HOUSE OF COMMONS LIBRARY

BRIEFING PAPER

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Obesity Statistics

By Carl Baker

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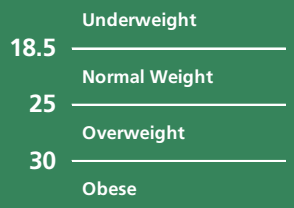
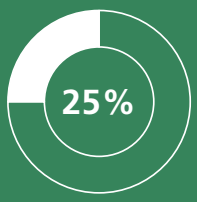
Summary

A quarter of adults in England are obese and a further 37% are overweight. This briefing gives statistics on obesity for England, Scotland, Wales and Northern Ireland with international comparisons. Breakdowns by age, gender, 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).

Obesity is normally defined as having a BMI of 30+



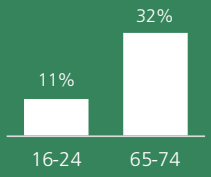
25% of adults in England are obese. A further 37% are overweight



Rates of excess weight are highest in the North East and lowest in London

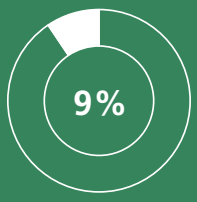
Men are more likely to be overweight or obese than women

Those aged 65-74 are most likely to be obese; 16-24s are least likely

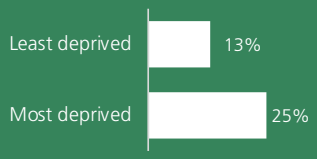


While similar across the UK, obesity rates are highest in Scotland and lowest in Wales

9% of children in England are obese by the age of 4-5



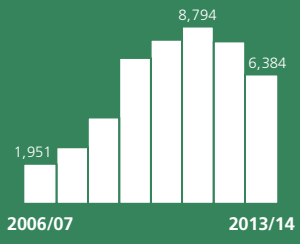
10-11 year olds in the most deprived areas are much more likely to be obese



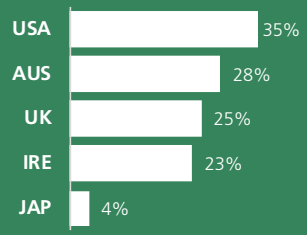
In England, rates of obesity drug prescriptions are highest in Barnsley CCG

Prescribing rates for obesity drugs have fallen in all UK countries since 2008

The number of bariatric surgeries on obese patients fell in the last two years



UK obesity rates are close to the median of OECD countries with measured rates



1. Measures of obesity

The most widely used 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.

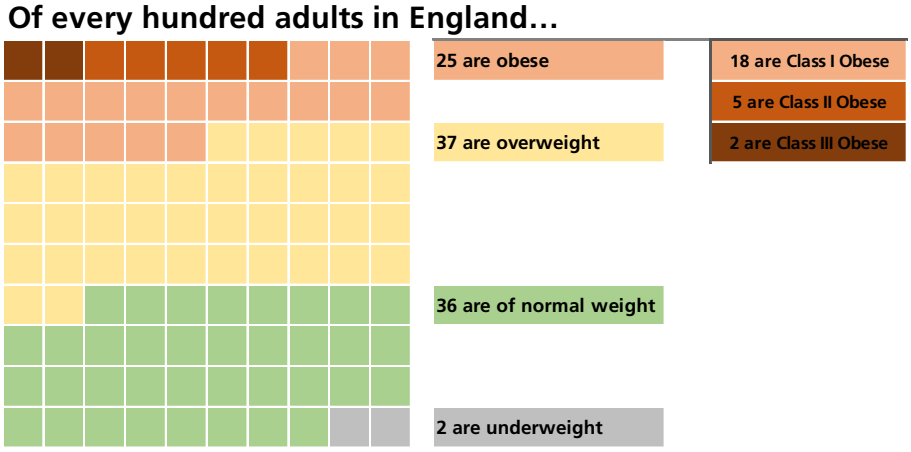
Classification	BMI
Underweight	< 18.5
Normal weight	18.5 - 24.9
Overweight	25.0 - 29.9
Obese: Class I	30.0 - 34.9
Obese: Class II	35.0 - 39.9
Obese: Class III	40.0+

This measure is not always definitive, and in some cases other measures are used.[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).

2. Obesity among adults, England

According to data from the Health Survey for England, 25% of adults in England are obese and a further 37% are overweight, making a total of 62% who are either overweight or obese.[2] Of obese adults, seven in ten are Class I obese, with a BMI between 30 and 35. Around one in ten obese adults are morbidly obese, with a BMI above 40.

Figure 1: Obesity among adults in England, 2013

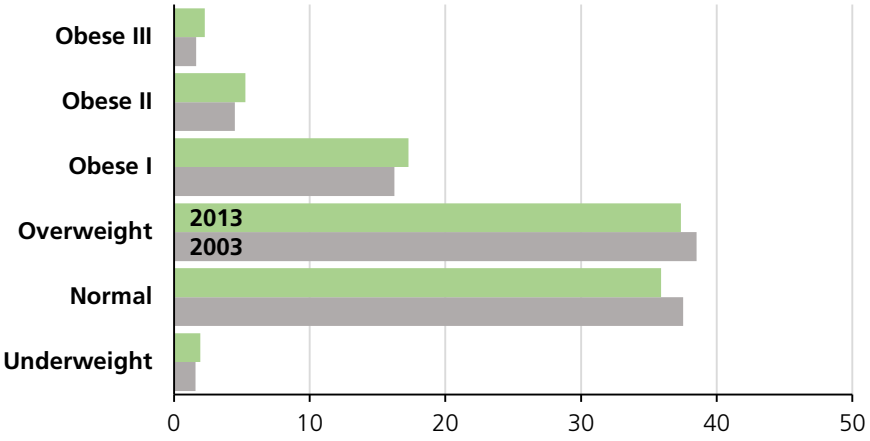


[1] NHS Choices, Obesity http://www.nhs.uk/conditions/Obesity/Pages/Introduction.aspx
[2] Health Survey for England, 2013 http://www.hscic.gov.uk/catalogue/PUB16076

Trends over the last decade

Between 2003 and 2013, the proportion of adults who were either overweight or obese increased slightly from 60.9% to 62.2%. The proportion who are overweight has fallen, but the proportion who are obese has risen from 22.4% to 24.8%. Obesity has risen more among men than among women over this period. While the rise since 2003 has been slight, the previous decade saw a greater change – in 1993 around 15% of adults were obese.

Chart 1: Change in BMI classification, England, 2003-2013 (%)



Obesity by age

The age group most likely to be overweight or obese is age 65-74, but only by a small margin. Prevalence of overweight and obesity is between 71% and 75% among all age groups from 45 to 74. Age 65-74 is the only category with less than a quarter of adults at normal weight. The adult age group least likely to be obese is 16-24 year olds, with almost 60% at normal weight and only a third overweight or obese. **Chart 2** (overleaf) illustrates this.

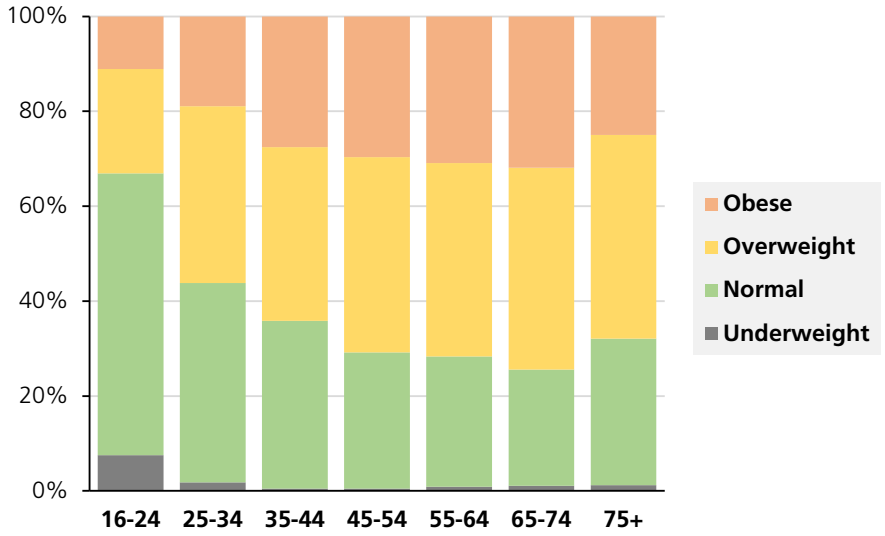
Health Risks of Obesity

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.

Chart 2: Overweight and obese by age, England, 2013



Obesity by gender

Men in England are more likely to be overweight or obese than women. 67% of men were overweight or obese in 2013 compared with 57% of women. Of these, 26% of men were obese compared with 24% of women. These proportions vary by age, as the collection of charts below shows. Only among ages 16-24 are women more likely to be overweight or obese than men. The biggest gap is among 45-54 year olds, with 79% of men overweight and obese compared with 62% of women.

Women are more likely to be morbidly obese (3.9% of all women) than men (1.6%).

Chart 3: BMI classification by gender & age group, England, 2013

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.

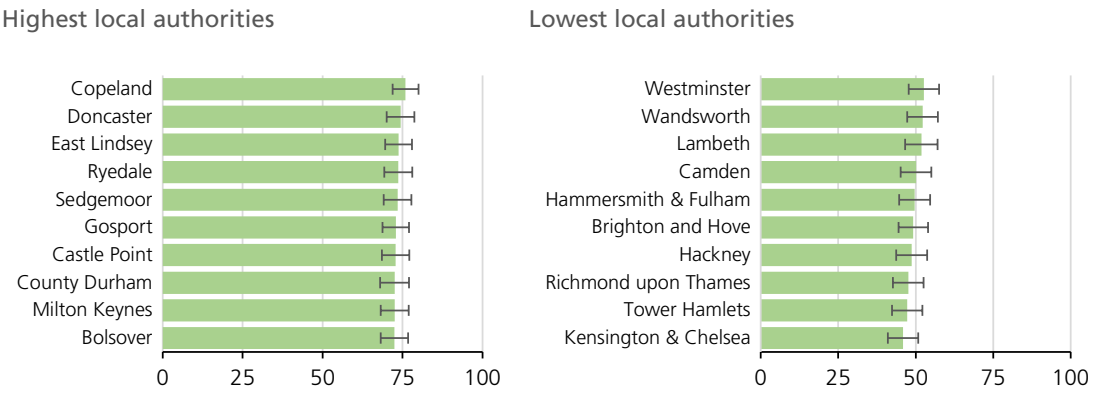
Obesity by local authority

The Active People Survey allows us to estimate variation in obesity across the country. The most recent available data covers surveys from 2012 and early 2013.

The map overleaf shows local authorities categorised by whether their rates of overweight and obese adults are above average, not significantly different from average, or below average.

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. The local authorities shaded in the map below as above or below average are those for which the rates are higher or lower than average to a degree we can be confident is not due to sample error. These confidence intervals are shown in **Chart 4**, which lists the top and bottom 10 local authorities on this measure. They emphasise that we should not put much weight on specific ranking – we cannot be sure, for instance, that Copeland has the highest rates of overweight and obese adults in England.

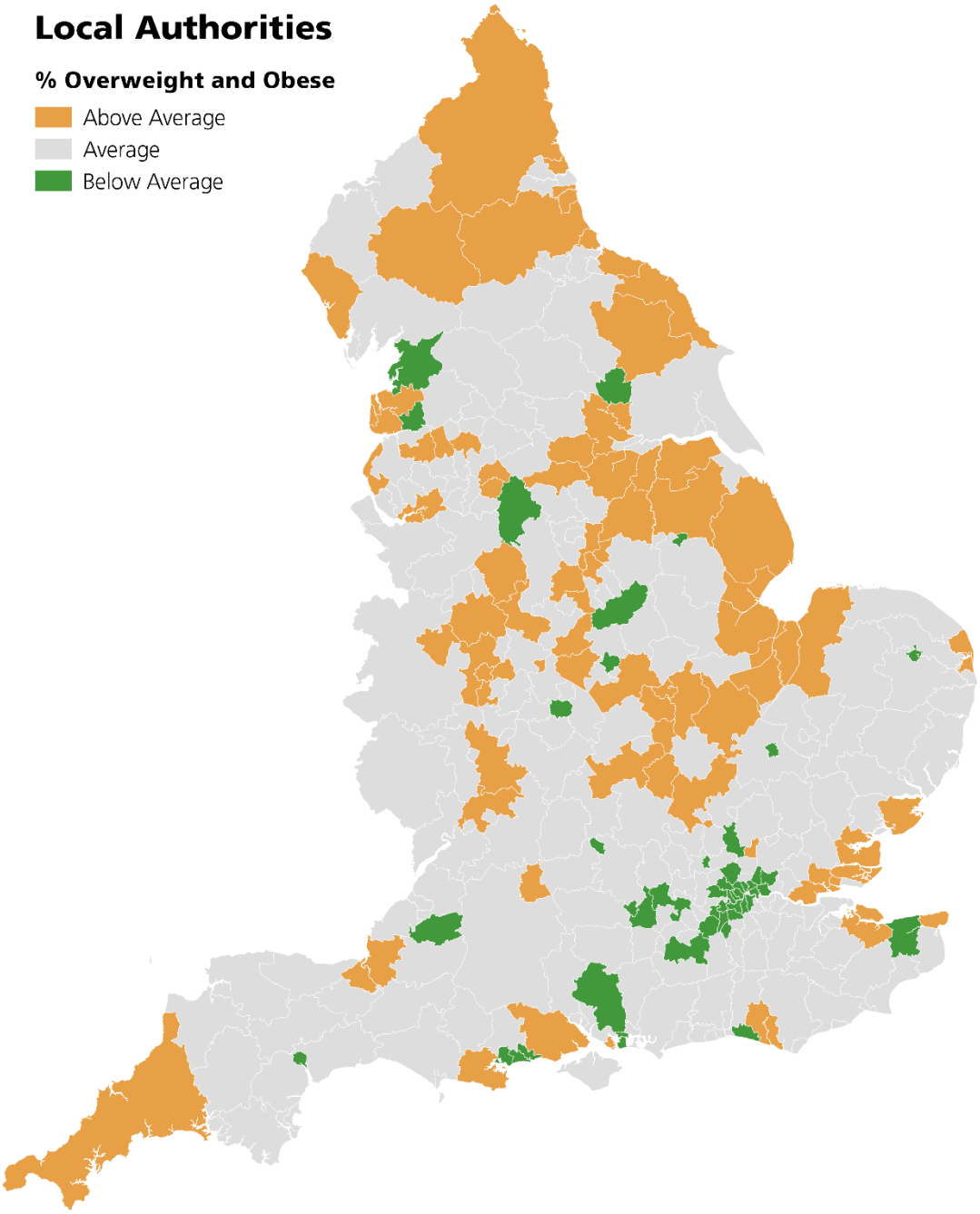
Chart 4: Obesity rates by local authority, England



Source: Active People Survey 2012; Public Health England Outcomes Framework

Map of obesity by local authority

Figure 2: Map and chart of obese and overweight adults by local authority, 2012

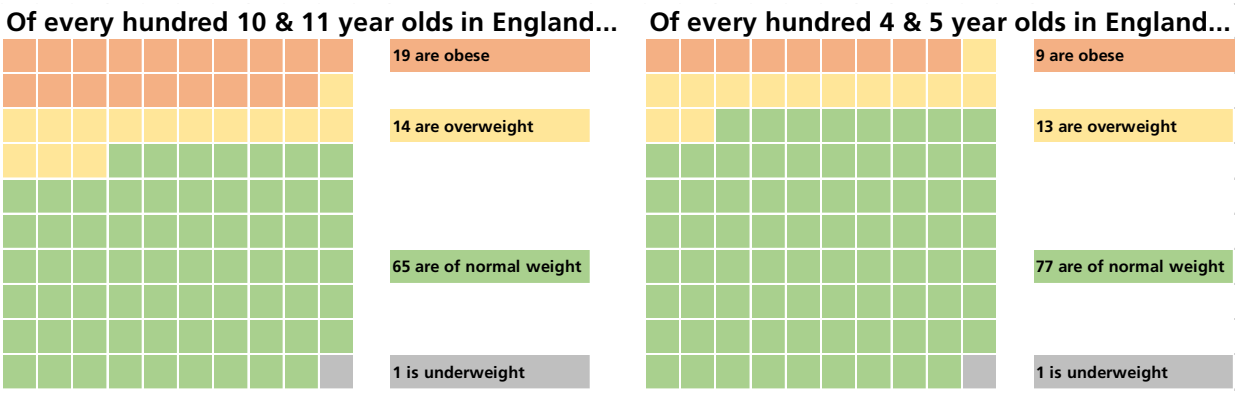


3. Obesity among children, England

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 19% being obese and 14% overweight.

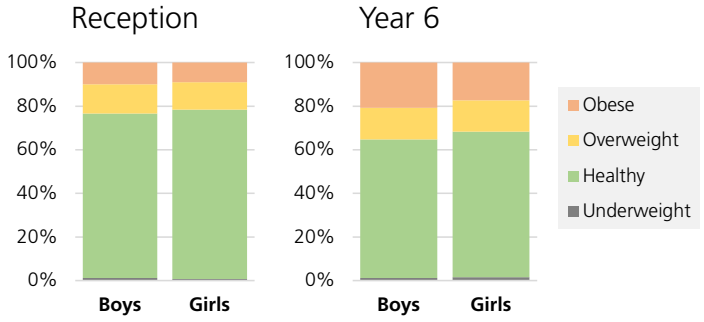
Note that these categories are not directly comparable to those used for adults, since measuring BMI and obesity for children is more complex than for adults. In the NCMP, obese is defined as having a BMI in the 95th percentile or higher of the British 1990 growth reference. Overweight is defined as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

Figure 3: Obesity among children in England, 2013/14



Small gender differences are present even at age 4-5, with 23.4% of boys being overweight or obese compared with 21.6% of girls. At age 10-11, the gap is wider: 35.2% of boys are overweight or obese compared with 31.7% of girls.

Chart 5: Obesity among children by age, 2013/14



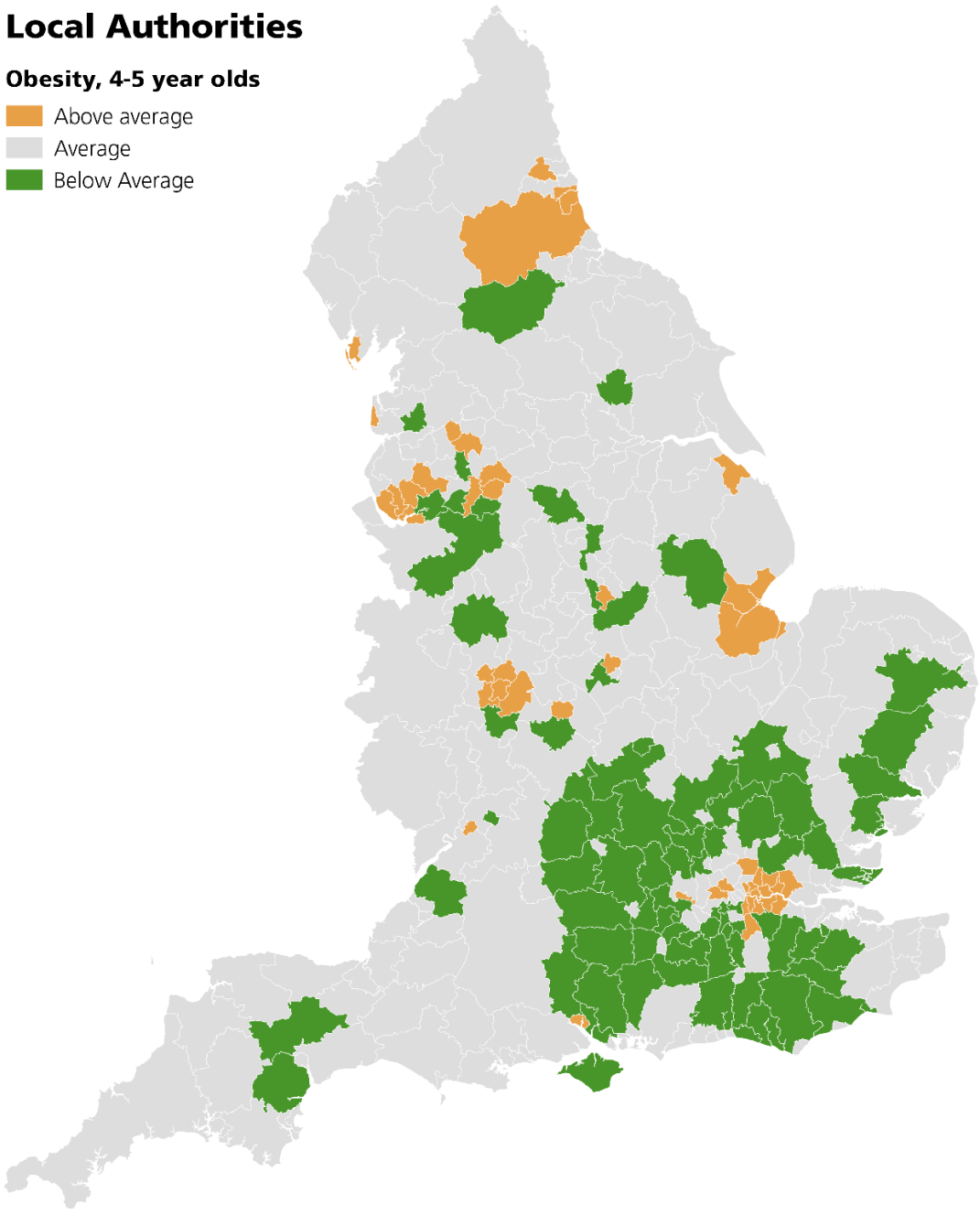
The maps on the following two pages analyse the NCMP data by local authority. The maps show whether the rate of obesity among children is above or below the English average. As with the adult data, there is some uncertainty around the precise values. The local authorities shaded in the map below as above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

rates are higher or lower than average to a degree we can be confident is not due to sample error.

For both reception and year 6 children, above average obesity is concentrated in parts of London, Birmingham, Liverpool, Manchester, and the North East. Other areas with above average rates for both age groups are: Blackpool, Boston, Gloucester, Leicester, Nottingham, Slough, Southampton, and Wolverhampton. Areas with below average obesity rates for both age groups tend to be in southern and relatively affluent areas.

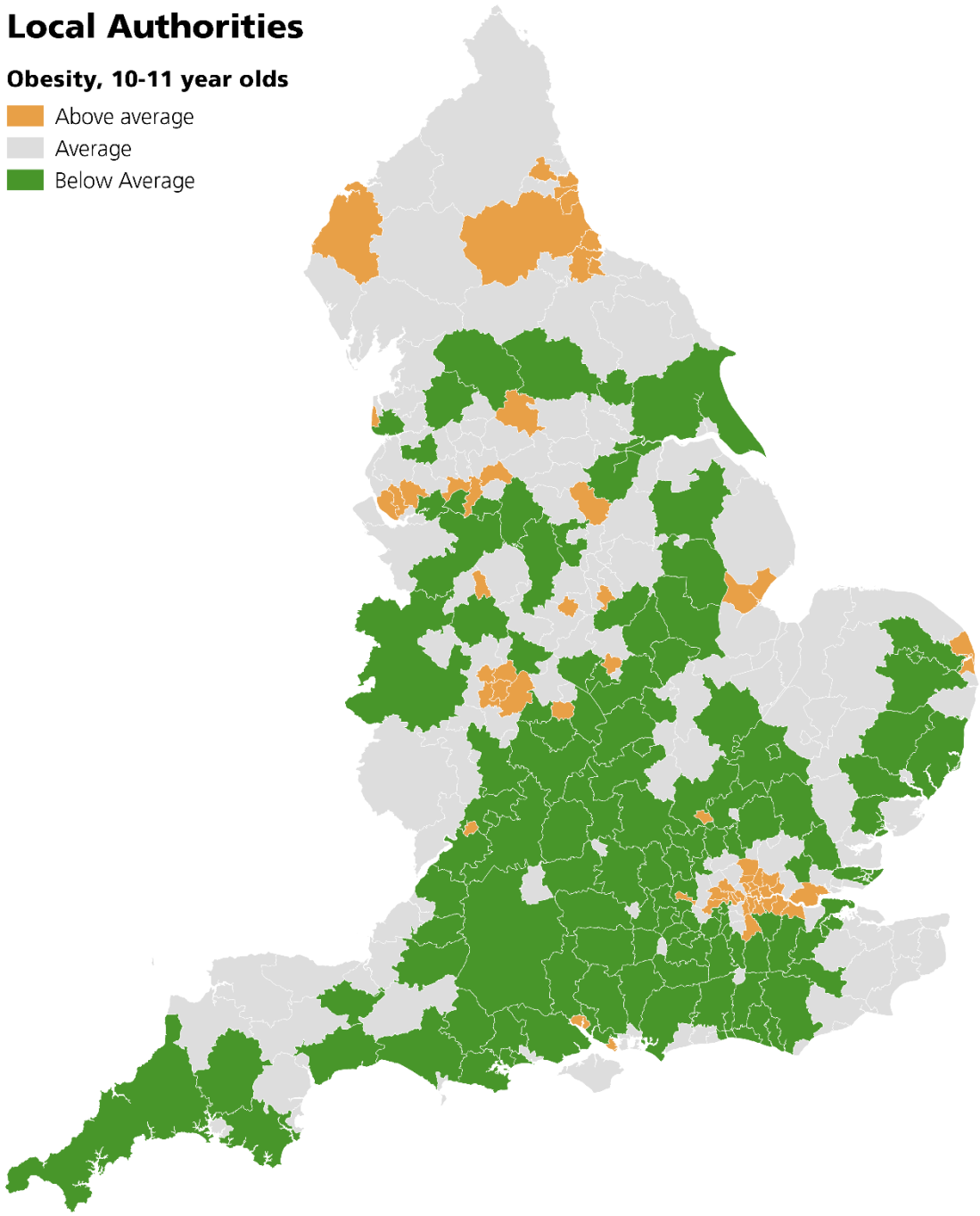
Maps of obesity among children

Figure 4: Obesity among ages 4-5, 2013/14



Source: National Child Measurement Programme

Figure 5: Obesity among ages 10-11, 2013/14



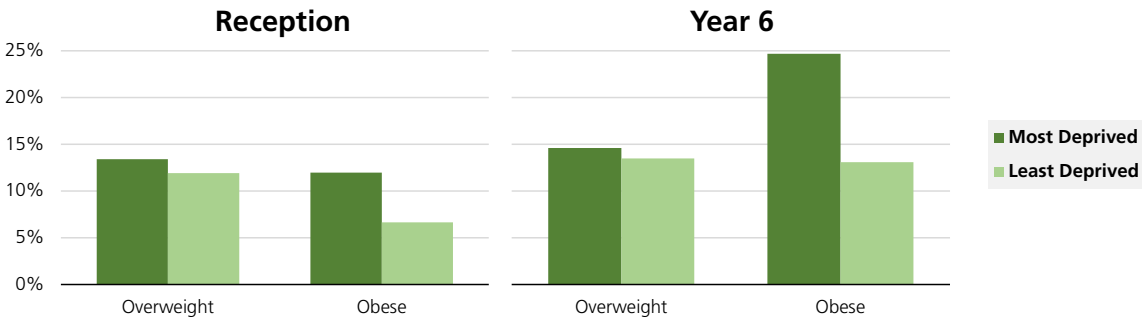
Source: National Child Measurement Programme

Childhood obesity and deprivation

Children living in deprived areas are substantially more likely to be obese. Among reception (age 4-5) children, 6.6% of those in the least deprived areas area obese compared with 12.0% of those in the most deprived areas. In Year 6 (age 10-11), 24.7% of children in the most deprived areas are obese, compared with 13.1% in the least deprived areas. So in both age groups, children in the most deprived areas are almost twice as likely to be obese. These proportions have changed little since 2010/11.

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

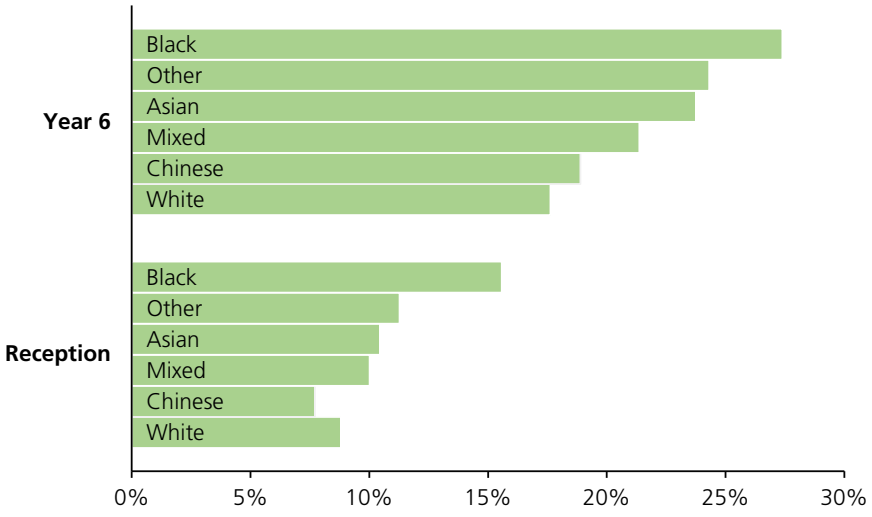
Chart 6: Obesity among children by deprivation decile, 2013/14



Childhood obesity and ethnicity

According to data from the NCMP, children of black ethnicity are most likely to be obese, while children of Chinese or white ethnicity are least likely to be obese. At age 4-5 (reception), obesity rates among Chinese children are half those among black children. Between ages 4-5 and 10-11, however, obesity rates among both groups increase by 11 percentage points.

Chart 7: Obesity among children by ethnicity, 2013/14



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, which is reflected in the subsections below.

4.1 Wales

Adult Obesity in Wales

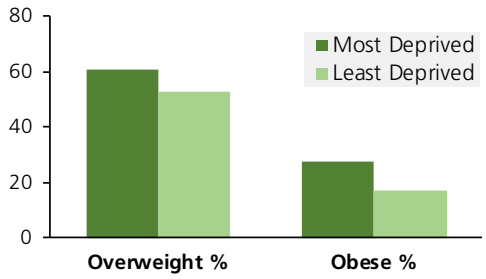
Obesity among adults in Wales is measured in the Welsh Health Survey. Rates of excess weight are slightly lower than in England, with 22.2% in Wales being recorded as obese compared with 25.8% in England. In Wales, the obesity rate among women is higher than among men – in England, the opposite is true. However, more Welsh men are overweight or obese (61%) than women (54%). Analysis by deprivation shows that those in deprived areas are more likely to be overweight and obese.

Chart 8: Obesity, aged 16+, Wales, 2014

Summary Statistics

	Overweight or Obese	Obese
ALL	58%	22%
Men	61%	21%
Women	54%	23%
All 16-44	48%	19%
All 45-64	67%	27%
All 65+	62%	22%

Analysis by deprivation quintile (age standardised)



Child Obesity in Wales

According to the Child Measurement Programme for Wales, 12% of children aged 4-5 in Wales are obese, and a further 15% are overweight. Both percentages are slightly larger than in England, where 9% of 4-5 year olds are obese and 13% are overweight.

Childhood obesity rates are lowest in the Cardiff & Vale of Glamorgan health area, and highest in Cwm Taf, which covers Merthyr Tydfil and Rhondda Cynon Taf.

As in England, deprivation is a predictor of obesity. 13.5% of children are obese in the most deprived fifth of areas compared with 9.4% in the least deprived fifth.

4.2 Scotland

Adult obesity in Scotland

65% of people aged 16 or above in Scotland are overweight or obese. Of these, 27% are obese. These rates are higher than in England (62% overweight or obese; 25% obese). Scottish obesity rates have increased by around 3 percentage points over the last decade.[3]

In Scotland, women are more likely to be obese (29%) than men (25%). Women are also more likely to have a BMI of 40 or more (sometimes known as 'morbid obesity') – almost 4% of women, compared with 1% of men, have a BMI of 40 or more.

Chart 9 shows a breakdown by age and gender. One main difference from England is that in most categories men are less likely to be obese than women (albeit more likely to be overweight). In England, obesity among women is higher in every age group except 16-24.

Men aged 16-24 are less likely to be underweight in Scotland (5%) than in England (9%). Morbid obesity is not shown on this chart. This peaks at almost 6% among women aged 35-44.

Chart 9: Scotland: BMI classification by age and gender, 2013

[3] Scottish Health Survey 2013

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 95th 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.

17% of children in Scotland age 7-11 and 12-15 are at risk of obesity. The closest comparison is that 19% of 10-11 year olds in England are at risk of obesity. Obesity among very young children, however, appears to be higher in Scotland:

Table A: Obesity among children in Scotland, 2013

	Age 2-6	Age 7-11	Age 12-15
At risk of underweight	2%	1%	2%
Healthy weight	72%	70%	67%
At risk of overweight	12%	13%	14%
At risk of obesity	15%	17%	17%

The biggest gender difference is among 7-11 year olds, with 34% of boys recorded as being at risk of excess weight (either overweight or obesity) compared with 25% of girls.

4.3 Northern Ireland

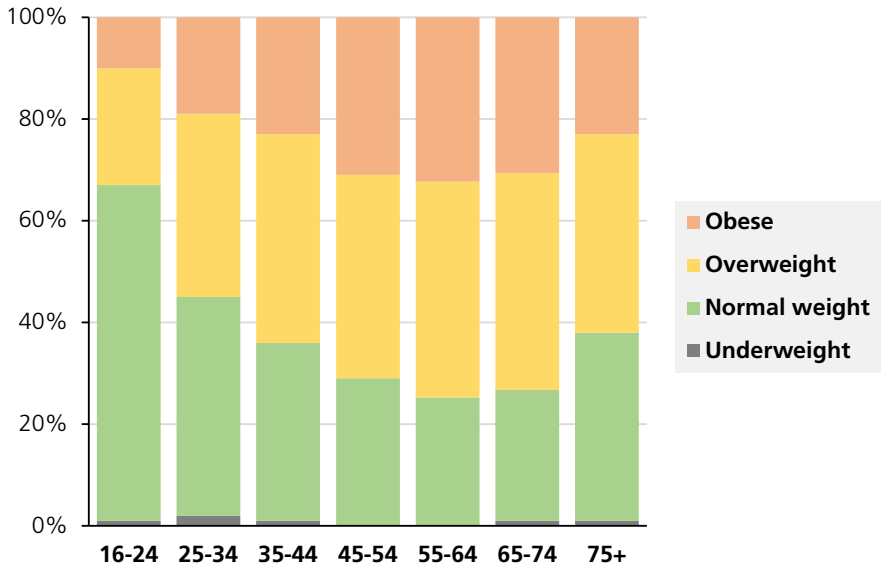
Adult Obesity in Northern Ireland

According to the Northern Ireland Health Survey 2013/14, 24% of those aged 16 and over are obese and a further 37% are overweight, making a total of 61% who are either overweight or obese. These are very similar to the English rates (25% obese, 37% overweight).

Obesity rates in Northern Ireland are not substantially different by gender. However, women are more likely to be morbidly obese than men, and men are more likely to be overweight than women.

Chart 10 shows a breakdown by age. It follows a similar pattern to the age breakdown for England, with rates of obesity peaking among those aged 45-74. Far fewer 16-24 year olds in Northern Ireland are recorded as being underweight (1%) than in England (7.5%).

Chart 10: Northern Ireland BMI classification by age, 2013/14

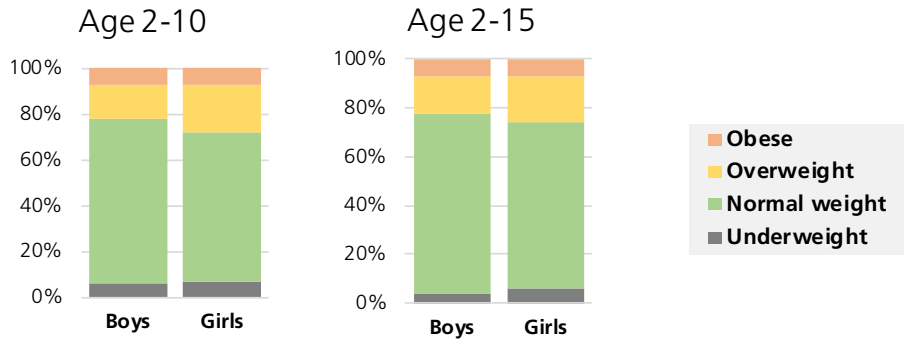


The highest obesity rates are recorded in the South Eastern and Western health areas of Northern Ireland. Variation by deprivation is low, with rates in the most deprived quintile (26%) three percentage points higher than in the least deprived quintile (23%).

Child Obesity in Northern Ireland

Childhood obesity in Northern Ireland, reported in the Health Survey, covers two overlapping age groups: 2-10 and 2-15. Rates of overweight and obese children do not vary substantially between those two age groups. 7% of children in Northern Ireland are obese, and 17-18% are overweight.

Chart 11: Childhood obesity in Northern Ireland by age and gender, 2013/14



5. GP prescribing for obesity

In England in 2014, pharmacies dispensed just over half a million items for treating obesity with a net ingredient cost of £15.3 million. 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 2013, 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 12 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 13 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 6 (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 12: Prescriptions for Obesity, England, 2008-2014

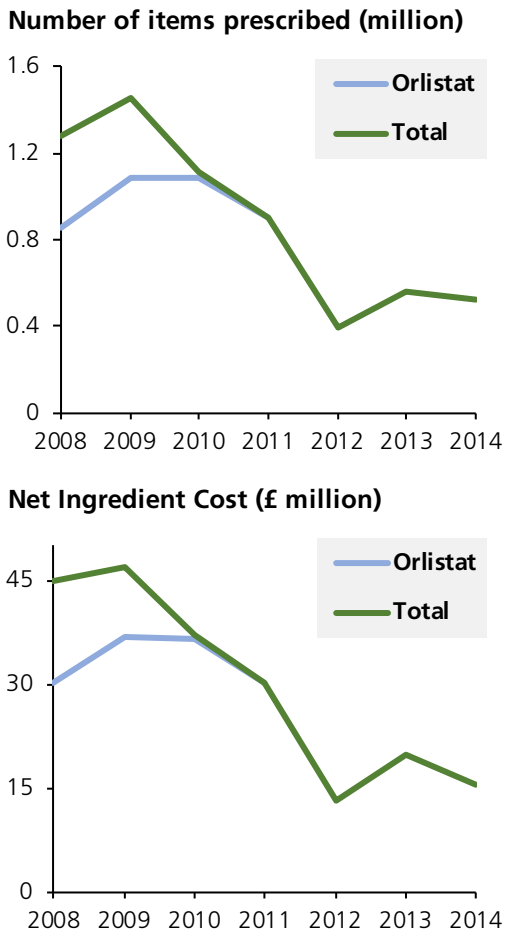
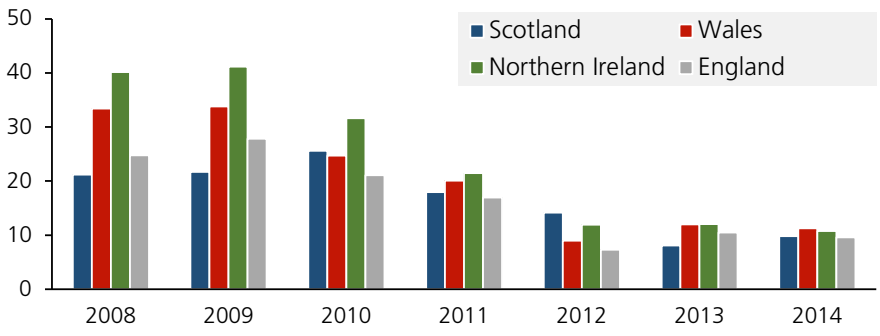
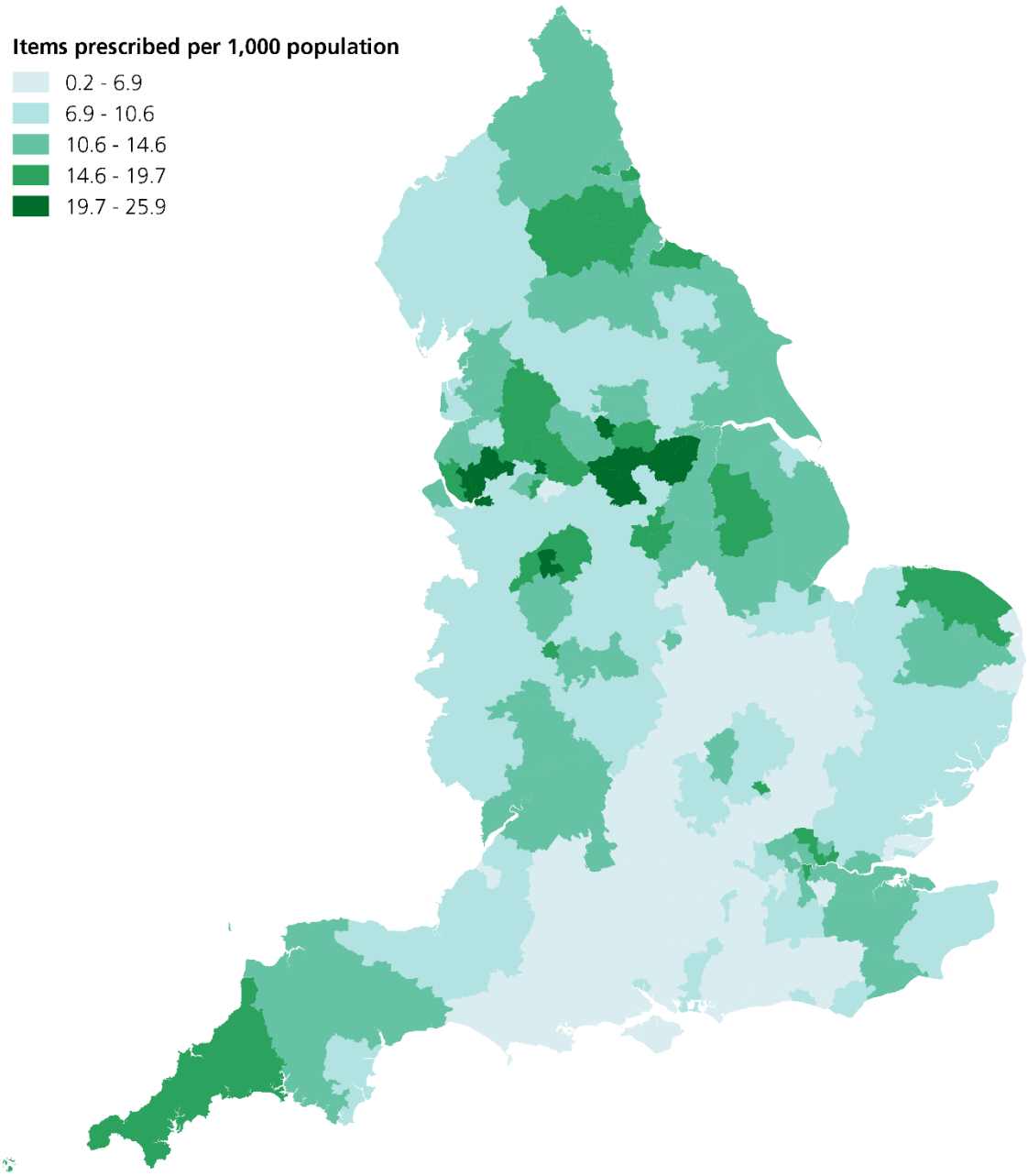


Chart 13: Obesity drugs prescribed per 1,000 population, UK countries, 2008-2014



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

Figure 6: Prescriptions for obesity, CCG areas, England, 2014



Highest rates per 1,000 population	
Barnsley	25.9
Stoke on Trent	24.7
Knowsley	24.6
North Kirklees	22.9
Halton	22.6
Wigan Borough	22.1
Doncaster	21.5
North Manchester	21.0
Sheffield	20.2
St Helens	20.1

Loewst rates per 1,000 population	
North East Hampshire & Farnham	4.3
North & West Reading	4.2
South Reading	4.0
Bracknell and Ascot	3.3
Wokingham	3.2
Horsham & Mid Sussex	3.0
Newbury & District	2.4
Stockport	2.1
Nene	0.2
Corby	0.2

Source: HSCIC, CCG Prescribing Data; Number of patients registered at a GP practice

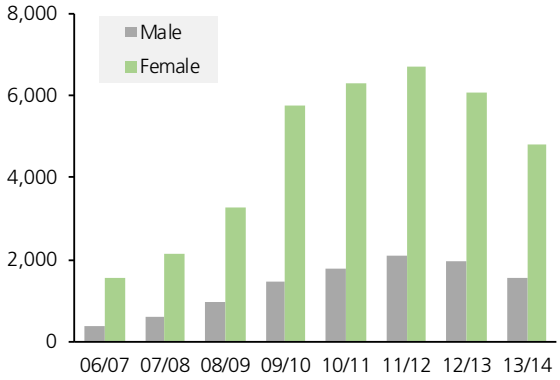
6. Bariatric surgery

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.[4]

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 in the two years since. Based on the total number of admissions for bariatric surgery, around two-thirds of bariatric surgeries follow a diagnosis of obesity.[5] Three quarters of such procedures are carried out on women. **Chart 14** illustrates these trends.

Chart 14: Bariatric surgeries after a diagnosis of obesity[6], England, 2006-2014

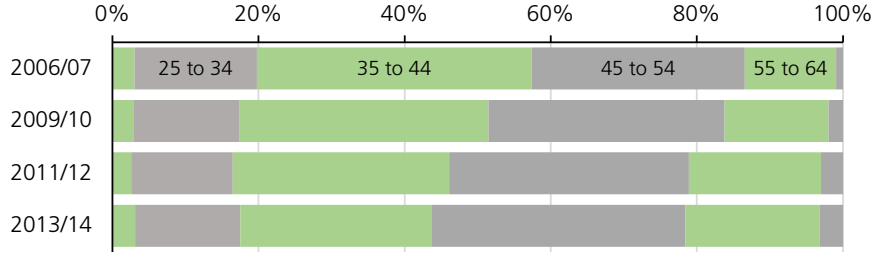
Year	Total	Male	Female
06/07	1,951	381	1,562
07/08	2,724	598	2,126
08/09	4,221	969	3,251
09/10	7,214	1,450	5,762
10/11	8,087	1,771	6,315
11/12	8,794	2,081	6,711
12/13	8,024	1,944	6,080
13/14	6,384	1,560	4,823



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 2013/14 this had fallen to 44%. The proportion accounted for by those aged under 34 has fallen only slightly, from 20% to 17%. **Chart 15** illustrates this.

Chart 15: Bariatric surgery by age, England

2006-2014 (selected years)



[4] HSCIC, Statistics on Obesity, Physical Activity and Diet 2015
[5] Calculation based on HSCIC, Admitted Patient Care 2013/14
[6] 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 Durham, Darlington, Teesside and Sunderland. 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, Southwark and Lewisham.

7. International comparisons

According to a 2014 report, a majority of the population in the OECD area[7] are overweight or obese.[8] 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 sixth-highest rates of overweight or obese adults and the eighth-highest rates of obesity. Around 10% fewer adults are overweight or obese in the UK than in the highest-ranked country, Mexico. **Chart 16** illustrates this.

Chart 16: Obesity and overweight in OECD countries

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

	Obese %	Obese or Overweight %	Year
Mexico	32	71	2012
United States	35	69	2012
New Zealand	31	65	2013
Chile	25	64	2009
Australia	28	63	2011
United Kingdom	25	62	2012
Hungary	29	62	2009
Ireland	23	61	2007
Finland	20	59	2007
Canada	25	59	2010
Luxembourg	23	58	2013
Turkey	22	55	2011
Czech Republic	21	55	2010
Slovakia	17	52	2008
South Korea	5	32	2012
Japan	4	24	2012

Source: OECD, Health at a Glance

The OECD report contains further information on statistics and policy trends concerning obesity.

[7] See List of OECD Member Countries.
[8] OECD Obesity Update 2014.

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