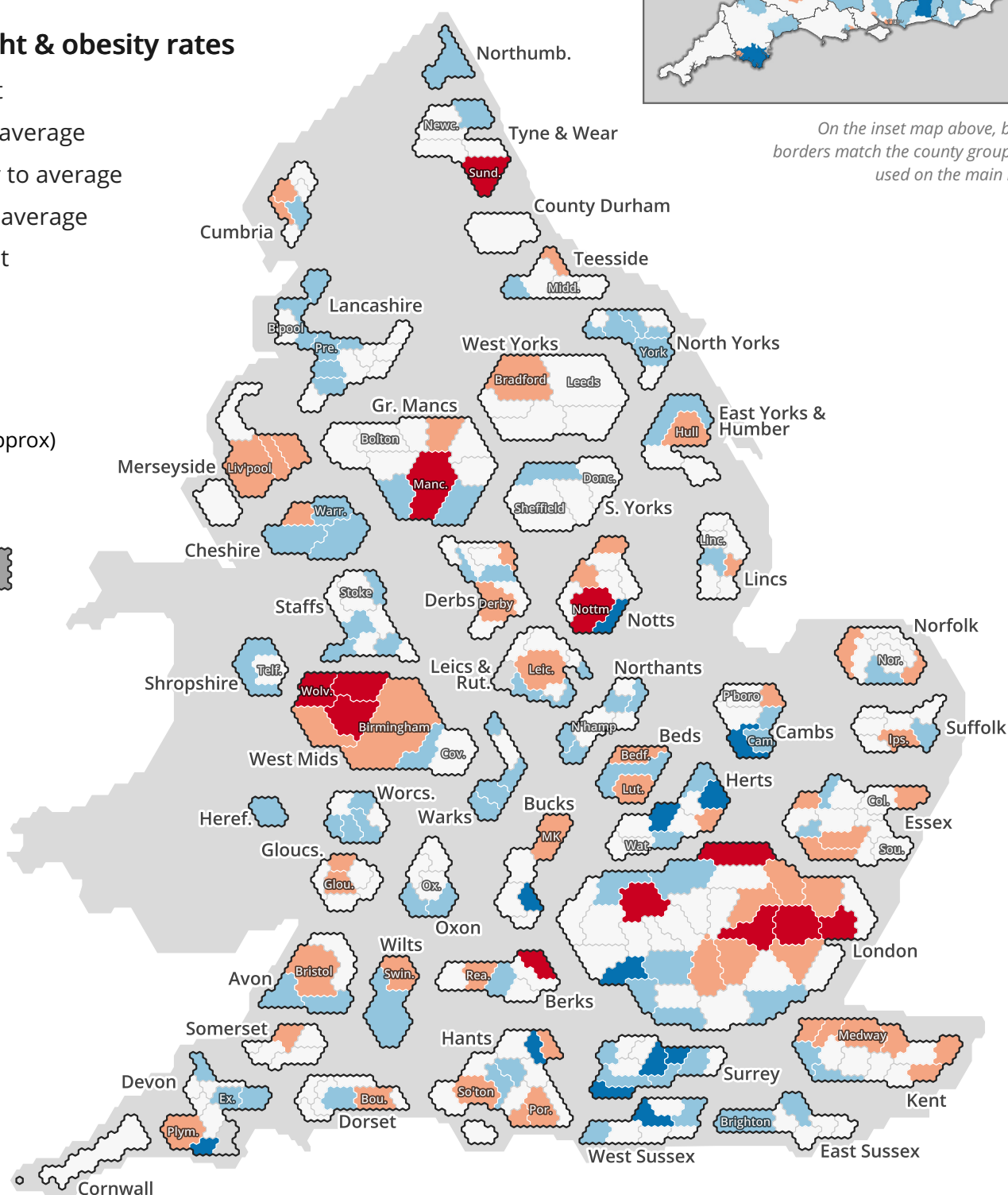
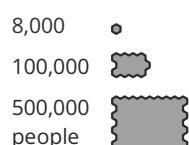


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Overweight & obesity rates



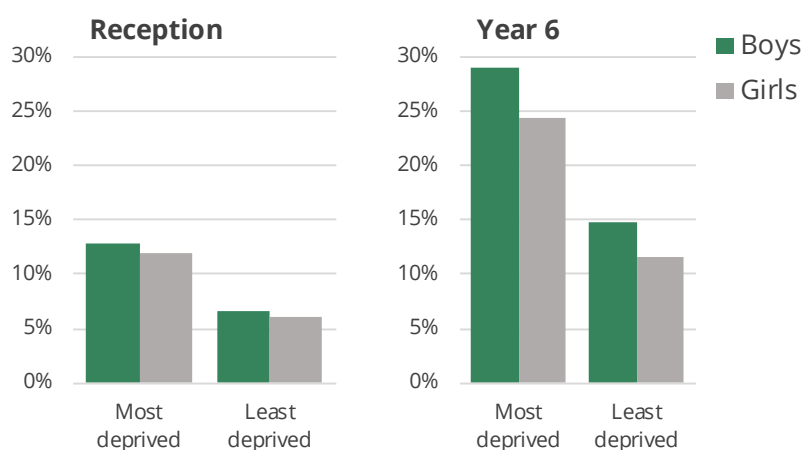
Map scale (approx)



Childhood obesity and deprivation

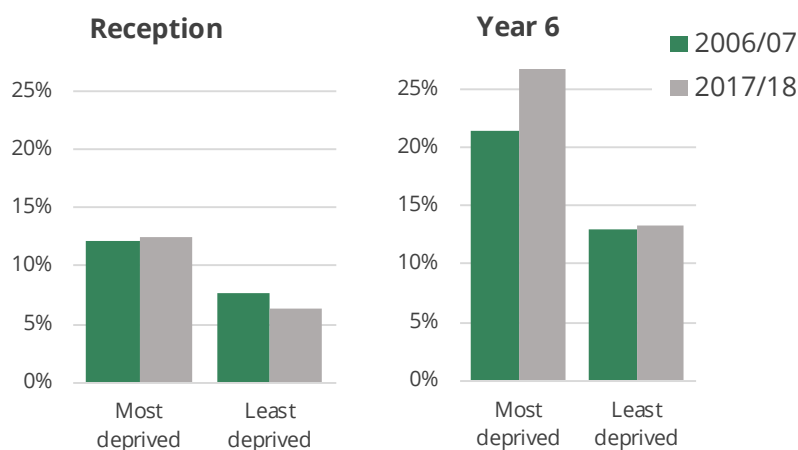
Children living in deprived areas are substantially more likely to be obese. Among reception (age 4-5) children, 6.4% of those in the least deprived areas are obese compared with 12.4% of those in the most deprived areas. In Year 6 (age 10-11), 13.3% of children in the least deprived areas are obese, compared with 26.7% in the most deprived areas. So in both age groups, children in the most deprived areas are approximately twice as likely to be obese. Rates of severely obese children are around three times higher in the most deprived areas.

Children living in deprived areas are more likely to be obese than those in less deprived areas



In both age groups, the obesity gap between the most deprived and least deprived areas has increased in the last decade. This is particularly pronounced among ages 10-11, where obesity rates in the most deprived areas have risen by five percentage points but were almost unchanged in the least deprived areas.

Obesity rates among children aged 10-11 have risen in the most deprived areas



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.

3. 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.⁶

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

Adult Obesity in Wales

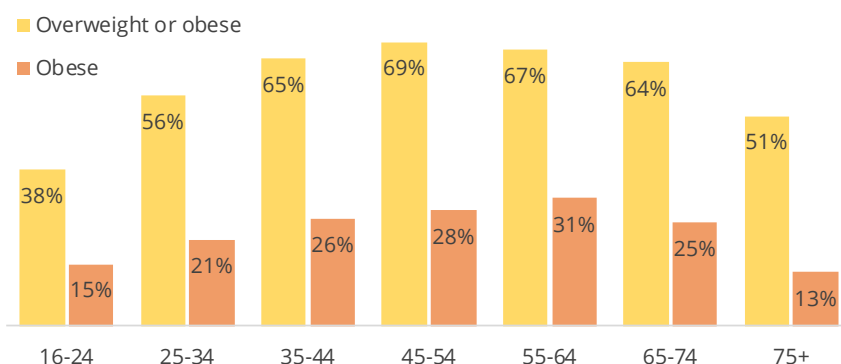
Information on obesity among adults in Wales is measured in the [National Survey for Wales](#) based on self-reported data. 23% of adults were obese in 2018/19, and a further 36% were overweight. 66% of men were either overweight or obese, compared with 52 of women.

As noted above, these figures aren't comparable with the England data discussed in previous sections.

The chart below shows variation by age. More than two-thirds of those aged 45-64 were overweight or obese. The age group with the highest obesity levels was 55-64, at 31%.

⁶ Government Statistical Survey, [Comparing Official Statistics across the UK](#), 2014

In Wales, over two-thirds of people aged 45-64 are overweight or obese



Obesity rates are highest in the most deprived areas of Wales. 28% of adults in these areas were obese in 2018/19, compared with 22% of adults in the least deprived areas. However, there was little difference in the proportion of adults who were overweight or obese overall between the most and least deprived areas.

Residents of Cwm Taf Morgannwg Health Board area (Rhondda Cynon Taf, Merthyr Tydfil and Bridgend) and Aneurin Bevan Health Board area (Caerphilly, Blaenau Gwent, Torfaen, Monmouthshire & Newport) are estimated to have the highest obesity rates in Wales. Betsi Cadwaladr Health board (covering Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham) had the lowest obesity rates.

Child Obesity in Wales

According to the 2017/18 [Child Measurement Programme for Wales](#), 11.9% of children aged 4-5 in Wales are obese, and a further 14.6% are overweight. The total of 26.5% of children overweight and obese is higher than England's 22.3% for the same age group.

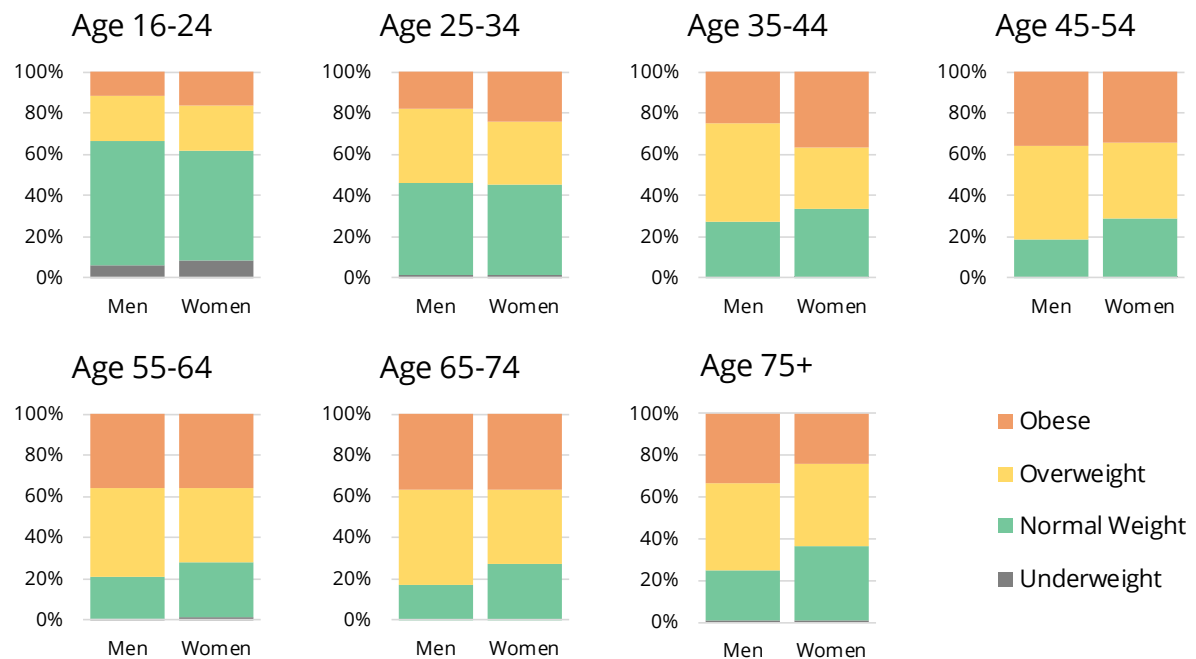
Childhood obesity rates are estimated to be lowest in the Vale of Glamorgan and highest in Merthyr Tydfil.

As in England, deprivation is a predictor of obesity. 14.2% of children are obese in the most deprived fifth of areas compared with 8.2% in the least deprived fifth. This gap has increased in recent years.

Adult obesity in Scotland

Adult obesity in Scotland is measured as part of the [Scottish Health Survey](#). The 2017 edition of this survey found that 29% of people aged 16 or above in Scotland were overweight or obese. A further 36% were overweight. Women were slightly more likely than men to be obese (33% and 30% respectively), but men were more likely than women to be overweight (33% of women and 40% of men).

The charts below show a breakdown by age and gender. In all age groups above 25-34, men were more likely than women to be overweight or obese.

83% of Scottish men aged 65-74 are overweight or obese - the highest of any age group


Obesity rates are estimated to be highest in Shetland and the Western Isles – however, low numbers of people taking part in the survey in those areas means these estimates are uncertain. Obesity rates are estimated to be lowest in Lothian and Borders.

Obesity rates are higher in deprived areas of Scotland than in the least deprived areas. However, rates are highest in the second-most deprived fifth of areas (36%) than in the most deprived fifth (33%).

Child obesity in Scotland

Scotland records BMI data for children in Primary 1 (roughly ages 4-5).⁷ Data for 2017/18 indicates that 12% of children were at risk of being overweight and 10% were at risk of being obese. Risk of obesity is classified as those who are above the 95th percentile of the 1990 UK growth reference standards, and risk of overweight is classified as between the 85th and 95th percentile. These figures have changed little over the past decade.

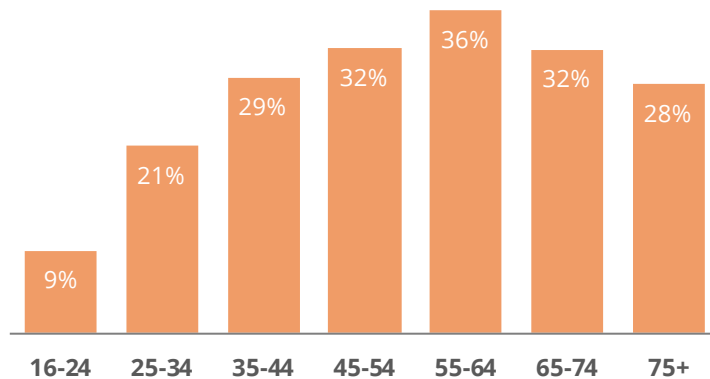
Adult Obesity in Northern Ireland

According to the [Health Survey Northern Ireland](#), in 2017/18 27% of those aged 16 and over were obese and a further 37% are overweight, making a total of 64% who are either overweight or obese. Men are

⁷ ISD Scotland, [Child Weight & Growth Primary 1 Statistics](#)

more likely to be obese or overweight (62%) than women (57%). The chart below shows a breakdown by age.

In Northern Ireland, obesity rates are estimated to be highest among ages 55-64



Child Obesity in Northern Ireland

In 2017/18, the [Health Survey Northern Ireland](#) recorded 8% of children aged 2-10 and 10% of children aged 11-15 as being obese. However, the small sample size of the survey means that meaningful comparisons over time or between age groups can't be made.

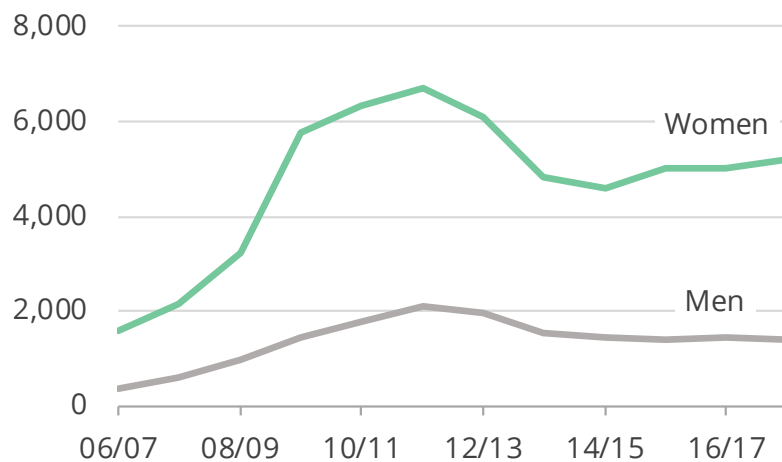
4. Bariatric surgery

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.⁸

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. Despite a small rise in recent years, the number of procedures remains 22% lower than in 2011/12. Four-fifths of these procedures are carried out on women. The chart below illustrates these trends.

⁸ NHS, [Weight loss surgery](#)

Bariatric surgeries for obesity have fallen from their peak in 2011/12, but have risen since 2014/15



The age breakdown of bariatric surgeries after a diagnosis of obesity has changed. In 2005/06, 57% of all surgeries were carried out on those aged under 44. By 2017/18 this had fallen to 42%.

In 2015/16, bariatric surgery after a diagnosis of obesity was most common in North East England, where 10% of surgeries were performed. By comparison, one in every 21 people in England live in the North East. The areas with the highest rates were Durham & Teesside⁹, and Shropshire and Telford & Wrekin.

5. International comparisons

According to a 2017 OECD report, a majority of the population in the OECD area are overweight or obese.^{10,11} Among countries reporting measured data (rather than self-reported data), the UK has the tenth-highest rates of obesity. The table below shows data for each country.




















⁹ Durham, Darlington, Teesside, Hambleton, Richmondshire and Whitby NHS STP.

¹⁰ See [List of OECD Member Countries](#).

¹¹ [OECD Obesity Update 2017](#).

Obesity levels in countries with measured data

2016 or nearest year

	USA	40%		Germany	24%
	Chile	34%		Ireland	23%
	Mexico	33%		Luxembourg	23%
	New Zealand	32%		Estonia	19%
	Hungary	30%		Czechia	19%
	Turkey	29%		Belgium	19%
	Canada	29%		Lithuania	17%
	Australia	28%		Korea	6%
	Finland	27%		Japan	4%
	UK	26%			

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

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