



BRIEFING PAPER

Number 3336, 12 January 2021

Obesity Statistics

By Carl Baker

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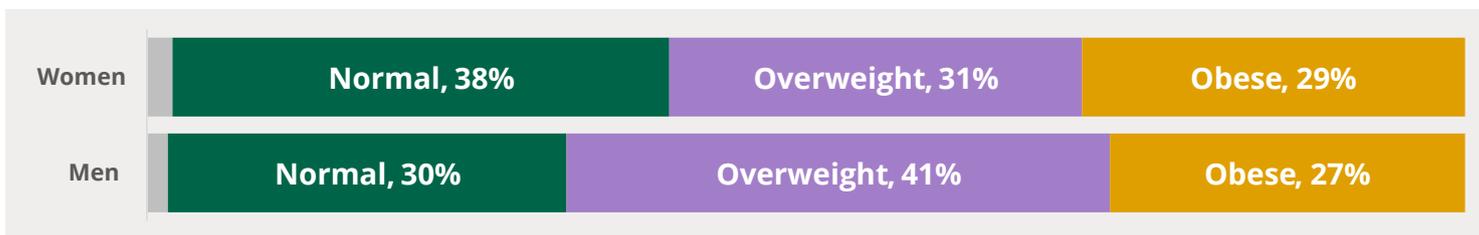


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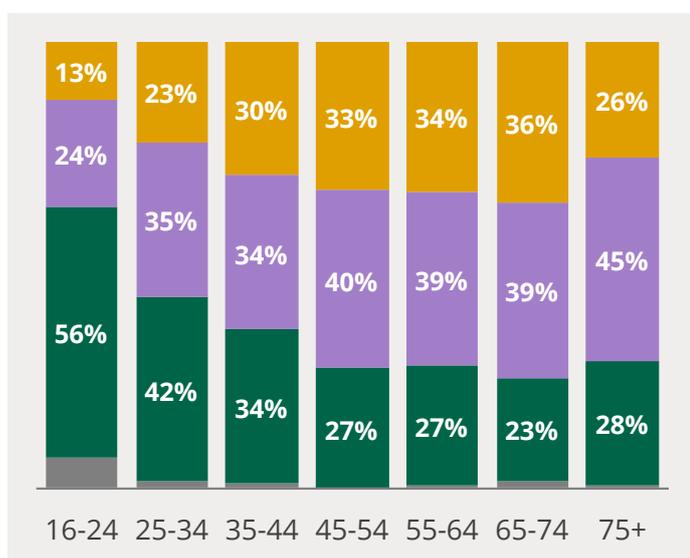
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Obesity in England: summary

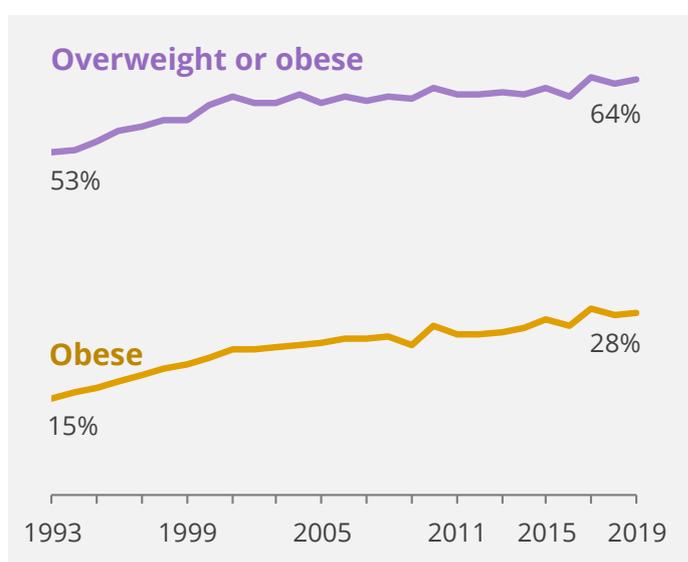
In England, men are more likely to have a body mass index measurement above normal than women.



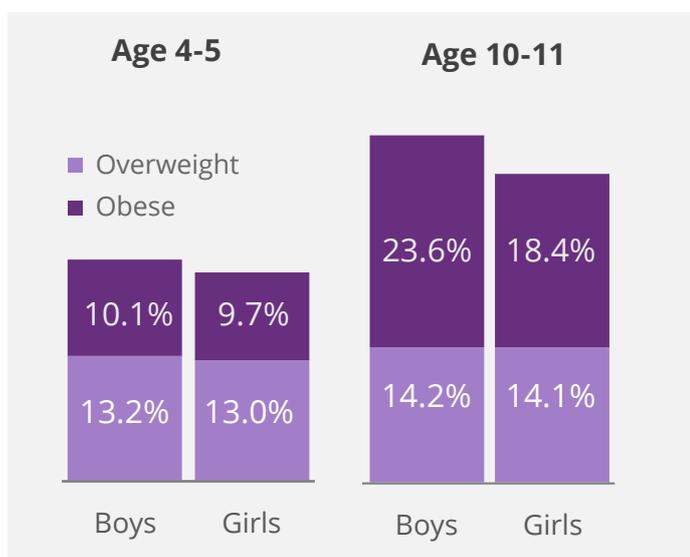
Around three quarters of those aged 45-74 are **overweight** or **obese**



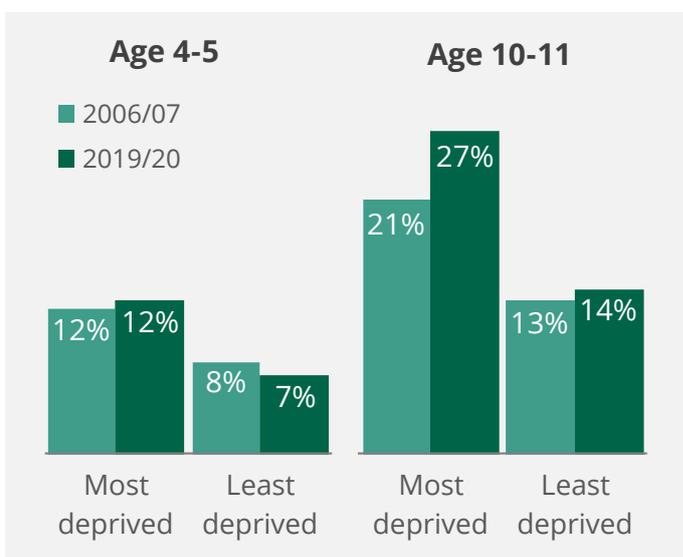
Obesity levels have increased from 15% to 28% since 1993.



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 widened.



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

Graphic: @commonslibrary
Data: NHS Digital

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.

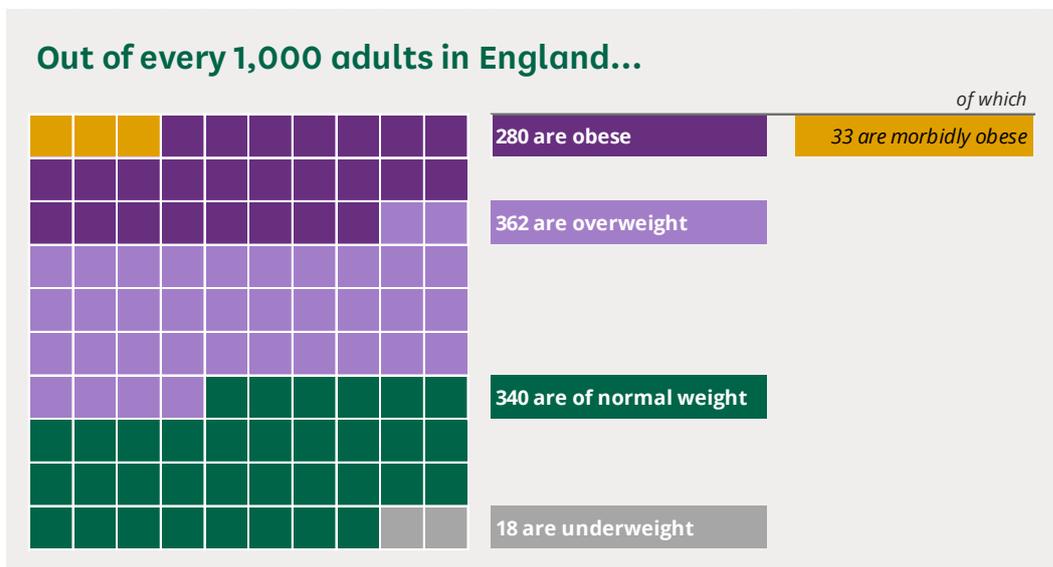
This measure is not always definitive and may not be appropriate for all groups, and sometimes other measures are used.¹ These include waist circumference and the waist-hip ratio.

See our briefing paper [Obesity](#) for a wider overview of definitions and policy.

Classification	BMI
Underweight	< 18.5
Normal weight	18.5 - 24.9
Overweight	25.0 - 29.9
Obese	30+
<i>Obese: Class I</i>	<i>30.0 - 34.9</i>
<i>Obese: Class II</i>	<i>35.0 - 39.9</i>
<i>Obese: Class III</i>	<i>40.0+</i>

1. Obesity in adults, England

The [Health Survey for England](#) measures a representative sample of adults aged 16+ and provides estimates of obesity prevalence. In the 2019 survey, it found that 28.0% of adults in England are obese and a further 36.2% are overweight, making a total of 64.2% who are either overweight or obese.² Of obese adults, around one in eight are morbidly obese (3.3% of all adults). Men are more likely than women to be overweight or obese (68.2% of men compared with 60.4% of women).



Trends over time

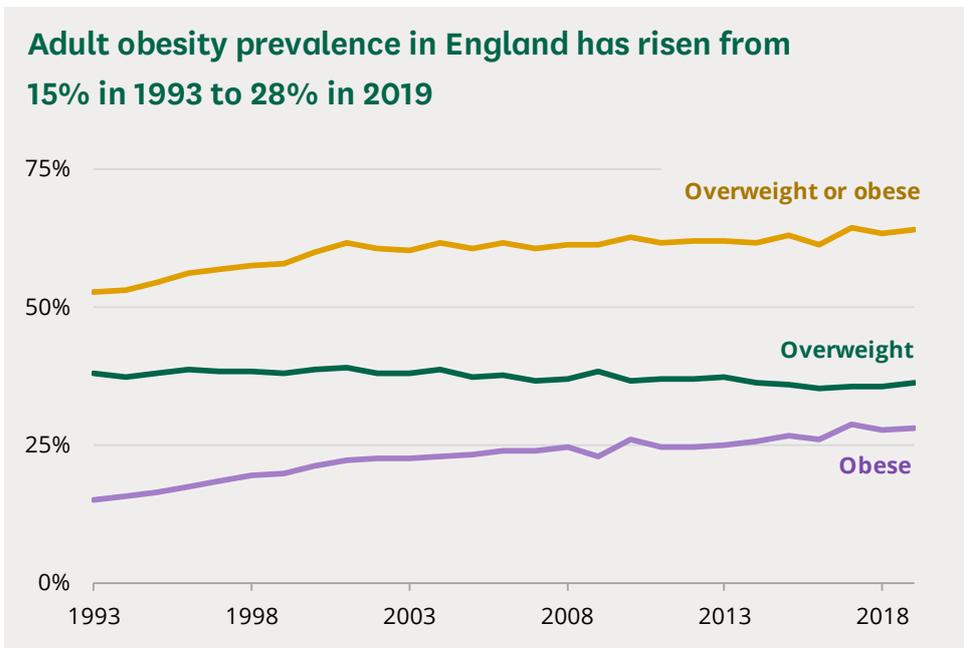
There was a clear increase in the proportion of overweight or obese adults between 1993 and 2001. Since then there have only been small changes, although the proportion has risen slightly over the past

¹ See section 1.1 of our briefing paper [Obesity](#).
² NHS Digital, Health Survey for England, 2019 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england>

5 Obesity Statistics

decade.³ Some annual fluctuation in the data is likely to be because the data comes from a survey.

Since 1993 the proportion of adults in England who are overweight or obese has risen from 52.9% to 64.3%, and the proportion who are obese has risen from 14.9% to 28.0%.⁴



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 and respiratory problems

More information is available from the [NHS website](#).

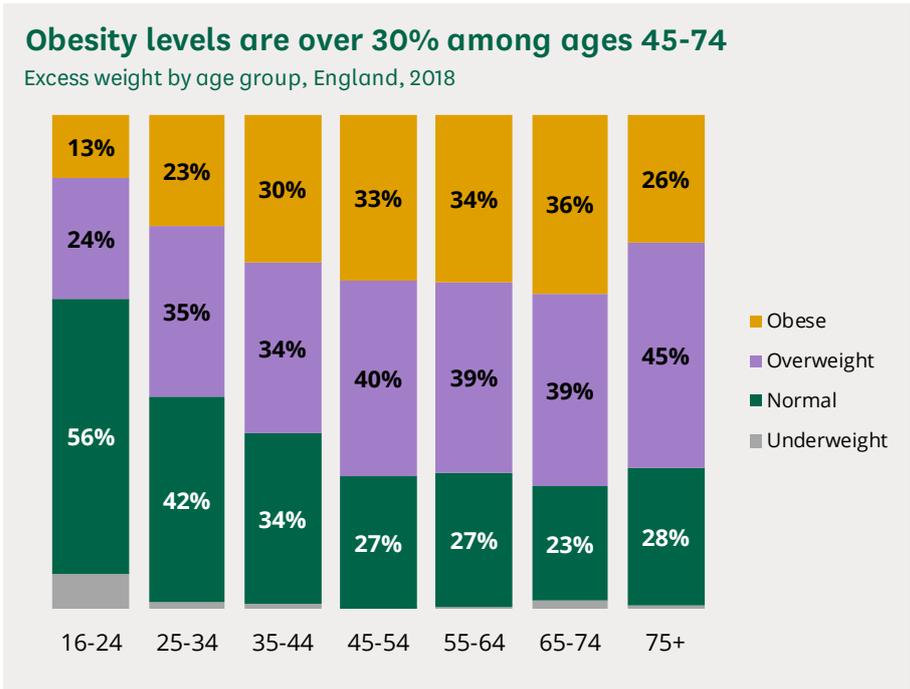
Excess weight has also been associated with increased risk of [serious illness and death from COVID-19](#).

Age and gender differences

The age group most likely to be overweight or obese is age 65-74. 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 56% at normal weight and 37% overweight or obese. The chart overleaf shows a summary of data for each age group.

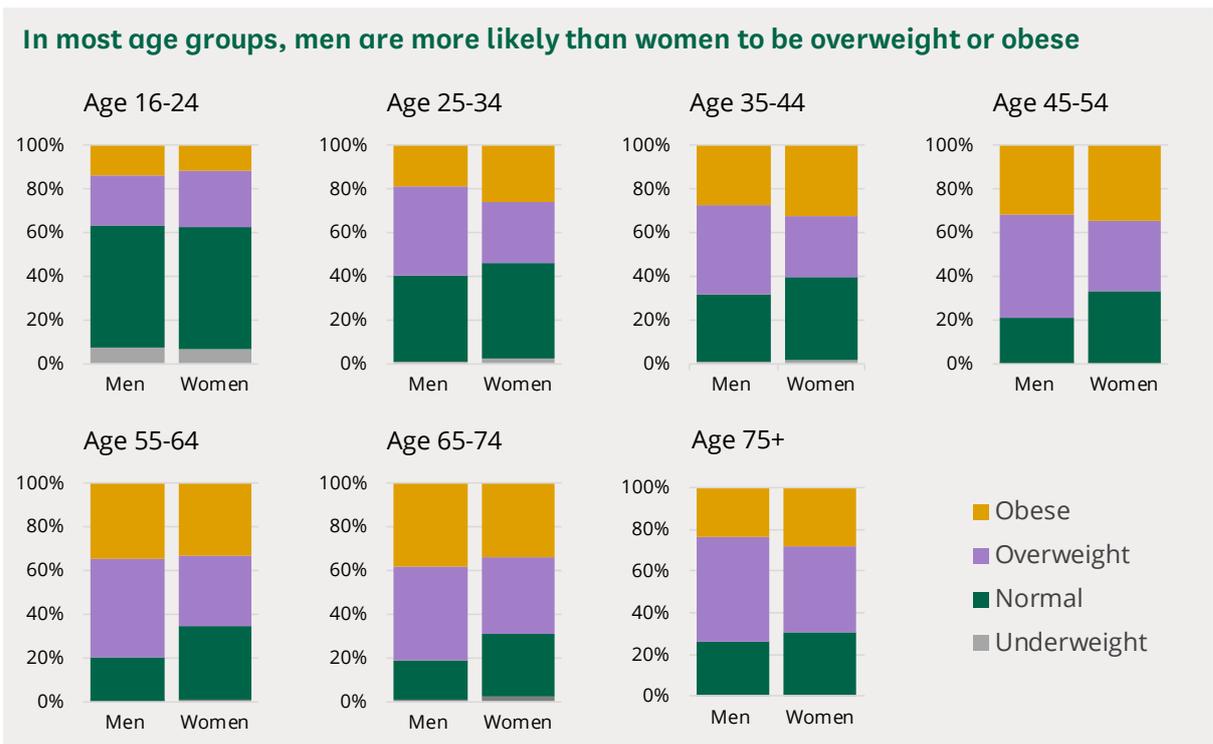
³ Note that data before 2003 is unweighted, while data since 2003 is weighted for non-response.

⁴ NHS Digital, Health Survey for England, 2019 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england>



As noted above, men are more likely than women to be overweight or obese. However, obesity levels among women (29.1%) are slightly above those of men (27.0%), while more men are overweight but not obese (41.2%) than women (31.3%).

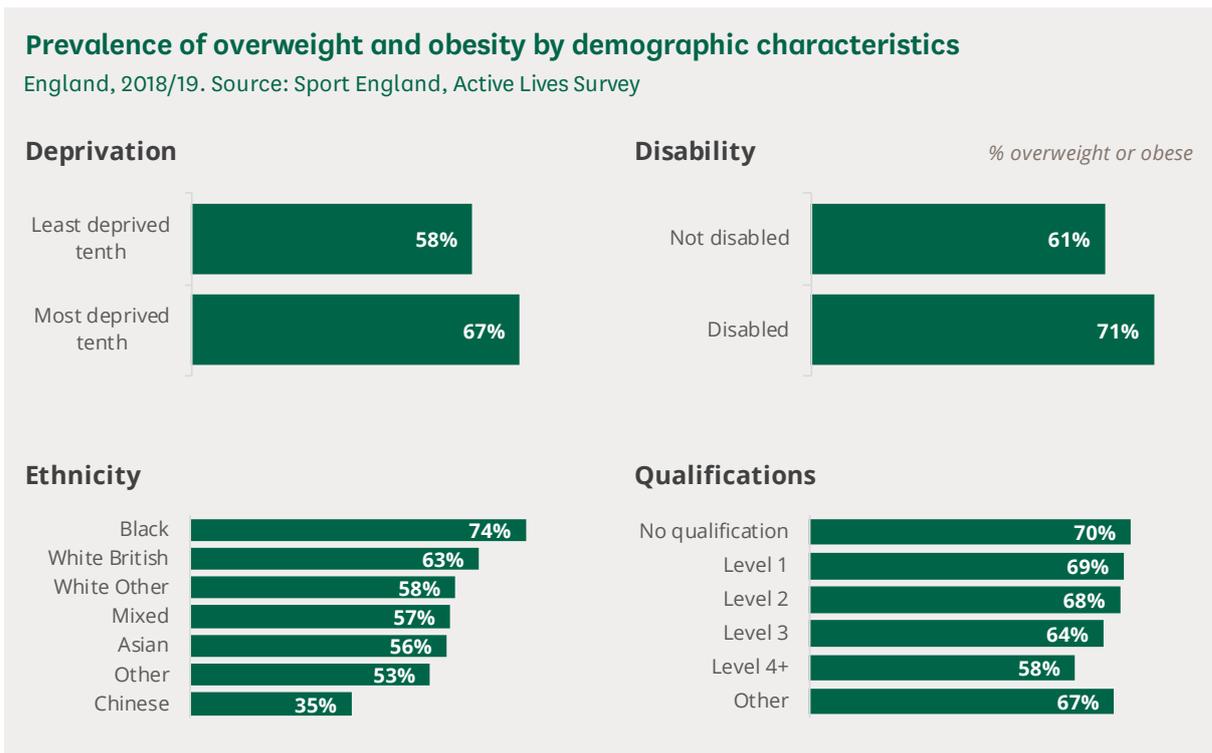
These proportions vary by age, as the charts below show. Age 16-24 is the only group where women are more likely to be overweight or obese than men. Among men aged 45-74, over 80% are overweight or obese.



Other inequalities

The charts below show data from the Active Lives Survey as published via Public Health England's data dashboard.⁵ The results show how excess weight in adults (the percentage either overweight or obese) is not equally distributed among social groups:

- Deprivation: in the most deprived areas in England, prevalence of excess weight is 9 percentage points higher than the least deprived areas
- Disability: among people with disabilities, excess weight is 10 percentage points higher than among those without disabilities.
- Ethnicity: Black people have the highest rates of excess weight, and White British people have higher rates of excess weight than all other ethnic groups except Black.
- Education: 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).



⁵ Active Lives Survey data 2018/19, extracted from [Public Health England Profiles](#)

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.⁶ The most recent available data covers surveys from 2018/19, and shows that levels of excess weight are estimated to be highest in the West Midlands, the North East, and Yorkshire & the Humber. The **population-based map on the following page** and the tables that follow show data for each local authority in England.

Because these local authority estimates are based on a survey there is some uncertainty around the exact levels of overweight and obesity. For instance, the central estimate for Thurrock is 75.9%, but because it is based only on a sample of the population, this means we can only say with relative certainty that the true prevalence value is somewhere between 71.9% and 80.1% (labelled on the table as “Lower CI” and “Upper CI”, where “CI” stands for “confidence intervals”). So it is not certain that Thurrock has the highest prevalence in England, and more generally you should be cautious when interpreting small differences between areas.

But when two areas’ confidence intervals do not overlap, we can be fairly certain that their rates are different. So we can be confident that Thurrock has higher prevalence than Great Yarmouth (not shown in the table below), where the survey estimate is 67.2% and the lower and upper confidence intervals are 62.5% and 71.8% respectively.

Adult excess weight by local authority, 2018/19							
High percentage overweight or obese				Low percentage overweight or obese			
Local Authority	Survey estimate	Lower CI	Upper CI	Local Authority	Survey estimate	Lower CI	Upper CI
Thurrock	75.9%	71.9%	80.1%	Camden	41.7%	36.7%	46.8%
Hartlepool	75.7%	71.6%	79.9%	City of London	43.8%	37.4%	50.0%
Rotherham	75.6%	71.4%	79.7%	Westminster	48.6%	43.9%	53.3%
Dartford	75.1%	70.9%	79.4%	Haringey	48.7%	43.8%	53.7%
Knowsley	73.7%	69.6%	77.8%	Hammersmith & Fulham	48.9%	44.3%	53.6%
Walsall	73.2%	68.5%	77.7%	Oxford	48.9%	45.2%	52.8%
Selby	72.8%	68.7%	77.0%	Kensington and Chelsea	49.4%	44.4%	54.6%
Barking and Dagenham	72.7%	67.7%	77.4%	Brent	49.5%	44.4%	54.6%
Shropshire	72.4%	68.0%	76.5%	Lambeth	50.2%	45.3%	55.0%
Bolsover	72.2%	67.8%	76.5%	St Albans	50.3%	45.6%	55.1%
Redcar and Cleveland	71.9%	67.6%	76.1%	Brighton and Hove	50.5%	45.6%	55.4%
Dover	71.8%	67.6%	76.1%	Bath & N. E. Somerset	51.1%	46.4%	55.8%

Active Lives Survey data 2018/19, extracted from [Public Health England Profiles](#)

⁶ Active Lives Survey data 2018/19, extracted from [Public Health England Profiles](#)

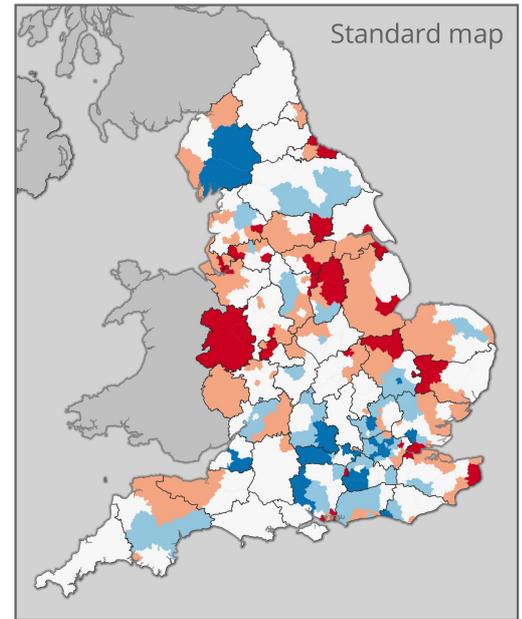
Excess weight in England: adults, 2018/19

How to read this population-based map

On this map, local authority areas are approximately **scaled in size according to their populations**. Areas are grouped by ceremonial counties, conurbations and other recognisable sub-national areas. These groups include unitary authorities (e.g. Nottingham City UA inside the Notts group) and don't all reflect current local gov structures.

Lines between adjacent areas represent local authority boundaries. Extra labels are provided for large towns & cities to help you locate particular cities and towns (e.g. 'Lut.' = Luton). Grey shading between county groups doesn't represent data and serve only as a background.

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.

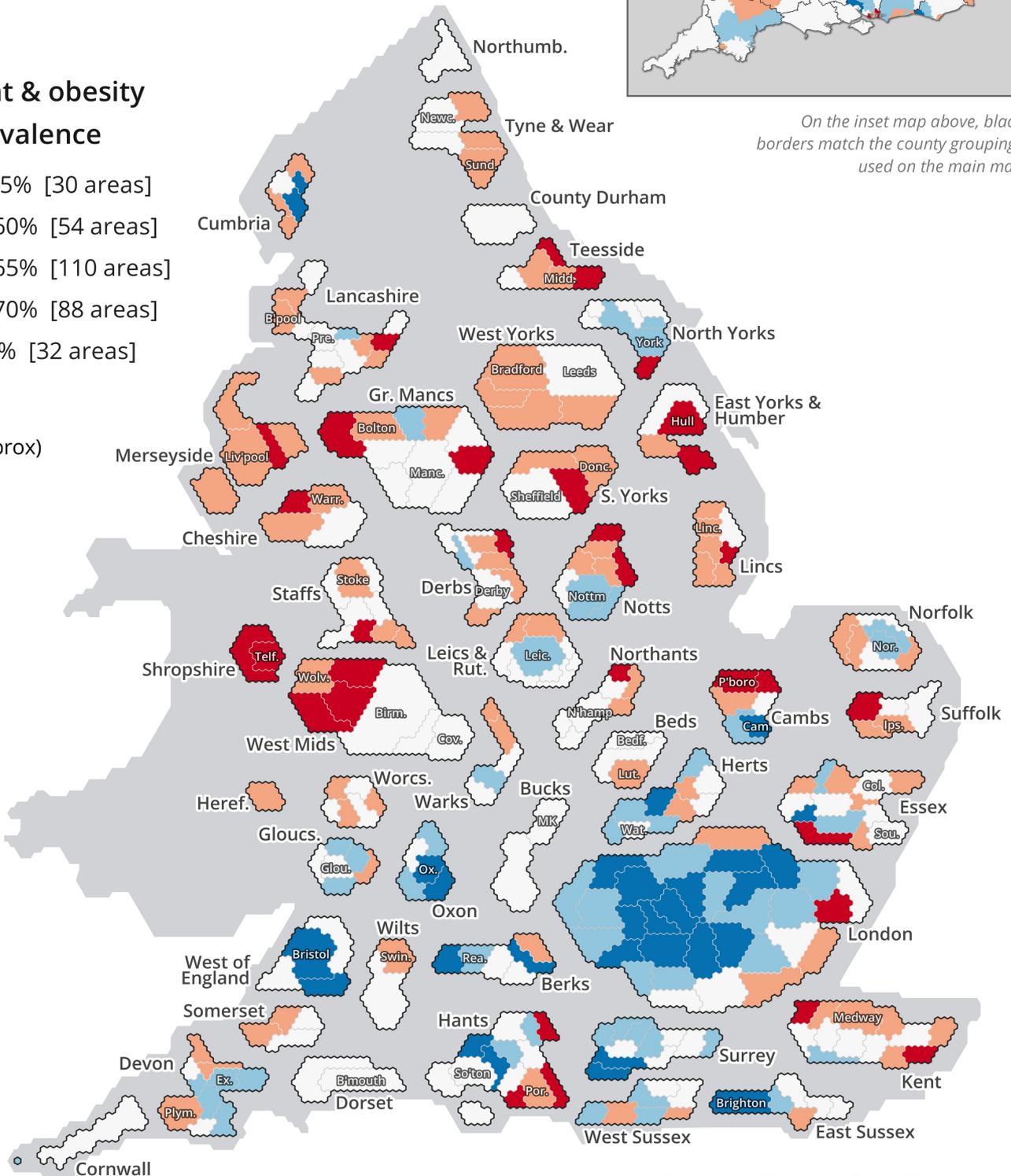
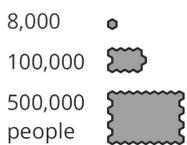


On the inset map above, black borders match the county groupings used on the main map

Overweight & obesity survey prevalence



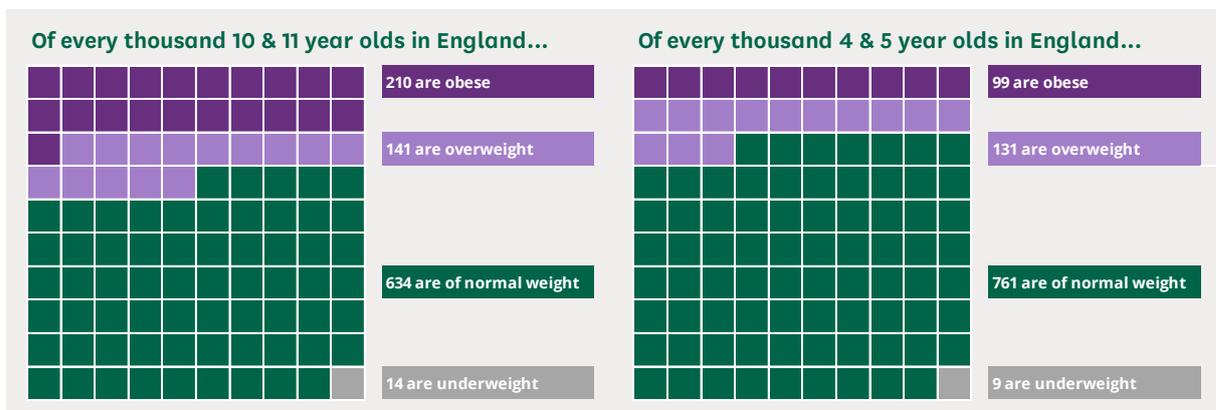
Map scale (approx)



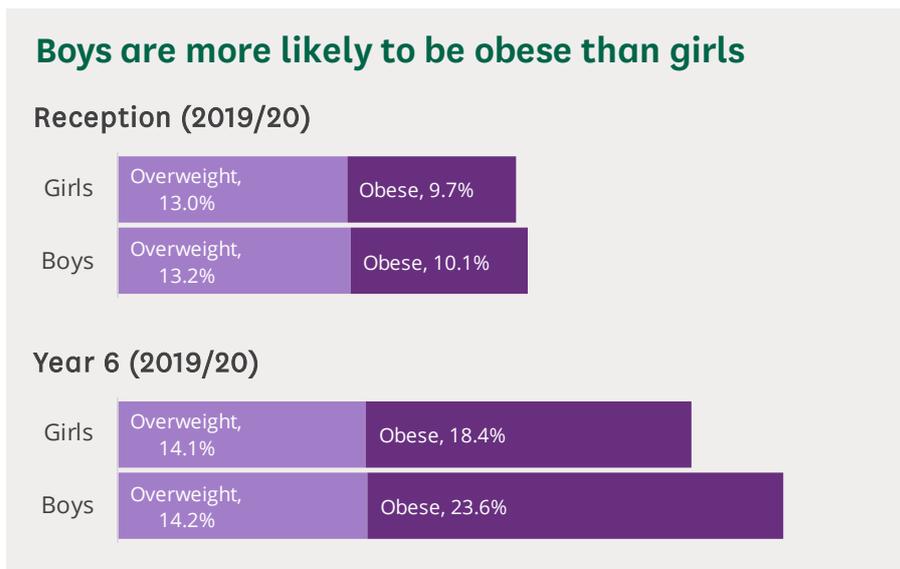
2. Obesity in children, England

The [National Child Measurement Programme](#) (NCMP) shows that 9.9% of reception age children in England (age 4-5) were obese in 2019/20, with a further 13.1% overweight. These proportions were higher among year 6 children (age 10-11), with 21.0% being obese and 14.1% overweight.⁷

For reception age children the prevalence of obesity has changed little since 2006/07. For Year 6 children prevalence has increased from 17.5% to 21.0%.



In both age groups, boys are slightly more likely than girls to be obese. This difference is less than one percentage point at age 4-5 (reception), but rises to almost five percentage points by age 10-11 (year 6).



⁷ 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](#).

The tables below, and the population-based maps on the following two pages, analyse the NCMP data by local authority.

Reception (age 4-5) excess weight by local authority, 2019/20							
High percentage overweight or obese				Low percentage overweight or obese			
Local Authority	Main estimate	Lower CI	Upper CI	Local Authority	Main estimate	Lower CI	Upper CI
Middlesbrough	32.0%	28.7%	35.4%	Surrey	16.4%	15.3%	17.4%
Knowsley	31.9%	29.1%	34.7%	Haringey	16.9%	14.5%	19.4%
Halton	31.7%	29.1%	34.5%	Richmond upon Thames	17.2%	15.6%	19.3%
Gateshead	30.9%	27.9%	33.9%	Kingston upon Thames	17.4%	15.1%	19.8%
Redcar and Cleveland	30.0%	27.6%	32.3%	Windsor and Maidenhead	17.8%	14.6%	21.2%
Hartlepool	29.7%	26.3%	33.0%	Buckinghamshire	18.0%	17.0%	19.2%
St. Helens	28.7%	26.4%	31.2%	Hounslow	18.2%	16.5%	20.0%
Blackpool	28.5%	26.5%	30.9%	Merton	18.6%	17.1%	20.3%
Kingston upon Hull	28.5%	26.9%	30.1%	Oxfordshire	18.7%	17.6%	19.9%
Wolverhampton	28.4%	26.5%	30.5%	Cambridgeshire	18.8%	17.6%	20.0%
Plymouth	28.2%	25.8%	30.5%	Camden	18.9%	16.6%	22.0%
Stoke-on-Trent	27.7%	25.8%	29.9%	Barnet	19.0%	17.8%	20.2%

Year 6 (age 10-11) excess weight by local authority, 2019/20							
High percentage overweight or obese				Low percentage overweight or obese			
Local Authority	Main estimate	Lower CI	Upper CI	Local Authority	Main estimate	Lower CI	Upper CI
Walsall	44.5%	42.2%	46.8%	Richmond upon Thames	23.1%	21.2%	25.1%
Barking and Dagenham	44.3%	42.6%	46.0%	Surrey	26.7%	25.9%	27.6%
Greenwich	43.3%	41.6%	45.0%	Rutland	27.4%	23.3%	32.4%
Sandwell	43.3%	41.8%	44.8%	Windsor and Maidenhead	28.5%	26.3%	30.8%
Knowsley	43.0%	40.4%	46.2%	Brighton and Hove	28.7%	26.9%	30.5%
Newham	42.8%	41.4%	44.4%	West Sussex	28.8%	27.8%	29.8%
Luton	42.2%	40.4%	44.3%	Shropshire	28.9%	26.3%	32.2%
Wolverhampton	42.2%	40.3%	44.0%	South Gloucestershire	29.1%	27.5%	30.8%
Manchester	42.0%	40.8%	43.2%	West Berkshire	29.3%	27.1%	31.4%
Dudley	41.9%	40.2%	43.5%	Cambridgeshire	29.5%	28.2%	31.0%
Hackney	41.8%	39.8%	43.8%	Devon	29.5%	28.3%	30.7%
Southwark	41.8%	39.9%	43.8%	Oxfordshire	29.6%	28.2%	30.9%

Note that the NCMP's fieldwork was affected by the COVID-19 pandemic in 2019/20, meaning that a lower proportion of children were measured than in previous years. This means that:

- Some local authorities did not submit data
- Data for some local authorities was marked as 'unreliable'
- Data for some local authorities was marked as 'fit for publication but interpret with caution'

Local authorities with absent or unreliable data are shown in grey on the maps overleaf. For a list of local authorities whose data was marked as 'fit for publication but interpret with caution', please see Table A in the [NCMP data tables](#).

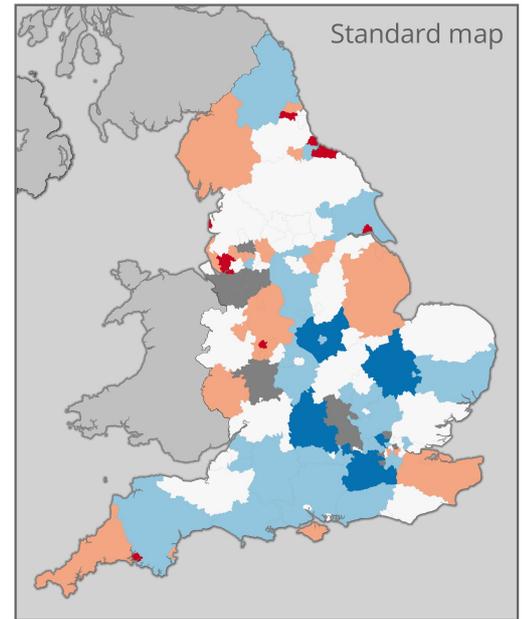
Excess weight in England: age 4-5, 2019/20

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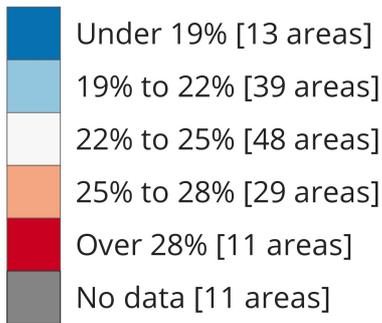
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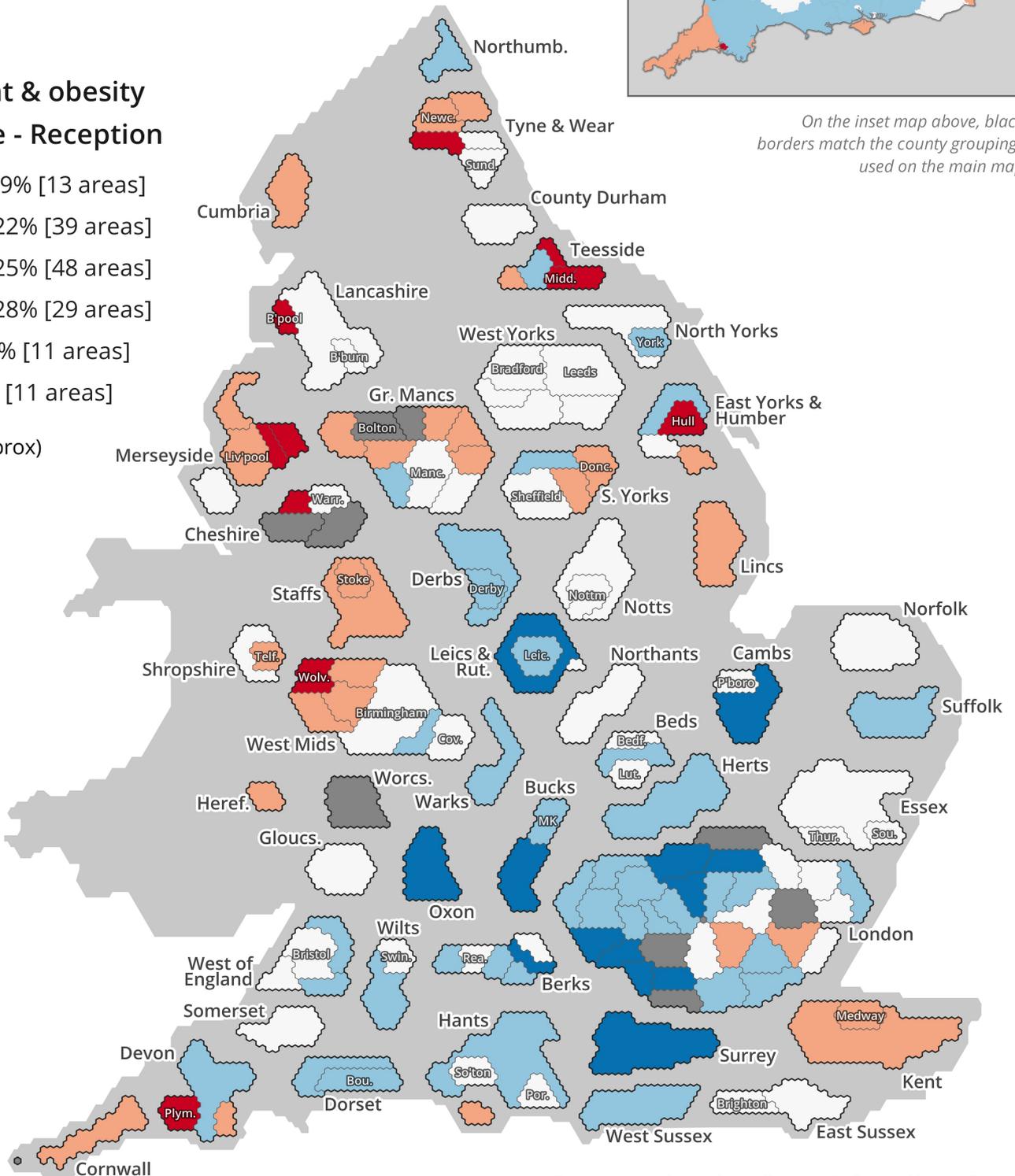
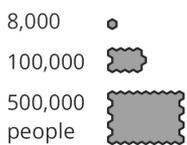


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Overweight & obesity prevalence - Reception

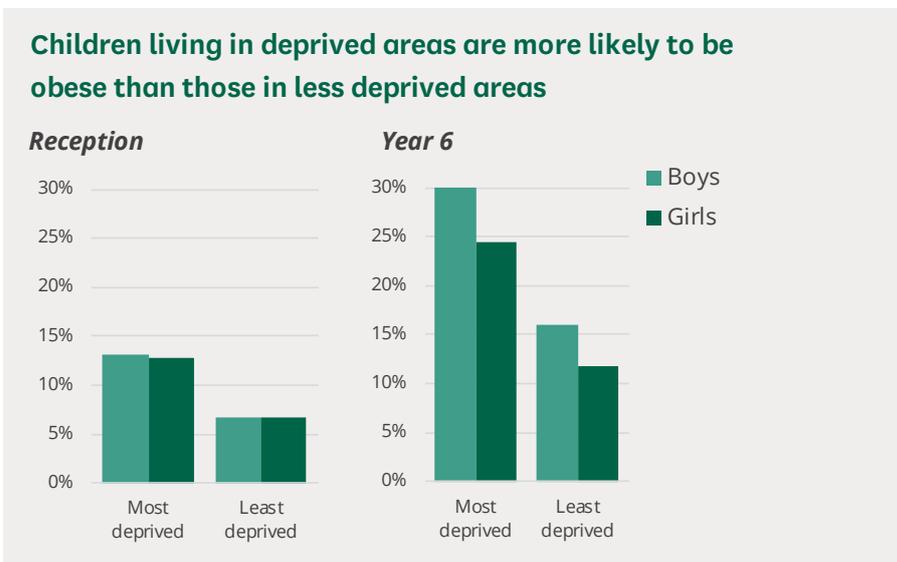


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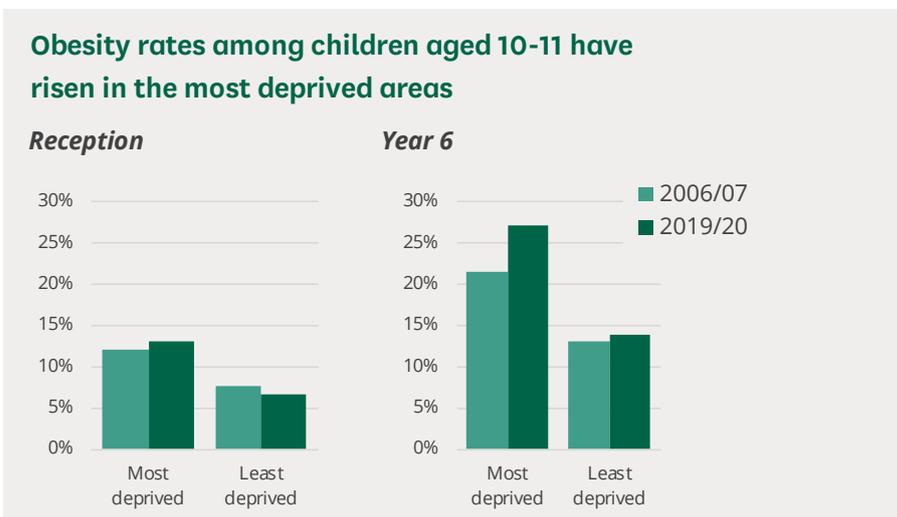


Childhood obesity and deprivation

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.



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.



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.

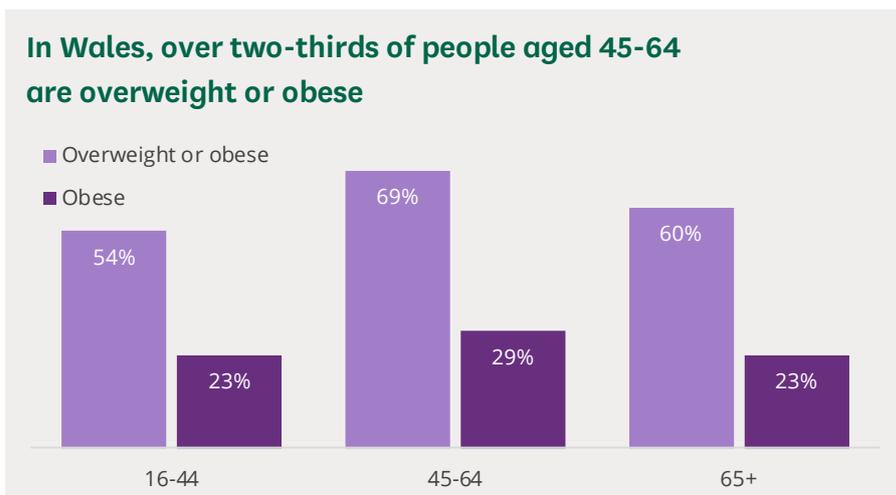
3. Obesity in Wales, Scotland and Northern Ireland

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. Differences in the way the data is calculated (e.g. measured vs reported data) mean that caution should be exercised when comparing between UK nations.

Wales: adult obesity

Information on obesity among adults in Wales is measured in the [National Survey for Wales](#) based on self-reported data. 25% of adults were obese in 2019/20, and a further 35% were overweight. 67% of men were either overweight or obese, compared with 55% of women.

The chart below shows variation by age. More than two-thirds of those aged 45-64 were overweight or obese.



Obesity rates are highest in the most deprived areas of Wales. Based on data from the 2018/19 survey, 28% of adults in the most deprived areas of Wales were obese, compared with 22% of adults in the 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.

Wales: child obesity

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. Data for 2018/19 and 2019/20 has not yet been released.

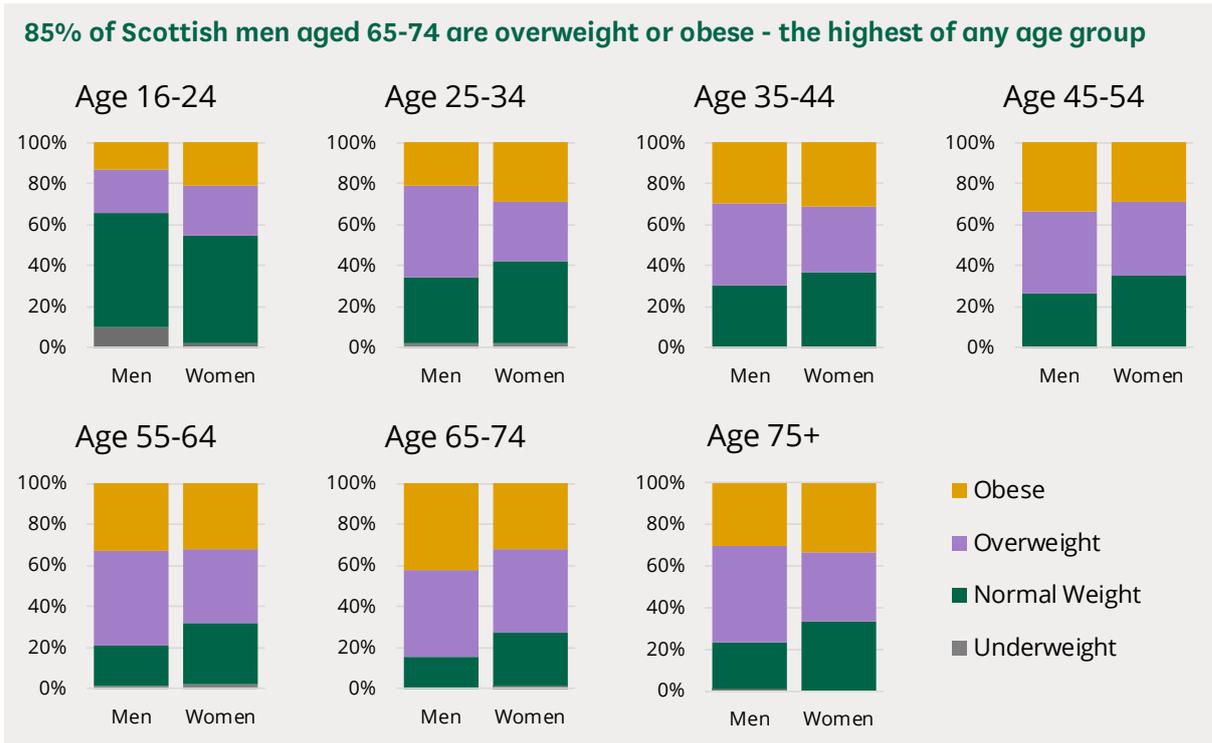
Childhood obesity rates are estimated to be lowest in the Vale of Glamorgan and highest in Merthyr Tydfil.

As in England, deprivation is associated with 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.

Scotland: adult obesity

Adult obesity in Scotland is measured as part of the [Scottish Health Survey](#). The 2019 edition of this survey found that 29% of people aged 16 or above in Scotland were overweight or obese. A further 37% were overweight. Women were slightly more likely than men to be obese (30% and 28% 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.



Obesity rates were higher than the Scottish average in Ayrshire and Arran (34%) and lower than average in Lothian (29%). In other areas of Scotland they were not significantly different from the Scottish average.

The survey found that obesity rates are higher in the most deprived areas of Scotland (33%) than in the least deprived areas (26%).

Scotland: child obesity

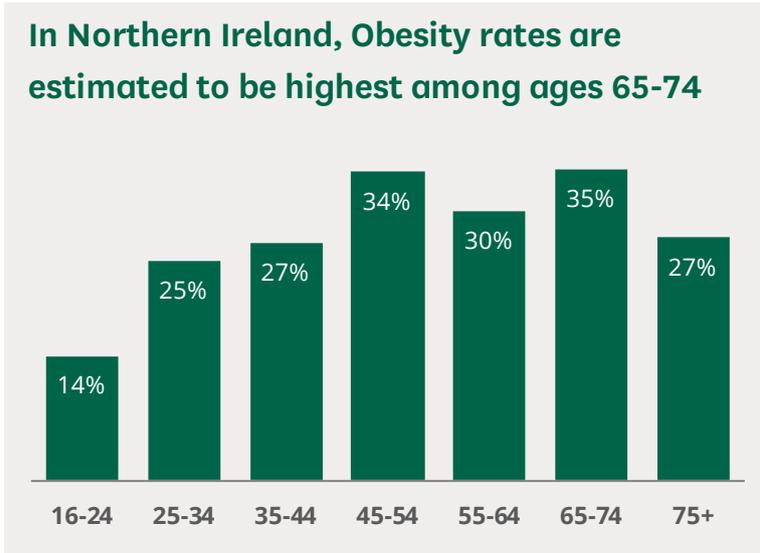
The [Scottish Health Survey](#) also records information on BMI for children. The 2019 survey found that 30% of children aged 2-6 were obese, falling to 25% of children aged 7-11, and rising again to 33% of children aged 12-15. Overall, boys were more likely than girls to be obese.

Child obesity in this survey is classified as those who are above the 95th percentile of the 1990 UK growth reference standards.

Northern Ireland: adult obesity

According to the [Health Survey Northern Ireland 2019/20](#), 27% of adults in Northern Ireland are were obese, with a further 38% overweight. 71% of men were overweight or obese, compared with 60% of women.

The chart below shows a breakdown by age.



Northern Ireland: child obesity

In 2019/20, the [Health Survey Northern Ireland](#) recorded 7% of children aged 2-10 and 4% 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

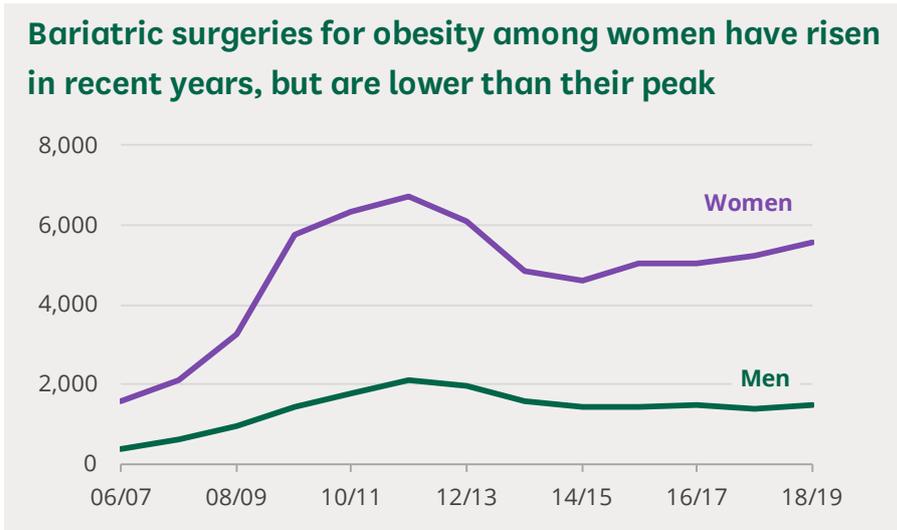
Bariatric surgery refers to a range of procedures including gastric bypasses, stomach stapling and gastric band maintenance, often performed to limit the amount of food that an individual can consume. It is mainly used to treat those with a BMI of above 40, and in some cases where BMI is between 35 and 40 if the patient has health problems such as heart disease or diabetes.⁸

The number of hospital episodes for bariatric surgery which followed a diagnosis of obesity rose sharply between 2006/07 and 2011/12, and then fell until 2014/15. Since then, the number have risen each year, but remain 20% lower than in 2011/12.⁹

Note that in 2016/17, the treatment codes involved in this data changed, resulting in a reduction in the total count by 250-300 cases per year. This affects comparisons for data after 2016/17 with previous years.

⁸ NHS, [Weight loss surgery](#)

⁹ NHS Digital, [Statistics on Obesity, Physical Activity and Diet, England, 2020](#)



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 2018/19 this had fallen to 42%.

In 2018/19, bariatric surgery after a diagnosis of obesity was most common in North East England, where almost 10% of surgeries were performed. By comparison, one in every 21 people in England live in the North East. The areas with the highest admission rates per 100,000 population were Teesside, County Durham, South Tyneside, Telford and Wrekin, Stoke-on-Trent and Southwark.

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.

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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