

Statistics on Obesity, Physical Activity and Diet, England, 2020

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Official statistics

Publication Date: 5 May 2020

Geographic Coverage: England

Geographical Granularity: Country, Clinical Commissioning Groups, Local Authorities

Date Range: 01 Apr 2018 to 31 Dec 2019

Summary

This report presents information on obesity, physical activity and diet drawn together from a variety of sources for England. More information can be found in the source publications which contain a wider range of data and analysis. Each section provides an overview of key findings, as well as providing links to relevant documents and sources. Some of the data have been published previously by NHS Digital.

A data visualisation tool (link provided within the key facts) allows users to select obesity related hospital admissions data for any Local Authority (as contained in the data tables), along with time series data from 2013/14. Regional and national comparisons are also provided.

The report includes information on:

- Obesity related hospital admissions, including obesity related bariatric surgery.
- Obesity prevalence.
- Physical activity levels.
- Walking and cycling rates.
- Prescriptions items for the treatment of obesity.
- Perception of weight and weight management.
- Food and drink purchases and expenditure.
- Fruit and vegetable consumption.

Key facts cover the latest year of data available:

- Hospital admissions: 2018/19
- Adult obesity: 2018
- Childhood obesity: 2018/19
- Adult physical activity: 12 months to November 2019
- Children and young people's physical activity: 2018/19 academic year

Key Facts



11,117 hospital admissions directly attributable to obesity

An increase of 4% on 2017/18, when there were 10,660 admissions



876 thousand hospital admissions where obesity was a factor

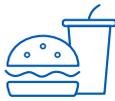
An increase of 23% on 2017/18, when there were 711 thousand admissions (see [part 1](#) for data quality information relevant to this measure).

[Click here to access the obesity related hospital admissions interactive dashboard](http://bit.ly/sopad_2020_dashboard)
<http://bit.ly/sopad_2020_dashboard>



The majority of adults were overweight or obese; 67% of men and 60% of women.

This included 26% of men and 29% of women who were obese.



20% of year 6 children were classified as obese

Prevalence was over twice as high in the most deprived areas than the least deprived areas.



67% of adults were considered active (as per government guidelines)

47% of children and young people were meeting the current physical activity guidelines

Data Sets

- [Statistics on Obesity, Physical Activity and Diet 2020: Data tables](#)

Resources

- [Pre-Release Access List \[pdf, size: 116.8 kB\]](#)
<<https://files.digital.nhs.uk/17/936971/Pre-Release%20Access%20List.pdf>>

Related news



[Statistics released on obesity-related hospital admissions in England in 2018-19](#)

5 May 2020

New figures on obesity-related hospital admissions have been published today by NHS Digital.

Introduction

This report presents a range of information on obesity, physical activity and diet drawn together from a variety of sources for England. More information can be found in the source publications which contain a wider range of data and analysis.

Newly published data includes:

- NHS Digital: Obesity related admissions from Hospital Episode Statistics (HES).
- NHS Digital: Prescription items used to help treat obesity from prescribing data.
- Public Health England: Analyses of physical activity data from the Sport England Active Lives Survey (ALS).

The latest information from already published sources includes:

- NHS Digital: Obesity, physical activity and diet analyses from The Health Survey for England (HSE).
- NHS Digital: Child obesity data from the National Child Measurement Programme (NCMP).
- Organisation for Economic Co-operation and Development (OECD): Comparisons across OECD countries from the Health at a Glance report.
- Department of Transport: Analyses from the Walking and Cycling Statistics publication.
- Department of Environment, Food and Rural Affairs: Food and drink expenditure from the Family Food publication.
- Public Health England: Diet and nutrition analyses from the National Diet and Nutrition Survey (NDNS).

All data is for England unless otherwise stated.

Most figures quoted have been rounded to the nearest whole number. Data sources may quote unrounded figures.

Part 1: Obesity related hospital admissions

This part focuses on hospital admissions (inpatient settings only) relating to being obese. Data is taken from the Hospital Episode Statistics (HES) databank produced by NHS Digital.

The association between obesity and increased risk of many serious diseases and mortality is well documented and has led to the National Institute for Health and Clinical Excellence (NICE) developing [guidelines on identifying and treating obesity](http://www.nice.org.uk/guidance/CG43) <<http://www.nice.org.uk/guidance/CG43>>.

Four measures are presented for the number of obesity related hospital admissions:

1. NHS hospital finished admission episodes (FAEs) with a primary diagnosis of obesity – referred to as **admissions directly attributable to obesity**. A large proportion of these admissions involve a bariatric surgery procedure (see measure 3).
2. NHS hospital finished admission episodes with a primary or secondary diagnosis of obesity - referred to as **admissions where obesity was a factor**. A secondary diagnosis of obesity does not necessarily indicate obesity as a contributing factor for the admission, but may instead indicate that obesity is a factor relevant to a patient's episode of care.
3. NHS hospital finished consultant episodes (FCEs) with a primary diagnosis of obesity, and a primary or secondary procedure for bariatric surgery - referred to as **obesity related bariatric surgery**.
4. NHS hospital finished consultant episodes (FCEs) with a primary diagnosis of obesity, and a primary or secondary procedure for bariatric surgery, but excluding maintenance, revisional, and removal procedures - referred to as **obesity related primary bariatric surgery**. In this measure most patients would only be counted once (for their initial procedure). Though not commented on within the report, it is available in data table 4.1.

An FAE is the first period of inpatient care under one consultant within one provider. An FCE is a continuous period of admitted patient care under one consultant within one healthcare provider. Please note that admissions do not represent the number of in-patients, as a person may have more than one admission within the year.

Bariatric surgery encompasses a group of procedures that can be performed to facilitate weight loss, although these procedures can also be performed for other conditions. It includes stomach stapling, gastric bypasses and sleeve gastrectomy. In general, such surgery is used in the treatment of obesity for people with a BMI above 40, or those with a BMI between 35 and 40 who have health problems such as type 2 diabetes or heart disease.

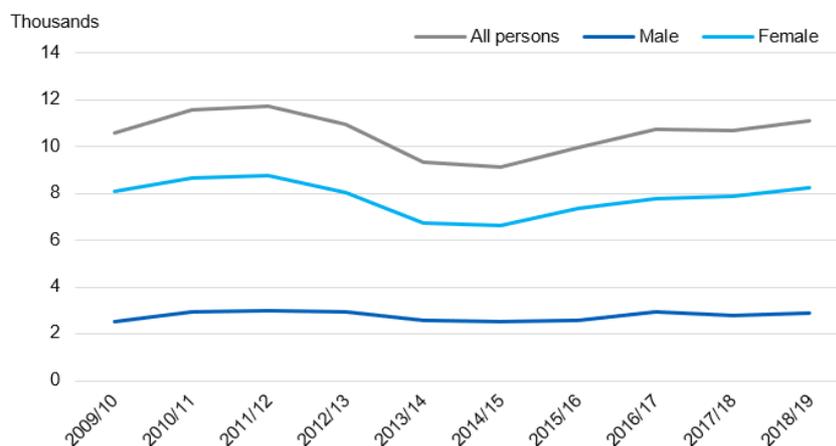
Admissions directly attributable to obesity, and those where obesity was a factor

Admissions directly attributable to obesity, by year and gender

Note that many of these admissions will be for bariatric surgery procedures, and changes over time may in part reflect changes in uptake of these procedures, and so are not necessarily prevalence driven.

In 2018/19 there were 11,117 hospital admissions with a primary diagnosis of obesity, an increase of 4% on 2017/18 (10,660 admissions). There has been an upward trend since 2014/15, with an increase of 22% over that period.

Around 3 in every 4 patients were female (74%).



Admissions where obesity was a factor, by year and gender

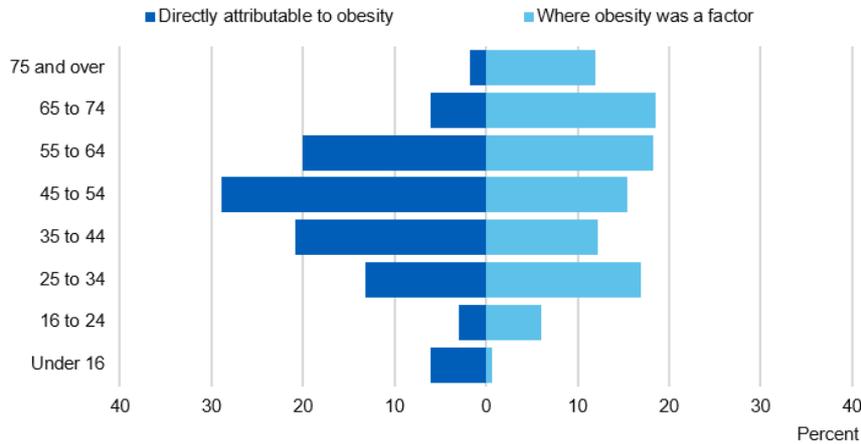
In 2018/19 there were 876 thousand hospital admissions where obesity was recorded as the primary or a secondary diagnosis. This is an increase of 23% on 2017/18, when there were 711 thousand admissions. Some (though not all) of this increase may be due to hospitals being more likely to record obesity as a secondary diagnosis than they were previously. See the [Data Quality Statement](#) (coherence and comparability) for more information.

Around 2 in every 3 patients were female (65%).

Admissions by age group

For admissions directly attributable to obesity, the number increases to middle age, peaking at 45 and 54, before declining in older age groups. 70% of patients were aged between 35 and 64.

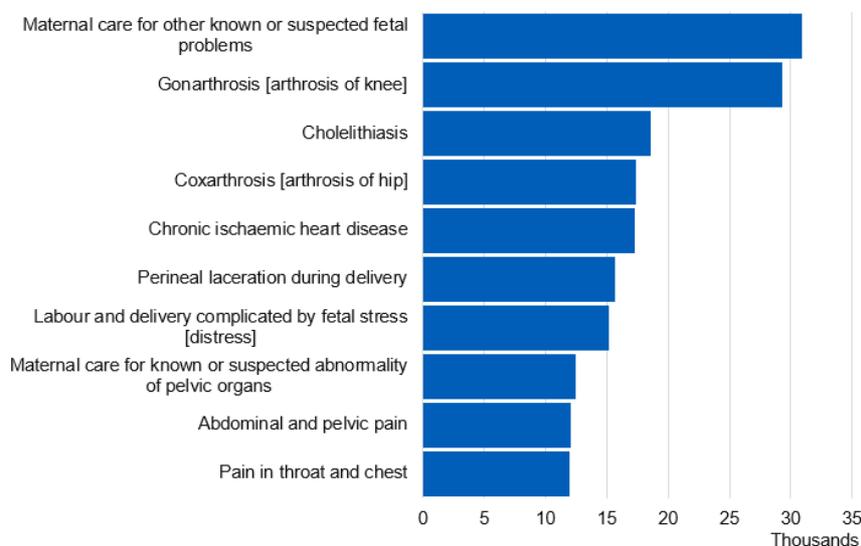
For admissions where obesity was a factor, the age distribution is more uniform.



Admissions where obesity was a factor by primary diagnosis (top ten diagnoses)

Of those admissions where obesity was a factor, but it was not the primary diagnosis (main reason for the admission), the most common diagnoses related to maternity issues and knee joint issues (arthrosis of the knee). Others in the top ten diagnosis types were the formation of gallstones (Cholelithiasis), hip issues (arthrosis of the hip), and heart disease.

Note that overall there were a large number of different primary diagnoses recorded for admissions where obesity was a factor, and collectively the top ten diagnosis types accounted for less than a quarter of all these admissions (181 thousand of 876 thousand).



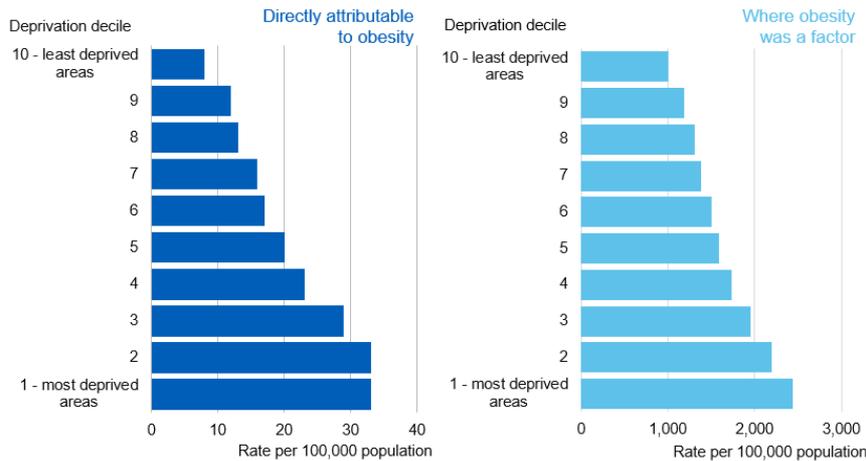
Admissions by deprivation level (rate per 100,000 population)

Admissions were mapped to Index of Multiple Deprivation deciles and rates age standardised using the European standard population.

Rates for both admissions directly attributable to obesity, and for admissions where obesity was a factor increase with the level of deprivation.

Admissions directly attributable to obesity were around four times more likely in the most deprived areas (33 per 100,000 population), compared to the least deprived areas (8 per 100,000 population).

Admissions where obesity was a factor were around two and a half times more likely in the most deprived areas (2443 per 100,000 population), compared to the least deprived areas (1000 per 100,000 population).



Admissions where obesity was a factor by Local Authority - (rate per 100,000 population)

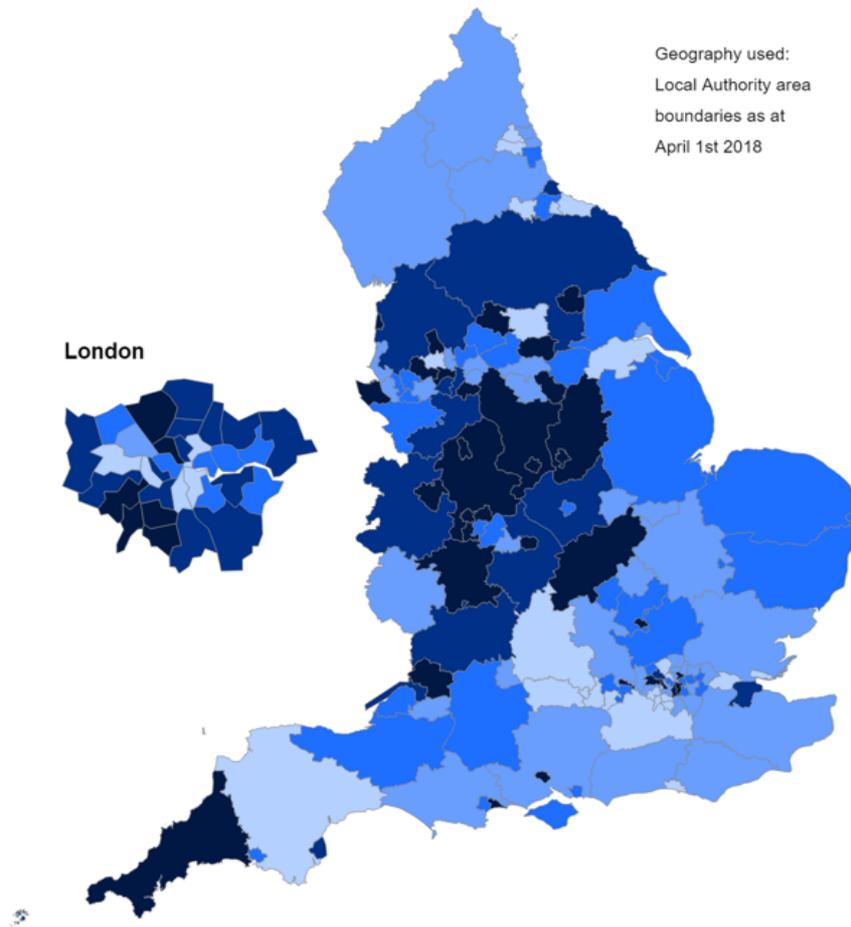
Admission rates have been age standardised and rounded to the nearest whole number.

Admission rates ranged from 413 to 3,804 per 100,000 population, with the highest admission rate over 9 times greater than the lowest rate. The national rate was 1,615 per 100,000 population.

Wigan, Wirral, York, Stoke-on-Trent and Nottingham all recorded admission rates of over 3,000 per 100,000 population.

Wokingham and West Berkshire both recorded admission rates below 500 per 100,000 population.

Intervals ● Under 1000 ● 1000 to <1400 ● 1400 to <1800 ● 1800 to <2200 ● 2200 and over



Local Authority rates for admissions directly attributable to obesity are available in table 2.3.

Additionally an interactive tool based on the LA data, including time series, is available via the button below:

For more data relating to this section:

[Tables 2.1 to 3.6, and 5, Statistics on Obesity, Physical Activity and Diet - England, 2020](#)

Obesity related hospital admissions for bariatric surgery

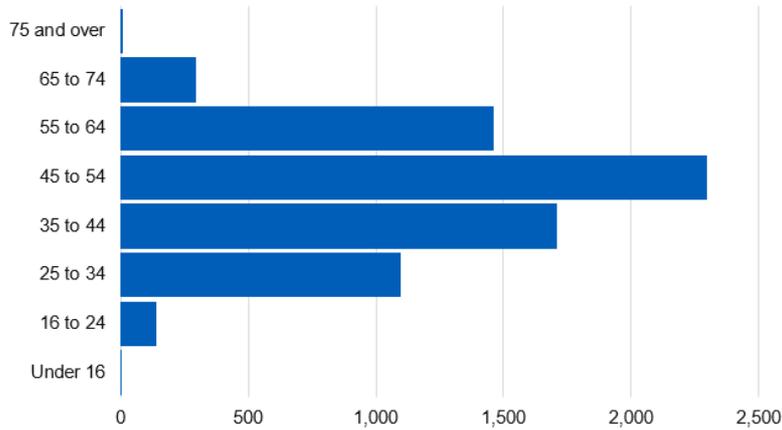
Obesity related bariatric surgery admissions, by year and gender

In 2018/19 there were 7,011 hospital admissions with a primary diagnosis of obesity and a main or secondary procedure of bariatric surgery. This is an increase of 6% on 2017/18 (6,627).

Over three quarters (79%) of admissions were for females.

Obesity related bariatric surgery admissions, by age group

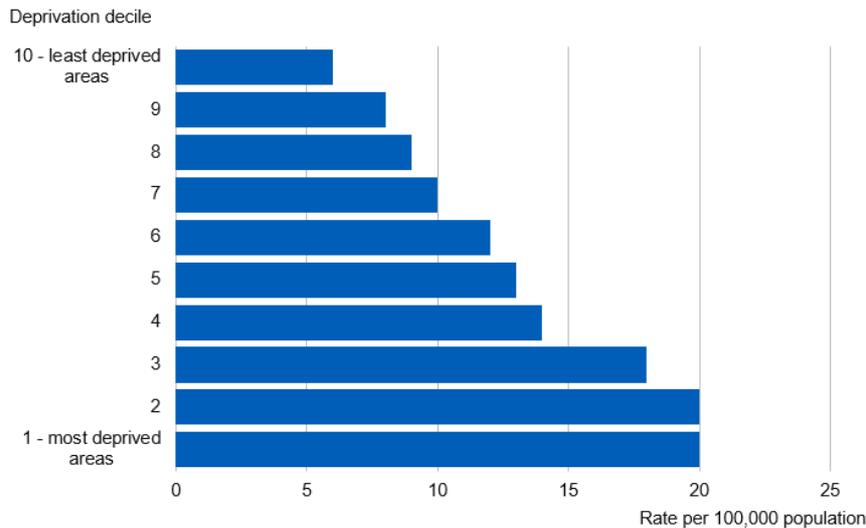
Over three quarters of patients (78%) were aged between 35 and 64.



Obesity related bariatric surgery admissions by deprivation level (rate per 100,000 population)

As with the other measures, admission rates increase with the level of deprivation.

Admissions for obesity related bariatric surgery were over 3 times more likely in the most deprived areas (20 per 100,000 population), compared to the least deprived areas (6 per 100,000 population).



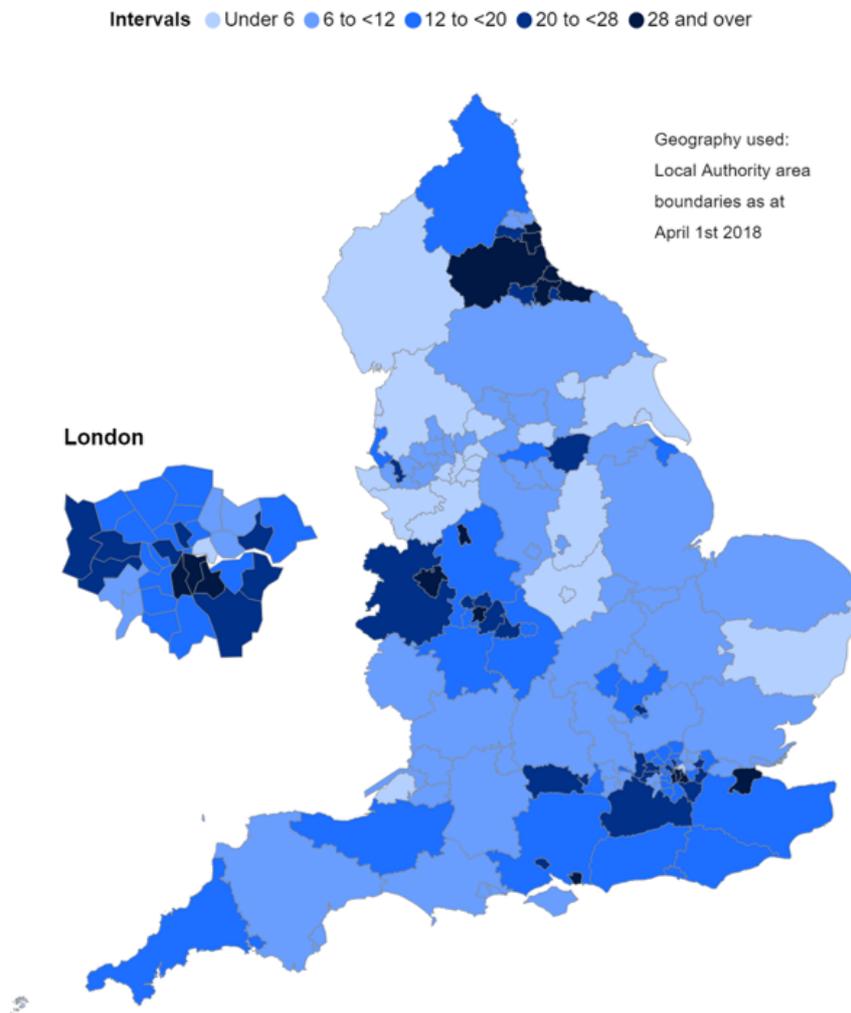
Obesity related bariatric surgery admissions, by Local Authority (rate per 100,000 population)

Admission rates have been age standardised and rounded to the nearest whole number.

Admission rates ranged from 0 to 47 per 100,000 population. The national rate was 13 per 100,000 population.

Southwark (47 per 100,000 population), and Telford and Wrekin (45) recorded the highest admission rates.

Note that variation in rates across Local Authorities may reflect differences in uptake of bariatric surgery procedures, and not necessarily differences in obesity prevalence.



For more data relating to this section:

[Tables 4.1 to 5, Statistics on Obesity, Physical Activity and Diet - England, 2020](#)

Part 2: Prescription items for the treatment of obesity

This part presents information on the number of prescriptions for drugs used to treat obesity and the Net Ingredient Cost (NIC) of these prescriptions. The data source is Prescription Analysis and Cost (PACT) data from NHS Prescription Services. It includes items prescribed in primary care and dispensed in the community. It excludes prescriptions written in hospitals that are dispensed in the community, prescriptions dispensed in hospitals, dental prescribing and private prescriptions.

The NIC is the basic cost of a drug as listed in the Drug Tariff or price lists; it does not include discounts, dispensing costs, prescription charges or fees.

Since 2010, Orlistat (Xenical®) is the only drug available in the UK that is recommended specifically for the management of obesity. Orlistat acts by reducing the absorption of dietary fat. Clinical guidelines state that pharmacological interventions should only be used in conjunction with other interventions (exercise, diet).

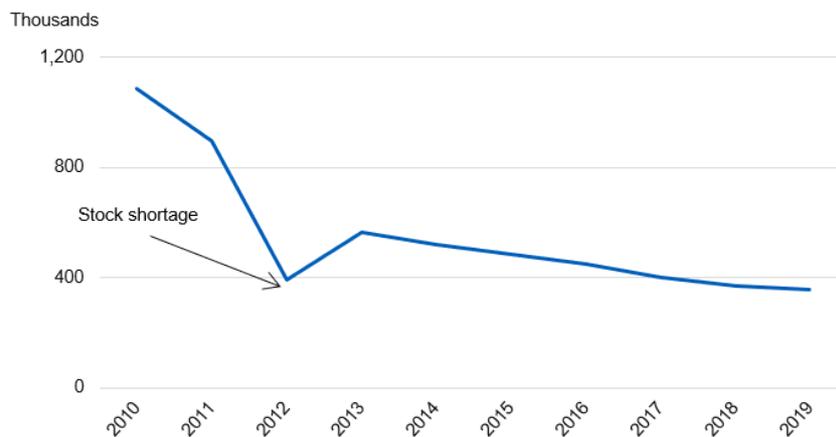
[NICE guidance on obesity treatment. <https://www.nice.org.uk/bnf-uk-only>](https://www.nice.org.uk/bnf-uk-only)

Prescribing data is reported by financial year (previously calendar year). However, as financial year data is only available from 2014/15, time series analysis will continue to be based on calendar years. Calendar year data is shown in table 5.1b.

Prescription items and cost

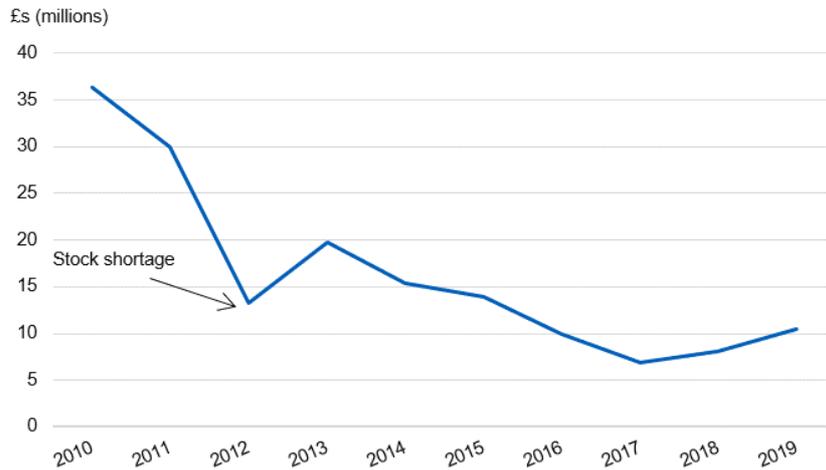
Items prescribed, by year

355 thousand items (Orlistat) were prescribed for the treatment of obesity in primary care in 2019. That is 4% fewer than in 2018 when there were 371 thousand items, and continues a long-term downward trend.



Net Ingredient Cost (NIC) of items, by year

The NIC of items (Orlistat) rose to £10.4 million in 2019, an increase of 28% from £8.1 million in 2018. However, this is still 71% lower than 2010, when the NIC of items (Orlistat) was £36.3 million.



As such the NIC per item (Orlistat) in 2019 was £29, which is £7 higher than 2018 (£22), though still £6 lower compared to a peak in 2013 (£35).

For more data/information on this section:

[2012 stock shortage details](#)

http://archive.psn.org.uk/news.php/1222/xenical_120mg_caps_mircera_stock_shortages_roche_updated_210312.html

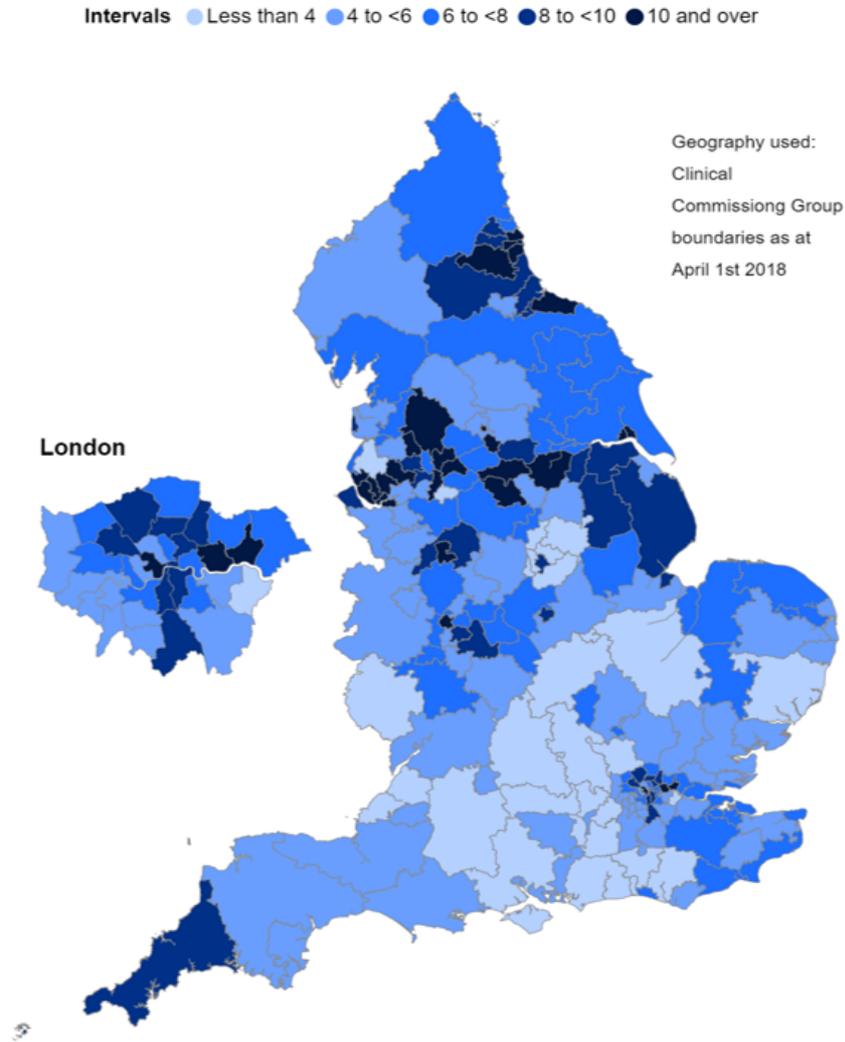
[Table 6.1b of Statistics on Obesity, Physical Activity and Diet - England 2020](#)

Prescription items per head of population

Prescription items per 1,000 population, by Clinical Commissioning Group (CCG)

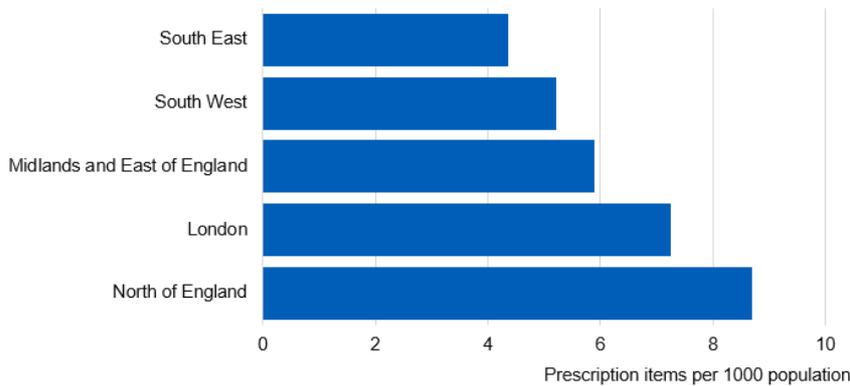
NHS Barnsley had the highest prescription rate with 18 items per 1,000 population. NHS Stoke on Trent had a prescription rate of 17 items per 1,000 population, and NHS South Tyneside and NHS Knowsley had prescription rates of 15 per 1,000 population.

NHS Nene, NHS Corby and NHS Mansfield and Ashfield all recorded almost zero rates.



Prescription items per 1,000 population, by NHS Commissioning Region

In 2018/19, North of England had the highest prescription rate with 9 items per 1,000 population, and South East of England the lowest rate with 4.



For more data/information on this section:

[Table 6.2 of Statistics on Obesity, Physical Activity and Diet - England 2020](#)

Part 3: Adult overweight and obesity

Overweight and obesity are terms that refer to an excess of body fat and they usually relate to increased weight-for-height. The most common method of measuring obesity is the Body Mass Index (BMI).

$BMI = \text{Person's weight (kg)} / \text{Person's height (in metres)}^2$.

In adults, a BMI of 25kg/m² to 29.9kg/m² means that person is considered to be overweight, a BMI of 30kg/m² or higher means that person is considered to be obese. A BMI of 40kg/m² or higher means that person is considered to be morbidly obese. The National Institute for Health and Clinical Excellence (NICE) recommends the use of BMI in conjunction with waist circumference as the method of measuring overweight and obesity and determining health risks.

BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor the distribution of fat. In order to measure abdominal obesity, waist circumference is measured, and categorised into desirable, high and very high, by sex-specific thresholds (cm):

- Men: Desirable = Less than 94, High = 94-102, Very high = More than 102
- Women: Desirable = Less than 80, High = 80-88, Very high = More than 88

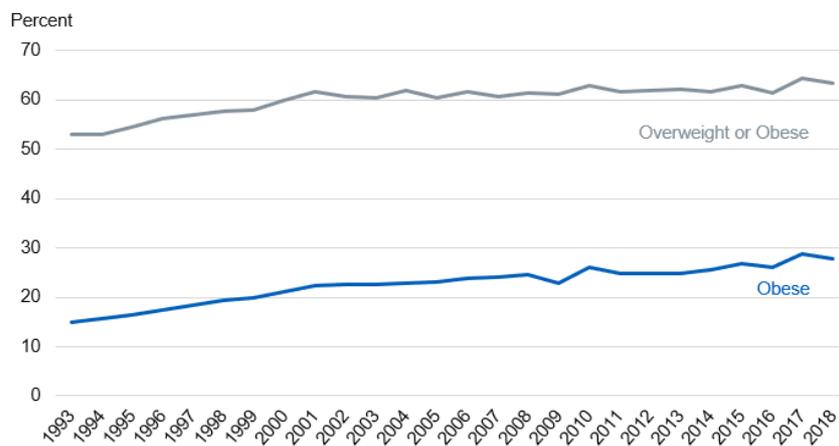
The main source of the data on overweight and obesity information is the Health Survey for England (HSE), and covers adults aged 16 and over.

Overweight and obesity prevalence

Prevalence by year

The majority of adults in England in 2018 were overweight or obese (63%).

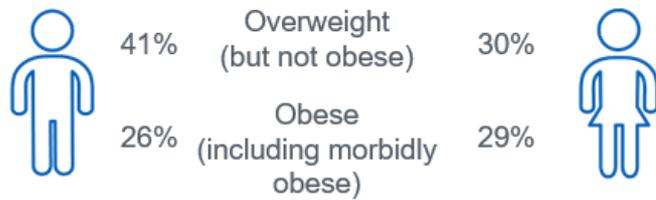
Obesity prevalence increased steeply between 1993 and around 2000, with a slower rate of increase after that. In 2018, the proportion of adults who were obese was 28%.



Morbid obesity has also increased, from fewer than 1% in 1993, to 3% in 2018.

Prevalence by gender

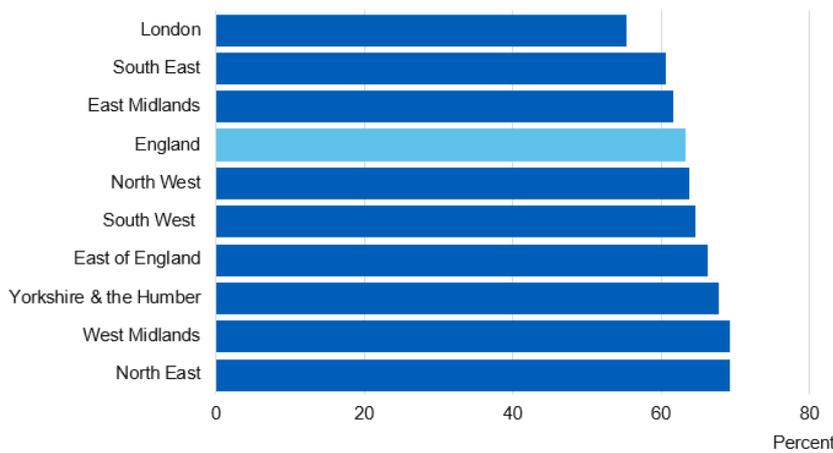
Overall, 67% of men and 60% of women were classed as overweight or obese. Being overweight but not obese was more common among men than women. However, obesity (including morbid obesity) was more common in women than men.



Prevalence by region (overweight or obese)

Regional prevalence data has been age standardised.

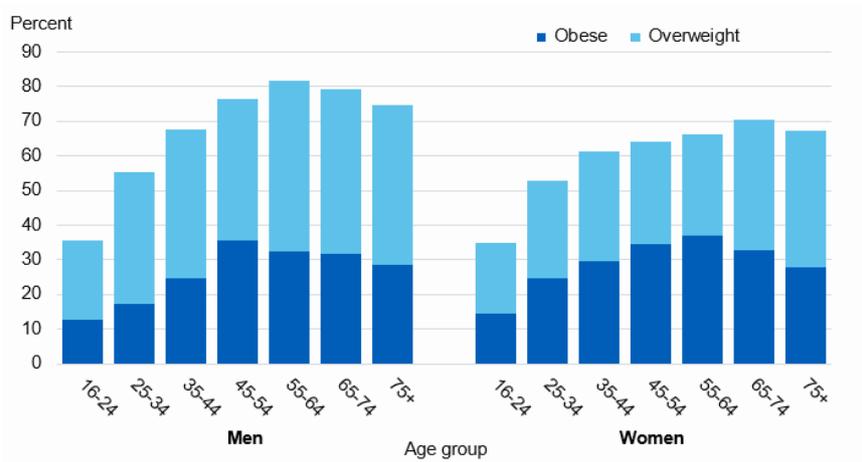
The proportion of adults who were overweight or obese according to their BMI varied by region. The lowest levels were in London, and the highest levels in North East and the West Midlands. There was no statistically significant variation for obesity.



Prevalence by age

The proportion of adults who were overweight or obese increased with age among both men and women. It was highest among men aged between 55 and 64 (82%), and women aged between 65 and 74 (70%).

The proportion of adults who were obese also increased with age and was highest among men aged between 45 and 54 (36%), and among women aged between 55 and 64 (37%).



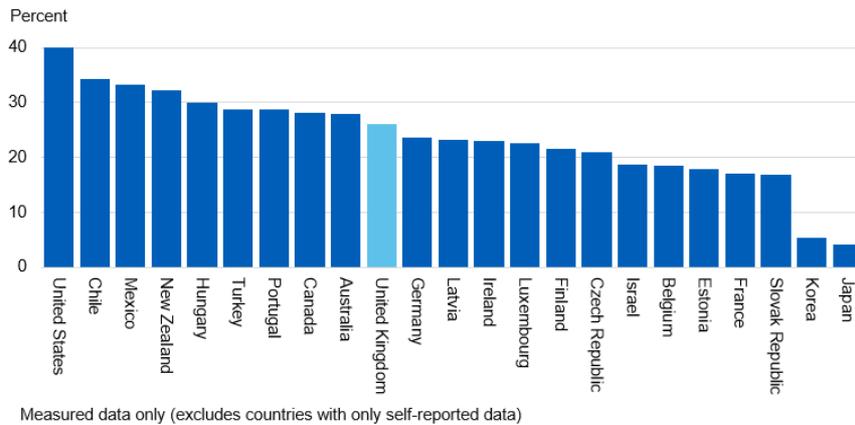
Obesity prevalence in the UK compared with other Organisation for Economic Co-operation and Development (OECD) countries

PLEASE NOTE: This section has not been subject to an update since the previous version of this publication.

Comparisons are based on data for adults aged 15 and over, or closest available. Data is for 2017 or nearest available year. Only countries with measured data are included here.

The UK reports an adult obesity level of 26%. This is 14 percentage points lower than the USA which reports the highest adult obesity level.

Japan and Korea report obesity levels of less than 10%.



For more data/information on this section:

[Adult and child overweight and obesity report, Health Survey for England, 2018 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018>](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018)

[OECD health statistics online database <http://www.oecd.org/els/health-systems/health-data.htm>](http://www.oecd.org/els/health-systems/health-data.htm)

Health risks associated with obesity, overweight and waist circumference

Health risk associated with BMI and waist circumference

National Institute for Health and Care Excellence (NICE) guidance <<https://www.nice.org.uk/guidance/CG43>> recommends that for people with a BMI less than 35kg/m², the assessment of health risks associated with being overweight or obese be based on BMI and waist circumference. For adults with a BMI of 35kg/m² or more, risks are assumed to be very high with any waist circumference.

Obese I: 30 to less than 35kg/m²; Obesity II: 35 to less than 40kg/m²; Obesity III: 40kg/m² or more.

40% of adults were classified as being in the high or very high risk groups. Women were more likely than men to be in the high or very high risk groups (46% and 35% respectively). 45% of men were at no increased risk compared to 40% of women.

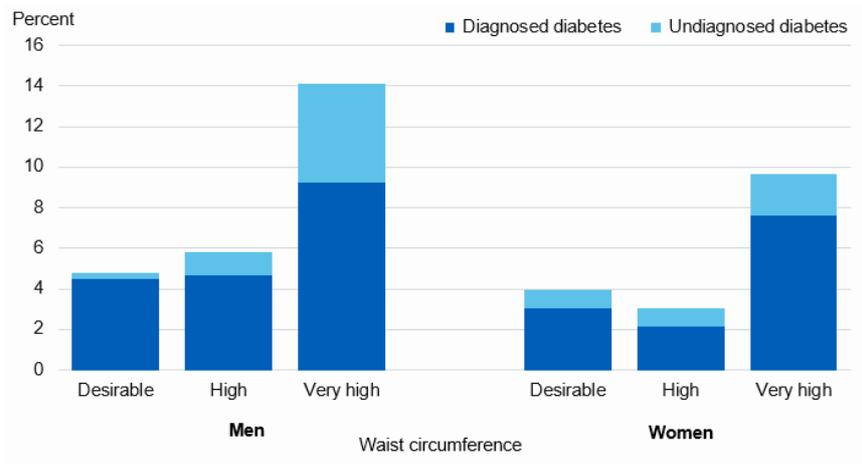
Data in the table has been rounded so quoted totals may not equal sum of parts. Adults who were underweight are not classified.

Health risk for men		Waist circumference			Health risk for women		Waist circumference		
		Desirable (<94cm)	High (94-102cm)	Very high (>102cm)			Desirable (<80cm)	High (80-88cm)	Very high (>88cm)
BMI classification	Normal	30%	2%	0%	BMI classification	Normal	26%	10%	2%
	Overweight	13%	18%	10%		Overweight	4%	10%	17%
	Obese I	0%	3%	15%		Obese I	0%	1%	17%
	Obese II & III	7%				Obese II & III	11%		

No increased risk | Increased risk | High risk | Very high risk

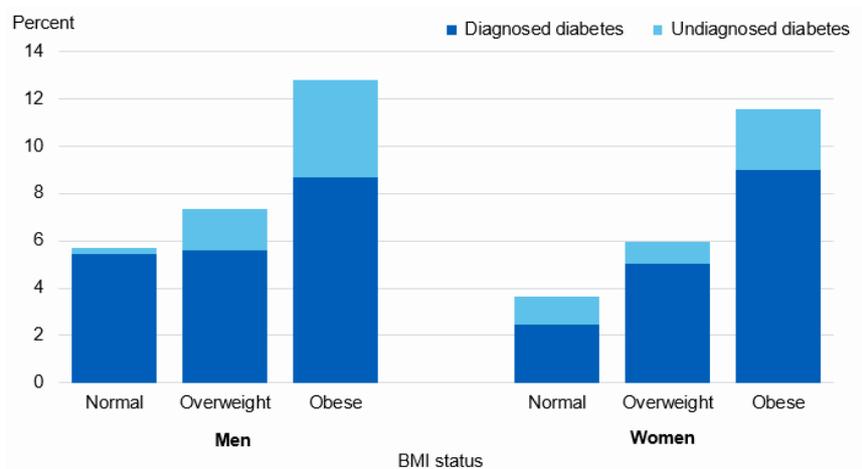
Diabetes status by waist circumference

Total diabetes (diagnosed and undiagnosed) was associated with central obesity, measured by waist circumference. 14% of men and 10% of women with a very high waist circumference had either diagnosed or undiagnosed diabetes. This compared to 6% of men and 3% of women with high waist circumferences and 5% of men and 4% of women with a desirable waist circumference.



Diabetes status by BMI

Diagnosed, undiagnosed and total diabetes were all associated with BMI status. Prevalence of total diabetes was greatest among those who were obese (13% of men and 12% of women) compared to those who were overweight but not obese (7% of men and 6% of women), or those who were not obese or overweight (6% and 4% respectively).



For more data/information on this section:

[Adult and child overweight and obesity report, Health Survey for England, 2018 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018>](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018)

Part 4: Childhood overweight and obesity

The main source for this part is the National Child Measurement Programme for England (NCMP) which includes nearly all children in reception year (aged 4-5) and year 6 (aged 10-11). 95% of eligible children were measured in 2018/19.

Health Survey for England (HSE) also collects data on childhood obesity; covering all children aged 2-15, although as a sample it has much lower coverage than NCMP and therefore the estimates are less precise.

NCMP and HSE collect height and weight measurements to calculate BMI for each child. BMI (adjusted for age and sex) is recommended as a practical estimate of overweight and obesity in children as it takes into account different growth patterns in boys and girls at different ages.

$$\text{BMI} = \text{Person's weight (kg)} / \text{Person's height (in metres)}^2$$

Each age and sex group needs its own level of classification and this section uses the British 1990 growth reference (UK90) to describe childhood overweight and obesity.

Overweight and obesity prevalence

These are some of the outcomes from the National Child Measurement Programme publication for 2018/19:

- For reception year, obesity prevalence was 9.7%, from 9.5% in 2017/18.
- For year 6, obesity prevalence was 20.2%, which was similar to 2017/18.
- Obesity prevalence was higher for boys than girls in both age groups.
- For children living in the most deprived areas obesity prevalence was more than double that of those living in the least deprived areas, for both reception and year 6.

For the full published analysis, follow the link below:

[National Child Measurement Programme, England, 2018/19 <https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2018-19-school-year>](https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2018-19-school-year)

Parents of overweight and obese children

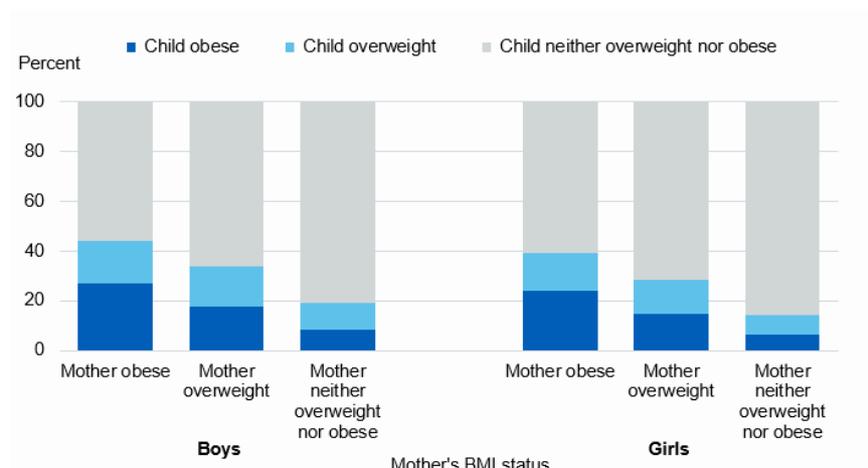
Children's BMI status by mother and father's BMI status

Based on data from 2017 and 2018 combined, children's overweight and obesity was associated with that of their parents.

26% of children of obese mothers were also obese, compared with 16% of children whose mothers were overweight but not obese, and 7% of children whose mothers were neither overweight nor obese.

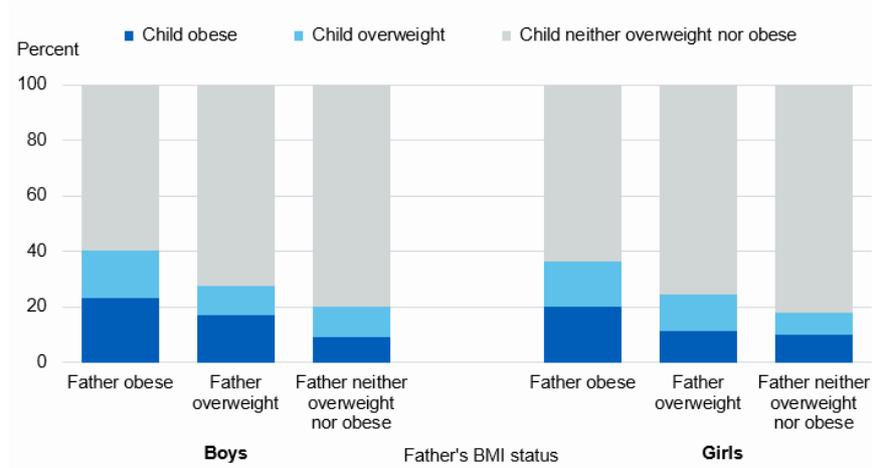
Children of obese mothers were less likely to be a healthy weight (58%) than children whose mothers were overweight but not obese (69%) or those whose mothers were neither overweight nor obese (83%).

The pattern was similar for both boys and girls.



Similarly, 22% of children of obese fathers were themselves obese, compared with 14% of children whose fathers were overweight but not obese, and 9% of children whose fathers were neither overweight nor obese.

61% of children of obese fathers were a healthy weight, compared to 74% of children whose fathers were overweight but not obese. 81% of children were a healthy weight whose fathers were neither overweight nor obese.



For more data/information on this section:

[Adult and child overweight and obesity report: Health Survey for England, 2018 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018>](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018)

Part 5: Physical activity

The health benefits of a physically active lifestyle are well documented and there is a large amount of evidence to suggest that regular activity is related to reduced incidence of many chronic conditions. Physical activity contributes to a wide range of health benefits and regular physical activity can improve health outcomes irrespective of whether individuals achieve weight loss.

In 2019 [new guidelines](https://www.gov.uk/government/collections/physical-activity-guidelines) on the amount of activity recommended for health were published by the Chief Medical Officers of the four UK countries. This states that:

- Adults (aged 19 and over) should aim to be active daily. Over a week, activity should add up to at least 150 minutes of moderate intensity activity or 75 minutes of vigorous intensity activity per week, or a combination of both.
- Adults should also aim to build strength on at least two days a week.
- Children and young people (aged 5 to 18) should aim to be physically active for at least 60 minutes per day across the week.

In 2015 the UK government published '[Sporting Future](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/486622/Sporting_Future_ACCESSIBLE.pdf)', a new strategy for sport and physical activity, which includes 23 new key performance indicators to monitor outputs.

The main data sources used in this section are:

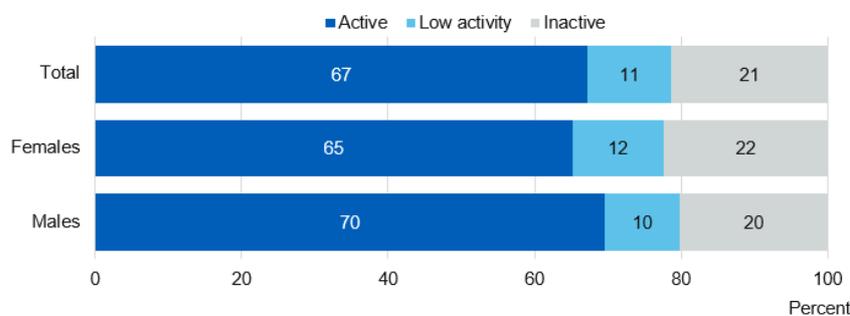
- Adult activity data is taken from the Public Health England physical activity profiles, which is based on analysis of data from Sport England's adult Active Lives Survey (ALS), with responses based on the 12 months to November 2019. In the ALS, gardening is excluded from the measure of physical activity, but is included in the government targets, and hence the PHE analysis. The PHE analysis is also based on adults aged 19 and over, rather than 16 and over in the ALS.
- Child activity data is taken from Sport England's Active Lives Children and Young People Survey (ALS CYP) for the academic year 2018/19. This is based on a survey of persons aged 5-16 in England, and covers measures of activity levels, physical literacy, swimming proficiency, wellbeing, self-efficacy and levels of social trust.
- Walking and cycling information is taken from the Department of Transport's National Travel Survey, as presented in the Walking and Cycling Statistics 2018 publication. It covers persons of all ages.

Adult physical activity

Adult physical activity by gender

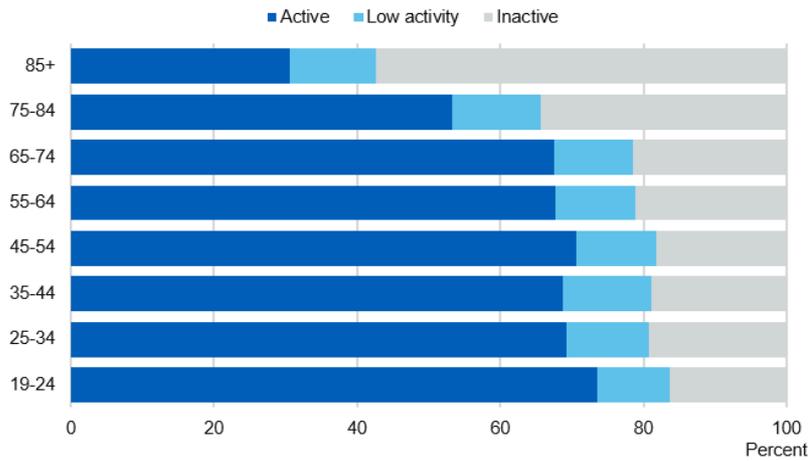
In the 12 months to November 2019, around two thirds of adults (67%) were considered active as per the government guidelines. 21% were considered to be inactive (<30 minutes on average per week).

Men (70%) were more likely to be active than women (65%).



Adult physical activity by age group

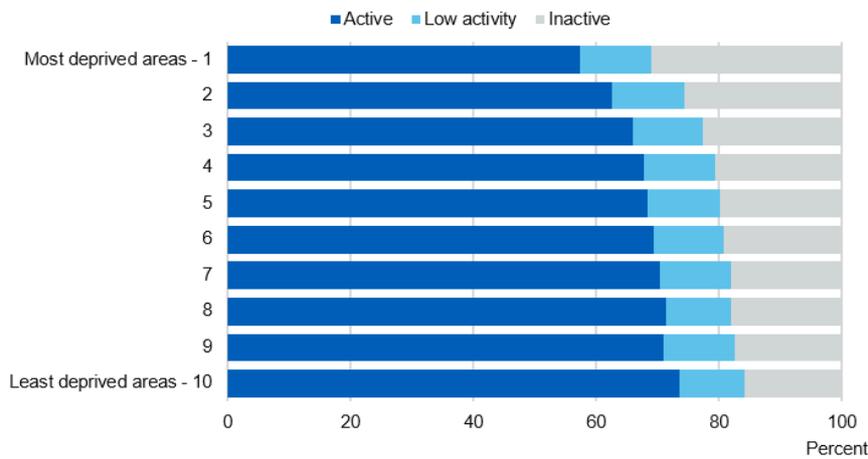
The most active group are those aged 19-24 with 74% considered active. After this levels remain similar (between 68% and 71%), until a decline at ages 75-84 (53% active) and age 85+ (31% active).



Adult physical activity by deprivation level

Deprivation level is based on Index of Multiple Deprivation scores for English Lower Super Output Areas, grouped into deciles.

Activity levels decrease as deprivation increases, from 73% active in the least deprived areas, to 57% in the most deprived areas.



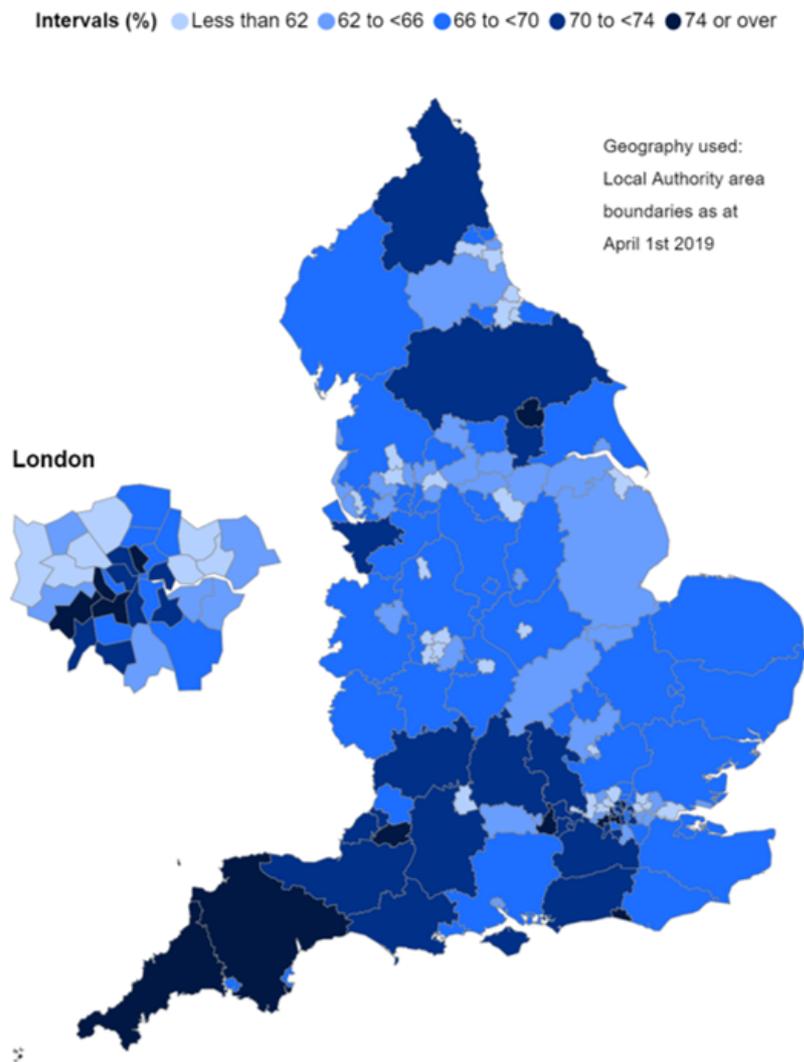
Adult physical activity by Local Authority

Please note that Local Authority data is based on the organisational structure active on April 1st 2019.

The proportion of adults classified as active ranged from 47% to 82% across Local Authorities.

City of London, Wandsworth, Richmond upon Thames, Brighton & Hove, Bath & North East Somerset, Islington, Wokingham, and York all had proportions active above 75%.

Barking & Dagenham, Stoke-on-Trent, Sandwell, and Rotherham had proportions active of less than 55%.



For more data/information on this section:

[Public Health England physical activity profiles <https://fingertips.phe.org.uk/profile/physical-activity/>](https://fingertips.phe.org.uk/profile/physical-activity/)

[Sport England Active Lives Survey <https://www.sportengland.org/research/active-lives-survey/>](https://www.sportengland.org/research/active-lives-survey/)

Walking and cycling activity

Definitions In this section are as follows.

A **trip** is a one-way course of travel with a single main purpose. A “cycling trip” is one where the greatest part was cycled. Trips consist of one or more **stages**. A new stage is defined when there is a change in the mode of transport.

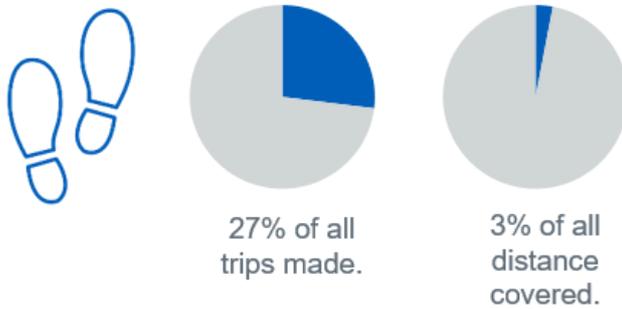
Data on walking includes all walks over 50 yards on the public highway. See the source publication for further details.

Summary of walking activity

In 2018, the average person:

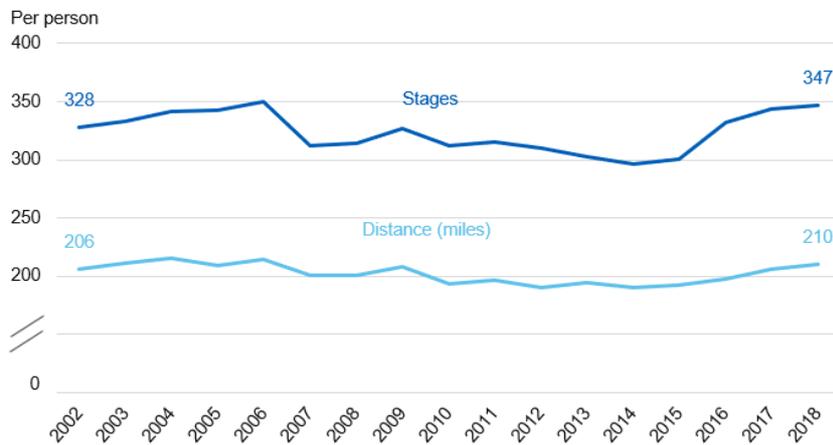
- made 262 walking trips and 347 walking stages.
- walked 210 miles.

- spent about 83 minutes per week travelling by foot.
- walked for an average of 16 minutes per trip.



Trends in walking activity

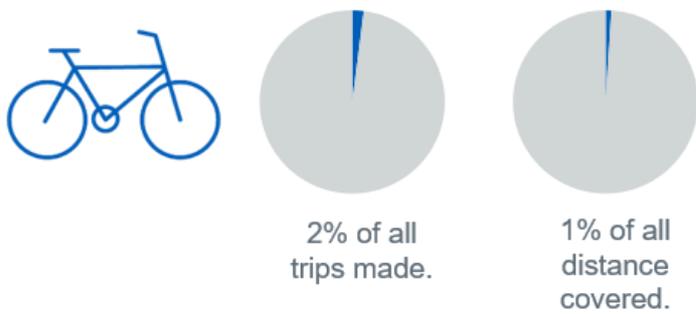
In 2018, the average number of walking stages per person per year increased, but the distance travelled remained at similar levels to previous years. On average, women made 23 more walking trips than men.



Summary of cycling activity

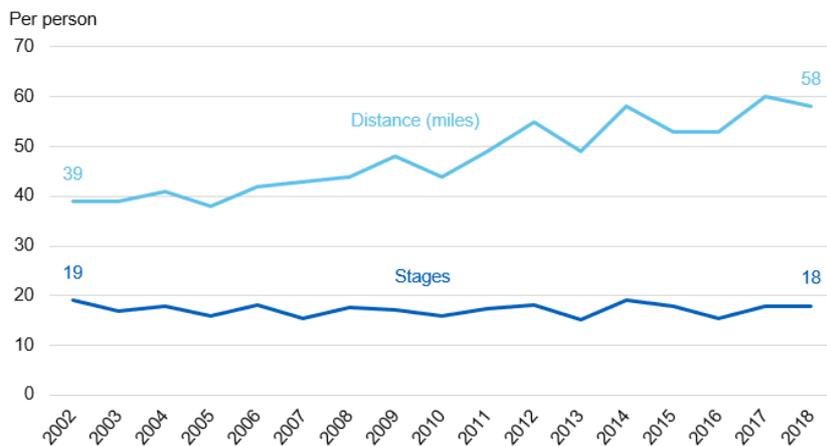
In 2018, the average person:

- made 17 cycling trips and 18 cycling stages.
- cycled 58 miles.
- spent about 8 minutes per week travelling by bike.
- cycled for an average of 23 minutes per trip.



Trends in cycling activity

In 2018, the average number of miles cycled slightly decreased, but the number of cycling stages remained at a similar level to previous years. Men cycle more often and further than women, taking 25 trips compared to 10 trips.



For more data/information on this section:

[Department of Transport: Walking and Cycling Statistics, England, 2018 <https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2018>](https://www.gov.uk/government/statistics/walking-and-cycling-statistics-england-2018)

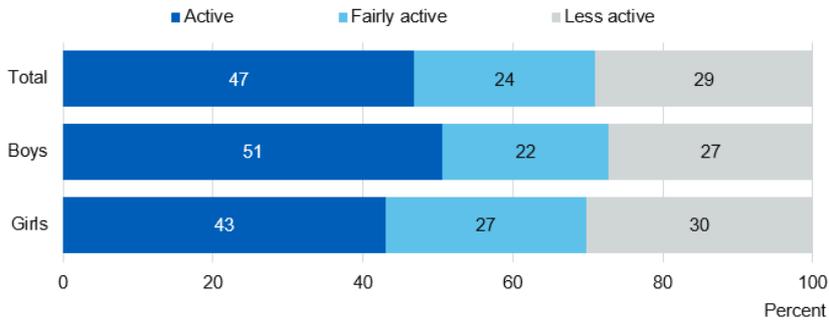
Childhood physical activity

Childhood physical activity by gender

Based on the 2018/19 academic year, 47% of children and young people are meeting the current guidelines of taking part in sport and physical activity for an average of 60 minutes or more every day. This is an increase from 43% in 2017/18.

A further 24% are fairly active, taking part for an average of between 30-59 minutes per day, whilst 29% do less than an average of 30 minutes a day.

Boys (51%) are more likely to be active than girls (43%).

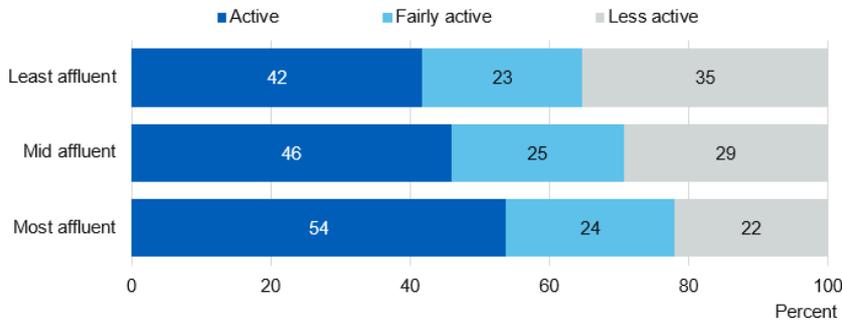


Childhood physical activity by family affluence

The Family Affluence Scale provides an indication of the social status of children and young people’s families. The scale is derived from a series of questions about their home and family such as car ownership, computers, and foreign holidays.

Results show some significant inequalities in activity levels, based on family income.

In total, 35% of children in the least affluent families do fewer than 30 minutes of activity a day, compared to 22% of children from the most affluent families.



For more data/information on this section:

[Sport England: Active Lives Children and Young People Survey 2018/19 <https://www.sportengland.org/know-your-audience/data/active-lives>](https://www.sportengland.org/know-your-audience/data/active-lives)

Part 6: Diet

Poor diet and nutrition are recognised as major contributory risk factors for ill health and premature death. Current [UK diet and nutrition recommendations](https://www.gov.uk/government/publications/the-eatwell-guide) <<https://www.gov.uk/government/publications/the-eatwell-guide>> include:

- At least 5 portions of fruit and vegetables per day for those aged 11 years and over.
- For adults (ages 19 and over), average intakes of red and processed meat should not exceed 70 grams per day.
- At least 1 portion of oily fish (140 grams) per week for all ages (equivalent to 20 grams per day).
- Limit free sugars to no more than 5% of daily calorie intake.
- Limit saturated fat intake to no more than 11% of daily calorie intake.

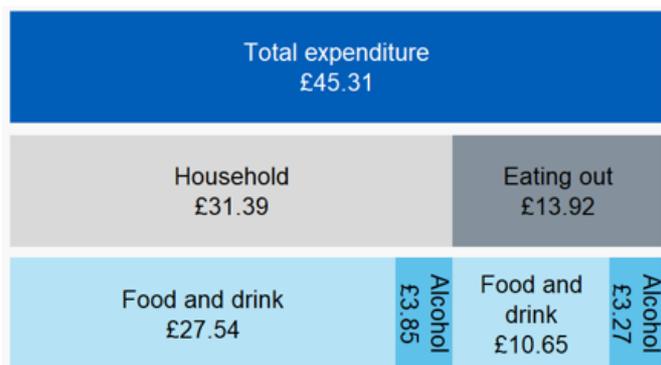
The information for this section comes from three major national surveys:

- Living Costs and Food Survey (LCF) from the Department of Environment, Food and Rural Affairs (DEFRA), as reported in Family Food 2017/18. The LCF collects information on the type and quantity of food and drink purchased in households.
- Data on fruit and vegetable consumption are taken from the Health Survey for England (HSE), covering children aged 5 to 15, and adults aged 16 and over.
- Other food consumption data are taken from the National Diet and Nutrition Survey (NDNS) published by Public Health England. This is a continuous, cross-sectional survey of the UK population aged 1.5 and over. Results are currently published every 2 years, using the most recent 2 years of data, the latest being for 2014/15 and 2015/16. Additionally, time trend analysis including the 2016/17 data was published for the first time in January 2019.

Food and drink expenditure and purchases

Expenditure per week

In 2017/18 the amount that an average household spent on all food and drink, including alcoholic drinks and food eaten out was £45.31 per person per week. When inflation is taken into account, the amount spent was 0.3% more than 2016/17 and 3.8% more than 2014. Household food and non-alcoholic drink purchases formed the largest share at £27.54 per person per week.

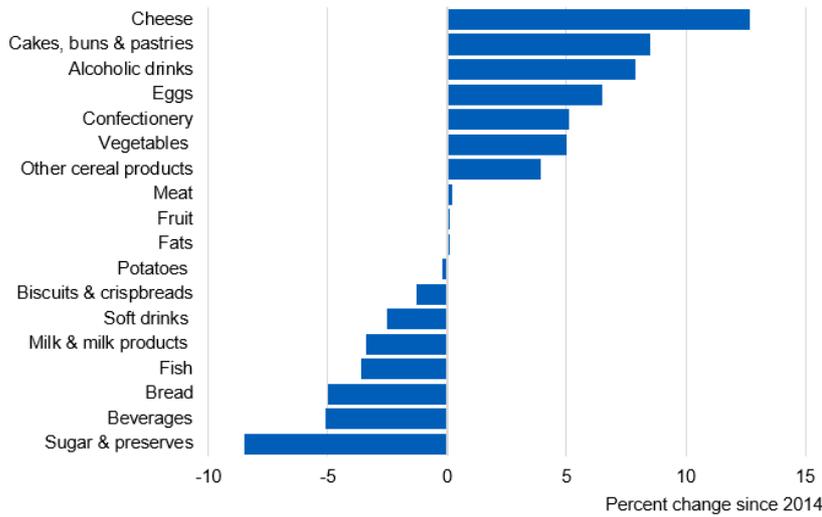


The percentage of spend on food continues to be highest for households with the lowest 20% of income, at 15.2% in 2017/18, although the gap is closing. Food is the largest item of household expenditure for low income households, after housing, fuel and power costs.

Trends in household purchases of food and drink (2014 v 2017/18)

Data is based on changes in grams per person per week, except for liquids in millilitres, and eggs (number).

Since 2014, the largest decreases in quantities purchased have been in sugar & preserves (-9%), beverages (-5%), and bread (-5%). The largest increase has been in cheese purchases (+13%).



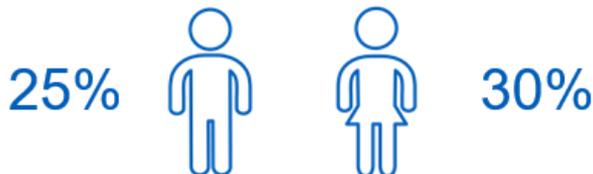
For more data/information on this section:

[Department of Environment, Food and Rural Affairs \(DEFRA\): Family Food 2017/18 <https://www.gov.uk/government/statistics/family-food-201718>](https://www.gov.uk/government/statistics/family-food-201718)

Adult fruit and vegetable consumption

Proportion consuming 5 or more portions a day

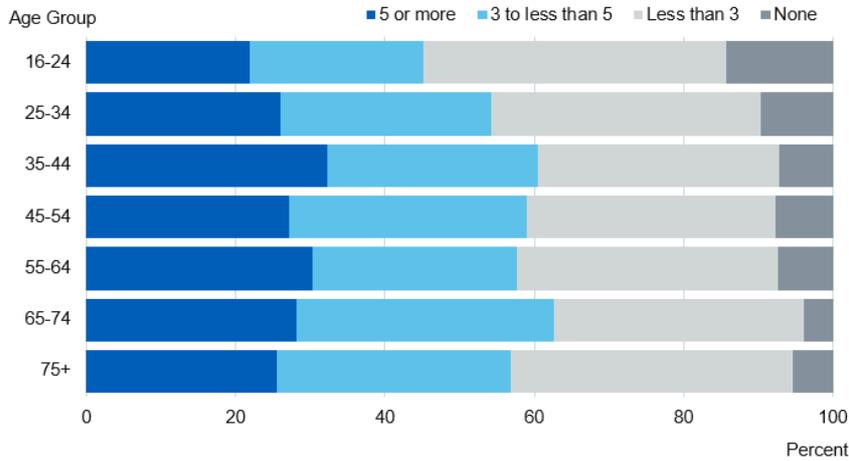
In 2018, 28% of adults were eating the recommended five portions of fruit and vegetables a day. Women were more likely to do so than men.



Portions eaten per day

The mean number of portions of fruit and vegetables consumed by adults between 2010 and 2017 ranged between 3.5 and 3.8 per day. In 2018 it was slightly lower at 3.7 portions per day.

Consumption varied with age, young people aged 16 to 24 consumed on average the lowest number of portions of fruit and vegetables, 3 a day, and were the least likely age group to eat their five a day recommendation, 22%.



For more data/information on this section:

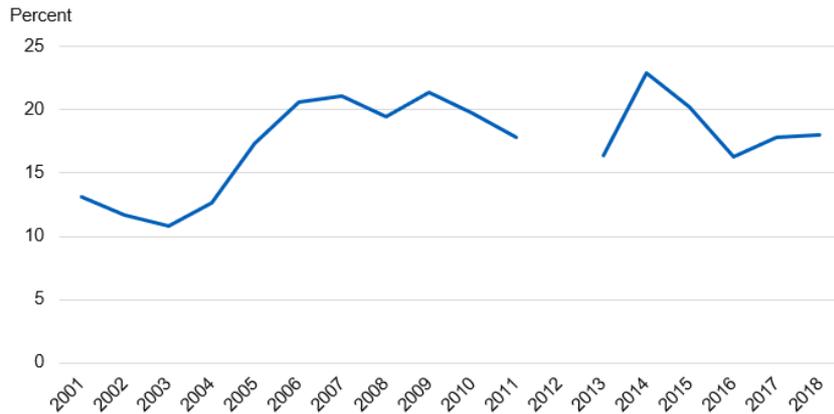
[Adult health related behaviours report, Health Survey for England, 2018 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018/health-survey-for-england-2018-data-tables>](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018/health-survey-for-england-2018-data-tables)

Childhood fruit and vegetable consumption

Proportion consuming 5 or more portions a day

In 2018, 18% of children aged between 5 and 15 ate the recommended five or more portions of fruit and vegetables a day. Results were similar for boys and girls.

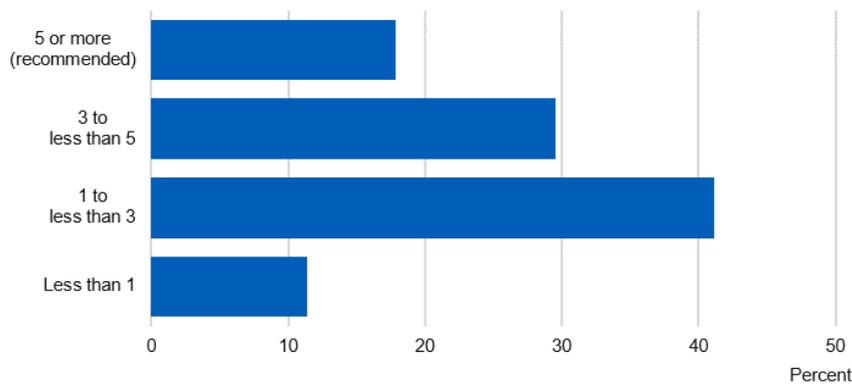
The proportion of children eating five or more portions per day was 11% in 2003 and then increased to 21% in 2006. Since 2007, the prevalence of eating five or more portions has varied between 16% and 23% with no clear trend.



Fruit and vegetable consumption was not measured in 2012.

Portions eaten per day

More children consumed fewer than 3 portions a day (53%) than met the recommended 5 portions (18%).



For more data/information on this section:

[Children's health report, Health Survey for England, 2018 <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018>](https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018)

Food and nutrition intake

PLEASE NOTE: This section has not been subject to an update since the previous version of this publication.

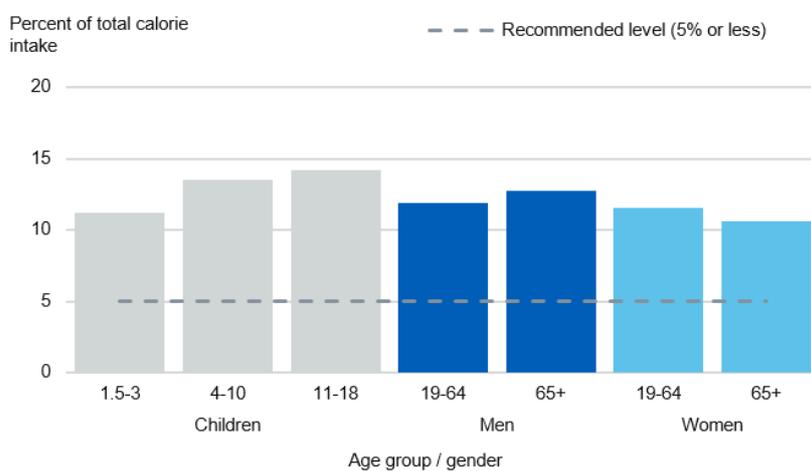
All data in this section is for the United Kingdom. Charts are based on the latest published two-year survey, which covers 2014/15 and 2015/16. Time trend analysis is available to 2016/17. See source publication for more details.

Free sugars intake

Free sugars include all added sugars, sugars naturally present in fruit and vegetable juices, purees and pastes, and all sugars in drinks other than from dairy sources.

Mean intake of free sugars exceeded the government recommendation of providing no more than 5% of total calorie intake in all age groups.

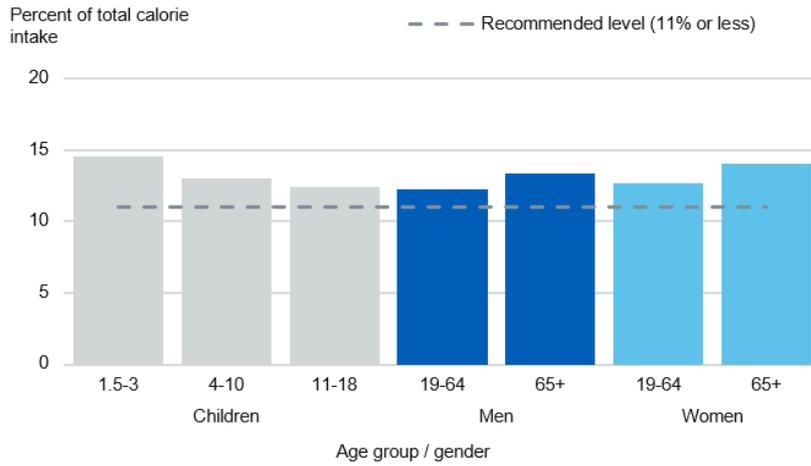
The latest time trend analysis shows the percentage has fallen in children between 2008/09 and 2016/17 by 2.4-3.5 percentage points in each age group, and by 1.2 percentage points in adults.



Saturated fatty acids intake

Mean intake of saturated fats exceeded the recommendation of no more than 11% of total calorie intake in all age groups.

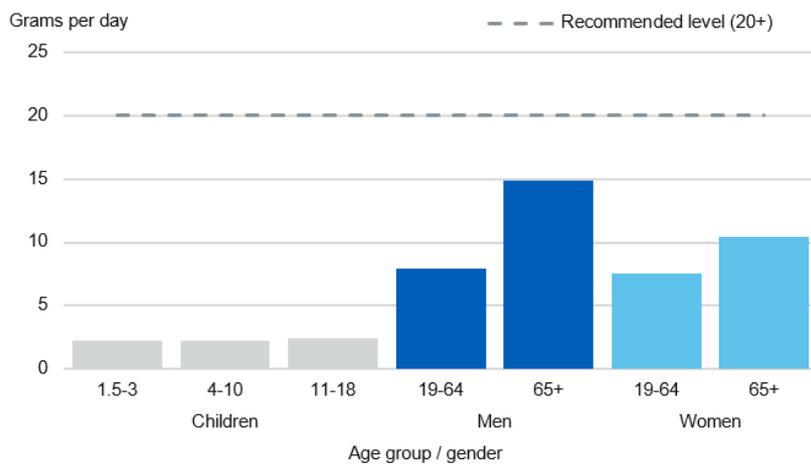
Overall, the percentage showed no change between 2008/09 and 2016/17.



Oily fish intake

Mean consumption of oily fish for all age groups was well below the recommended level of at least one portion per week (equivalent to 20 grams per day).

There was generally little change in oily fish consumption over time.

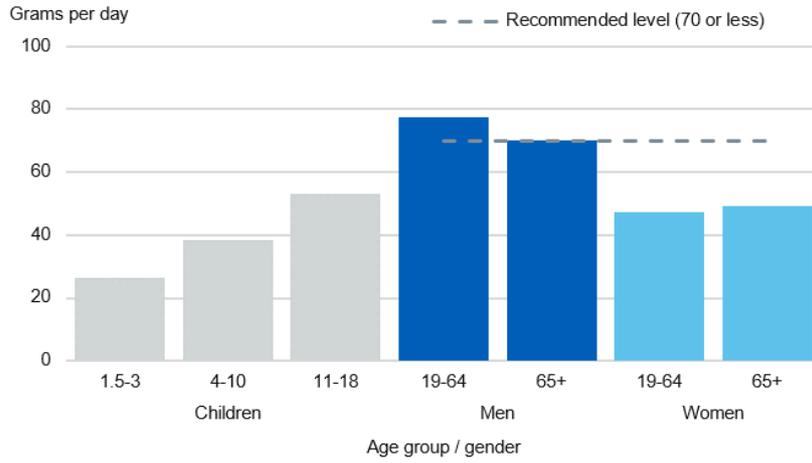


Red and processed meat intake

Mean consumption of red and processed meat for women (aged 19-64 and 65+) met the current maximum recommendation (70 grams or less per day). Mean consumption by adult men exceeded the recommendation.

Consumption has shown a downward trend. For adults aged 19 to 64 years consumption declined by 19g over nine years from 2008/09 to 2016/17. For children aged 11 to 18 years there was a decline of 15g and adults 65 years and over 11g over the same period.

Note that the maximum recommendation is for adults aged 19+ only, though data for ages 1.5 to 18 is also shown.



For more data/information on this section:

[Public Health England: National Diet and Nutrition Survey, 2014/15 and 2015/16 <https://www.gov.uk/government/statistics/ndns-results-from-years-7-and-8-combined>](https://www.gov.uk/government/statistics/ndns-results-from-years-7-and-8-combined)

[Public Health England: National Diet and Nutrition Survey, time trend and income analyses <https://www.gov.uk/government/statistics/ndns-time-trend-and-income-analyses-for-years-1-to-9>](https://www.gov.uk/government/statistics/ndns-time-trend-and-income-analyses-for-years-1-to-9)

Appendices

Appendix A: Key Sources

Some of the sources referred to in this publication are National Statistics. National Statistics are produced to high professional standards set out in the Code of Practice for Statistics. The United Kingdom Statistics Authority (UKSA) assesses all National Statistics for compliance with the Code of Practice.

Some of the statistics included in this publication are not National Statistics and are included here to provide a fuller picture; some of these are Official Statistics, whilst others are neither National Statistics or Official Statistics. Those which are Official Statistics should still conform to the Code of Practice for Statistics, although this is not a statutory requirement.

Those that are neither National Statistics or Official Statistics may not conform to the Code of Practice for Statistics. Unless otherwise stated, all sources contained within this publication are considered robust.

1. Sources used in this report

1.1 The Active Lives Survey - Sport England

The Active Lives Survey (ALS) published by Sport England provides information on participation in sport and recreation. It was conducted for the first time in 2015/16 and replaces the Active People Survey. The survey classifies activity level into active, fairly active and inactive based on the number of minutes of moderate intensity equivalent (MIE) physical activity.

The Active Lives Survey publication is an Official Statistic.

<https://www.sportengland.org/know-your-audience/data/active-lives> <<https://www.sportengland.org/know-your-audience/data/active-lives>>

1.2 Family Food - Department for Environment, Food and Rural Affairs (DEFRA)

Family Food is an annual publication which provides detailed statistical information on purchased quantities, expenditure and nutrient intakes derived from both household and eating out food and drink. Data is collected for a sample of households in the United Kingdom using self-reported diaries of all purchases, including food eaten out, over a two-week period. Where possible, quantities are recorded in the diaries but otherwise estimated. Energy and nutrient intakes are calculated using standard nutrient composition data for each of some 500 types of food. Current estimates are based on data collected in the 'Family Food Module of the Living Costs and Food Survey'.

The Family Food publication is a National Statistic.

<https://www.gov.uk/government/collections/family-food-statistics> <<https://www.gov.uk/government/collections/family-food-statistics>>

1.3 Health at a Glance - Organisation for Economic Cooperation and Development (OECD)

Health at a Glance presents a set of key indicators of health status, determinants of health, health care resources and activities, quality of care, health expenditure and financing in OECD countries.

<http://www.oecd.org/health/health-systems/health-at-a-glance-19991312.htm> <<http://www.oecd.org/health/health-systems/health-at-a-glance-19991312.htm>>

1.4 Health Survey for England - NHS Digital

The Health Survey for England series was designed to monitor trends in the nation's health, to estimate the proportion of people in England who have specified health conditions, and to estimate the prevalence of certain risk factors and combinations of risk factors associated with these conditions. The surveys provide regular information that cannot be obtained from other sources on a range of aspects concerning the public's health and many of the factors that affect health.

Each survey in the series includes core questions and measurements (such as blood pressure, height and weight, and analysis of blood and saliva samples), as well as modules of questions on topics that vary from year to year.

The Health Survey for England has been carried out since 1993.

The Health Survey for England is a National Statistic.

<https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england> <<https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england>>

1.5 Hospital Episode Statistics (HES) - NHS Digital

Hospital Episode Statistics (HES) processes over 125 million admitted patient, outpatient and accident and emergency records each year.

HES is a data warehouse containing details of all admissions, outpatient appointments and A&E attendances at NHS hospitals in England. This data is collected during a patient's time at hospital and is submitted to allow hospitals to be paid for the care they deliver. HES data is designed to enable secondary use, that is use for non-clinical purposes, of this administrative data.

It is a records-based system that covers all NHS trusts in England, including acute hospitals, primary care trusts and mental health trusts. HES information is stored as a large collection of separate records, one for each period of care, in a secure data warehouse.

A detailed record is collected for each 'episode' of admitted patient care delivered in England, either by NHS hospitals or delivered in the independent sector but commissioned by the NHS.

Admitted patient care data is available for every financial year from 1989-90 onwards. HES data is now collected monthly.

Hospital Episode Statistics, Admitted Patient Care Activity publications are national statistics.

<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics>

1.6 National Child Measurement Programme - NHS Digital

Established in 2005/06, the National Child Measurement Programme (NCMP) for England records height and weight measurements of children in state-maintained schools in reception (aged 4–5 years) and year 6 (aged 10–11 years). However, 2006/07 is the first year that the data were considered an acceptable quality although obesity prevalence for year 6 children between 2006/07 and 2008/09 is felt to be an underestimate due to low participation. The programme provides robust data for the child excess weight indicators in the Public Health Outcomes Framework, and is a key element of the Government's approach to tackling child obesity.

Public Health England (PHE) has responsibility for national oversight of the programme, and on its behalf, the central collation and analysis of the NCMP data is coordinated by NHS Digital. Local Authorities have a statutory responsibility to deliver the National Child Measurement Programme.

The National Child Measurement Programme is a National Statistic.

<https://digital.nhs.uk/services/national-child-measurement-programme> <<https://digital.nhs.uk/services/national-child-measurement-programme>>

1.7 National Diet Nutrition Survey - Public Health England

The National Diet and Nutrition Survey (NDNS) is designed to assess the diet, nutrient intake and nutritional status of the general population aged 1½ years and over living in private households in the UK.

<https://www.gov.uk/government/collections/national-diet-and-nutrition-survey> <<https://www.gov.uk/government/collections/national-diet-and-nutrition-survey>>

1.8 National Travel Survey - Department for Transport

The National Travel Survey is a household survey of personal travel by residents of England travelling within Great Britain. This is a long-term survey that began in 1988, with data collected annually in two ways: from an interview with household members, and from trip diaries which respondents keep for 7-day period. All trips, stages and distance statistics are based on the trip diary. In 2016, around 7,000 households and 18,000 individuals took part.

Data from the National Travel Survey feeds into the report 'Walking and cycling statistics, England' also produced by the Department for Transport. This presents information on walking and cycling in England.

<https://www.gov.uk/government/collections/walking-and-cycling-statistics#history> <<https://www.gov.uk/government/collections/walking-and-cycling-statistics#history>>

The National Travel Survey is a National Statistic.

<https://www.gov.uk/government/collections/national-travel-survey-statistics> <<https://www.gov.uk/government/collections/national-travel-survey-statistics>>

1.9 Prescription Data - NHS Digital

The prescription data included in this report combines GP prescriptions data, taken from Prescribing Analysis and Cost Tool (PACT), and hospital prescriptions data, taken from Prescription Cost Analysis (PCA) system.

Prescriptions are written on a prescription form known as FP10 and each single item on the form is counted as a prescription item. Net Ingredient Cost (NIC) is the basic cost of a drug. It does not take account of discounts, dispensing costs, fees or prescription charges income.

PCA data are national statistics.

<https://digital.nhs.uk/data-and-information/areas-of-interest/prescribing> <<https://digital.nhs.uk/data-and-information/areas-of-interest/prescribing>>

2. Other resources related to obesity, physical activity and diet

Annual Reports of the Chief Medical Officer

These reports provide an important record of the nation's health and the major challenges faced by government in tackling the main health problems. The latest reports are available in the links below:

Chief Medical Officer's annual report 2014: Women's health

<https://www.gov.uk/government/publications/chief-medical-officer-annual-report-2014-womens-health>
<<https://www.gov.uk/government/publications/chief-medical-officer-annual-report-2014-womens-health>>

Chief Medical Officer's annual report 2015: Health of the baby boomer generation

<https://www.gov.uk/government/publications/cmo-annual-report-2015-health-of-the-baby-boomer-generation>
<<https://www.gov.uk/government/publications/cmo-annual-report-2015-health-of-the-baby-boomer-generation>>

Association for the Study of Obesity

The Association for the Study of Obesity (ASO) was founded in 1967 and is the UK's foremost charitable organisation dedicated to the understanding and treatment of obesity.

<http://www.aso.org.uk> <<http://www.aso.org.uk>>

Child Measurement Programme Report: Public Health Wales

The Child Measurement Programme (CMP) for Wales contains findings of the programme of child measurements carried out with children attending reception class in schools in Wales.

<http://www.wales.nhs.uk/sitesplus/888/page/67795> <<http://www.wales.nhs.uk/sitesplus/888/page/67795>>

Food Standards Agency

The Food Standards Agency is an independent government department responsible for food safety and hygiene across the UK. They work with businesses to help them produce safe food, and with local authorities to enforce food safety regulations.

<http://www.food.gov.uk/> <<http://www.food.gov.uk/>>

Monitor of Engagement with the Natural Environment: Natural England

Provides trend data for how people use the natural environment in England.

<https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results>
<<https://www.gov.uk/government/collections/monitor-of-engagement-with-the-natural-environment-survey-purpose-and-results>>

National Institute for Health and Clinical Excellence (NICE)

The NICE website includes some information and clinical guidelines on the prevention, identification, assessment and management of overweight and obesity in adults and children.

<http://www.nice.org.uk/CG43> <<http://www.nice.org.uk/CG43>>

National Obesity Forum

The National Obesity Forum (NOF) was established by medical practitioners in May 2000 to raise awareness of the growing health impact that being overweight or obese was having on patients and the NHS.

<http://www.nationalobesityforum.org.uk/> <<http://www.nationalobesityforum.org.uk/>>

PE and Sport Survey: Department for Education

The survey covers research into the proportion of pupils doing 2 hours of curriculum PE in partnership schools, and those exercising for at least 3 hours a week.

<https://www.gov.uk/government/collections/pe-and-sport-survey> <<https://www.gov.uk/government/collections/pe-and-sport-survey>>

Public Health England

Public Health England make physical activity data from a variety of sources available on their Physical Activity profiles.

<https://fingertips.phe.org.uk/profile/physical-activity> <<https://fingertips.phe.org.uk/profile/physical-activity>>

The Public Health England Obesity website (formerly the National Obesity Observatory) provides a single point of contact for wide-ranging authoritative information on data, evaluation, evidence and research related to weight status and its determinants. They work closely with a wide range of organisations and provide support to policy makers and practitioners involved in obesity and related issues.

<https://www.gov.uk/guidance/phe-data-and-analysis-tools#obesity-diet-and-physical-activity> <<https://www.gov.uk/guidance/phe-data-and-analysis-tools#obesity-diet-and-physical-activity>>

Scientific Advisory Committee on Nutrition

The Scientific Advisory Committee on Nutrition (SACN) is an advisory committee of independent experts that provides advice to the Food Standards Agency and Department of Health as well as other government agencies and departments. Its remit includes matters concerning nutrient content of individual foods, advice on diet and the nutritional status of people.

www.sacn.gov.uk/ <<http://www.sacn.gov.uk/>>

The Scottish Health Survey: Scottish Government

The Scottish Health Survey (SHeS) provides a detailed picture of the health of the Scottish population in private households and is designed to make a major contribution to the monitoring of health in Scotland.

<http://www.scotland.gov.uk/Topics/Statistics/Browse/Health/scottish-health-survey>
<<http://www.scotland.gov.uk/Topics/Statistics/Browse/Health/scottish-health-survey>>

Tackling Obesity: Future Choices 2nd Edition Modelling Future Trends in Obesity and Their Impact on Health Foresight: Government Office for Science

This project looked at a sustainable response to obesity can be implemented in the UK over the next 40 years. It gathered scientific evidence from across a wide range of disciplines to inform a strategic view of this issue.

<https://www.gov.uk/government/collections/tackling-obesity-future-choices> <<https://www.gov.uk/government/collections/tackling-obesity-future-choices>>

Tackling Obesity in England: National Audit Office (NAO)

NAO research identified wide variation in the way general practices manage overweight and obese patients, and uncertainty about which treatment and referral options were the most effective.

www.nao.org.uk/publications/0001/tackling_obesity_in_england.aspx
<http://www.nao.org.uk/publications/0001/tackling_obesity_in_england.aspx>

The Taking Part Survey: Department for Culture, Media and Sport

The Taking Part survey provides reliable national estimates of adult and child engagement with sport, libraries, the arts, heritage and museums and galleries.

<https://www.gov.uk/government/collections/sat--2> <<https://www.gov.uk/government/collections/sat--2>>

World Health Organisation

The WHO BMI database provides both national and sub-national adult underweight, overweight and obesity prevalence rates by country, year of survey and gender.

<http://apps.who.int/bmi/> <<http://apps.who.int/bmi/>>

The Welsh Health Survey: Welsh Government

The Welsh Health Survey (WHS) provides information about the health and health-related lifestyles of people living in Wales.

<http://wales.gov.uk/statistics-and-research/welsh-health-survey/?lang=en> <<http://wales.gov.uk/statistics-and-research/welsh-health-survey/?lang=en>>

World Obesity Federation

World Obesity Federation represents professional members of the scientific, medical and research communities from over 50 regional and national obesity associations. Through their membership they create a global community of organisations dedicated to solving the problems of obesity. They aim to lead and drive global efforts to reduce, prevent and treat obesity.

<http://www.worldobesity.org/> <<http://www.worldobesity.org/>>

Appendix B: Technical Notes

1. Obesity

1.1 Adults Body Mass Index (BMI)

Overweight and obesity among adults is measured in the Health Survey for England (HSE) using Body Mass Index (BMI). The BMI is calculated by dividing weight in kilograms, by the square of the height in metres (kg/m^2).

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height}^2 \text{ (m}^2\text{)}}$$

Adults are classified into the following BMI groups:

BMI range (kg/m^2)	Definition
Under 18.5	Underweight
18.5 to less than 25	Normal
25 to less than 30	Overweight
30 and over	Obese
40 and over	Morbidly obese
25 and over	Overweight including obese

1.2 National Institute for Health and Clinical Excellence (NICE) guidance

NICE guidance suggests that the measurement of waist circumference should be used for people with a BMI less than 35kg/m^2 to assess health risks (as shown in the table below). For adults with a BMI of 35kg/m^2 or more, risks are assumed to be very high with any waist circumference. 1.2 National Institute for Health and Clinical Excellence (NICE) guidance

Assessing risk from overweight and obesity

BMI classification	Waist circumference		
	Low	High	Very high
Normal weight (18.5 to less than 25kg/m ²)	No increased risk	No increased risk	Increased risk
Overweight (25 to less than 30kg/m ²)	No increased risk	Increased risk	High risk
Obesity I (30 to less than 35kg/m ²)	Increased risk	High risk	Very high risk
Obesity II (35 to less than 40kg/m ²)	Very high risk	Very high risk	Very high risk
Obesity III (40kg/m ² or more)	Very high risk	Very high risk	Very high risk

For men, low waist circumference is defined as less than 94cm, high as 94-102cm and very high as greater than 102cm. For women, low waist circumference is less than 80cm, high as 80-88cm and very high as greater than 88cm.

Further information on the NICE guidelines: <http://www.nice.org.uk/guidance/CG43> <<http://www.nice.org.uk/guidance/CG43>>

1.3 Children - UK National BMI percentile classification

Due to differences in growth rates among boys and girls at each age, it is not possible to apply a universal formula in calculating obesity and overweight prevalence in children. Each sex and age group therefore needs its own level of classification for obesity.

The British 1990 growth reference (UK90) percentiles are therefore used which gives a BMI threshold for each age above which a child is considered overweight or obese; those children whose BMI is above the 85th percentile are classified as overweight and those children whose BMI is above the 95th percentile are classified as obese. The percentiles are given for each sex and age. According to this method, 15% and 5% of children in 1990 had a BMI above this level and were thus classified as overweight/obese. Increases over 15% and 5% in the proportion of children who exceed the reference 85th/95th percentiles over time indicate an upward trend in the prevalence of overweight and obesity. Unless otherwise specified figures relating to the prevalence of childhood obesity in this report are determined by this method.

2. Hospital admissions

2.1 Measures

The report presents four measures for the number of obesity related hospital admissions:

1. Admissions directly attributable to obesity: NHS hospital finished admission episodes with a primary diagnosis of obesity (code E66).
2. Admissions where obesity was a factor: NHS hospital finished admission episodes with a primary or secondary diagnosis of obesity (code E66).
3. Obesity admissions for bariatric surgery: NHS hospital finished consultant episodes with a primary diagnosis of obesity (code E66), and a primary or secondary procedure for bariatric surgery (the full list of bariatric surgery procedure codes used is shown in section 2.2).
4. Obesity admissions for primary bariatric surgery: As per measure 3 but excluding episodes where the only bariatric surgery procedure(s) were maintenance, revisional, or removal procedures. The number of admissions is a count of the records meeting the required criteria for the measure.

A finished admission episode (FAE) is the first period of in-patient care under one consultant within one healthcare provider. A finished consultant episode (FCE) is a continuous period of admitted patient care under one consultant within one healthcare provider.

Please note that admissions do not represent the number of in-patients, as a person may have more than one admission within the year.

The primary diagnosis is the first of up to 20 diagnosis fields in the Hospital Episode Statistics (HES) dataset and provides the main reason why the patient was in hospital. The secondary diagnosis is one of up to 19 secondary diagnosis fields. A secondary diagnosis does not necessarily indicate obesity as a contributing factor for the admission, but may instead mean that it was relevant to a patient's episode of care.

HES data are classified using the International Classification of Diseases (ICD). The tenth revision of this classification is currently in use (ICD-10). Details of ICD-10 codes used for each of the three measures are included in the excel table footnotes.

These measures do not include outpatient data. Outpatient data is not used as the quality of diagnosis codes are not sufficient to be sure the activity carried out was related to obesity.

Data only includes admissions for residents of England, and for persons with no fixed abode.

2.2 Age-standardised rates

Rates per population for hospital admissions have been directly age-standardised using the European standard populations. This involves adjusting the number of admissions to account for variations in age profiles between areas. Changes in the values of an age-standardised rate should not be affected by any changes in the distribution of an area's population by age.

The European Age Standardised Rate = $\text{Sum of } (a_{i} * e_{i}) \text{ for all age groups } (i) / 100,000$

Where: a_{i} = age specific rate per 100,000

e_{i} = age specific European standard population

2.3 Coding for bariatric surgery

The term "bariatric surgery" is often used to define a group of procedures that can be performed to facilitate weight loss although these procedures can be performed for conditions other than weight loss. It includes stomach stapling, gastric bypasses, sleeve gastrectomy and gastric band maintenance. Using Hospital Episode Statistics (HES) data held at NHS Digital, the number of FCEs for bariatric surgery has been determined where the primary diagnosis was obesity (ICD-10 code E66) and the main or secondary procedure was for bariatric surgery, based on the OPCS code for the relevant time periods. This data includes removals and/or maintenance following an initial procedure, so the counting of the same patient is more likely (where removal and/or maintenance occurred during a later episode of care).

Also presented are admissions for 'primary bariatric surgery'. This excludes those episodes where the only bariatric surgery procedure(s) related to removals and/or maintenance. In this data, patients are likely to only be counted once, for the initial bariatric surgery procedure.

Since 2012/13 the OPCS codes included in the bariatric surgery definition have been aligned with the methodology used for NHS Healthcare Resource Groups (HRGs). The new HRGs were created as a result of work between the National Casemix Office at NHS Digital, the British Obesity and Metabolic Surgery Society (BOMSS) and the Chapter F Digestive System Expert Working Group (EWG). Details of that change can be found in the methodological change notice below:

https://webarchive.nationalarchives.gov.uk/20180328130852f/http://content.digital.nhs.uk/media/13556/Statistics-on-Obesity-Physical-Activity-and-Diet-England-2014/pdf/MethChange201402_SOPAD.pdf
<https://webarchive.nationalarchives.gov.uk/20180328130852f/http://content.digital.nhs.uk/media/13556/Statistics-on-Obesity-Physical-Activity-and-Diet-England-2014/pdf/MethChange201402_SOPAD.pdf>

Latest data are based on the tenth revision of the International Classification of Diseases (ICD-10). The FCE data for bariatric surgery are based on the Office for Population, Censuses and Surveys: Classification of Intervention and Procedures, 4th Revision (OPCS4) codes.

The table below shows the current list of OPCS codes used.

OPCS Code	Description	All bariatric surgery	Primary bariatric surgery
G011	Oesophagogastrectomy and anastomosis of oesophagus to stomach	Yes	Yes
G012	Oesophagogastrectomy and anastomosis of oesophagus to transposed jejunum	Yes	Yes
G013	Oesophagogastrectomy and anastomosis of oesophagus to jejunum NEC	Yes	Yes
G018	Other specified excision of oesophagus and stomach	Yes	Yes
G019	Unspecified excision of oesophagus and stomach	Yes	Yes
G021	Total oesophagectomy and anastomosis of pharynx to stomach	Yes	Yes
G022	Total oesophagectomy and interposition of microvasculature attached jejunum	Yes	Yes
G023	Total oesophagectomy and interposition of jejunum NEC	Yes	Yes
G024	Total oesophagectomy and interposition of microvasculature attached colon	Yes	Yes
G025	Total oesophagectomy and interposition of colon NEC	Yes	Yes
G028	Other specified total excision of oesophagus	Yes	Yes
G029	Unspecified total excision of oesophagus	Yes	Yes
G031	Partial oesophagectomy and end to end anastomosis of oesophagus	Yes	Yes
G032	Partial oesophagectomy and interposition of microvasculature attached jejunum	Yes	Yes
G033	Partial oesophagectomy and anastomosis of oesophagus to transposed jejunum	Yes	Yes
G034	Partial oesophagectomy and anastomosis of oesophagus to jejunum NEC	Yes	Yes
G035	Partial oesophagectomy and interposition of microvasculature attached colon	Yes	Yes
G036	Partial oesophagectomy and interposition of colon NEC	Yes	Yes
G038	Other specified partial excision of oesophagus	Yes	Yes
G039	Unspecified partial excision of oesophagus	Yes	Yes
G271	Total gastrectomy and excision of surrounding tissue	Yes	Yes
G272	Total gastrectomy and anastomosis of oesophagus to duodenum	Yes	Yes
G273	Total gastrectomy and interposition of jejunum	Yes	Yes
G274	Total gastrectomy and anastomosis of oesophagus to transposed jejunum	Yes	Yes
G275	Total gastrectomy and anastomosis of oesophagus to jejunum NEC	Yes	Yes
G278	Other specified total excision of stomach	Yes	Yes
G279	Unspecified total excision of stomach	Yes	Yes
G281	Partial gastrectomy and anastomosis of stomach to duodenum	Yes	Yes
G282	Partial gastrectomy and anastomosis of stomach to transposed jejunum	Yes	Yes
G283	Partial gastrectomy and anastomosis of stomach to jejunum NEC	Yes	Yes
G284	Sleeve gastrectomy and duodenal switch	Yes	Yes
G285	Sleeve gastrectomy NEC	Yes	Yes
G288	Other specified partial excision of stomach	Yes	Yes
G289	Unspecified partial excision of stomach	Yes	Yes
G301	Gastroplasty NEC	Yes	Yes
G302	Partitioning of stomach NEC	Yes	Yes
G303	Partitioning of stomach using band	Yes	Yes
G304	Partitioning of stomach using staples	Yes	Yes
G305	Maintenance of gastric band	Yes	No
G308	Other specified plastic operations on stomach	Yes	Yes
G309	Unspecified plastic operations on stomach	Yes	Yes
G311	Bypass of stomach by anastomosis of oesophagus to duodenum	Yes	Yes
G312	Bypass of stomach by anastomosis of stomach to duodenum	Yes	Yes
G315	Closure of connection of stomach to duodenum	Yes	No
G316	Attention to connection of stomach to duodenum	Yes	No
G321	Bypass of stomach by anastomosis of stomach to transposed jejunum	Yes	Yes
G322	Revision of anastomosis of stomach to transposed jejunum	Yes	No
G323	Conversion to anastomosis of stomach to transposed jejunum	Yes	No
G324	Closure of connection of stomach to transposed jejunum	Yes	No
G325	Attention to connection of stomach to transposed jejunum	Yes	No
G328	Other specified connection of stomach to transposed jejunum	Yes	Yes
G329	Unspecified connection of stomach to transposed jejunum	Yes	Yes
G331	Bypass of stomach by anastomosis of stomach to jejunum NEC	Yes	Yes
G332	Revision of anastomosis of stomach to jejunum NEC	Yes	No
G338	Other specified other connection of stomach to jejunum	Yes	Yes
G387	Removal of gastric band	Yes	No
G491	Gastroduodenectomy	Yes	Yes
G492	Total excision of duodenum	Yes	Yes
G493	Partial excision of duodenum	Yes	Yes
G498	Other specified excision of duodenum	Yes	Yes
G499	Unspecified excision of duodenum	Yes	Yes
G511	Bypass of duodenum by anastomosis of stomach to jejunum	Yes	Yes
G513	Bypass of duodenum by anastomosis of duodenum to jejunum	Yes	Yes
G716	Duodenal switch	Yes	Yes
G717	Reversal of duodenal switch	Yes	No

Appendix C: Government policy, targets and outcome indicators

This appendix covers government policy, targets and outcome indicators related to obesity, physical activity or diet. These are particularly relevant when looking at time series data elsewhere in the report.

1. Obesity

1.1 Childhood obesity plan

The Government launched its new Childhood Obesity Plan in August 2016. The plan aims to significantly reduce England's rate of childhood obesity within the next 10 years. Key measures include a sugar reduction programme, including a soft drinks industry levy, helping children to enjoy an hour of physical activity every day and a healthy rating scheme for primary schools.

<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action>
[<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action>](https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action)

The Government published the second chapter of the Childhood Obesity plan in June 2018, setting out the ambition to halve childhood obesity and significantly reduce the gap in obesity between children from the most and least deprived areas by 2030.

<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action-chapter-2>
[<https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action-chapter-2 >](https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action-chapter-2)

1.2 Sugar reduction

Eating too much sugar can lead to weight gain, which increases the risk of heart disease, type 2 diabetes, stroke and some cancers.

It is also a cause of tooth decay. The sugar reduction programmes aims to take out 20 per cent of sugar in products by 2020, including a 5 per cent reduction in year one. Alongside this, the soft drinks industry levy has been designed to encourage producers to reformulate their overall product mixes by: reducing added sugar content, moving consumer choices towards low sugar and sugarfree brands, and reducing the portion sizes for high sugar drinks.

1.3 Change4Life

Change4Life is the Government's social marketing programme supporting the ambition to halt the rise in childhood obesity. Change4Life aims to inspire a social movement through which government, the NHS, local authorities, businesses, charities, schools, families and community leaders can all play a part in changing behaviour to help improve children's diets and activity levels. Further information is available at: www.nhs.uk/change4life <<http://www.nhs.uk/change4life>>

1.4 One You

Public Health England's One You social marketing campaign, launched in March 2016, aims to inform, energise and engage millions to make changes to improve their health by eating well, moving more, quitting smoking and drinking less. One You provides tools and on-going support to help people reappraise their health and make and sustain changes. The campaign is supported by an extensive range of commercial and public sector partners so adults will encounter One You on their high streets and local services, in pharmacies and GP surgeries.

Further information is available at www.nhs.uk/oneyou <<http://www.nhs.uk/oneyou>>

1.5 National Child Measurement Programme

The National Child Measurement Programme (NCMP) is a mandatory public health function of local authorities. The programme provides robust data on the weight status, including obesity and underweight prevalence, of over a million children in reception year and year 6 each year. This is around 95 per cent of those eligible. The data enable local areas to plan services to tackle child obesity and monitor progress. In most local authorities, parents also receive feedback on their child's weight status along with the offer of further advice and support on achieving a healthy weight for their child.

<https://www.gov.uk/government/collections/national-child-measurement-programme>
<<https://www.gov.uk/government/collections/national-child-measurement-programme>>

1.6 NHS Health Checks

The NHS Health Check programme aims to improve the health and wellbeing of over 15 million adults in England aged 40-74 years through earlier awareness, assessment, and management of the major risks factors and conditions driving premature death, disability and health inequalities in England.

In doing so it will help to prevent heart disease, stroke, diabetes and kidney disease, and raise awareness of dementia both across the population and within high risk and vulnerable groups. The benefits of the programme are likely to be extensive, as the same risks assessed during the check contribute to several cancers, lung disease, and certain types of dementia.

Further information is available at: <http://www.nhs.uk/Conditions/nhs-health-check/Pages/NHS-Health-Check.aspx>
<<http://www.nhs.uk/Conditions/nhs-health-check/Pages/NHS-Health-Check.aspx>>

1.7 NHS Diabetes Prevention Programme

According to Public Health England there are currently 5 million people in England at high risk of developing Type 2 diabetes. If current trends persist, one in three people will be obese by 2034 and one in ten will develop Type 2 diabetes. However, evidence shows that many cases of Type 2 diabetes are preventable.

The Healthier You: NHS Diabetes Prevention Programme (NHS DPP), a joint commitment from NHS England, Public Health England and Diabetes UK, will identify those at high risk and refer them onto an evidence-based behaviour change programme to help reduce their risk. It will be the first at scale national diabetes prevention programme in the world.

Further information is available at: <https://www.england.nhs.uk/ourwork/qual-clin-lead/diabetes-prevention/>
<<https://www.england.nhs.uk/ourwork/qual-clin-lead/diabetes-prevention/>>

2. Physical activity

2.1 'Sporting Future' strategy

'Sporting Future: A New Strategy for an Active Nation' <<https://www.gov.uk/government/publications/sporting-future-a-new-strategy-for-an-active-nation>> was published in December 2015 and set out a new government vision for sport concentrating on five key outcomes – physical wellbeing, mental wellbeing, individual development, social and community development and economic development.

The government has now published its [second annual progress report](https://www.gov.uk/government/publications/sporting-future-second-annual-report) <<https://www.gov.uk/government/publications/sporting-future-second-annual-report>> on the sport strategy, which highlights important achievements such as the new Active Lives survey which will help to develop a fuller understanding of how people engage with sport and physical activity. It also sets out how Sport England is meeting its new responsibility for children's engagement in sport and physical activity from the age of five.

Sport England's own strategy Towards an Active Nation highlights Sport England's new approach, including investing over £194 million into projects focused on improving children's capability and enjoyment and tripling its current investment in tackling inactivity to around £250 million.

Further information can be found at: www.gov.uk/government/publications/sporting-future-second-annual-report
<https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf>
<https://www.gov.uk/government/publications/sporting-future-second-annual-report> <https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf>

2.2 Physical Activity Guidelines

In 2011, the UK Chief Medical Officers published Start Active, Stay Active, which is a UKwide consensus on the amount and type of physical activity we should all aim to do at each stage of our lives. The guidelines include recommendations for very young children (aged under-5), children and young people (5-18 years), adults (19-64 years) and older adults (65 years and over). It also includes specific guidelines on muscle strengthening and minimising sedentary behaviour.

For further information: www.gov.uk/government/publications/start-active-stay-active-a-report-on-physical-activity-from-the-four-home-countries-chief-medical-officers <http://www.gov.uk/government/publications/start-active-stay-active-a-report-on-physical-activity-from-the-four-home-countries-chief-medical-officers>

2.3 Children and Young People in Schools

As announced in the 2016 budget, revenue generated from the 'soft drinks levy' will be used to double the PE and sports premium for primary schools from £160m a year to £320m from September 2017, and to increase the funding for breakfast clubs. Department for Education have also announced a new £415m Healthy Pupils Capital Fund for 2018/19 to be funded through the soft drinks industry levy to provide new facilities to support sports, after-school clubs and activities to promote healthy eating. Government will also continue to invest in the School Games which provides competitive sporting opportunities for children across the country.

2.4 Everybody Active, Every Day

In October 2014, Public Health England published a national physical activity framework, Everybody Active, Every Day, following a nine-month coproduction process with other 1,000 national and local stakeholders and with full ministerial involvement. This framework presented an evidence-based approach to increase levels of physical activity and reduce physical inactivity in local communities based on international evidence of what works to increase population level physical activity.

2.5 Cycling and Walking Investment Strategy

Active travel, such as cycling and walking, has a crucial role to play in improving public health. Walking and cycling are some of the easiest ways for people to build physical activity into their daily lives. The Government's Infrastructure Act 2015 made a commitment to supporting cycling and walking over the long term by requiring Department for Transport to put a strategy in place which sets out the financial resources the Government will make available towards meeting the objectives.

The Cycling and Walking Investment strategy (CWIS) was published in 2017: <https://www.gov.uk/government/publications/cycling-and-walking-investment-strategy>

For further information: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/374914/Fra_mework_13.pdf
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/374914/Fra_mework_13.pdf

3. Diet

3.1 Eatwell Guide

The Eatwell Guide, launched in March 2016 replaces the eatwell plate and reflects Government dietary recommendations, including those recently updated on sugar, fibre and starchy carbohydrates from the Scientific Advisory Committee on Nutrition (SACN) report on Carbohydrates and Health in 2015.

The Eatwell Guide shows the revised proportions of the food groups that should be consumed to help us achieve a healthy balanced diet:

- Eat at least 5 portions of a variety of fruit and vegetables every day.
- Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates; choosing wholegrain versions where possible.
- Have some dairy or dairy alternatives (such as soya drinks); choosing lower fat and lower sugar options.
- Eat some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily).
- Choose unsaturated oils and spreads and eat in small amounts.
- Drink 6-8 cups/glasses of fluid a day.
- If consuming foods and drinks high in fat, salt or sugar, have these less often and in small amounts.

Further information is available at: www.gov.uk/government/publications/the-eatwell-guide

3.2 5-a-day programme

Current recommendations are that everyone should eat at least 5 portions of a variety of fruit and vegetables each day, to reduce the risks of chronic illnesses such as heart disease, stroke and some cancers. The 5-a-day programme aims to increase fruit and vegetable consumption by:

- Raising awareness of the health benefits through targeted communications.
- Improving access to fruit and vegetables.
- Working with national, regional and local organisations.

Advice on the consumption of fruit juice and smoothies within the 5 A Day messaging has changed to reflect new, lower recommendations for sugar. It is now recommended to limit consumption of fruit juice and smoothies together to a total of 150mls (one portion) per day and to consume with meals to reduce the risk of tooth decay.

For further information: <http://www.nhs.uk/LiveWell/5ADAY/Pages/5ADAYhome.aspx>
<<http://www.nhs.uk/LiveWell/5ADAY/Pages/5ADAYhome.aspx>>

3.3 Government Buying Standards for Food and Catering Services (GBSF)

GBSF provide mandatory standards and best practice criteria including aspects of diet/nutrition, sustainability and animal welfare.

They form part of the toolkit associated with the Department for Environment, Food and Rural Affairs' Plan for Public Procurement and are included within the NHS Contract and school food standards.

Public Health England have published guidance on healthier and more sustainable catering and supporting tools to directly support those who must, or have chosen to, meet GBSF and are actively promoting and supporting delivery.

For further information: A Plan for Public Procurement and the supporting toolkit are available at:

<https://www.gov.uk/government/publications/a-plan-for-public-procurement-food-and-catering>
<<https://www.gov.uk/government/publications/a-plan-for-public-procurement-food-and-catering>>

PHE's catering guidance and support tools are available at: <https://www.gov.uk/government/publications/healthier-and-more-sustainable-catering-atoolkit-for-serving-food-to-adults> <<https://www.gov.uk/government/publications/healthier-and-more-sustainable-catering-atoolkit-for-serving-food-to-adults>>

4. Monitoring and guidelines

4.1 Public Health Outcomes Framework

Launched in January 2012, the Public Health Outcomes Framework is comprised of a number of key indicators against which Public Health delivery partners can focus action to improve population health. The framework acts as a stimulus to encourage public health delivery partners to make significant improvements in services and share best practice more widely. The intention is that the introduction of benchmarking (through the indicator measures) will support better public health outcomes – this is consistent with evidence that the introduction of indicator measures can have an influence on achieving successful Health Outcomes - and will have a direct effect on protecting and improving the nation's health.

The Public Health Outcomes Framework Indicators help to provide robust data on diet, body weight and physical activity. This enables local authorities to make decisions about where to target population level interventions to address these issues.

For further information: <https://www.gov.uk/government/collections/public-health-outcomes-framework>
<<https://www.gov.uk/government/collections/public-health-outcomes-framework>>

4.2 NICE guidance

The National Institute for Health and Care Excellence (NICE) has produced a suite of guidance on tackling obesity.

Further information is available at: <https://www.nice.org.uk/search?q=CG43> <<https://www.nice.org.uk/search?q=CG43>>

Appendix D: Further information

Comments on this report would be welcomed. Any questions concerning any data in this publication, or requests for further information, should be addressed to:

The Contact Centre NHS Digital 1 Trevelyan Square Boar Lane Leeds West Yorkshire LS1 6AE

Telephone: 0300 303 5678

Email: enquiries@nhsdigital.nhs.uk

Press enquiries should be made to:

Media Relations Manager

Telephone: 0300 303 5678

Email: enquiries@nhsdigital.nhs.uk

Appendix E: How are the statistics used?

Users and uses of the report

From our engagement with customers, we know that there are many users of the Statistics on Obesity, Physical Activity and Diet report. There are also many users of these statistics who we do not know about. We are continually aiming to improve our

understanding of who our users are in order to enhance our knowledge on what the uses of these data are via recent consultations and feedback forms available online.

Following last year's publication, a consultation was implemented to gain feedback on how to make the report more user-friendly and accessible while also producing it in the most cost-effective way. The results of this consultation can be found at the below link. <http://content.digital.nhs.uk/article/6770/Consultation-on-Lifestyles-Compendia-Reports> <<http://content.digital.nhs.uk/article/6770/Consultation-on-Lifestyles-Compendia-Reports>>

Below is listed our current understanding of the known users and uses of these statistics. Also included are the methods we use to attempt to engage with the current unknown users.

Department of Health and Social Care (DHSC) - frequently use these statistics to inform policy and planning. The Public Health Outcomes Framework was published in January 2012. The document sets out the desired outcomes for public health and how these will be measured. The framework includes specific indicators for the proportion of physically active and inactive adults, excess weight in children (aged 4-5 years and 10-11 years old) and excess weight in adults. The data signposted to in this report will be used to monitor these indicators.

Public Health England - frequently use these data for secondary analysis for example the physical activity profiles (<https://fingertips.phe.org.uk/profile/physical-activity> <<https://fingertips.phe.org.uk/profile/physical-activity>>) and obesity website (<https://www.gov.uk/guidance/phe-data-and-analysis-tools#obesity-dietand-physical-activity> <<https://www.gov.uk/guidance/phe-data-and-analysis-tools#obesity-dietand-physical-activity>>).

Media - these data are used to underpin articles in newspapers, journals, etc.

Public - all information is accessible for general public use for any particular purpose.

Academia and Researchers - a number of academic papers have cited the Statistics on obesity, physical activity and diet as a source of information in peer reviewed papers.

NHS - A wide range of organisations use the information to monitor and target services to tackle obesity, physical activity and diet recommendations. The aim is to provide a key source of obesity, physical activity and diet information for public health, commissioning and performance management colleagues at a national level.

Public Health Campaign Groups - data are used to inform policy and decision making and to examine trends and behaviours.

Ad-hoc requests – the statistics are used by NHS Digital to answer Parliamentary Questions (PQs), Freedom of Information (FOI) request and ad-hoc queries. Ad-hoc requests are received from health professionals; research companies; public sector organisations, and members of the public, showing the statistics are widely used and not solely within the profession.

Unknown Users

This publication is free to access via the NHS Digital website and consequently the majority of users will access the report without being known to us. Therefore, it is important to put mechanisms in place to try to understand how these additional users are using the statistics and also to gain feedback on how we can make these data more useful to them. On the webpage where the publication appears there is a "Contact us" link at the bottom of the page. Any responses are passed to the team responsible for the report to consider.

Data Quality Statement

Purpose of document

This data quality statement aims to provide users with an evidence based assessment of quality of the statistical output included in this publication.

It reports against those of the nine European Statistical System (ESS) quality dimensions and principles appropriate to this output. The original quality dimensions are: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability; these are set out in Eurostat Statistical Law. However more recent quality guidance from Eurostat includes some additional quality principles on: output quality trade-offs, user needs and perceptions, performance cost and respondent burden, and confidentiality, transparency and security.

In doing so, this meets NHS Digital's obligation to comply with the [UK Statistics Authority \(UKSA\) code of practice for statistics](https://www.statisticsauthority.gov.uk/code-of-practice/) and the following principles in particular:

- Trustworthiness pillar, principle 6 (Data governance) which states "Organisations should look after people's information securely and manage data in ways that are consistent with relevant legislation and serve the public good."
- Quality pillar, principle 3 (Assured Quality) which states "Producers of statistics and data should explain clearly how they assure themselves that statistics and data are accurate, reliable, coherent and timely."
- Value pillar, principle 1 (Relevance to Users) which states "Users of statistics and data should be at the centre of statistical production; their needs should be understood, their views sought and acted upon, and their use of statistics supported."
- Value pillar, principle 2 (Accessibility) which states "Statistics and data should be equally available to all, not given to some people before others. They should be published at a sufficient level of detail and remain publicly available."

Relevance

This dimension covers the degree to which the statistical product meets user needs in both coverage and content.

This publication is considered to be of particular interest to NHS and independent sector providers in England and to English NHS commissioning organisations. However, data and findings are likely also to be of interest to a much broader base of users.

Accuracy and reliability

This dimension covers, with respect to the statistics, their proximity between an estimate and the unknown true value.

Most of the information in this report has been previously published. The sources of the information are trusted sources; the majority being either National or Official Statistics. Most sources referenced in this report include a Methodology section for further information.

Hospital admissions from Hospital Episode Statistics (HES) data

The data presented in this report are for inpatients only. Outpatient procedures are not included in these figures due to the primary diagnosis code being poorly populated, and there being no certainty that procedures are for obesity diagnoses.

Further general information on HES data quality, including specific known issues can be found here:

<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/the-processing-cycle-and-hes-data-quality>. <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/the-processing-cycle-and-hes-data-quality>.

Prescription data

Data on the number of prescription items and Net Ingredient Cost (NIC) for drugs prescribed for obesity give a measure of how often a prescriber writes a prescription and it is not an ideal measure of the volume of drugs prescribed as different practices may use different durations of supply. The NIC is the basic cost of a drug as listed in the Drug Tariff or price lists; it does not include discounts, prescription charges or fees.

NHS Prescription services have coded Mazindol within BNF section 4.5 Drugs used in the treatment of obesity, but as prescription data has no information as to why it was prescribed it cannot be stated it was definitely used for the treatment of obesity in this instance. Consequently Mazindol has been excluded, from prescribing data since 2012. The number of data items affected is very small and has a negligible effect on the totals overall.

Survey data

Some of the information presented in the report is taken from survey data. Sometimes the mode of data collection used in a survey can have an impact on how respondents answer the questionnaire. For example, surveys conducted via a face-to-face interview such as the Health Survey for England (HSE) provide an opportunity for an interviewer to use a computer to record the respondent's answers which will improve the quality of the data by ensuring all the questions are completed and not allowing any invalid answers.

By comparison data collected via a self-completion survey such as Smoking, Drinking and Drug Use Amongst Young People (SDD) will have none of these inbuilt validations.

Face-to-face interviews also provide an opportunity to guide the respondent through any interpretation issues such as advice on portion sizes, which is more difficult in a face-to-face interview.

Both modes however may suffer from respondents being tempted to give answers which are considered to be more socially acceptable. This could occur either through the surveys being completed in the home when other family members are present, or through the interviewer being present at a face-to-face interview. However, HSE does include some information such as height and weight (and therefore BMI), and blood pressure which are measured by a nurse and therefore not affected in the same way as the respondent's answers.

Timeliness and punctuality

Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.

This compendia report is published annually and presents or signposts the most up-to-date information available.

Accessibility and clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

All reports are accessible on the NHS Digital website. NHS Digital produced data tables are provided in Excel format and as csv files, as part of the government's requirement to make public data public.

Coherence and comparability

Coherence is the degree to which data which have been derived from different sources or methods but refer to the same topic are similar. Comparability is the degree to which data can be compared over time and domain.

Obesity related hospital admissions

Changes to the figures over time need to be interpreted in the context of improvements in data quality and coverage, improvements in coverage of independent sector activity and changes in NHS practice.

Improved use of secondary diagnosis codes

There is continuing evidence that recording of secondary diagnosis codes is improving over time, which may have contributed (though not fully) to the increases seen in 'admissions where obesity was a factor' over the last ten years. This is demonstrated by looking at year on year increases in the mean number secondary diagnosis codes that were applied to these admissions as below.

Year	Mean diagnosis codes	% Difference
2007/08	4.5	1.8
2008/09	4.5	0.2
2009/10	4.6	2.0
2010/11	5.0	8.0
2011/12	4.9	-1.2
2012/13	5.0	1.7
2013/14	5.2	3.7
2014/15	5.3	1.9
2015/16	5.4	1.7
2016/17	5.6	4.0
2017/18	6.1	7.8
2018/19	6.5	7.0

Break in time series – 2019/10

There is a break in time series in 2009/10. Analysis of obesity coding of admissions data over time identified two issues affecting the obesity related admissions data prior to 2009/10. Firstly, in 2009/10 the introduction of a specific procedure code for maintenance of gastric band added approximately 1,500 records in that year. Secondly, there is evidence that the obesity primary diagnosis code was not applied as consistently before this time, based on analysis of the proportion of bariatric surgery records that included an obesity primary diagnosis.

This affects all the admissions time series data but most significantly 'admissions attributable to obesity' (tables 2.1 and 2.2) and 'obesity admissions for bariatric surgery' (tables 4.1 and 4.2). It is less significant in the 'admissions where obesity was a factor'

measure (tables 3.1 and 3.2), as the impact represents a much smaller part of that data.

Changes to recording of gastric band maintenance

Practices vary between hospitals as to whether gastric band maintenance procedures (introduced as a specific OPCS-4.5 code from 2009/10) are recorded as being carried out in outpatient or inpatient settings. As the data presented in this report are for inpatients only, inconsistencies over time have contributed to the changes seen in recent years. Time series data that excludes maintenance and revisional procedures, (thus removing the effect of these varying recording practices) is shown in table 4.1 (Primary bariatric surgery).

Most providers record none or very few gastric band maintenance procedures as inpatient admissions, but the changes known to us that have a significant effect on the national totals are as below. Though this affects all the obesity related admissions measures (with the exception of primary bariatric surgery), it is less significant in the 'admissions where obesity was a factor' measure (tables 3.1 and 3.2), as bariatric surgery represents a much smaller part of that data (less than 1% in 2017/18).

Please note, the figures quoted are for episodes involving gastric band maintenance where there was no primary bariatric surgery in the same episode (as those that also had a primary bariatric surgery procedure code would be included in the counts regardless).

2013/14

Between 2009/10 and 2012/13 Derby Hospitals NHS Foundation Trust (RTG) recorded around 750 to 1,250 obesity related admissions per year involving gastric band maintenance. In 2013/14 and subsequent years this number was zero or close to zero. In 2013/14 this change represented around half of the decrease in the national bariatric surgery figures (-1,640 overall).

Between 2009/10 and 2012/13 King's College Hospital NHS Foundation Trust (RJZ) recorded around 250 to 400 obesity related admissions per year involving gastric band maintenance. In 2013/14 this number dropped to 53, and just 2 in 2014/15. They have since recorded around 100 per year.

2015/16

From 2015/16 Heart of England NHS Foundation Trust (RR1) has recorded around 300 to 400 obesity related admissions per year involving gastric band maintenance, compared to close to zero prior to 2015/16. In 2015/16 this change accounted for around three quarters of the increase in the national bariatric surgery figures (+406 overall).

Changes to procedure codes effecting the bariatric surgery time series

In 2012/13, changes were made to give a standard definition of "bariatric surgery" using the same methodology as Healthcare Resource Groups (HRGs). The new HRGs were created in 2011/12 Reference Costs collection as a result of work between the National Casemix Office at NHS Digital, the British Obesity and Metabolic Surgery Society (BOMSS) and the Chapter F Digestive System Expert Working Group (EWG). This definitional change has a minimal effect on the previous years' data; between 20 and 30 cases a year from 2009/10 onwards when OPCS 4.5 and 4.6 codes were used, following on from the introduction of a specific code for maintenance of gastric band in OPCS-4.5 in 2009/10. Appendix B shows the current list of OPCS codes included in the definition of bariatric surgery.

More information on the change of codes in 2012/13 is included in the methodological change notice at:

http://content.digital.nhs.uk/media/13556/Statistics-on-Obesity-Physical-Activity-and-Diet-England-2014/pdf/MethChange201402_SOPAD.pdf <http://content.digital.nhs.uk/media/13556/Statistics-on-Obesity-Physical-Activity-and-Diet-England-2014/pdf/MethChange201402_SOPAD.pdf>

In 2016/17, the National Casemix office updated the definition above to remove 2 previously included OPCS codes, and so the data in this publication has been updated to reflect this, creating a break in time series from 2016/17. Based on data in recent years (2015/16 to 2017/18), the change reduces the total by between 250 and 320 records per year.

More information on the change of codes in 2016/17 is included in the methodological change notice at:

https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/methodological-changes/methchange20190205_sopad.pdf <https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/methodological-changes/methchange20190205_sopad.pdf>

Changes to the calculation of hospital admission rates

Admission rates per head of population were changed in the 2017 report to be age standardised based on the European Standard Population. Prior to 2017, these rates were not standardised. More information is available from the methodological change notice at:

http://content.digital.nhs.uk/media/23838/Announcement-of-methodological-change-to-Statistics-on-Obesity-Physical-Activity-and-Diet-England---2017/pdf/MethChange20170316_SOPAD.pdf <http://content.digital.nhs.uk/media/23838/Announcement-of-methodological-change-to-Statistics-on-Obesity-Physical-Activity-and-Diet-England---2017/pdf/MethChange20170316_SOPAD.pdf>

Other HES data issues

2016/17

Around one third of all records for Nottingham University Hospitals Trust were submitted to the Hospital Episode Statistics database without patient identifiers such as postcode. This means it was not possible to assign a Local Authority or Clinical Commissioning Group of Residence to these admission records, so they will not appear in the tables. This will mainly affect the Nottingham and Nottinghamshire areas with a smaller impact on surrounding areas and the East Midlands and England totals.

Trade offs between output quality components

This dimension describes the extent to which different aspects of quality are balanced against each other.

Most previously published sources referenced in this report include a methodology section which will contain specific information about trade-offs.

New analyses by NHS Digital consist of HES statistics. HES data quality information, including details of trade-offs, is available here:

<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/the-processing-cycle-and-hes-data-quality> <<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/the-processing-cycle-and-hes-data-quality>>

Assessment of user needs and perceptions

This dimension covers the processes for finding out about users and uses and their views on the statistical products.

The compendia reports on drug misuse, alcohol, smoking and obesity were subject to a National Statistics consultation in 2016. The report on the findings of the consultation and the NHS Digital response are available at:

<http://content.digital.nhs.uk/article/6770/Consultation-on-Lifestyles-Compendia-Reports> <<http://content.digital.nhs.uk/article/6770/Consultation-on-Lifestyles-Compendia-Reports>>

NHS Digital is keen to gain a better understanding of the users of this publication and of their needs; feedback is welcome and may be sent to enquires@nhsdigital.net (please include 'SOPAD' in the subject line).

Performance, cost and respondent burden

This dimension describes the effectiveness, efficiency and economy of the statistical output.

All data used within this report is either already published or is part of an existing dataset. Therefore, no data is collected specifically for this report.

Confidentiality, transparency and security

The procedures and policy used to ensure sound confidentiality, security and transparent practices.

These publications are subject to a NHS Digital risk assessment prior to issue.

Some of the data contained in this publication are National or Official Statistics. The code of practice for statistics is adhered to from collecting the data to publishing.

Details of relevant NHS Digital procedure and policy information can be found below:

[NHS Digital Statistical Governance Policy](https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/related-documents/statistical-governance-policy.pdf) <<https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/related-documents/statistical-governance-policy.pdf>>

[NHS Digital Freedom of Information Process](https://digital.nhs.uk/about-nhs-digital/contact-us/freedom-of-information) <<https://digital.nhs.uk/about-nhs-digital/contact-us/freedom-of-information>>

[NHS Digital Statement of Compliance with Pre-Release Order](https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/related-documents/nhs-digital-statement-of-compliance-with-pre-release-access-order-2008.pdf) <<https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/related-documents/nhs-digital-statement-of-compliance-with-pre-release-access-order-2008.pdf>>

[NHS Digital Disclosure Control Procedure](https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/related-documents/disclosure-control-procedure.pdf) <<https://digital.nhs.uk/binaries/content/assets/website-assets/publications/publications-admin-pages/related-documents/disclosure-control-procedure.pdf>>

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