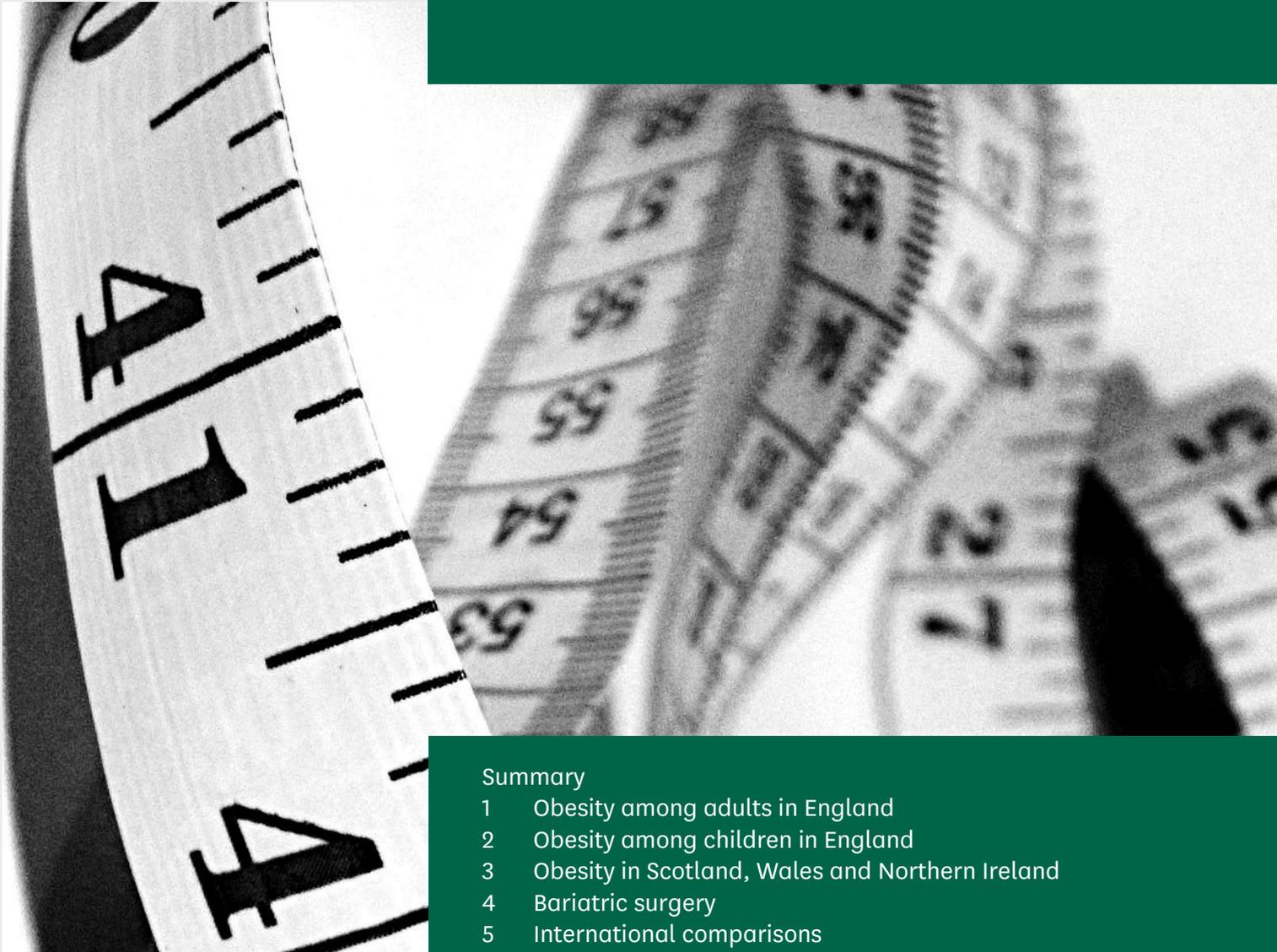


Research Briefing

By Carl Baker  
12 January 2023

# Obesity statistics



## Summary

- 1 Obesity among adults in England
- 2 Obesity among children in England
- 3 Obesity in Scotland, Wales and Northern Ireland
- 4 Bariatric surgery
- 5 International comparisons

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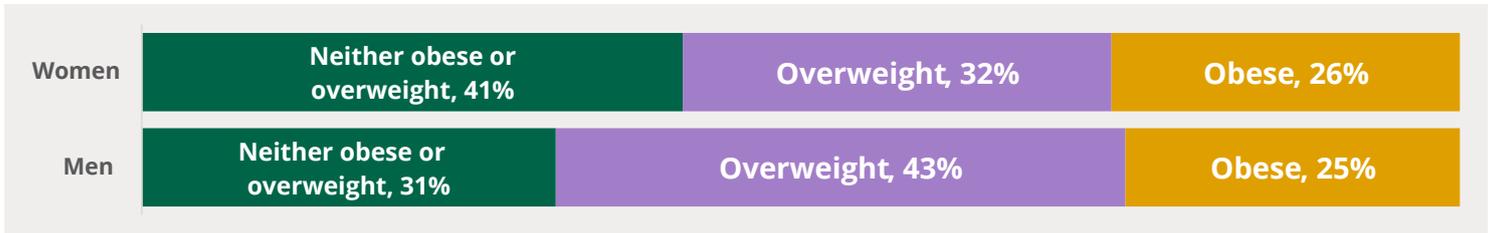
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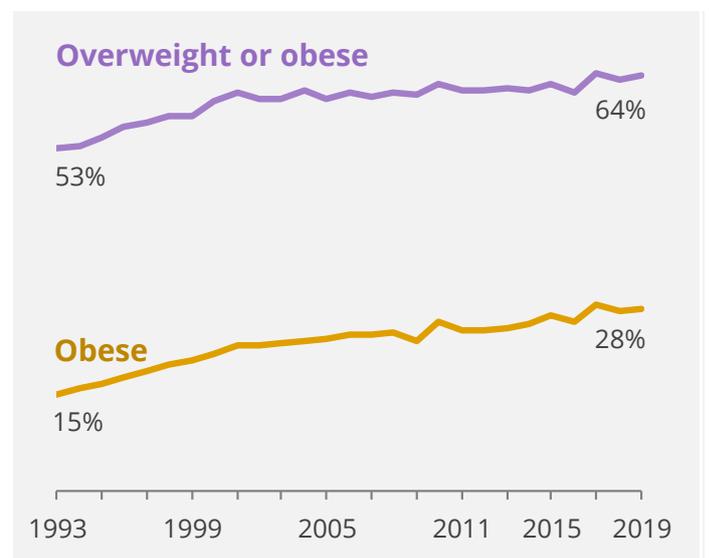
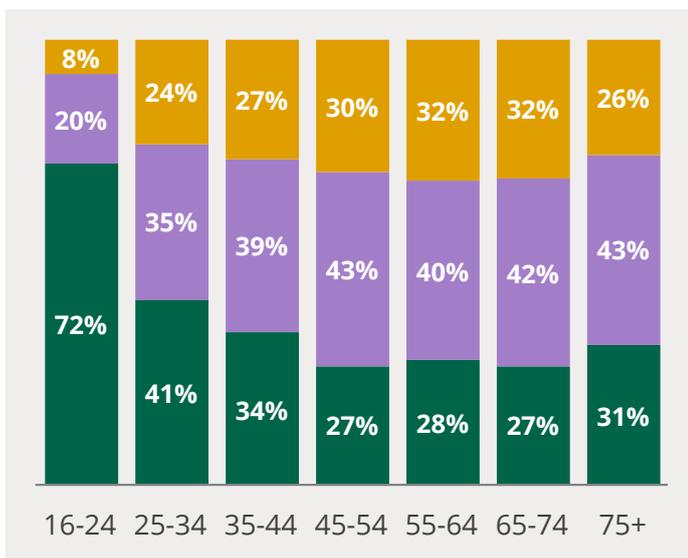
# Obesity in England: summary

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



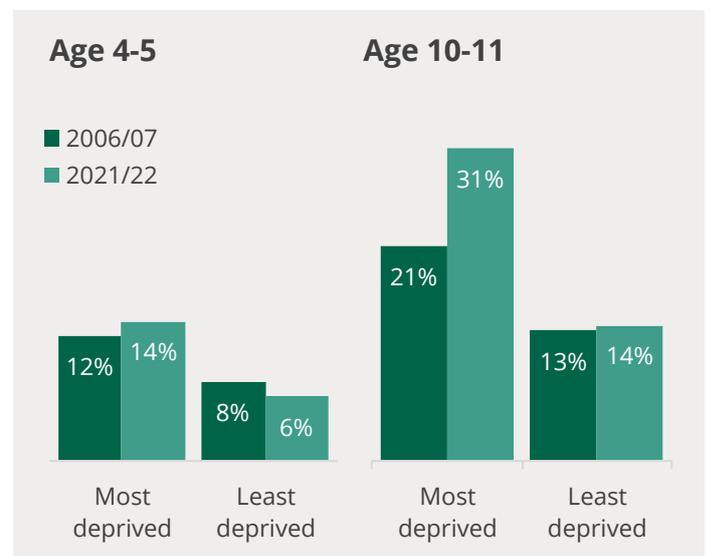
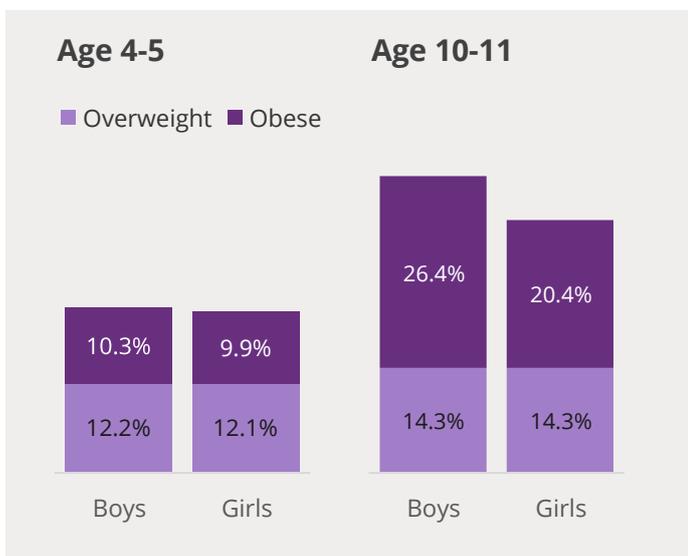
Around three quarters of those aged 45-74 are **overweight** or **obese**

Obesity levels increased from 15% in 1993 to 28% in 2019.



One in ten children is obese by age 5, rising to 23% by age 11.

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



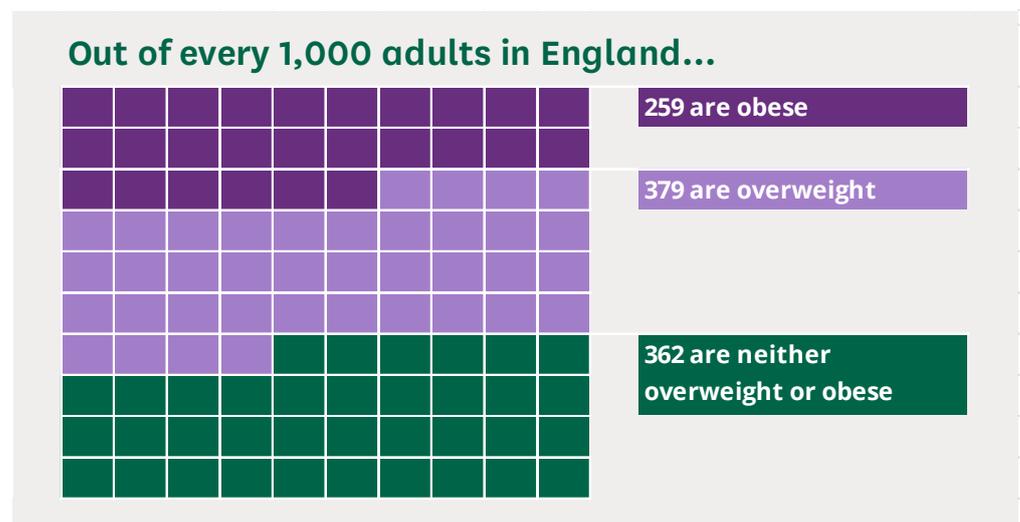
This briefing also contains information on: adult and child obesity rates in Scotland, Wales, and Northern Ireland; bariatric surgery for obesity; and international comparisons.

Graphic: @commonslibrary  
Data: NHS Digital

# 1 Obesity among adults in England

The [Health Survey for England](#), published by NHS Digital, provides estimates of obesity levels based on the body mass index (BMI) of a representative sample of people aged 16+. The 2021 survey was based on adjusted self-reported height and weight data, while in previous years the survey was based on measured data.<sup>1</sup>

In the 2021 survey, 25.9% of adults in England were obese and a further 37.9% were overweight, making a total of 63.8% who were either overweight or obese. Men were more likely than women to be overweight or obese (68.6% of men compared with 59.0% of women).



Source: NHS Digital, [Health Survey for England 2021](#), Table 1

## Measures of obesity and excess weight

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, and **'overweight'** if their BMI is between 25 and 30. A BMI of 40 or more is often known as **'morbid obesity'**. **'Excess weight'** is an umbrella term for BMI over 25, ie either overweight or obese.

BMI is not always definitive and may not be appropriate for all groups, and sometimes other measures are used. These include waist circumference and the waist-hip ratio. See our briefing paper [Obesity](#) for a wider overview of definitions and policy.

<sup>1</sup> NHS Digital, [Health Survey for England 2021](#)

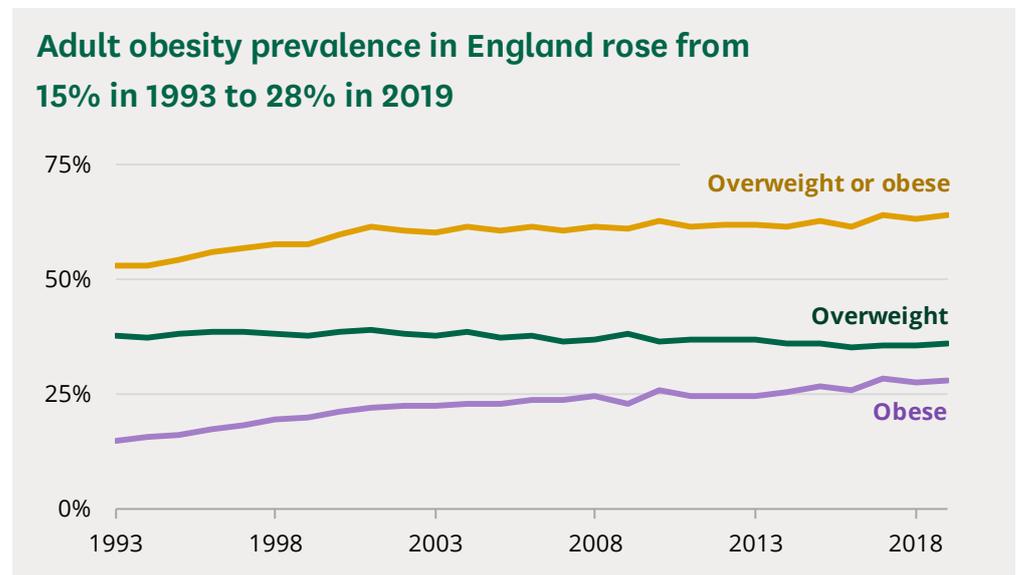
## 1.1

## 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 decade. Some annual fluctuation in the data is likely to be because the data is based on a survey of a sample of the population.

Between 1993 and 2019 the proportion of adults in England who are obese rose from 14.9% to 28.0%, while the proportion who were either overweight or obese rose from 52.9% to 64.3%.

The chart below shows these trends. The chart does not show data from 2021 because of the survey's change from measured to self-reported data.



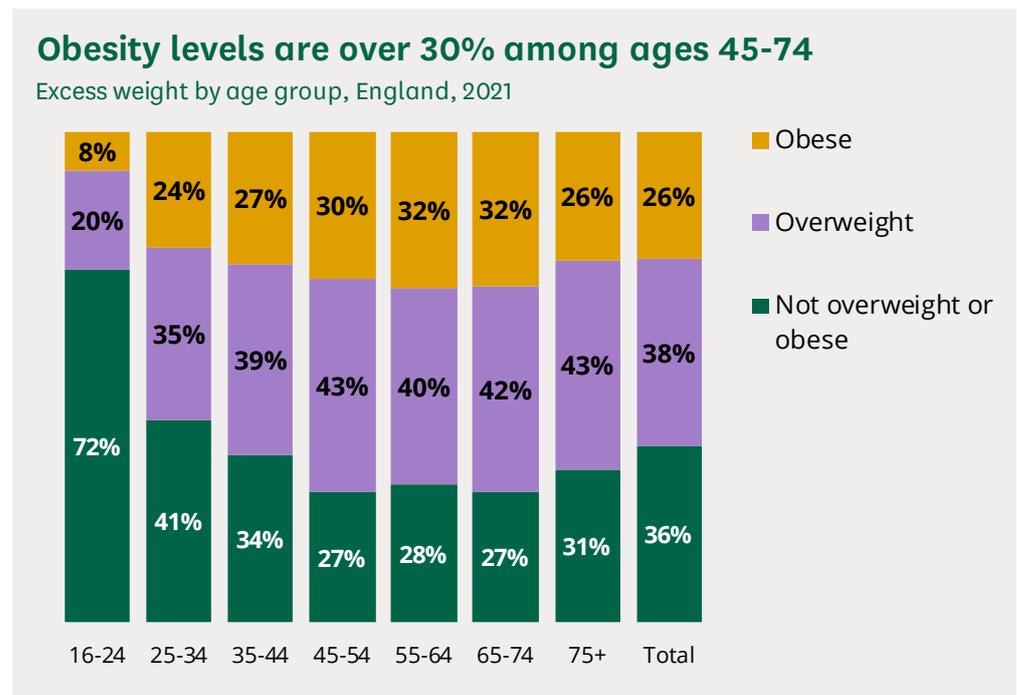
Source: NHS Digital, [Health Survey for England 2021](#), Table 8

## 1.2

## Age and sex differences

In 2021, people aged 45-74 were more likely to be overweight or obese than other age groups. Prevalence of excess weight (ie the proportion who were either overweight or obese) was above 70% in these age groups.

The adult age group least likely to be overweight or obese was 16–24-year-olds (28%). This self-reported data is a substantial decline from the last measured data from 2019, when 37% of 16–24-year-olds were overweight or obese.



Source: NHS Digital, [Health Survey for England 2021](#), Table 1

As noted above, prevalence of excess weight (being either overweight or obese) is higher among men than among women. However, prevalence of obesity is slightly higher among women (26.4%) than men (25.4%), while more men were overweight but not obese (43.3%) than women (32.5%). These proportions vary by age, as the next charts show.

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



Source: NHS Digital, [Health Survey for England 2021](#), Table 1

### Prevalence of excess weight (obesity and overweight) by demographic characteristics England, 2020/21

#### Deprivation

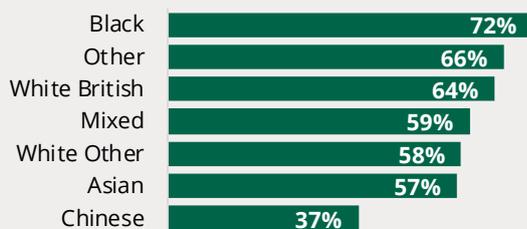


#### Disability

% overweight or obese



#### Ethnicity



#### Qualifications



Source: [Sport England Active Lives Survey data, via OHID](#)

## 1.3 Other inequalities

The charts above show inequalities data from the Active Lives Survey.<sup>2</sup> The results show how excess weight in adults (the percentage either overweight or obese) varies between social groups:

- **Deprivation:** In the most deprived areas in England, prevalence of excess weight is 14 percentage points higher than the least deprived areas
- **Disability:** Among people with disabilities, excess weight is 12 percentage points higher than among those without disabilities.
- **Ethnicity:** People in Black ethnic groups have the highest rates of excess weight.
- **Education:** Among people with no qualifications, rates of excess weight are 12 percentage points higher than among people with level 4 qualifications or higher (a degree).

## 1.4 Variation in different parts of England

The Active Lives Survey estimates how the proportion of adults that are overweight or obese varies in different local authorities.<sup>3</sup> The most recent available survey data is from 2020/21. It shows that levels of excess weight are estimated to be higher in the North and Midlands than the South. 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 76.3%, but because it is based on a sample of the population, this means we can only say with relative certainty that the true prevalence value is somewhere between 72.2% and 80.5% (labelled on the table as “Lower CI” and “Upper CI”, where “CI” stands for “confidence intervals”). So it is not certain that Thurrock had the highest prevalence in England and more broadly, you should be cautious when interpreting small differences between areas.

For example, Wigan’s lower and upper CIs are 70.7% and 76.5% respectively, which overlap with Thurrock’s because Thurrock’s lower CI is below Wigan’s upper CI. So the survey result does not tell us for sure which of Thurrock and Wigan has higher prevalence of excess weight.

<sup>2</sup> Sport England, Active Lives Survey data 2020/21, extracted from [OHID Health Profiles](#)

<sup>3</sup> Sport England, Active Lives Survey data 2020/21, extracted from [OHID Health Profiles](#)

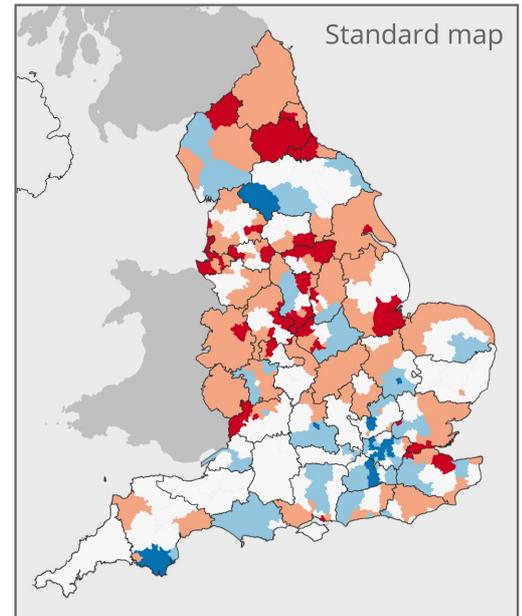
# Excess weight in England: adults, 2020/21

## 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.

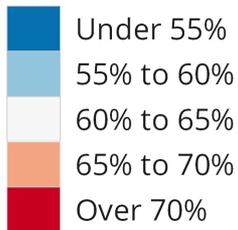
Lines between adjacent areas represent local authority boundaries. Extra labels are provided for large towns & cities to help you locate particular cities and towns (e.g. 'Lut.' = Luton). Grey shading between county groups doesn't represent data and serve only as a background.

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.

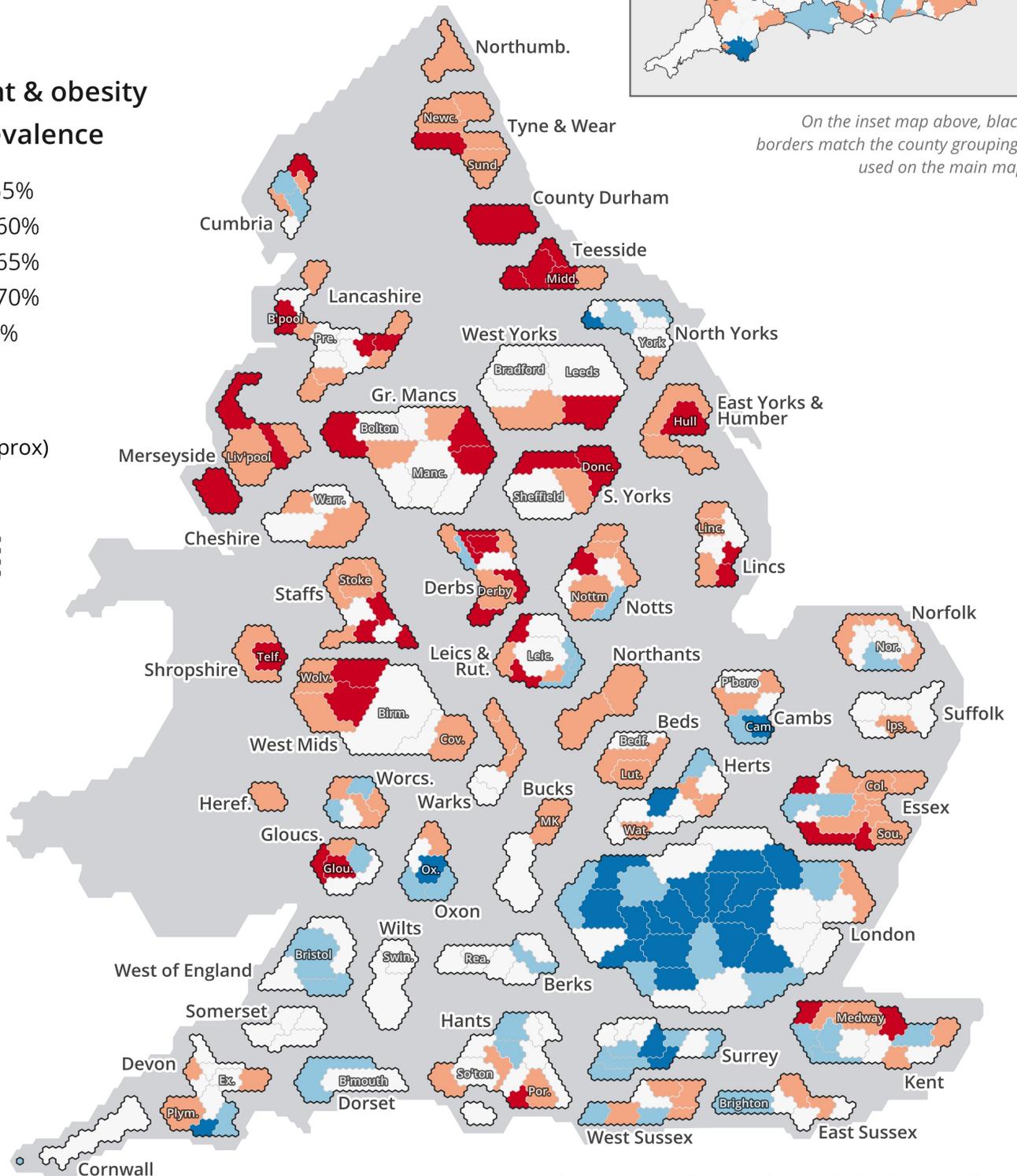
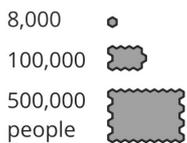


On the inset map above, black borders match the county groupings used on the main map

## Overweight & obesity survey prevalence



### Map scale (approx)



Data source: Active Lives Survey via Public Health England

## Adult excess weight by local authority, 2020/21

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	76.3%	72.2%	80.5%	Islington	44.0%	39.4%	48.6%
Stockton-on-Tees	75.8%	71.7%	79.7%	Westminster	45.3%	40.7%	50.1%
Tamworth	74.9%	70.6%	79.1%	Richmond upon Thames	45.5%	41.1%	50.2%
Hartlepool	74.6%	70.3%	78.7%	Hammersmith and Fulham	46.4%	41.5%	51.2%
Knowsley	74.0%	69.4%	78.2%	Kensington and Chelsea	46.4%	41.7%	51.5%
North East Derbyshire	73.8%	69.5%	77.9%	Southwark	47.9%	43.1%	52.9%
Cannock Chase	73.7%	69.4%	78.0%	Oxford	48.4%	43.8%	53.3%
Wigan	73.7%	70.7%	76.5%	Haringey	49.5%	44.5%	54.5%
Harlow	73.5%	69.3%	77.8%	Cambridge	49.6%	45.0%	54.1%
Boston	73.4%	69.1%	77.7%	Wandsworth	49.7%	45.2%	54.4%
Burnley	73.4%	69.1%	77.5%	Merton	50.4%	45.5%	55.3%
Gateshead	73.3%	69.3%	77.3%	Camden	50.5%	45.7%	55.3%

CI = "confidence interval". Please see p9 for an explanation.

Source: [Sport England Active Lives Survey data, via OHID](#)

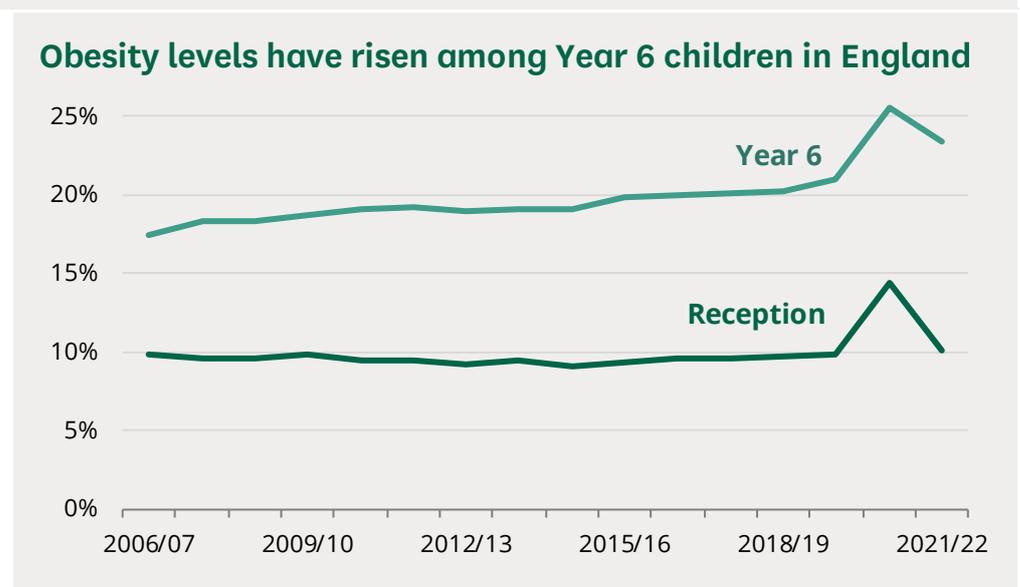
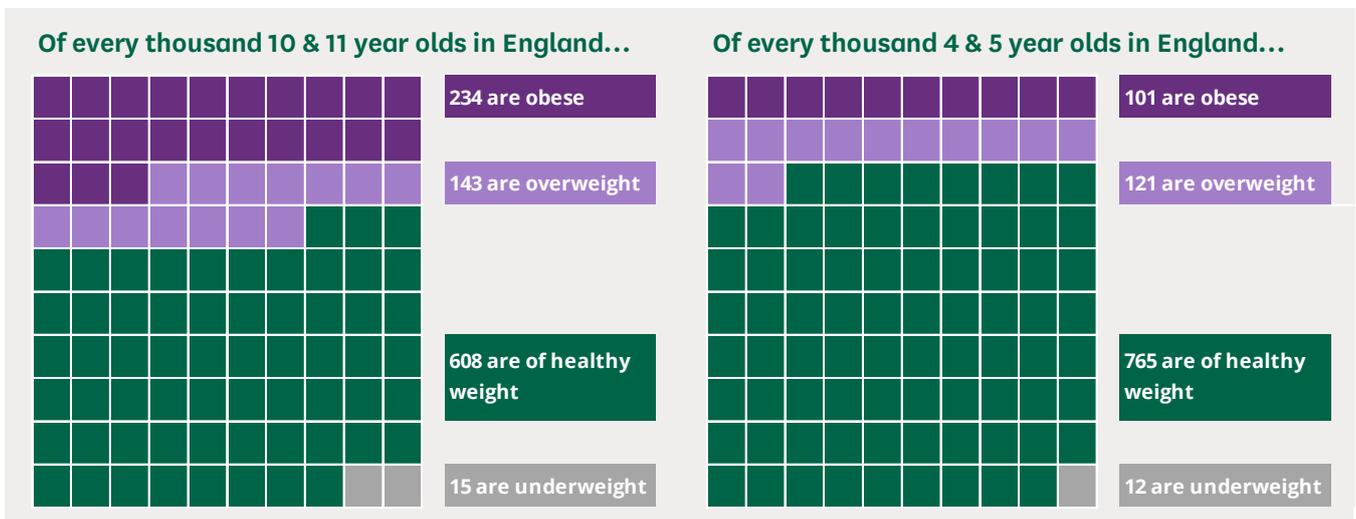
## 2

# Obesity among children in England

The [National Child Measurement Programme](#) (NCMP) found in 2021/22 that 10.1% of reception age children in England (ages 4-5) were obese, with a further 12.1% overweight. These proportions were higher among year 6 children (age 10-11), with 23.4% being obese and 14.3% overweight.

The 2020/21 edition of the survey, which was carried out as a sample because of the Covid-19 pandemic, found large increases compared to previous years, with obesity levels at 14.4% in reception and 25.5% in year 6.

In the 2021/22 survey prevalence was lower, but the figures were still higher than in previous years.



Source: NHS Digital, [National Child Measurement Programme 2021/22](#), Tables 1a and 1b

In both age groups, boys are slightly more likely than girls to be obese. This difference is less than one percentage point at ages 4-5 but rises to six percentage points among ages 10-11.<sup>4</sup>

The tables below, and the population-based maps on the following two pages, analyse the data by local authority. Please see page 9 for information on how to interpret confidence intervals (the “Upper/Lower CI” columns in these tables) and differences between areas.

### Reception (age 4-5) excess weight by local authority, 2021/22

#### High percentage overweight or obese

Local Authority	Survey estimate	Lower CI	Upper CI
Sandwell	14.9%	13.8%	16.0%
Barking and Dagenham	14.8%	13.7%	16.0%
Greenwich	14.6%	13.5%	15.9%
Kingston upon Hull	14.5%	13.2%	15.8%
Wolverhampton	14.2%	13.1%	15.5%
Hartlepool	14.1%	12.1%	16.5%
Enfield	13.4%	12.4%	14.6%
Middlesbrough	12.9%	11.4%	14.4%
St. Helens	12.9%	11.4%	14.4%
Doncaster	12.9%	11.8%	14.0%
Walsall	12.8%	11.8%	14.0%
Knowsley	12.7%	11.2%	14.1%

#### Low percentage overweight or obese

Local Authority	Survey estimate	Lower CI	Upper CI
Richmond upon Thames	5.4%	4.5%	6.6%
Surrey	5.7%	5.2%	6.1%
Trafford	6.7%	5.8%	7.7%
Windsor and Maidenhead	6.7%	5.5%	8.1%
Calderdale	6.8%	5.8%	7.8%
Sutton	6.8%	5.8%	7.9%
Bath & NE Somerset	7.1%	6.0%	8.5%
Central Bedfordshire	7.2%	6.3%	8.0%
Wokingham	7.2%	6.2%	8.4%
Merton	7.3%	6.2%	8.5%
Devon	7.4%	6.8%	8.1%
Stockport	7.7%	6.9%	8.8%

### Year 6 (age 10-11) excess weight by local authority, 2021/22

#### High percentage overweight or obese

Local Authority	Survey estimate	Lower CI	Upper CI
Sandwell	34.0%	32.7%	35.4%
Barking and Dagenham	33.2%	31.8%	34.9%
Wolverhampton	32.2%	30.7%	33.7%
Newham	32.0%	30.7%	33.4%
Walsall	30.9%	29.3%	32.4%
Middlesbrough	30.4%	28.3%	32.4%
Liverpool	30.4%	29.1%	31.7%
Westminster	30.1%	27.5%	32.9%
Sunderland	29.7%	28.0%	31.3%
Nottingham	29.7%	28.2%	31.2%
Stoke-on-Trent	29.7%	28.2%	31.3%
Tower Hamlets	29.7%	28.1%	31.4%

#### Low percentage overweight or obese

Local Authority	Survey estimate	Lower CI	Upper CI
Surrey	12.4%	11.7%	13.1%
Richmond upon Thames	12.8%	11.3%	14.3%
Bath & NE Somerset	15.4%	13.9%	17.3%
Wokingham	15.5%	14.1%	17.1%
Rutland	15.9%	11.9%	19.9%
West Berkshire	16.2%	14.4%	17.9%
Kingston upon Thames	16.8%	15.2%	18.7%
Dorset	17.0%	15.7%	18.3%
Windsor and Maidenhead	17.5%	15.7%	19.6%
Devon	17.6%	16.7%	18.5%
Trafford	17.9%	16.5%	19.3%
Buckinghamshire	18.0%	17.0%	19.0%

Source: NHS Digital, [National Child Measurement Programme 2021/22](#), Tables 3a\_R\_UTLA and 3a\_6\_UTLA

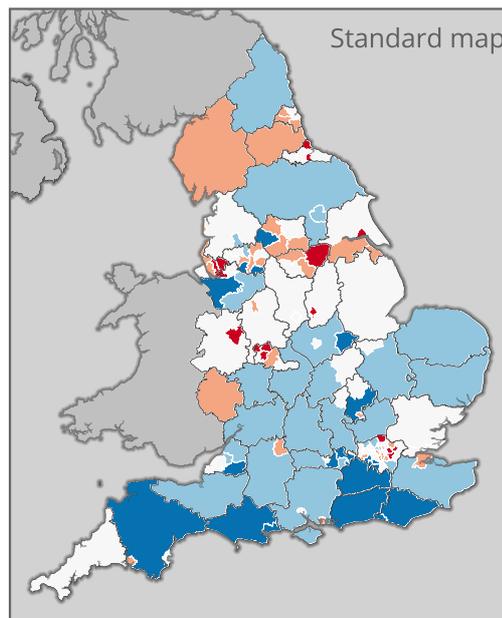
<sup>4</sup> Note that these categories are not directly comparable to those used for adults, since measuring BMI and obesity for children is more complex than for adults. In the NCMP, obese is defined as having a BMI in the 95<sup>th</sup> percentile or higher of the [British 1990 growth reference](#).

# Excess weight in England: ages 4-5, 2021/22

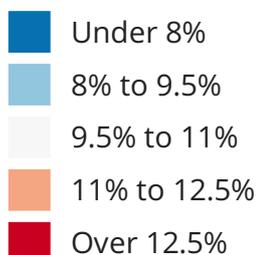
## How to read this population-based map

On this map, areas are approximately **scaled in size according to their total population**: 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.

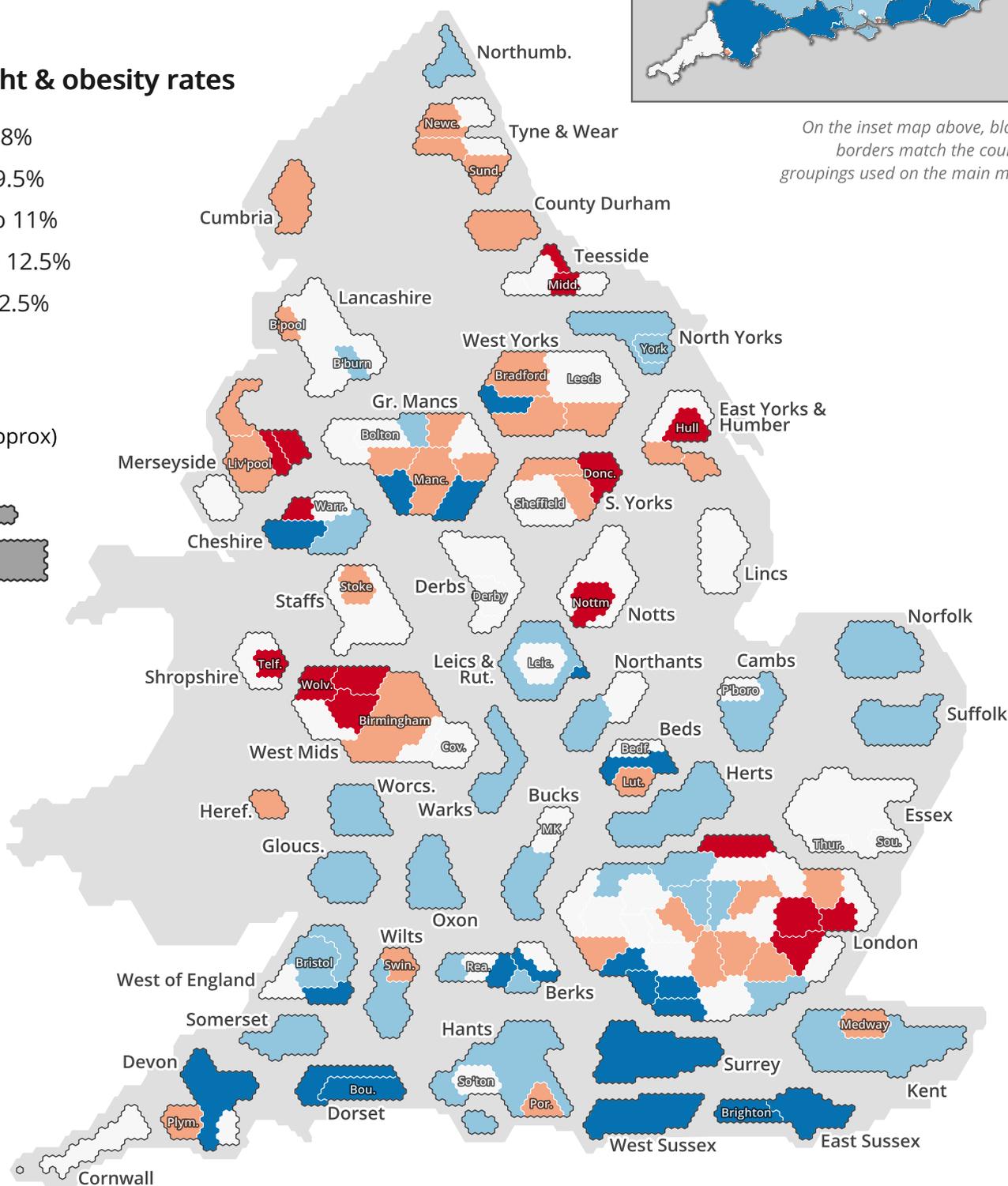
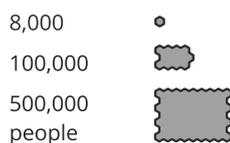


## Overweight & obesity rates



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

## Map scale (approx)

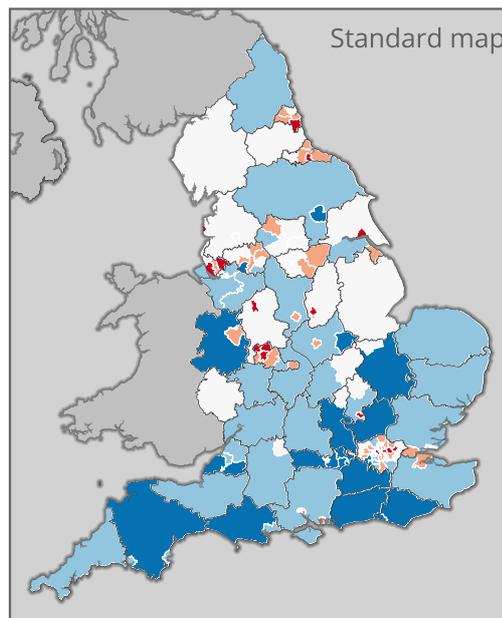


# Excess weight in England: ages 10-11, 2021/22

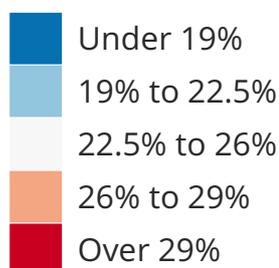
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On this map, areas are approximately **scaled in size according to their total population**: each small hexagon represents a population of around 8,000 people. Areas are grouped by traditional counties and other recognisable areas - these groups include 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.

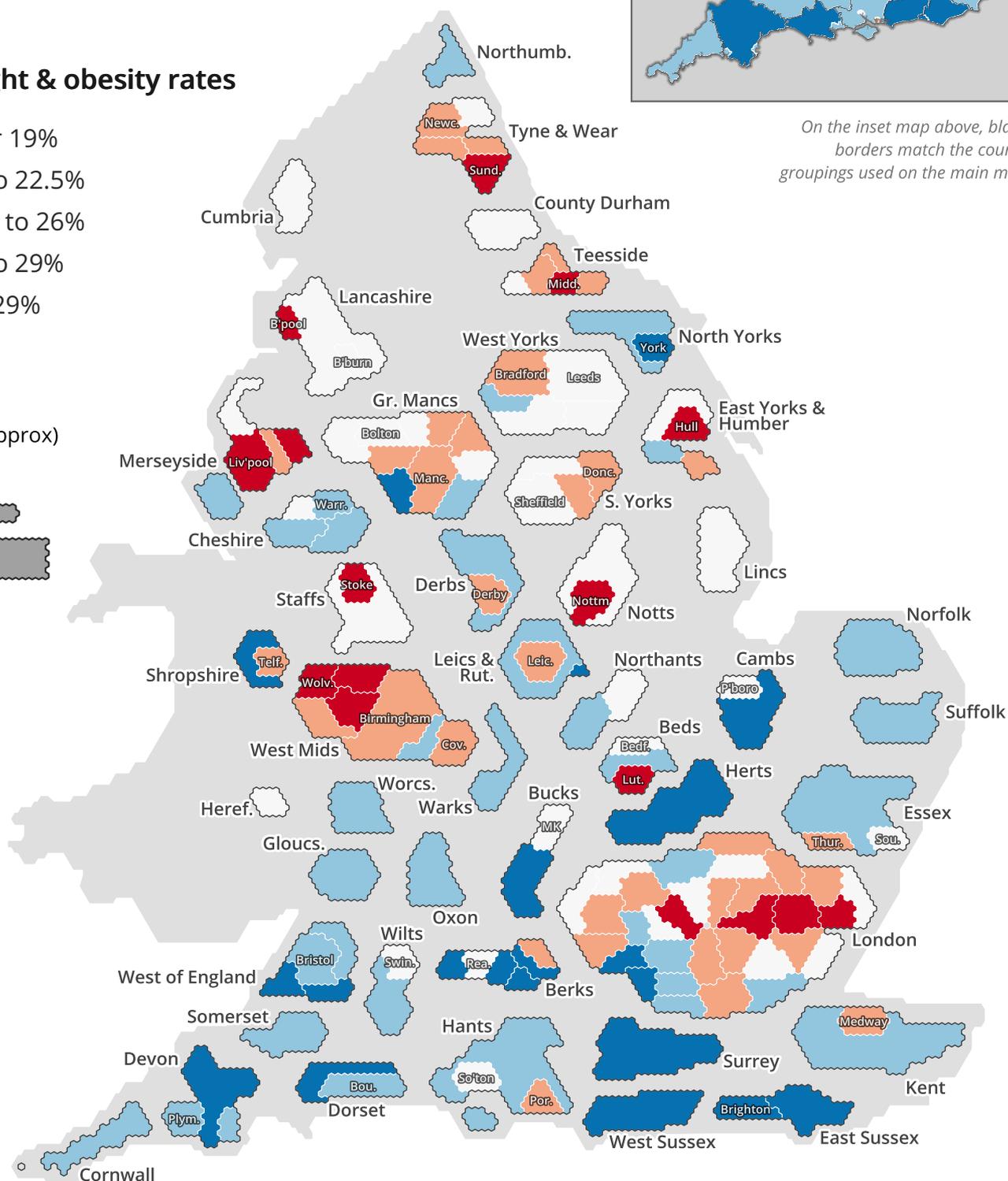
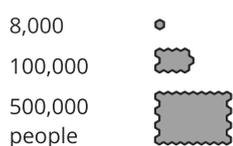


## Overweight & obesity rates



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

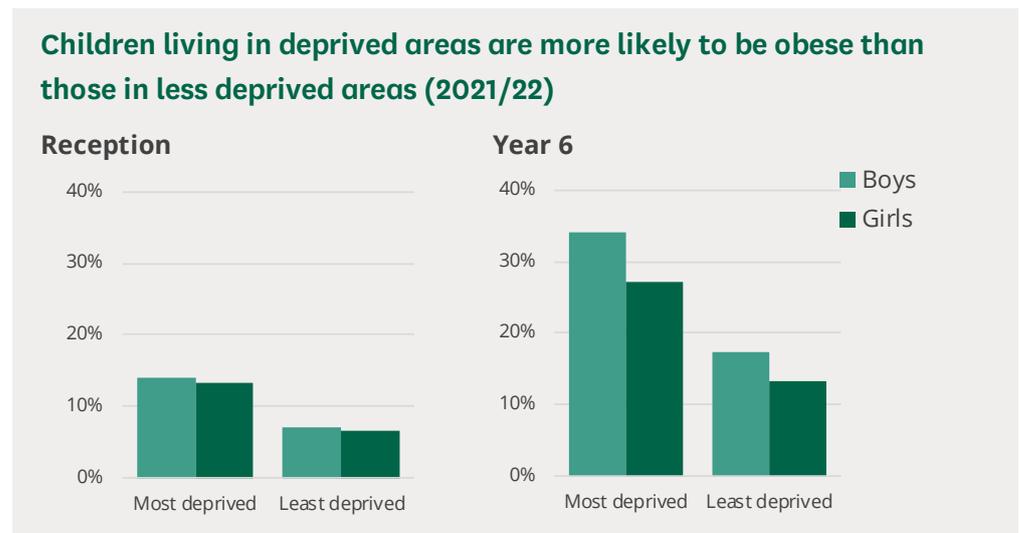
## Map scale (approx)



## Childhood obesity and deprivation

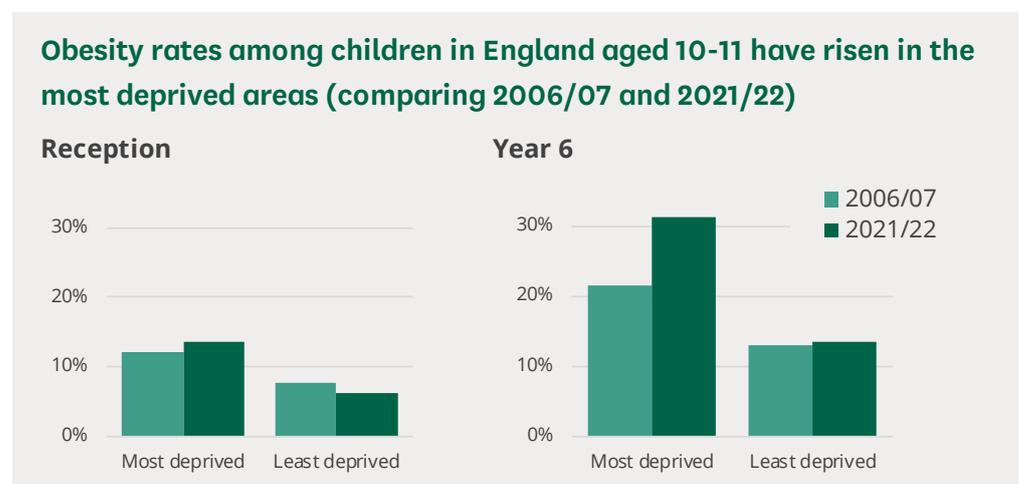
Children living in more deprived areas are substantially more likely to be obese. In 2021/22, 6.2% of children aged 4-5 living in the least deprived tenth of areas of England were obese. This compares with 13.6% of those living in the most deprived tenth of areas.

In Year 6 (ages 10-11), 13.5% of children living in the least deprived areas were obese, compared with 31.3% in the most deprived areas. In both age groups, children in the most deprived areas were approximately twice as likely to be obese. Rates of severely obesity were around four times higher in the most deprived areas.



Source: NHS Digital, [National Child Measurement Programme 2021/22](#), Tables 6a\_R and 6a\_6

In both age groups, the obesity gap between the most deprived and least deprived areas has increased in the last 15 years. This is particularly pronounced among ages 10-11, where obesity rates in the most deprived areas have risen by ten percentage points but were almost unchanged in the least deprived areas.



Source: NHS Digital, [National Child Measurement Programme 2021/22](#), Table 6c

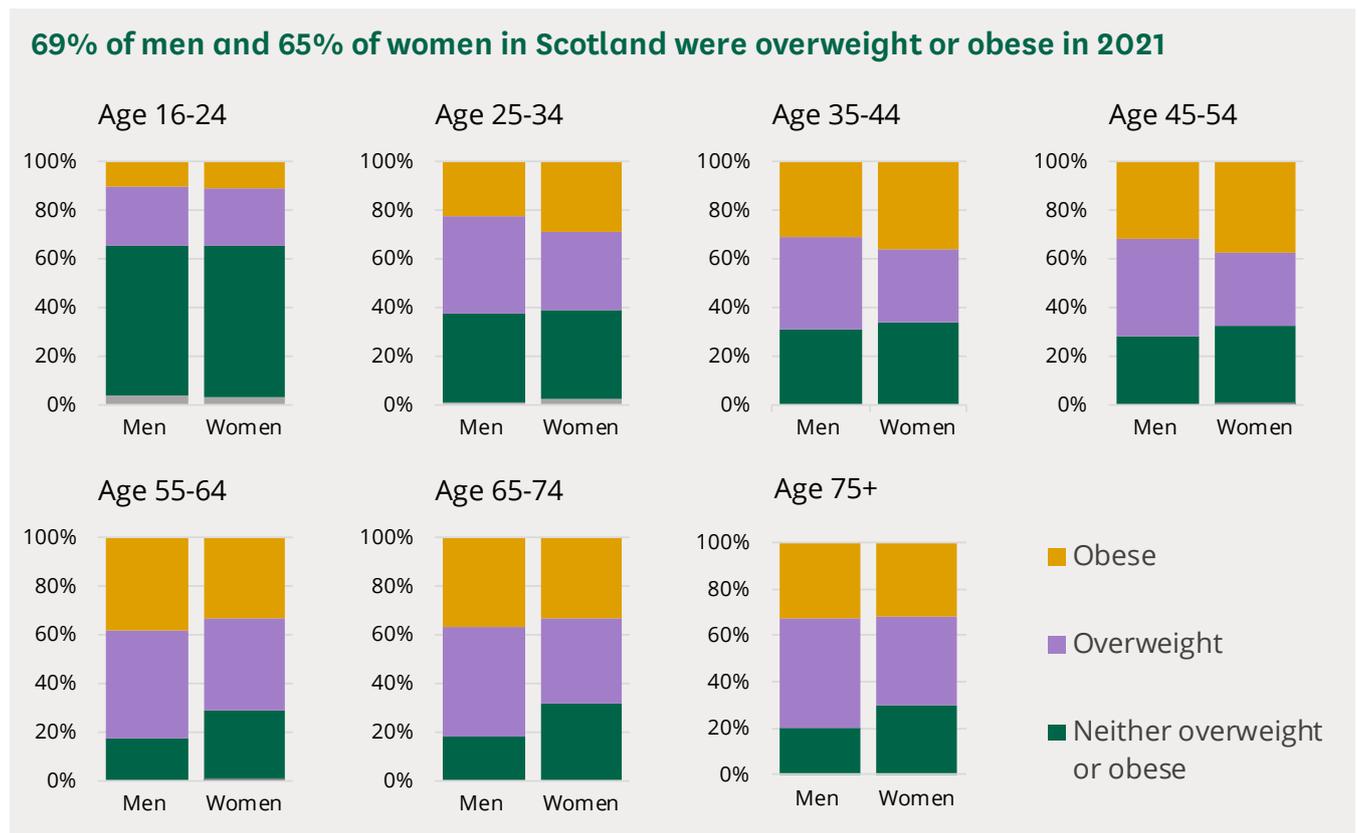
# 3 Obesity in Scotland, Wales and Northern Ireland

## 3.1 Scotland: adult obesity

Adult obesity in Scotland is recorded as part of the [Scottish Health Survey](#), published by the Scottish Government. In 2021, figures were based on adjusted self-reported height and weight measures. 31% of adults were obese (BMI over 30) and a further 36% were overweight (BMI between 25 and 30).

A higher proportion of men than women were overweight, but a higher proportion of women than men were obese. In all age groups over 55, more than 70% of people were overweight or obese.

The charts below show a breakdown by age and sex.



Source: [Scottish Health Survey 2021. Supplementary Tables](#), File 14 (BMI), Table WN1

## 3.2 Scotland: child obesity

The Scottish Health Survey also contains information on BMI for children in table WN21.<sup>5</sup>

The 2021 survey found that 20% of children aged 2-6 were obese, 22% of children aged 7-11, and rising again to 12% of children aged 12-15. Overall, boys were more likely (20%) than girls (16%) to be obese.

Obesity was more common in children living in households with lower incomes.

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

## 3.3 Wales: adult obesity

Adult obesity in Wales is recorded in the [National Survey for Wales](#) based on self-reported data.

In 2021/22, 26% of women and 23% of men reported being obese (BMI over 30). 67% of men were overweight or obese, compared with 58% of women.

Obesity was highest in the 45-64 age group (29%) and lowest in those aged 16-24 and 75+ (16%).

## 3.4 Wales: child obesity

The most recent comprehensive data on child obesity in Wales is from the 2018/19 Child Measurement Programme for Wales.<sup>6</sup> Data collection for 2020/21 was interrupted by the Covid-19 pandemic, and data was only published for two health board areas.

In 2018/19, 12.6% of children aged 4-5 in Wales were obese and a further 14.4% were overweight. Children living in the most deprived areas of Wales were almost twice as likely to be obese (15.3%) as those in the least deprived areas (8.3%).

There were only small differences between obesity rates for boys and girls.

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<sup>5</sup> Scottish Health Survey, [Supplementary Tables](#)

<sup>6</sup> Public Health Wales, [Child Measurement Programme for Wales](#)

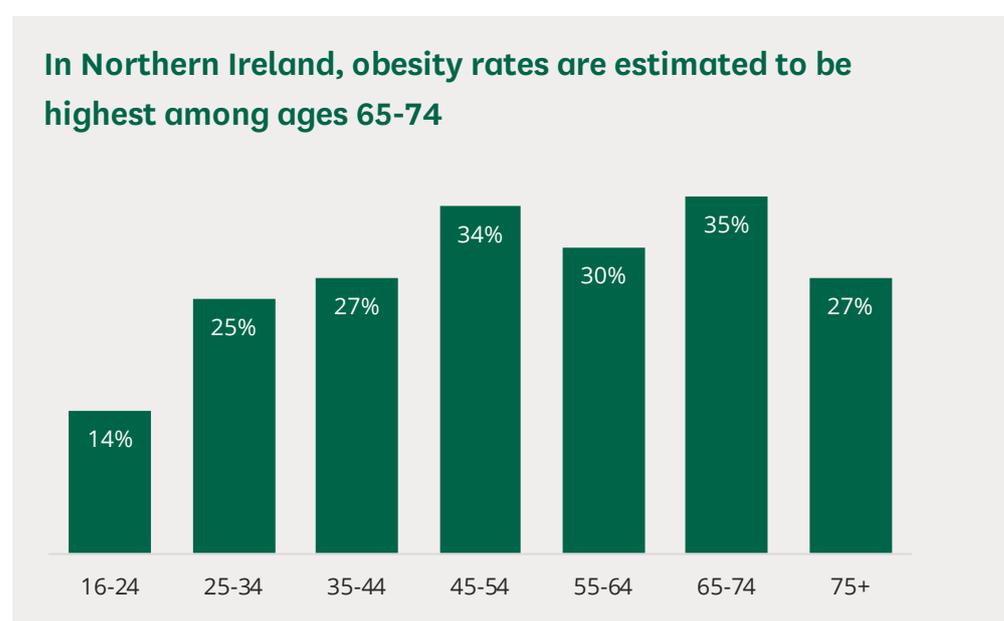
Obesity rates were estimated to be highest among children in Merthyr Tydfil and lowest in Monmouthshire and Vale of Glamorgan.

## 3.5

### Northern Ireland: adult obesity

Data is available from the [Health Survey Northern Ireland](#), but BMI questions were not asked in the two most recent editions.<sup>7</sup>

In 2019/20, 27% of adults in Northern Ireland 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.



Source: Department of Health NI, [Health Survey Trend Tables](#), Table: BMI - Adults

Obesity levels in Northern Ireland are estimated to have increased from 23% in 2010/11 to 27% in 2019/20.

Of respondents who were overweight, 48% of women said they were trying to lose weight, compared with 24% of men.

<sup>7</sup> Department of Health NI, [Health Survey Northern Ireland](#)

## 3.6

### 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, because of the survey's small sample size, meaningful comparisons over time or between age groups can't be made.

As mentioned above, this survey did not contain questions on BMI in the last two editions.

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## 4

### Bariatric surgery

Bariatric surgery refers to 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>8</sup>

NHS Digital's National Obesity Audit Dashboard contains information on bariatric surgeries carried out in England.<sup>9</sup> In 2019/20, 5,741 people in England had bariatric surgery due to obesity in England. This fell during the Covid-19 pandemic, to 1,596 people in 2020/21 and 4,035 people in 2021/22.

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<sup>8</sup> NHS, [Weight loss surgery](#)

<sup>9</sup> NHS Digital, [National Obesity Audit Dashboard](#)

## 5

## International comparisons

The OECD Health Statistics database collates data on obesity from different countries. The table below shows data for countries with measured (as opposed to self-reported) obesity monitoring, for 2020 or the most recent year available.

The United States had the highest measured percentage of people who were obese (43%), while the UK ranked tenth among these countries with 28%. Japan had the lowest measured obesity prevalence, at 5%.

<b>Obesity levels in countries with measured data</b>					
2020 or nearest year					
	United States	43%		Finland	27%
	Mexico	36%		Canada	24%
	Chile	34%		Germany	24%
	Hungary	33%		Ireland	23%
	Costa Rica	31%		Belgium	21%
	New Zealand	31%		Czech Republic	21%
	Australia	30%		Israel	19%
	Türkiye	29%		France	16%
	Portugal	29%		Korea	7%
	UK	28%		Japan	5%

Source: [OECD Health Statistics](#), Key Indicators file, Table: Obesity, total (M)

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