

Obesity in Wales



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The notes sections in this presentation include technical information relating to the corresponding slide to aid user understanding. The notes sections include the following headings:

- Indicator definition
- Caveats
- Data source, geography & period
- Further information
- References

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Introduction

The **Obesity in Wales** report provides an overview of the prevalence of obesity in Wales and its health consequences. It also includes information on the health behaviours associated with obesity and people's views on food and spending.

This report has been created to support Welsh Government's 'Healthy Weight: Healthy Wales' strategy and the accompanying consultation. It also aims to inform strategic healthy weight planning in the future. Where possible, it includes health data across the life course, from reception aged children to adolescents and adults.

Key messages relating to each indicator are included in the slide banner. The notes sections provide further guidance on the indicator definition, any caveats, and the methods and data sources used.

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Key messages (1)

Prevalence and burden of disease

- Over a quarter of children in Wales are overweight or obese, including 12.4% who are obese. There has been little change in the prevalence since 2012/13 although there has been an increase in the most recent period.
- Wales has a higher percentage of adolescents self-reporting to be overweight or obese compared to England, 10% higher among boys and 6% higher among girls.
- Almost 60% of adults in Wales are currently overweight or obese, of which 24% are obese. There is evidence of an upward trend in recent years.
- It is estimated that the percentage of adults who are overweight or obese will increase to around 64% by 2030 if the current pattern continues.
- The prevalence of obesity in 4-5 year olds is 6% higher in those living in the most deprived areas in Wales compared to the least deprived; this rises to a 13% difference in adults.
- High BMI is one of the top three leading risk factors for Disability-Adjusted Life Years (DALYs), 1.6 times the contribution of alcohol use.
- High BMI is the leading risk factor for Years Lived with Disability (YLD). The top three risk factors are directly linked to diet and obesity.

Key messages (2)

Food and drink environment

- The prevalence of obesity is 7% higher in adults eating no portions of fruit or veg compared to those eating five or more portions of fruit or veg.
- Less than a third of adolescents in Wales report to eat a portion of vegetables once a day. Less than a quarter of adults in Wales report to eat five portions of fruit and vegetables a day.
- Nearly 10% of adults prepare food themselves less than once a week; over 20% reported that they ate ready meals at least once a week.
- Welsh residents spent 18% less on fruit and vegetables in 2015-17 compared to 2006-08.
- One in ten Welsh residents reported that they could not always afford to eat a balanced diet.
- One in twenty Welsh residents often worried that they would run out of food before having enough money to buy more.
- Around one in five adults in Wales report to drink above guidelines, with higher rates in the less deprived areas.
- Overweight/obesity is not associated with drinking above the recommended guidelines of alcohol but is significantly associated with high risk drinking.

Key messages (3)

Physical activity

- The prevalence of obesity is significantly lower amongst those reporting to meet physical activity guidelines.
- Less than twenty percent of adolescents are physically active for 60 minutes every day; the rate in girls is half that of boys.
- 54% of adults undertake the recommended 150 minutes of physical activity per week; however, the rate for females is lower than that of males across all ages.
- The percentage of adults meeting physical activity guidelines is 15% higher in the least deprived areas compared to the most deprived areas.

Good to know (1)

Glossary

BMI – Body Mass Index, is a value derived from the weight and height of an individual. The BMI is defined as the weight divided by the square of the body height and is expressed in units of kg/m^2 . BMI is commonly used in public health to determine the prevalence of overweight or obese (BMI 25+) and obese adults (BMI 30+) and as a risk factor for several health issues. However, BMI is not able to distinguish between lean and fat body mass and does not capture information on the distribution of fat across the body; both of these factors can influence the impact on health, and may vary by sex, age and ethnicity.

YLD – Years lived with disability, the number of incident cases in the period is multiplied by the average duration of the disease and a weight factor that reflects the severity of the disease on a scale from 0 (perfect health) to 1 (deceased).

YLL – Years of life lost, the number of years of life lost due to premature mortality.

DALYs – Disability-adjusted life years, the sum of years of life lost (YLL) and years live with disability (YLD). One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.

Deprivation – Welsh Index of Multiple Deprivation (WIMD) 2014 is an area-based rather than individual-based measure. Therefore, not everyone living in a deprived area is necessarily living in deprived circumstances and, equally, some people living in an area classed as least deprived may experience deprivation.

Good to know (2)

Survey data

The majority of inputs included in this report use self-reported data from a variety of surveys e.g. National Survey for Wales, Welsh Health Survey, Health Behaviour in School-aged Children and Food and You survey.

There is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.

Health-related behaviours can be a complex area to measure, there may be some differences between what people report and what they do. For instance, levels of physical activity may be overestimated and alcohol consumption underestimated.

The Welsh Health Survey ceased in 2015 and was replaced by the National Survey for Wales in 2016/17. Results from these two surveys are not comparable due to changes in methodology.

Projections

Projections are **estimates** based on various assumptions about the future.

Projections assume the population projections are an accurate reflection of future population change.

Short term projections are reasonable indications of the direction of travel over the next three years **if** the pattern in the observed data persists.

Longer term projections must be viewed with extreme caution due to the likelihood that observed past trends will change.

Overweight and obesity prevalence

Obesity in Wales

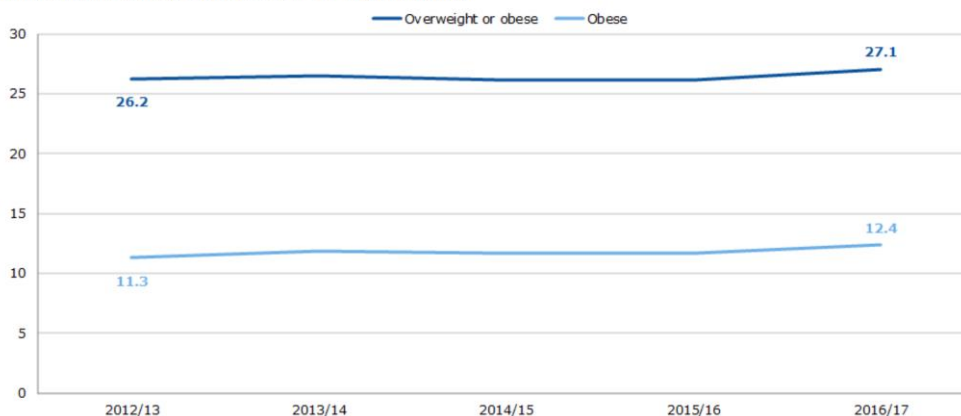


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Over a quarter of children in Wales are overweight or obese, including 12.4% that are obese. There has been little change in the prevalence since 2012/13 although there has been an increase in the most recent period.

Children who were overweight or obese, percentage, children aged 4-5, Wales, 2012/13 to 2016/17
 Produced by Public Health Wales Observatory, using CMP (NWIS)



Overweight and obesity prevalence

10



Indicator definition:

- Overweight or obese - The percentage of children aged 4 to 5 years who are in the 85th centile and above as according to the British 1990 growth reference scale (UK90)¹.
- Obese - The percentage of children aged 4 to 5 years are in the 95th centile and above as according to the British 1990 growth reference scale (UK90)¹.
- The Child Measurement Programme for Wales objectively measures the heights and weights of all children that meet the following criteria:
 - Resident in Wales and attend a reception class in school in Wales.
 - The child's fifth birthday falls between the 1st September and 31st August of the year group.
 - Parents have not opted them out of the programme.
- The BMI was calculated using a method proposed by Keys et al².

Caveats:

- Includes children whose parents did not opt out of the programme (94.1% measured in 2016/17).
- Excludes children wearing a plaster cast and children who cannot be weighed for health reasons.
- The British 1990 growth reference (UK90) does not include ethnic minorities and there are known variations in growth patterns between children from different ethnic groups.

Data source, geography & period:

- Child Measurement Programme, NHS Wales Informatics Service
- Wales
- 2012/13 to 2016/17 (academic year)

Further information:

Further information on the Child Measurement Programme can be found here:
<http://www.wales.nhs.uk/sitesplus/888/page/67795>

References:

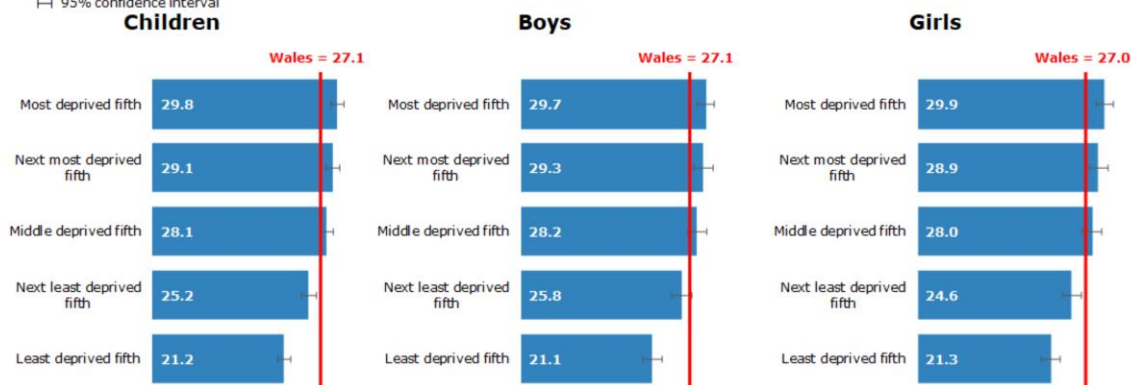
1. Cole, T.J. et al Body mass index reference curves for the UK. Archives of Disease in Childhood. 1995; 73: 25-9. Cited in Dinsdale H, Ridler C, Ells L J. A simple guide to classifying body mass index in children. 2011. Oxford: National Obesity Observatory.
2. Keys, A. et al Indices of relative weight and obesity. Journal of Chronic Diseases. 1972; 25:329-343.

The overweight or obese prevalence is significantly lower in the least deprived areas for children aged 4-5, the prevalence is 8% higher in the most deprived areas.

Children who are overweight or obese by deprivation fifth, percentage, children aged 4-5, Wales, 2016/17

Produced by Public Health Wales Observatory, using CMP (NWIS) & WIMD 2014 (WG)

— 95% confidence interval



Indicator definition:

- Overweight or obese - The percentage of children aged 4 to 5 years who are in the 85th centile and above as according to the British 1990 growth reference scale (UK90)¹
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths, based on the child's postcode of residence.
- The Child Measurement Programme for Wales objectively measures the heights and weights of all children that meet the following criteria:
 - Resident in Wales and attend a reception class in school in Wales.
 - The child's fifth birthday falls between the 1st September and 31st August of the year group.
 - Parents have not opted them out of the programme.

Caveats:

- Includes children whose parents did not opt out of the programme (94.1% measured in 2016/17).
- Excludes children wearing a plaster cast and children who cannot be weighed for health reasons.
- The British 1990 growth reference (UK90) does not include ethnic minorities and there are known variations in growth patterns between children from different ethnic groups.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

- Child Measurement Programme, NHS Wales Informatics Service
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales by deprivation fifth
- 2016/17 (academic year)

Further information:

Further information on the Child Measurement Programme can be found here:
<http://www.wales.nhs.uk/sitesplus/888/page/67795>

References:

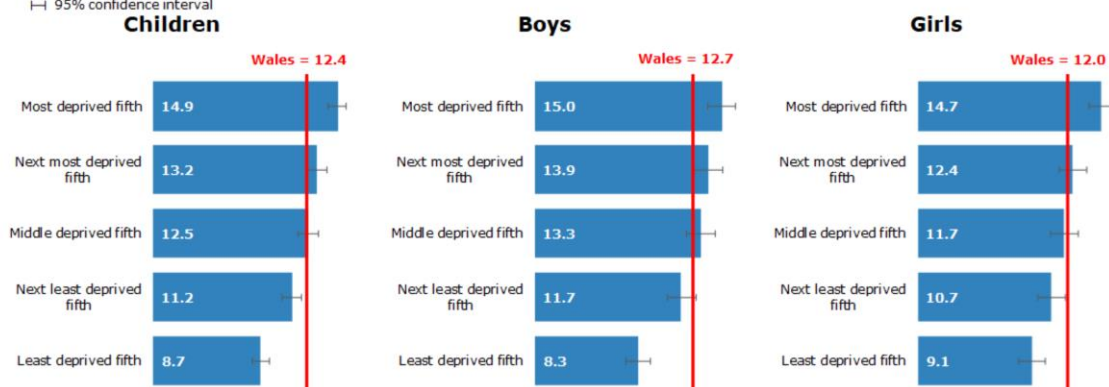
- Cole, T.J. et al Body mass index reference curves for the UK. Archives of Disease in Childhood. 1995; 73: 25-9. Cited in Dinsdale H, Ridler C, Ellis L J. A simple guide to classifying body mass index in children. 2011. Oxford: National Obesity Observatory.
- Keys, A. et al Indices of relative weight and obesity. Journal of Chronic Diseases. 1972; 25:329-343.

The prevalence of obesity in children aged 4-5 increases with deprivation. It is 1.7 times higher in the most deprived areas than the least deprived areas.

Children who are obese by deprivation fifth, percentage, children aged 4-5, Wales, 2016/17

Produced by Public Health Wales Observatory, using CMP (NWIS) & WIMD 2014 (WG)

— 95% confidence interval



Overweight and obesity prevalence

12

Indicator definition:

- Obese - The percentage of children aged 4 to 5 years are in the 95th centile and above as according to the British 1990 growth reference scale (UK90)¹
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths, based on the child's postcode of residence.
- The Child Measurement Programme for Wales objectively measures the heights and weights of all children that meet the following criteria:
 - Resident in Wales and attend a reception class in school in Wales.
 - The child's fifth birthday falls between the 1st September and 31st August of the year group.
 - Parents have not opted them out of the programme.

Caveats:

- Includes children whose parents did not opt out of the programme (94.1% measured in 2016/17).
- Excludes children wearing a plaster cast and children who cannot be weighed for health reasons.
- The British 1990 growth reference (UK90) does not include ethnic minorities and there are known variations in growth patterns between children from different ethnic groups.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

- Child Measurement Programme, NHS Wales Informatics Service
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales by deprivation fifth
- 2016/17 (academic year)

Further information:

Further information on the Child Measurement Programme can be found here:

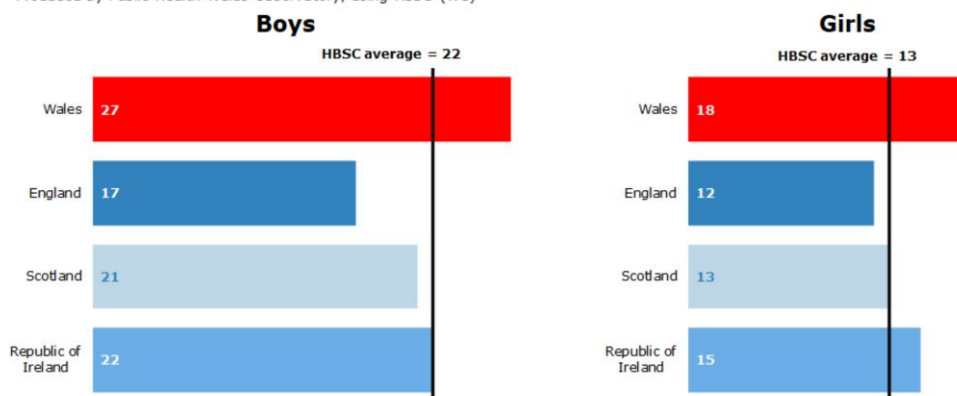
<http://www.wales.nhs.uk/sitesplus/888/page/67795>

References:

1. Cole, T.J. et al Body mass index reference curves for the UK. Archives of Disease in Childhood. 1995; 73: 25-9. Cited in Dinsdale H, Ridler C, Ellis L J. A simple guide to classifying body mass index in children. 2011. Oxford: National Obesity Observatory.
2. Keys, A. et al Indices of relative weight and obesity. Journal of Chronic Diseases. 1972; 25:329-343.

Wales has a higher percentage of adolescents self-reporting to be overweight or obese compared to England, Scotland and Republic of Ireland. Rates are generally higher in boys than girls.

Adolescents reporting to be overweight or obese, percentage, boys and girls aged 15, Wales, England, Scotland & Republic of Ireland, 2013/14
Produced by Public Health Wales Observatory, using HBSC (WG)



Overweight and obesity prevalence

13

Indicator definition:

- The percentage of children aged 15 years who self-reported to be overweight or obese
- Young people were asked how much they weigh without clothes and how tall they are without shoes, and to record these in country appropriate units (centimetres versus inches, pounds versus kilograms). These data were (re)coded in centimetres and kilograms, respectively, to compute the body mass index (BMI) as weight (kg) divided by height squared (m^2). The analysis presented uses the international BMI standards for young people adopted by the International Obesity Taskforce (IOTF), called the IOTF BMI cut-off points¹.

Caveats:

- BMI data is calculated from self-reported height/weight figures and from a smaller sample size owing to high levels of non-response, should be treated with some caution.
- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales, England, Scotland & Republic of Ireland
- 2013/14

Further information:

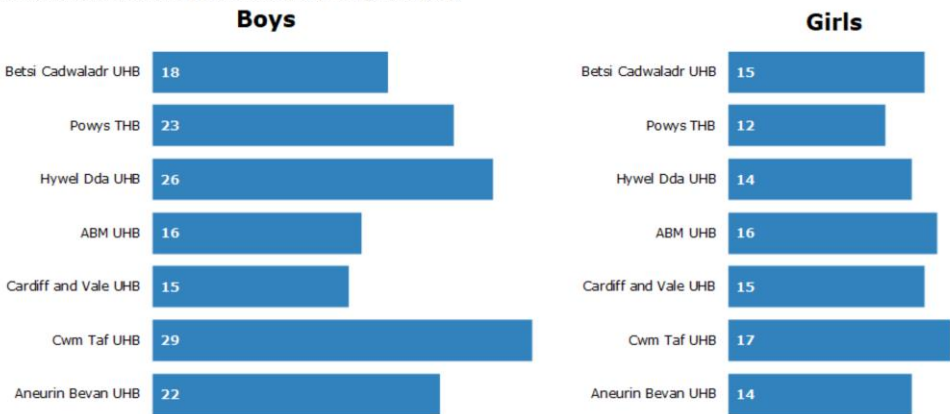
Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

References:

- Cole. T.J et al. Extended international (IOTF) body mass index cut-offs for thinness, overweight and obesity. *Pediatric Obesity*. 2012; 7(4): 284-294.

There is substantial geographical variation in adolescent obesity rates. The highest percentage of adolescent boys and girls aged 11-16 self-reporting to be overweight or obese is in Cwm Taf UHB.

Adolescents reporting to be overweight or obese, percentage, boys and girls aged 11-16, Wales health boards, 2013/14
Produced by Public Health Wales Observatory, using HBSC (WG)



Indicator definition:

- The percentage of children aged 15 years who self-reported to be overweight or obese
- Young people were asked how much they weigh without clothes and how tall they are without shoes, and to record these in country appropriate units (centimetres versus inches, pounds versus kilograms). These data were (re)coded in centimetres and kilograms, respectively, to compute the body mass index (BMI) as weight (kg) divided by height squared (m²). The analysis presented uses the international BMI standards for young people adopted by the International Obesity Taskforce (IOTF), called the IOTF BMI cut-off points¹.

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Data source, geography & period:

- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales health boards
- 2013/14

Further information:

Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

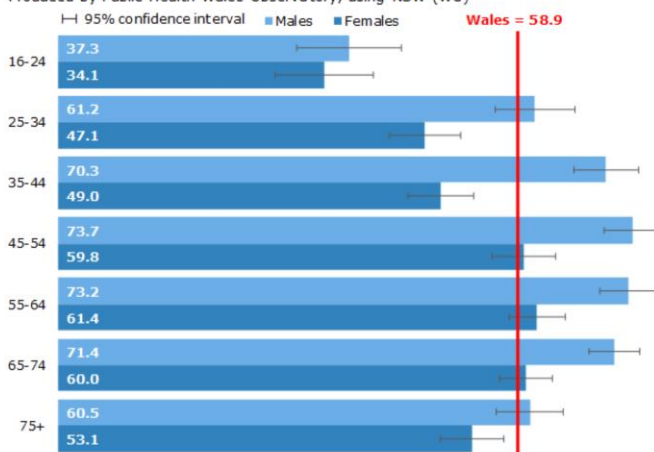
References:

1. Cole. T.J et al. Extended international (IOTF) body mass index cut-offs for thinness, overweight and obesity. Pediatric Obesity. 2012; 7(4): 284-294.

The percentage of adults reporting to be overweight or obese is higher in men than women for each age group.

Adults reporting to be overweight or obese by age and sex, percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW (WG)



Indicator definition:

- The percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+ by sex and 10-year age group
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

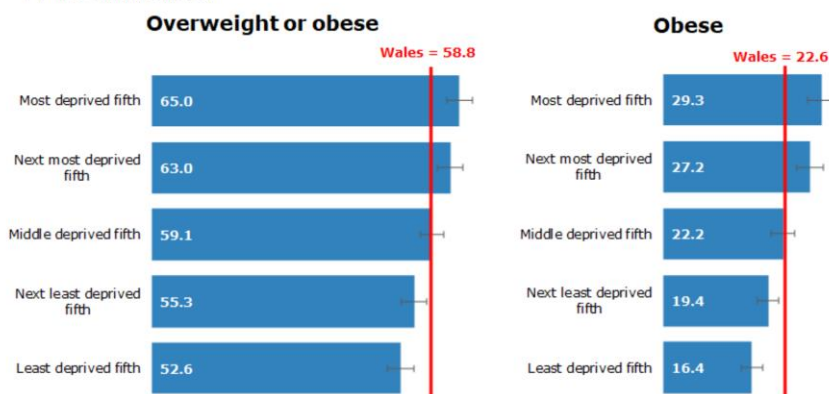
Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

The prevalence of overweight or obese, and obese adults increases with deprivation. There is a 12% difference in the prevalence between the most and least deprived areas in Wales.

Adults reporting to be overweight or obese by deprivation fifth, age-standardised percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW & WIMD 2014 (WG)

— 95% confidence interval



Overweight and obesity prevalence

16



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Indicator definition:

- Overweight or obese – The age-standardised percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+
- Obese – The age-standardised percentage of adults aged 16+ who self-reported to have a BMI of 30+
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales by deprivation fifth
- 2016/17

Further information:

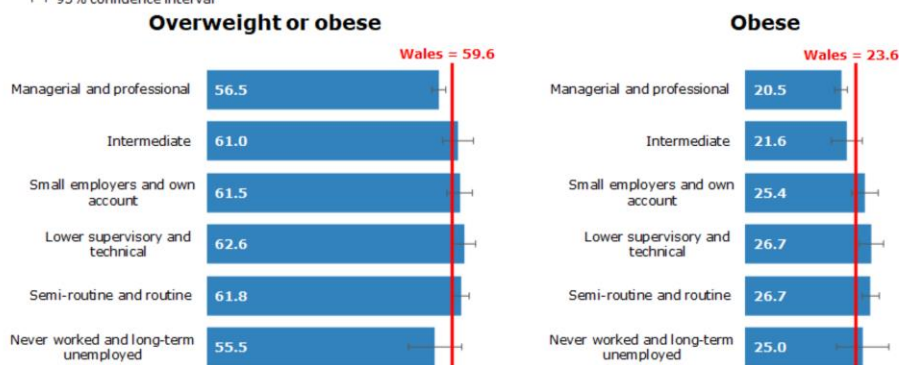
Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

A lower percentage of adults in managerial and professional occupations were overweight or obese.

Adults reporting to be overweight or obese by NS-SEC, age-standardised percentage, persons aged 16+, Wales, 2015

Produced by Public Health Wales Observatory, using WHS (WG)

— 95% confidence interval



Overweight and obesity prevalence

17



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Indicator definition:

- The age-standardised percentage of adults aged 16+ who self-reported to be overweight or obese (BMI 25+) or obese (BMI 30+) by National Statistics Socio-economic Classification (NS-SEC).
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- Wales
- 2015

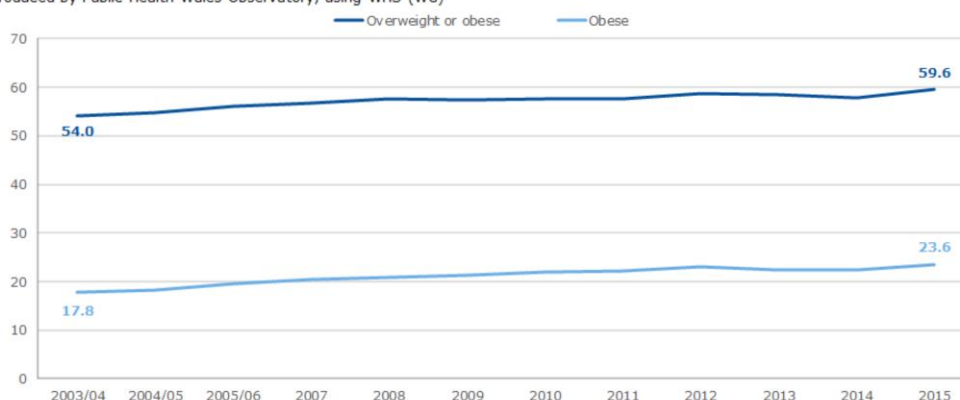
Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

The historic trend shows an increase in the percentage of overweight or obese adults from 54.0% in 2003/04 to 59.6% in 2015. There has been a similar increase in obesity from 17.8% to 23.6% over the same period.

Adults reporting to be overweight or obese, age-standardised percentage, persons aged 16+, Wales, 2003/04 to 2015

Produced by Public Health Wales Observatory, using WHS (WG)



Indicator definition:

- Overweight or obese - The age-standardised percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+
- Obese – The age-standardised percentage of adults aged 16+ who self-reported to have a BMI of 30+
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- Wales
- 2003/04 to 2015

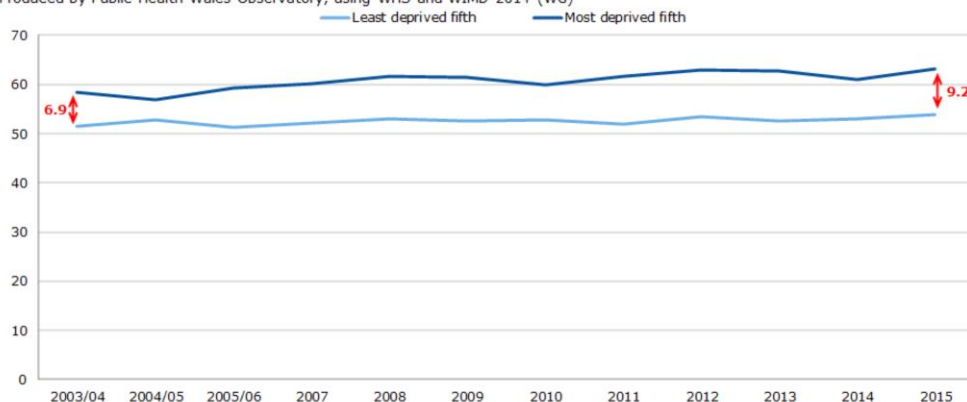
Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

The gap between the percentage of overweight or obese adults in the least and most deprived areas increased from 6.9 percentage points in 2003/04 to 9.2 in 2015.

Adults reporting to be overweight or obese by deprivation fifth, age-standardised percentage, persons aged 16+, Wales, 2003/04 to 2015

Produced by Public Health Wales Observatory, using WHS and WIMD 2014 (WG)



Indicator definition:

- Overweight or obese - The age-standardised percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales
- 2003/04 to 2015

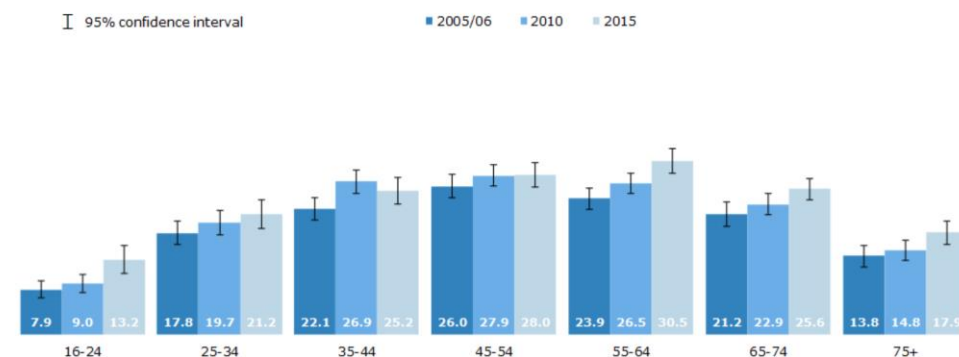
Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

The highest percentage of adults reporting to be obese was found in the 55-64 age group in 2015. The percentage of obese adults has increased in all the age groups since 2005.

Adults reporting to be obese by 10-year age group, percentage, persons aged 16+, Wales, 2005/06, 2010 and 2015

Produced by Public Health Wales Observatory, using WHS (WG)



Indicator definition:

- Obese – The percentage of adults aged 16+ who self-reported to have a BMI of 30+ by 10-year age group
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- 860 records (6.0%) in 2005/06 did not have a BMI calculated; 1,299 (8.1%) in 2010 did not have a BMI calculated; 1,179 records (8.6%) in 2015 did not have a BMI calculated. Some of these records will be due to pregnancy.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- Wales
- 2005/06, 2010 and 2015

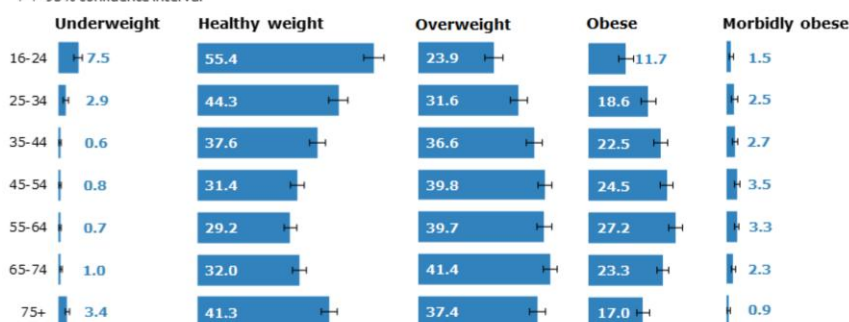
Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

The lowest prevalence of adults reporting to have a healthy weight is in adults aged 55-64.

BMI category by 10-year age group, percentage, persons aged 16+, Wales, 2015
Produced by Public Health Wales Observatory, using WHS (WG)

— 95% confidence interval



BMI: Underweight <18.5; healthy weight 18.5 to <25; overweight 25 to <30; obese 30 to <40; morbidly obese 40+

Overweight and obesity prevalence

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Indicator definition:

- The percentage of adults aged 16+ who self-reported to have a Body Mass Index of:
 - Underweight – <18.5
 - Healthy weight – 18.5 to <25
 - Overweight – 25 to <30
 - Obese – 30 to <40
 - Morbidly obese – 40+
- The data are available by 10-year age group
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- 1,179 records (8.6%) in 2015 did not have a BMI calculated. Some of these records will be due to pregnancy.

Data source, geography & period:

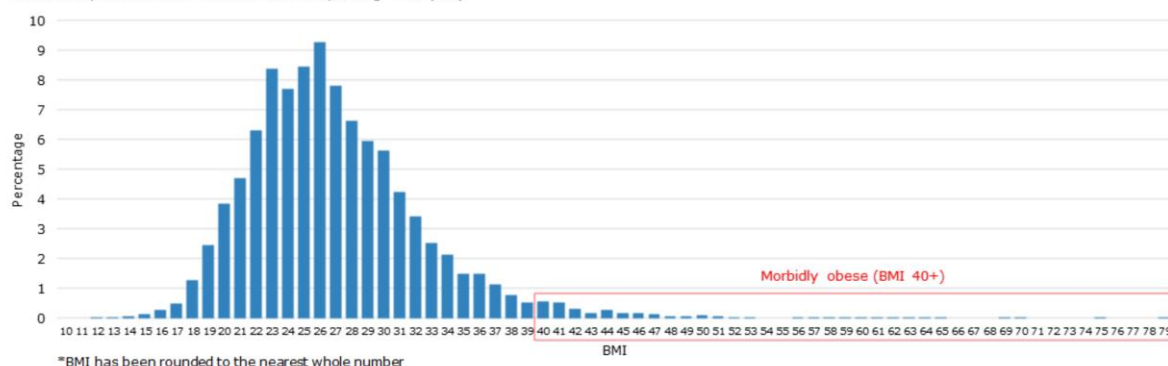
- Welsh Health Survey (WHS), Welsh Government
- Wales
- 2015

Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

The distribution of BMI in adults surveyed in 2015 ranges from 12 to 79. The percentage of the population reporting to be morbidly obese (BMI 40+) is 2.5%, this equates to around 60,000 people.

BMI distribution*, percentage, persons aged 16+, Wales, 2015
Produced by Public Health Wales Observatory, using WHS (WG)



Indicator definition:

- The percentage distribution of self-reported Body Mass Index (BMI) of adults aged 16+
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- 1,179 records (8.6%) in 2015 did not have a BMI calculated. Some of these records will be due to pregnancy.
- The number of morbidly obese people has been calculated by applying the prevalence to mid-year population estimates for persons aged 16+. It does not take into account the variation of morbidly obese prevalence by age.

Data source, geography & period:

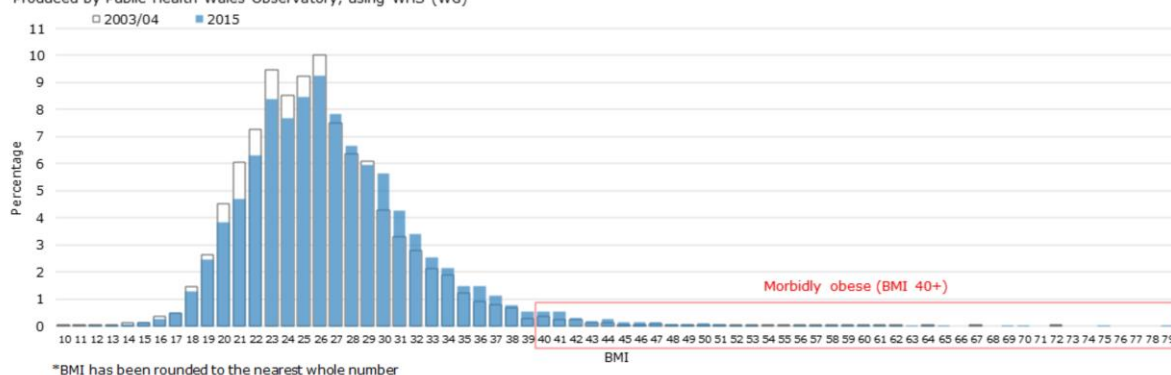
- Welsh Health Survey (WHS), Welsh Government
- Wales
- 2015

Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

Since 2003/04, self-reported body mass index in Wales has generally increased. The prevalence in healthy weight BMI (18.5 to <25) has decreased whereas overweight or obese BMI (25+) has increased.

BMI distribution*, percentage, persons aged 16+, Wales, 2003/04 and 2015
Produced by Public Health Wales Observatory, using WHS (WG)



Indicator definition:

- The percentage distribution of self-reported Body Mass Index (BMI) of adults aged 16+
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- 1,179 records (8.6%) in 2015 did not have a BMI calculated. Some of these records will be due to pregnancy.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- Wales
- 2003/04 and 2015

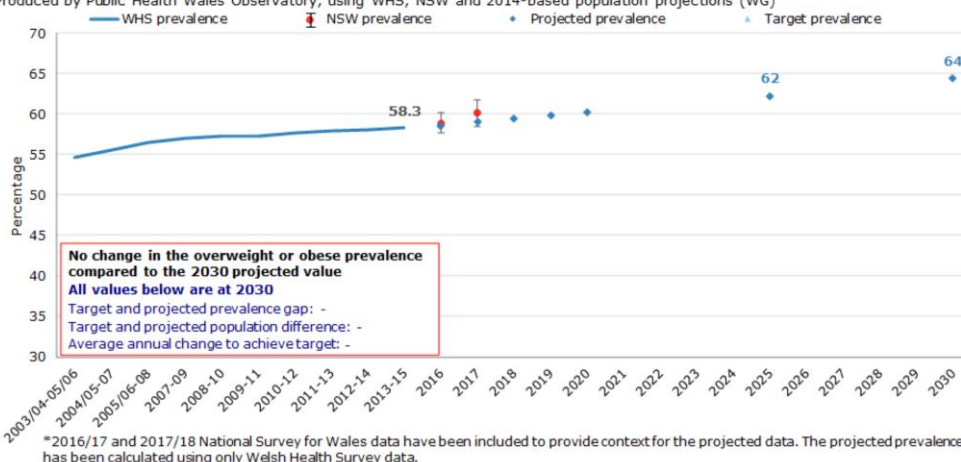
Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

It is estimated that the percentage of adults who are overweight or obese will increase to around 64% by 2030 if the current pattern continues.

Adults reporting to be overweight or obese, percentage, persons aged 16+, Wales, observed 2003/04-2015 and projected 2016-2030*

Produced by Public Health Wales Observatory, using WHS, NSW and 2014-based population projections (WG)



Overweight and obesity prevalence

24

Indicator definition:

- Overweight or obese - The percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- The projection was calculated using an extrapolation method which examines historical trends and cycles, then uses mathematical techniques to extrapolate to the future.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- The overweight or obese prevalence projections are estimates. They are based on various assumptions which may or may not hold true in the future. Extreme caution must be taken when interpreting these results.**

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- National Survey for Wales (NSW), Welsh Government
- 2014-based population projections, Office for National Statistics
- Wales
- 2003/04-2005/06 to 2013-15 observed, 2016 to 2030 projected

Further information:

Further information on the WHS can be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

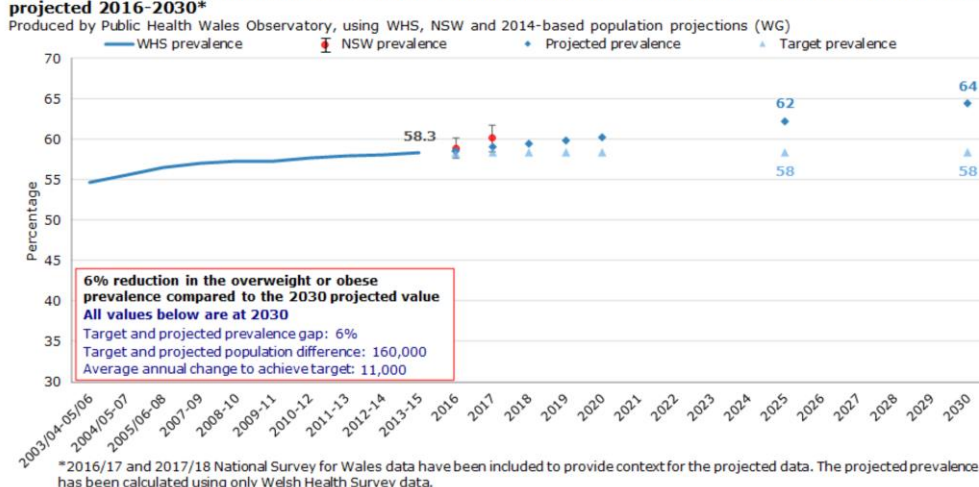
Further information on the NSW can be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Full details of the projection method can be found here:

[http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/\\$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf](http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf)

In order to maintain the current prevalence (~58%), there would need to be around 160,000 fewer overweight or obese adults by 2030 compared to the projected prevalence.

Adults reporting to be overweight or obese, percentage, persons aged 16+, Wales, observed 2003/04-2015 and projected 2016-2030*



Overweight and obesity prevalence

25

Indicator definition:

- Overweight or obese - The percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+
- A hypothetical 2030 target prevalence of 58% has been set to show the population change associated with maintaining the current overweight or obese prevalence.
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- The projection was calculated using an extrapolation method which examines historical trends and cycles, then uses mathematical techniques to extrapolate to the future.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- The overweight or obese prevalence projections are estimates. They are based on various assumptions which may or may not hold true in the future. Extreme caution must be taken when interpreting these results.**
- The projected population difference has been calculated by applying the projected and target prevalence to population projection figures for persons aged 16+. It does not take into account the variation of overweight or obese prevalence by age.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- National Survey for Wales (NSW), Welsh Government
- 2014-based population projections, Office for National Statistics
- Wales
- 2003/04-2005/06 to 2013-15 observed, 2016 to 2030 projected

Further information:

Further information on the WHS can be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

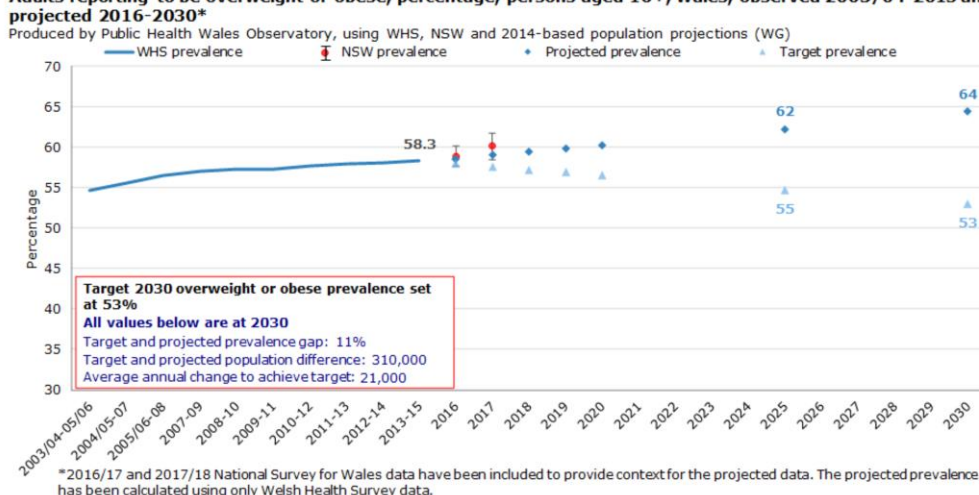
Further information on the NSW can be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Full details of the projection method can be found here:

[http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/\\$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf](http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf)

To reduce the current prevalence by 5% by 2030, there would need to be around 300,000 fewer overweight or obese adults by 2030 compared to the projected prevalence.

Adults reporting to be overweight or obese, percentage, persons aged 16+, Wales, observed 2003/04-2015 and projected 2016-2030*



Overweight and obesity prevalence

26

Indicator definition:

- Overweight or obese - The percentage of adults aged 16+ who self-reported to have a Body Mass Index (BMI) of 25+.
- A hypothetical 2030 target prevalence of 53% has been set to show the population change associated with reducing the current overweight or obese prevalence by ~5%.
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- The projection was calculated using an extrapolation method which examines historical trends and cycles, then uses mathematical techniques to extrapolate to the future.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- The overweight or obese prevalence projections are estimates. They are based on various assumptions which may or may not hold true in the future. Extreme caution must be taken when interpreting these results.**
- The projected population difference has been calculated by applying the projected and target prevalence to population projection figures for persons aged 16+. It does not take into account the variation of overweight or obese prevalence by age.

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- National Survey for Wales (NSW), Welsh Government
- 2014-based population projections, Office for National Statistics
- Wales
- 2003/04-2005/06 to 2013-15 observed, 2016 to 2030 projected

Further information:

Further information on the WHS can be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

Further information on the NSW can be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Full details of the projection method can be found here:

[http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/\\$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf](http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf)

Burden of disease

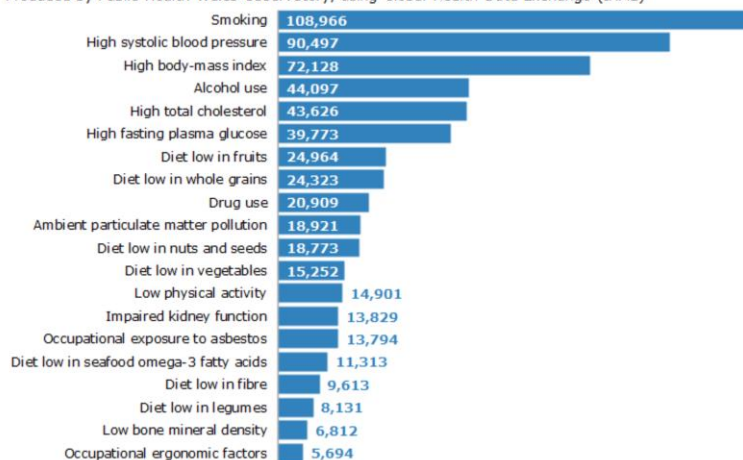
Obesity in Wales



High Body-Mass Index (BMI) is one of the top three leading risk factors for Disability-Adjusted Life Years (DALYs), 1.6 times the contribution of alcohol use.

Top 20 Global Burden of Disease identified risk factors for disability-adjusted life years (DALYs), count of DALYs, all persons, all ages, Wales, 2016

Produced by Public Health Wales Observatory, using Global Health Data Exchange (IHME)



Burden of disease

28



Arlylfia Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- Top 20 identified risk factors for Disability Adjusted Life Years (DALYs) lost for persons all ages.
- DALYs are the sum of Years of Life Lost (YLLs) and Years Lived with Disability (YLDs). DALYs are also defined as years of healthy life lost
- The Global Burden of Disease Study 2016 (GBD 2016) provides internationally comparable burden of diseases estimates.

Caveats:

- The report provides modelled estimates not direct measurements and the results should therefore not be compared to any direct measures reported for Wales.
- Uncertainty in any of the raw data or parameters used in the model will result in imprecision in the estimates themselves.
- The rankings provided are only an indication of the relative contribution of different risk factors to the burden of disease and the certainty of the ranking will depend on the strength of underlying evidence.
- The method used attributes DALYs to the risk factors based on the conditions they are known to be associated with, there can therefore be a lag period between the occurrence of the risk factors and the manifestation of the health impact which can be considerable in some cases.

Data source, geography & period:

- Global Health Data Exchange, Institute for Health Metrics and Evaluation
- Wales
- 2016

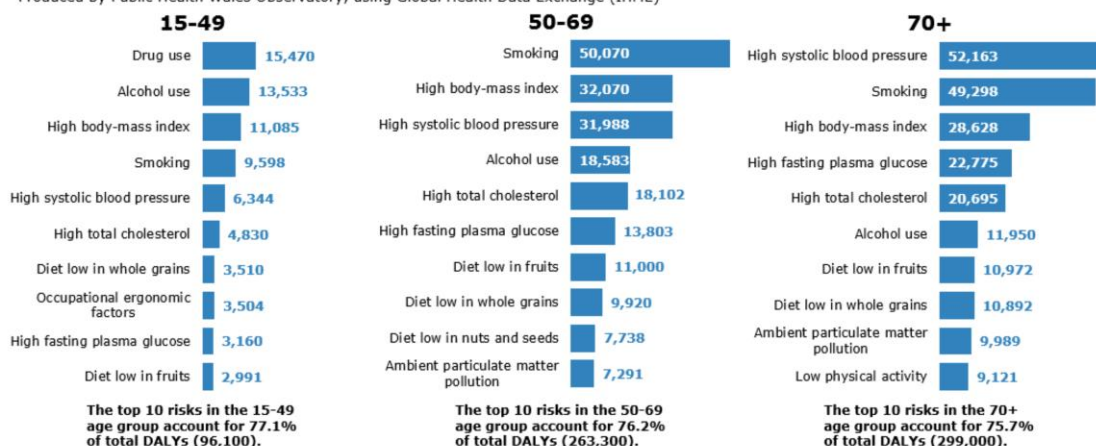
Further information:

Further information on the GBD be found here: <http://www.healthdata.org/gbd>

High BMI is one of the top three risk factors for Disability-Adjusted Life Years (DALYs) across the three age groups. Other risk factors linked to diet and obesity also feature prominently in the top 10.

Top 10 Global Burden of Disease identified risk factors for disability-adjusted life years (DALYs) by age group, counts, all persons aged 15+, Wales, 2016

Produced by Public Health Wales Observatory, using Global Health Data Exchange (IHME)



Burden of disease

29



Arylfa Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- Top 10 identified risk factors for Disability Adjusted Life Years (DALYs) by age groups 15-49, 50-69, 70+.
- DALYs are the sum of Years of Life Lost (YLLs) and Years Lived with Disability (YLDs). DALYs are also defined as years of healthy life lost
- The Global Burden of Disease Study 2016 (GBD 2016) provides internationally comparable burden of diseases estimates.

Caveats:

- The report provides modelled estimates not direct measurements and the results should therefore not be compared to any direct measures reported for Wales.
- Uncertainty in any of the raw data or parameters used in the model will result in imprecision in the estimates themselves.
- The rankings provided are only an indication of the relative contribution of different risk factors to the burden of disease and the certainty of the ranking will depend on the strength of underlying evidence.
- The method used attributes DALYs to the risk factors based on the conditions they are known to be associated with, there can therefore be a lag period between the occurrence of the risk factors and the manifestation of the health impact which can be considerable in some cases.

Data source, geography & period:

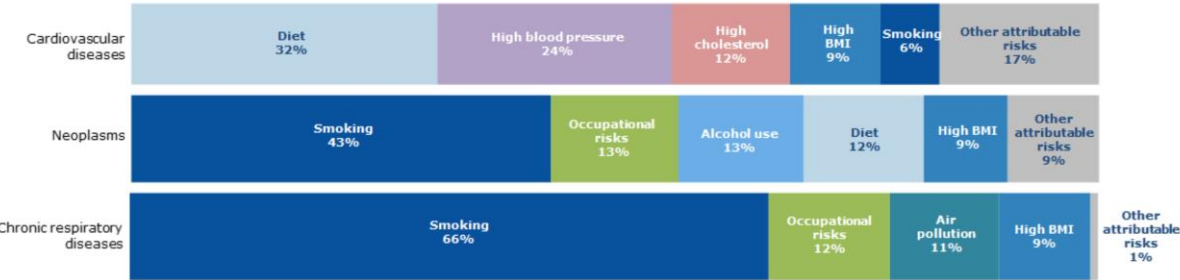
- Global Health Data Exchange, Institute for Health Metrics and Evaluation
- Wales
- 2016

Further information:

Further information on the GBD be found here: <http://www.healthdata.org/gbd>

High BMI contributes 9% of the known risk factors for cardiovascular disease (CVD), neoplasms and chronic respiratory diseases. The majority of known risk factors for CVD are linked to diet and obesity.

Global Burden of Disease identified risks for the three causes with the largest number of attributable disability-adjusted life years (DALYs), percentage, all persons, all ages, Wales, 2016
Produced by Public Health Wales Observatory, using Global Health Data Exchange (IHME)



Please note: The total number and proportion of DALYs that can be attributed to known risk factors varies substantially by cause.

Indicator definition:

- Identified risk factors for the three causes with the largest number of Disability Adjusted Life Years (DALYs) for persons all ages.
- DALYs are the sum of Years of Life Lost (YLLs) and Years Lived with Disability (YLDs). DALYs are also defined as years of healthy life lost.
- The Global Burden of Disease Study 2016 (GBD 2016) provides internationally comparable burden of diseases estimates.

Caveats:

- The report provides modelled estimates not direct measurements and the results should therefore not be compared to any direct measures reported for Wales.
- Uncertainty in any of the raw data or parameters used in the model will result in imprecision in the estimates themselves.
- The rankings provided are only an indication of the relative contribution of different risk factors to the burden of disease and the certainty of the ranking will depend on the strength of underlying evidence.
- The method used attributes DALYs to the risk factors based on the conditions they are known to be associated with, there can therefore be a lag period between the occurrence of the risk factors and the manifestation of the health impact which can be considerable in some cases.

Data source, geography & period:

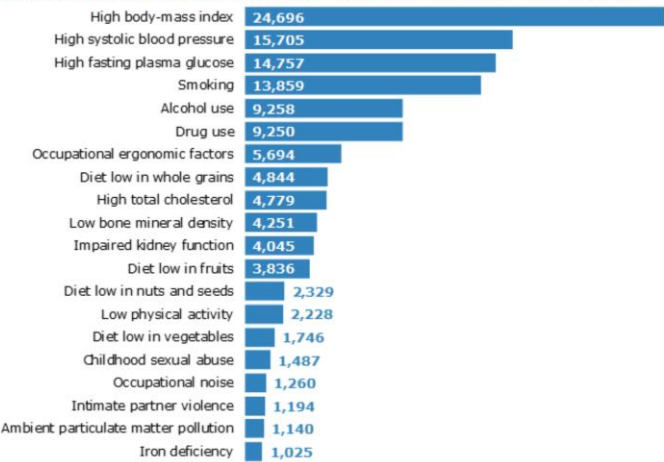
- Global Health Data Exchange, Institute for Health Metrics and Evaluation
- Wales
- 2016

Further information:

Further information on the GBD be found here: <http://www.healthdata.org/gbd>

Having a high BMI is the leading risk factor for Years Lived with Disability (YLD). The top three risk factors are directly linked to diet and obesity.

Top 20 Global Burden of Disease identified risk factors for years lived with disability (YLD), count of YLDs, all persons, all ages, Wales, 2016
Produced by Public Health Wales Observatory, using Global Health Data Exchange (IHME)



Indicator definition:

- Top 20 identified risk factors for Years Lived with Disability (YLDs) for persons all ages.
- YLDs are calculated by multiplying the prevalence of a disorder by the short- or long-term loss of health associated with that disability (the disability weight)¹.
- The Global Burden of Disease Study 2016 (GBD 2016) provides internationally comparable burden of diseases estimates.

Caveats:

- The report provides modelled estimates not direct measurements and the results should therefore not be compared to any direct measures reported for Wales.
- Uncertainty in any of the raw data or parameters used in the model will result in imprecision in the estimates themselves.
- The rankings provided are only an indication of the relative contribution of different risk factors to the burden of disease and the certainty of the ranking will depend on the strength of underlying evidence.
- The method used attributes YLDs to the risk factors based on the conditions they are known to be associated with, there can therefore be a lag period between the occurrence of the risk factors and the manifestation of the health impact which can be considerable in some cases.

Data source, geography & period:

- Global Health Data Exchange, Institute for Health Metrics and Evaluation
- Wales
- 2016

Further information:

Further information on the GBD be found here: <http://www.healthdata.org/gbd>

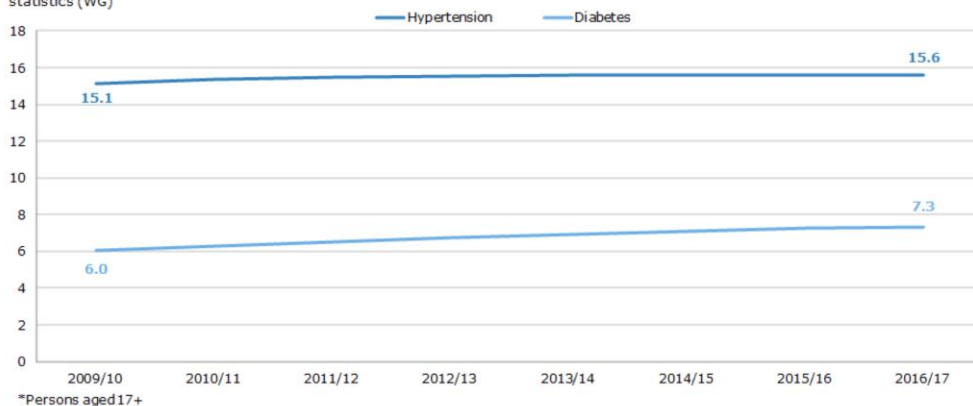
References:

1. US Burden of Disease Collaborators. The state of US health, 1990-2010: burden of diseases, injuries, and risk factors. JAMA, 310(6): 591-608, 2013

The prevalence of diabetes in persons aged 17+ recorded in primary care has increased from 6.0% to 7.3% in recent years. There has been little change in the prevalence of hypertension.

Prevalence of hypertension and diabetes*, percentage, persons all ages, Wales, 2009/10 to 2016/17

Produced by Public Health Wales Observatory, using StatsWales (WG) and data provided by Health, social services and population statistics (WG)



Indicator definition:

- Hypertension - The percentage of persons all ages registered as being treated for hypertension on the QOF disease register.
- Diabetes - The percentage of persons aged 17 and over registered as being treated for diabetes on the QOF disease register. Please note that this includes both type-1 and type-2 diabetes.
- Prevalence refers to the number alive cases at a particular point in time. It is not the number of newly diagnosed/reported cases of the condition (incidence).

Caveats:

- These are QOF prevalences and should only be used as a proxy for the actual prevalence.
- Rates are calculated on the registered GP population as opposed to the resident population.
- QOF is voluntary which enables a general practice to decide whether or not to submit data. However, due to the financial awards available via QOF the large majority of practices submit data electronically each year.

Data source, geography & period:

- GP Quality and Outcomes Framework (QOF), NHS Wales Informatics Service (Data extracted from StatsWales)
- Wales
- 2009/10 to 2016/17

Further information:

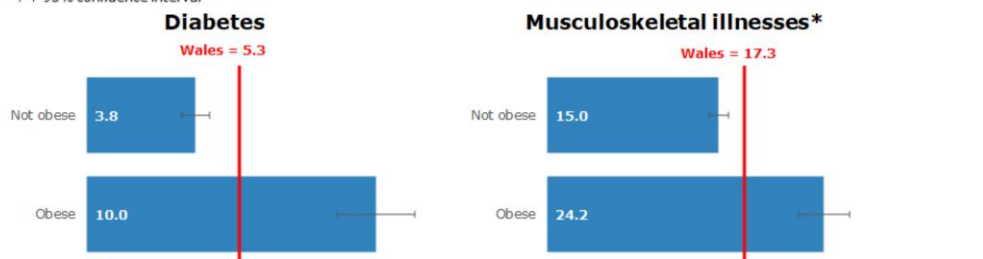
Further information on QOF be found here: <https://gov.wales/statistics-and-research/general-medical-services-contract/?lang=en>

Significantly higher percentages of adults that self-reported to be obese also report that they have diabetes and/or a musculoskeletal illness.

Adults reporting to have selected chronic conditions by obesity, age-standardised percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW (WG)

— 95% confidence interval



*Musculoskeletal illnesses include: arthritis, rheumatism, fibrositis, back problems, slipped disc, spine, neck or other problems of bones/joints/muscles

Indicator definition:

- Diabetes – The age-standardised percentage of adults aged 16+ who reported to have diabetes by those who also reported to have a Body Mass Index (BMI) of 30+. Please note that this includes both type-1 and type-2 diabetes.
- Musculoskeletal illnesses – The age-standardised percentage of adults aged 16+ who reported to have a musculoskeletal illness by those who also reported to have a Body Mass Index (BMI) of 30+
- The survey asked adults to report any physical or mental health conditions or illnesses lasting or expected to last 12 months or more.
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Food and drink environment: Fruit and vegetable consumption

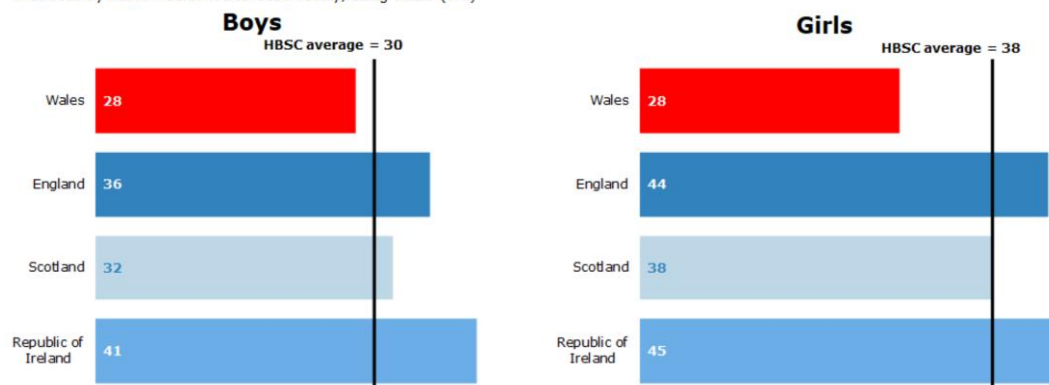
Obesity in Wales



Less than a third of children in Wales self-report to eat a portion of vegetables once a day; lower than England, Scotland and Republic of Ireland.

Adolescents reporting to eat vegetables once a day or more, percentage, boys and girls aged 15, Wales, England, Scotland & Republic of Ireland, 2013/14

Produced by Public Health Wales Observatory, using HBSC (WG)



Fruit and vegetable consumption

35



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Public Health
Wales Observatory

Indicator definition:

- The percentage of children aged 15 who reported eating vegetables once a day or more.
- Young people were asked to report the frequency they ate vegetables in the past week, response options ranged from never to more than once a day.

Caveats:

- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales, England, Scotland & Republic of Ireland
- 2013/14

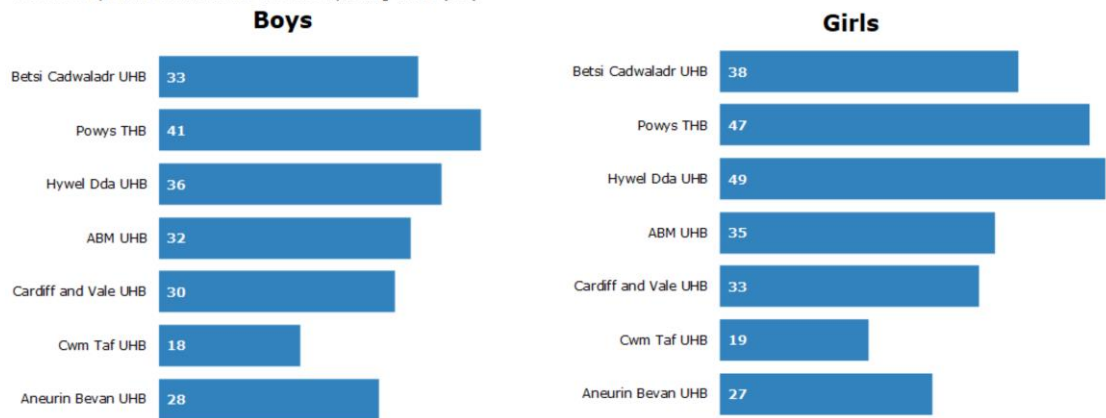
Further information:

Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

In the area with the highest prevalence, girls in Hywel Dda aged 11-16, less than 50% reported to eat one or more portions of vegetables a day. This drops to less than 20% of girls and boys in Cwm Taf UHB.

Adolescents reporting to eat vegetables once a day or more, percentage, boys and girls aged 11-16, Wales health boards, 2013/14

Produced by Public Health Wales Observatory, using HBSC (WG)



Indicator definition:

- The percentage of children aged 11-16 who reported eating vegetables once a day or more.
- Young people were asked to report the frequency they ate vegetables in the past week, response options ranged from never to more than once a day.

Caveats:

- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

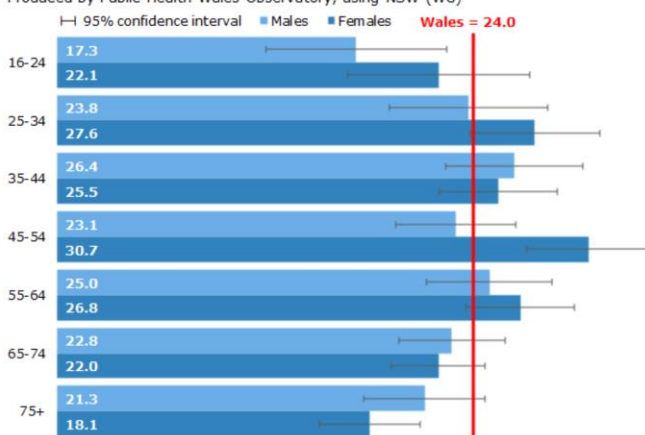
- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales health boards
- 2013/14

Further information:

Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

Less than a quarter of adults report to consume the recommended number of portions of fruit or vegetables.

Adults reporting to eat five portions of fruit or vegetables by age and sex, percentage, persons aged 16+, Wales, 2016/17
Produced by Public Health Wales Observatory, using NSW (WG)



Indicator definition:

- The percentage of adults aged 16+ who reported to eat five or more portions of fruit or vegetables the previous day by sex and 10-year age group.
- The National Survey for Wales asks respondents about a range of food items to determine the overall amounts of fruit, vegetables and pulses consumed the previous day. For each food item, respondents were asked whether they had eaten it and, if so, how much they had consumed. Everyday measures were given for each food item: for example, tablespoons of vegetables, small bowls of salad, or medium sized fruit (such as apples). Each question provided a definition of which foods were to be included. The questions and analysis were based on the concept of portions of 80g each and the information collected was converted into standard portions at the analysis stage.
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths.

Caveats:

- The NSW data is self-reported. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Respondents were asked about the previous day's behaviour, so this may not reflect overall eating patterns.

Data source, geography & period:

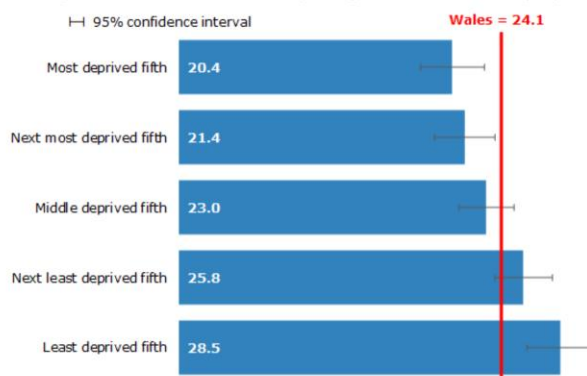
- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Around 20% of adults in the most deprived areas in Wales eat the recommended number of portions of fruit and vegetables a day, significantly lower than the Wales average.

Adults eating five fruit or vegetable portions a day by deprivation fifth, age-standardised percentage, persons aged 16+, Wales, 2016/17
Produced by Public Health Wales Observatory, using NSW and WIMD 2014 (WG)



Indicator definition:

- The age-standardised percentage of adults aged 16+ who reported to eat five or more portions of fruit or vegetables the previous day.
- The National Survey for Wales asks respondents about a range of food items to determine the overall amounts of fruit, vegetables and pulses consumed the previous day. For each food item, respondents were asked whether they had eaten it and, if so, how much they had consumed. Everyday measures were given for each food item: for example, tablespoons of vegetables, small bowls of salad, or medium sized fruit (such as apples). Each question provided a definition of which foods were to be included. The questions and analysis were based on the concept of portions of 80g each and the information collected was converted into standard portions at the analysis stage.
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths.

Caveats:

- The NSW data is self-reported. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Respondents were asked about the previous day's behaviour, so this may not reflect overall eating patterns.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

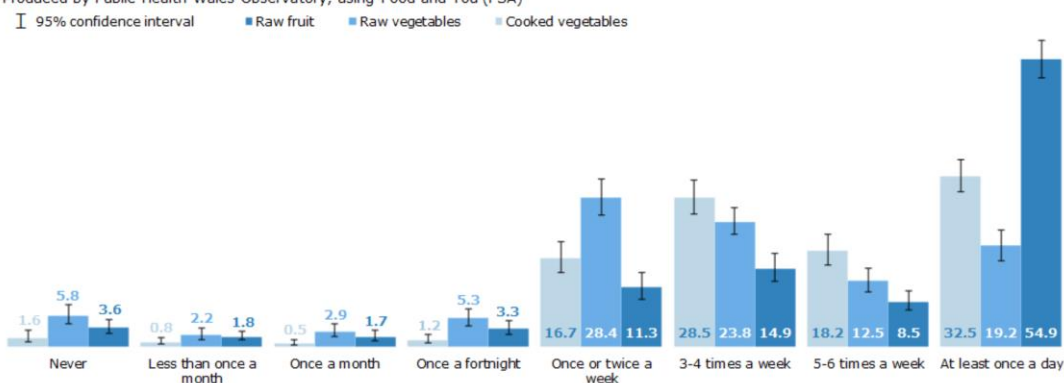
- National Survey for Wales (NSW), Welsh Government
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales by deprivation fifth
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Raw fruit consumption is most common among individuals eating fruit and vegetables on a daily basis; for those eating fruit and vegetables less often, vegetable consumption (either raw or cooked) is more common.

Frequency of eating raw fruit, raw vegetables (including salad) and cooked vegetables, percentage, persons aged 16+, Wales, Waves 2-4 of the Food and You survey (2012, 2014 and 2016)
Produced by Public Health Wales Observatory, using Food and You (FSA)



Indicator definition:

- The percentage of adults aged 16+ that reported to eat raw fruit, vegetables (including salad) or cooked vegetables.
- Respondents were asked separate questions regarding the frequency they eat raw fruit, raw vegetables and cooked vegetables. Survey response options ranged from never to at least once a day.

Caveats:

- The FDS data is self-reported as part of the survey interview. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- The data are based on a sample of 1,099 persons over the three periods of data collection in waves 2-4 of the survey.
- Strata with single primary sampling units were combined with strata of similar household income composition in order to produce confidence intervals in STATA. While this is likely to have reduced the size of the confidence intervals somewhat, the overall effect on the data is minimal.

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2012, 2014 and 2016 (survey waves 2-4)

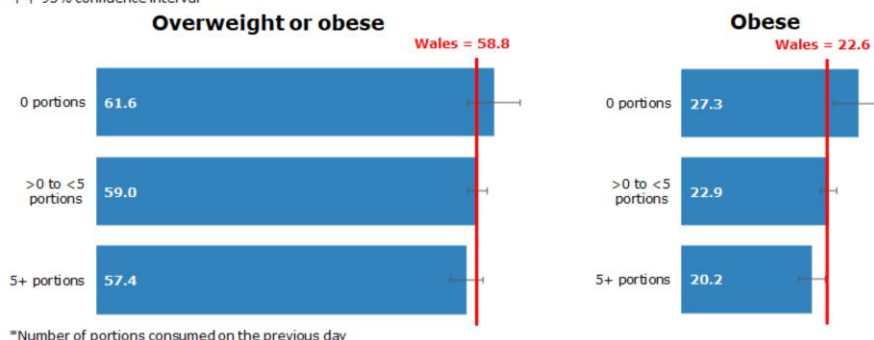
Further information:

Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

There is a significant difference in obesity by fruit and vegetable consumption, with rates in adults eating no portions 7% higher than those eating 5+. This is less pronounced for overweight or obese adults.

Adults reporting to be overweight or obese by fruit and vegetable consumption*, age-standardised percentage, persons aged 16+, Wales, 2016/17
Produced by Public Health Wales Observatory, using NSW (WG)

— 95% confidence interval



Fruit and vegetable consumption

40

Indicator definition:

- The age-standardised percentage of adults aged 16+ who self-reported to be overweight or obese (BMI 25+) or obese (BMI 30+) by portions of fruit and vegetable consumed (grouped).
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- The National Survey for Wales asks respondents about a range of food items to determine the overall amounts of fruit, vegetables and pulses consumed the previous day. For each food item, respondents were asked whether they had eaten it and, if so, how much they had consumed. Everyday measures were given for each food item: for example, tablespoons of vegetables, small bowls of salad, or medium sized fruit (such as apples). Each question provided a definition of which foods were to be included. The questions and analysis were based on the concept of portions of 80g each and the information collected was converted into standard portions at the analysis stage.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- The NSW data is self-reported. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Respondents were asked about the previous day's behaviour, so this may not reflect overall eating patterns.

Data source, geography & period:

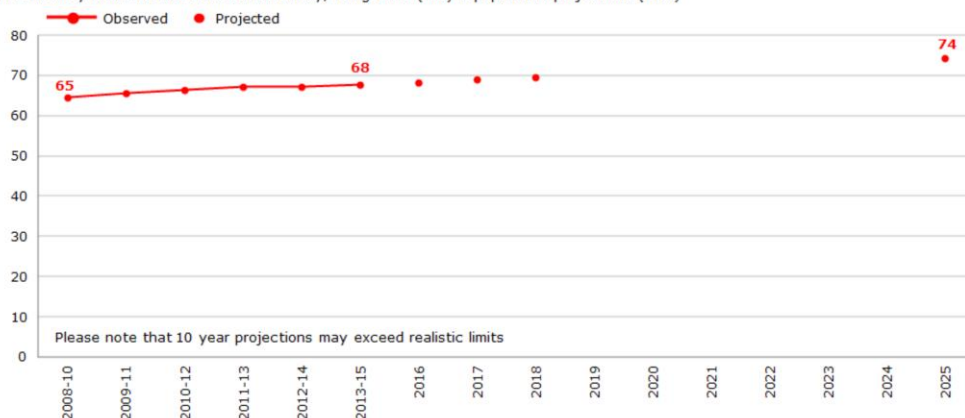
- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

The percentage of adults consuming fewer than five portions of fruit and vegetables a day is estimated to increase to 74% by 2025 if nothing changes and the current pattern continues.

Adults who reported consuming fewer than five portions of fruit or vegetables on the previous day, observed and projected percentage, persons aged 16+, Wales, observed 2008-2015 and projected 2016-2025
Produced by Public Health Wales Observatory, using WHS (WG) & population projections (ONS)



Indicator definition:

- The percentage of adults aged 16+ who reported to consume fewer than five portions of fruit or vegetables the previous day.
- The Welsh Health Survey asks respondents about a range of food items to determine the overall amounts of fruit, vegetables and pulses consumed the previous day. For each food item, respondents were asked whether they had eaten it and, if so, how much they had consumed. Everyday measures were given for each food item: for example, tablespoons of vegetables, small bowls of salad, or medium sized fruit (such as apples). Each question provided a definition of which foods were to be included. The questions and analysis were based on the concept of portions of 80g each and the information collected was converted into standard portions at the analysis stage.
- The projection was calculated using an extrapolation method which examines historical trends and cycles, then uses mathematical techniques to extrapolate to the future.

Caveats:

- The WHS data is self-reported. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Respondents were asked about the previous day's behaviour, so this may not reflect overall eating patterns.
- The fruit or vegetable consumption projections are estimates. They are based on various assumptions which may or may not hold true in the future. Extreme caution must be taken when interpreting these results.**

Data source, geography & period:

- Welsh Health Survey (WHS), Welsh Government
- 2014-based population projections, Office for National Statistics
- Wales
- 2008-2010 to 2013-15 observed, 2016 to 2025 projected

Further information:

Further information on the WHS be found here: <https://gov.wales/statistics-and-research/welsh-health-survey/?lang=en>

Full details of the projection method can be found here:

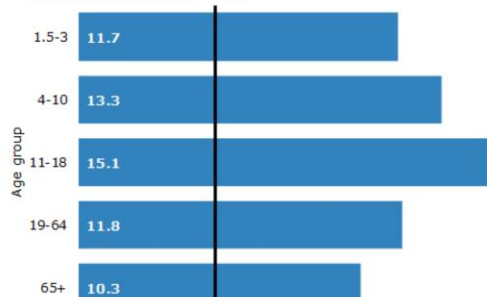
[http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/\\$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf](http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/85c50756737f79ac80256f2700534ea3/171d74db076b941a80258154003d9d3f/$FILE/WBFGProjections_TechnicalGuide_2017_v1.pdf)

Sugar intake is three times higher than the recommended value for adolescents and twice as high for children and adults. Respondents of all ages have a higher percentage of saturated fat than is recommended.

Free sugars intake by age, mean percentage of food energy, persons aged 1.5 and over, Wales, 2009/10-12/13

Produced by Public Health Wales Observatory, using NDNS (FSA)

Max recommended DRV* = 5.0

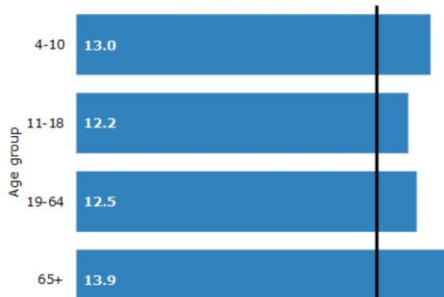


*Dietary Reference Value for persons all ages

Saturated fatty acids intake by age, mean percentage of food energy, persons aged 4 and over, Wales, 2009/10-12/13

Produced by Public Health Wales Observatory, using NDNS (FSA)

Max recommended DRV* = 11.0



*Dietary Reference Value for persons aged 5+

Indicator definition:

- Free sugars – The average daily intake of free sugars as a percentage of food energy of persons aged 1.5 and over. Free sugars are defined as sugars not found naturally in intact fruit and vegetables, and in milk and milk products.
- Saturated fatty acids – The average daily intake of saturated fatty acids as a percentage of food energy of persons aged 4 and over.

Caveats:

- The NDNS relies on self-reported data for food intake using the food diary. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating food quantities to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- The food diary is reported over four consecutive days. It is designed to ensure that all days of the week are equally represented as energy and nutrient intakes are likely to change by day of the week. However there was a slightly higher proportion of weekend day responses in the data.
- The data are based on a sample of 852 persons over the period of data collection in waves 2-5 of the survey.

Data source, geography & period:

- National Diet and Nutrition Survey (NDNS), Food Standards Agency
- Wales
- 2009/10-2012/13 (survey waves 2-5)

Further information:

Further information on the NDNS be found here: <https://gov.wales/statistics-and-research/national-diet-nutrition-survey-rolling-programme/?lang=en>

References:

1. Science Media Culture. Sugar and health. London, United Kingdom. Available at: <http://www.sciencemediacentre.org/sugar-and-health/> [Accessed 17th September 2018]

Food and drink environment: Eating at home

Obesity in Wales

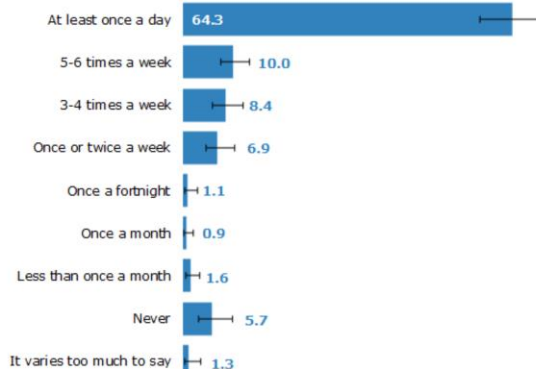


Nearly two-thirds of respondents reported that they prepare food for themselves or others at least once a day. Nearly 10% prepare food less than once a week.

Frequency of cooking or preparing food for yourself or others, percentage, persons aged 16+, Wales, Wave 4 of the Food and You survey (2016)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Indicator definition:

- The percentage of adults aged 16+ that reported to cook or prepare food for yourself or others.
- Survey response options ranged from never to at least once a day.

Caveats:

- The FDS data is self-reported as part of the survey interview. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- The data are based on a sample of 492 persons over the period of data collection in wave 4 of the survey (2016).

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2016 (survey wave 4)

Further information:

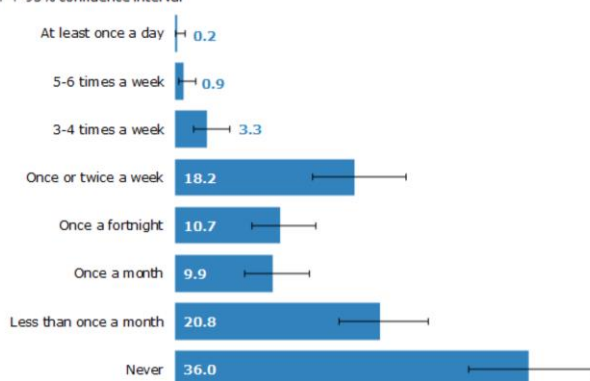
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

Around two-thirds of adults reported that they ate ready meals once a month or less. However, over a fifth of respondents reported that they ate ready meals at least once a week.

Frequency of eating ready meals, percentage, persons aged 16+, Wales, Wave 4 of the Food and You survey (2016)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Eating at home

45



Arlylfia Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- The percentage of adults aged 16+ that reported to eat ready meals.
- The survey asked adults how often they ate ready meals, response options ranged from never to at least once a day.

Caveats:

- The FDS data is self-reported as part of the survey interview. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- The data are based on a sample of 492 persons over the period of data collection in wave 4 of the survey (2016).

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2016 (survey wave 4)

Further information:

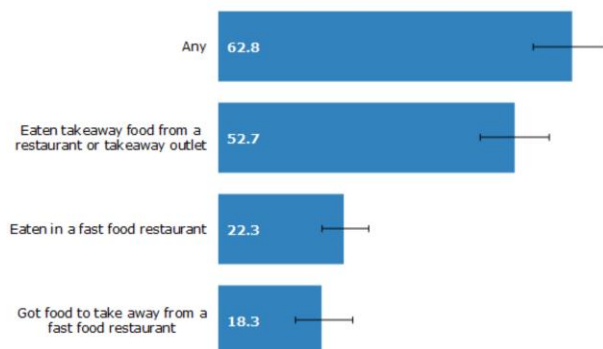
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

6 out of 10 respondents had eaten takeaway food from a restaurant, takeaway outlet or fast food restaurant in the previous month.

Persons who have eaten take away food from a restaurant, takeaway outlet or fast food restaurant in the previous month, percentage, persons aged 16+, Wales, Wave 4 of the Food and You survey (2016)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Eating at home

46



Arsylfa Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- The percentage of adults aged 16+ that reported to have eaten takeaway food from a restaurant, takeaway outlet or fast food restaurant in the previous month.

Caveats:

- The FDS data is self-reported as part of the survey interview. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- The data are based on a sample of 492 persons over the period of data collection in wave 4 of the survey (2016).

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2016 (survey wave 4)

Further information:

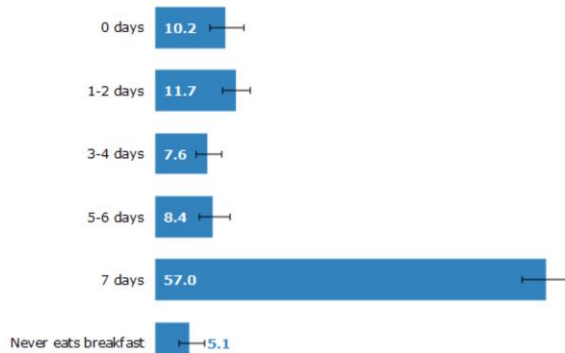
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

Almost two thirds of adults reported to eat breakfast at home on five or more days in the previous week. One in twenty adults reported to never eat breakfast.

Responses to the question, "Number of times eaten breakfast at home in the last seven days", percentage, persons aged 16+, Wales, Waves 2-4 of the Food and You survey (2012, 2014 and 2016)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Eating at home

47



Arsyllfa Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- The percentage of adults aged 16+ that reported how often they ate breakfast at home.
- The survey asked adults the number of times they had eaten breakfast at home in the last seven days, response options ranged from never eats breakfast to seven days.

Caveats:

- The FDS data is self-reported as part of the survey interview. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- The data are based on a sample of 1,099 persons over the three periods of data collection in waves 2-4 of the survey.
- Strata with single primary sampling units were combined with strata of similar household income composition in order to produce confidence intervals in STATA. While this is likely to have reduced the size of the confidence intervals somewhat, the overall effect on the data is minimal.

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2012, 2014 and 2016 (survey waves 2-4)

Further information:

Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

Food and drink environment: Drinking alcohol

Obesity in Wales

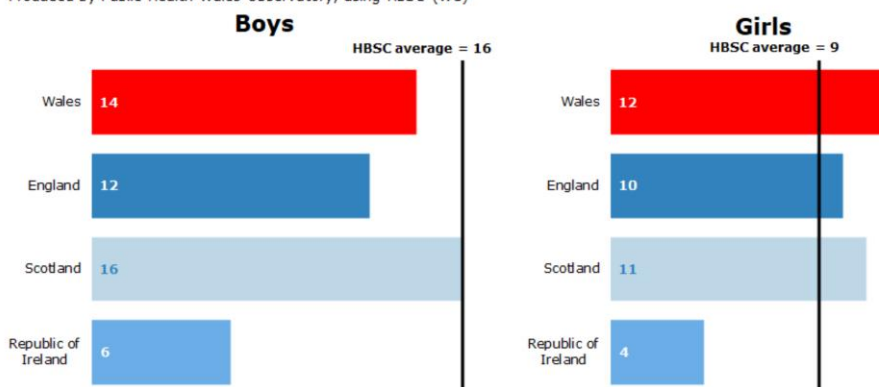


GIG
CYMRU
NHS
WALES

Arsyllfa Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Wales has a higher percentage of girls that reported drinking alcohol at least once a week than England, Scotland and Republic of Ireland. Only Scotland has a higher percentage of boys.

Adolescents reporting to drink alcohol at least once a week, percentage, boys and girls aged 15, Wales, England, Scotland & Republic of Ireland, 2013/14
Produced by Public Health Wales Observatory, using HBSC (WG)



Drinking alcohol

49

Indicator definition:

- The percentage of children aged 15 who reported drinking alcohol at least once a week.
- Young people were asked how often they drink any alcoholic beverage and were given a list of drinks: cider, beer, wine, spirits, alcopops or any other drink that contains alcohol. Response options ranged from never to every day. Findings presented here show the percentages who reported drinking any alcoholic beverage at least every week.

Caveats:

- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales, England, Scotland & Republic of Ireland
- 2013/14

Further information:

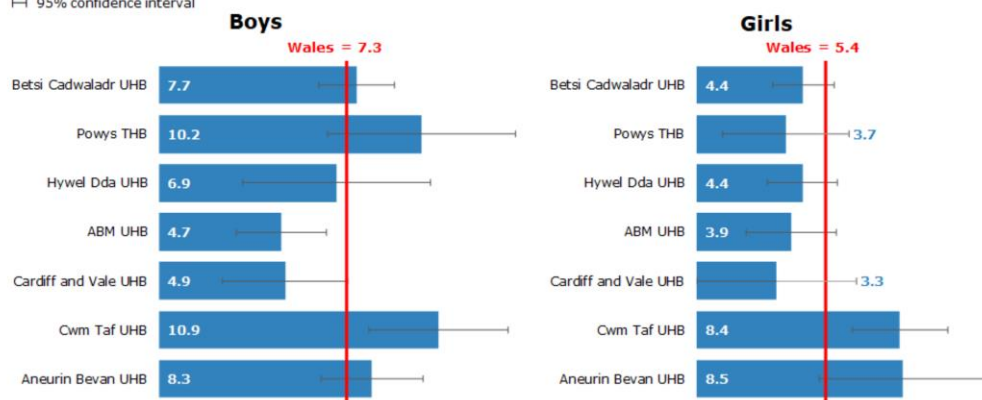
Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

The percentage of boys and girls reporting to drink alcohol at least once a week in Cwm Taf UHB is significantly higher than the Wales value. Only boys in ABM UHB have a significantly lower percentage.

Adolescents reporting to drink alcohol at least once a week, percentage, boys and girls aged 11-16, Wales health boards, 2013/14

Produced by Public Health Wales Observatory, using HBSC (WG)

— 95% confidence interval



Drinking alcohol

50



Arlylfia Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- The percentage of children aged 11-16 who reported drinking alcohol at least once a week.
- Young people were asked how often they drink any alcoholic beverage and were given a list of drinks: cider, beer, wine, spirits, alcopops or any other drink that contains alcohol. Response options ranged from never to every day. Findings presented here show the percentages who reported drinking any alcoholic beverage at least every week.

Caveats:

- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales health boards
- 2013/14

Further information:

Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

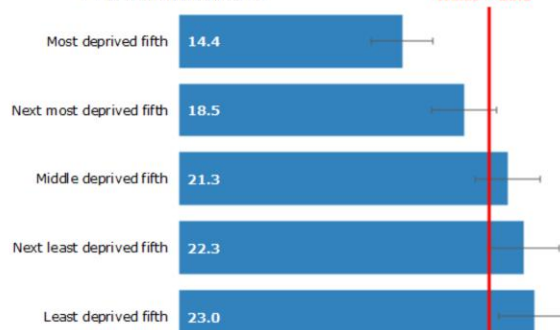
Around 1 in 5 adults in Wales report to drink above guidelines. The percentage is significantly higher in the least deprived areas.

Adults reporting to drink above guidelines* by deprivation fifth, age-standardised percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW and WIMD 2014 (WG)

— 95% confidence interval

Wales = 20.1



*Average weekly consumption above 14 units

Drinking alcohol

51



Arylfa Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- The age-standardised percentage of adults aged 16+ who reported to drink above guidelines (average weekly consumption above 14 units).
- Respondents were asked to indicate how often they had consumed each type of alcohol during the past 12 months, and how much they had usually consumed; they were also asked how many measures of each type of alcohol they had consumed on their heaviest drinking day the previous week. Weekly consumption of each type of drink was calculated by multiplying the units usually consumed on a day when that type of alcohol was drunk by a fraction representing the frequency with which it was drunk. The results for each type of drink were added together to give an overall weekly figure.
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths.

Caveats:

- The NSW data is self-reported. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Data from the survey only reflects the week before the survey and therefore can be affected by events that do not occur weekly, e.g. birthday celebrations. It may also be difficult to estimate the amount of alcohol poured without a measure. Survey data on alcohol are known to be underestimated.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales by deprivation fifth
- 2016/17

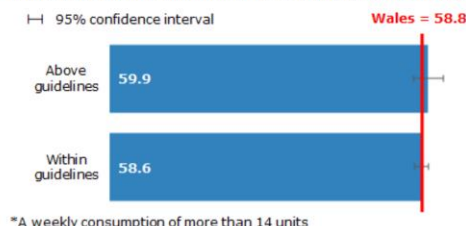
Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Overweight / obesity is not associated with drinking above the recommended guidelines of alcohol but is significantly associated with high risk drinking.

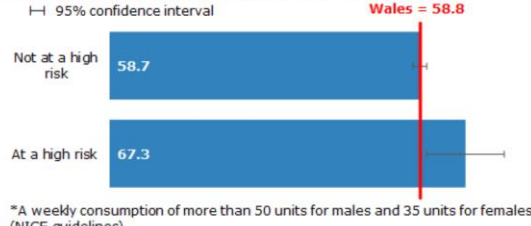
Adults reporting to be overweight or obese by drinking above guidelines*, age-standardised percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW (WG)



Adults reporting to be overweight or obese by 'high risk drinking'*, age-standardised percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW (WG)



Drinking alcohol

52



Indicator definition:

- The age-standardised percentage of adults aged 16+ who self-reported to be overweight or obese (BMI 25+) by drinking above guidelines (average weekly consumption above 14 units).
- The age-standardised percentage of adults aged 16+ who self-reported to be overweight or obese (BMI 25+) by high risk drinking (average weekly consumption above 50 units for males and 35 units for females).
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- Respondents were asked to indicate how often they had consumed each type of alcohol during the past 12 months, and how much they had usually consumed; they were also asked how many measures of each type of alcohol they had consumed on their heaviest drinking day the previous week. Weekly consumption of each type of drink was calculated by multiplying the units usually consumed on a day when that type of alcohol was drunk by a fraction representing the frequency with which it was drunk. The results for each type of drink were added together to give an overall weekly figure.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- The NSW data is self-reported. Health-related behaviours can be a complex area to measure and the self-reported prevalence of healthy eating may be prone to respondent bias i.e. overestimating or underestimating behaviour to give a more favourable response. However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Data from the survey only reflects the week before the survey and therefore can be affected by events that do not occur weekly, e.g. birthday celebrations. It may also be difficult to estimate the amount of alcohol poured without a measure. Survey data on alcohol are known to be underestimated.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national->

survey/?tab=current&lang=en

Food and drink environment: Food and drink expenditure

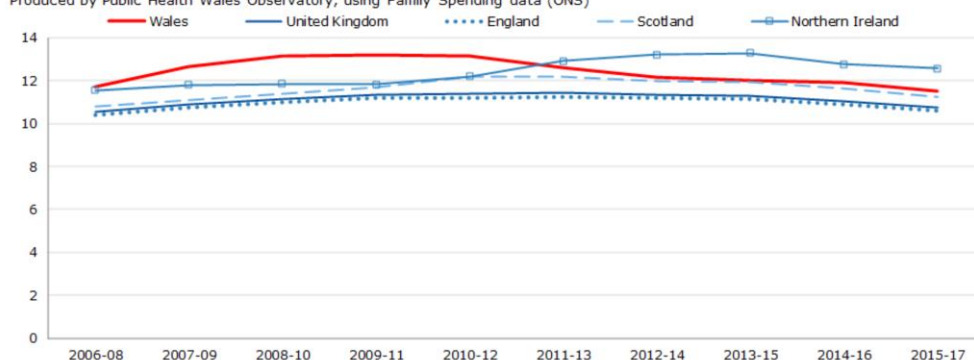
Obesity in Wales



Compared to England, a higher percentage of household expenditure in Wales is on food and non-alcoholic drinks. However, the absolute expenditure may still be lower.

Average weekly household expenditure on food and non-alcoholic drinks as a percentage of household expenditure*, UK nations, 2006-08 to 2015-17†

Produced by Public Health Wales Observatory, using Family Spending data (ONS)



*Total expenditure excludes mortgage interest payments, council tax and Northern Ireland rates.

†Data were based on calendar year up to 2012-14 and financial year from 2013-15 onwards.

Indicator definition:

- The average weekly household expenditure on food and non-alcoholic drinks as a percentage of household expenditure.
- The survey asked adults to record all their purchases for two weeks in a diary. The adult (persons aged 16+) diary is organised into 10 sections (6 for daily expenditure and 4 for the entire period of the diary's placement). Each purchased item is recorded in the appropriate section with the amount paid. A simpler diary is issued to children aged 7 to 15 to provide details on food and drink items that they had purchased over the same period.

Caveats:

- Total expenditure excludes mortgage interest payments, council tax and Northern Ireland rates.
- The overall response rate for the survey in 2017 was 45% in Great Britain. A long-term decline in response has been observed for the Living Costs and Food survey, in common with other social surveys. Non-response weighting is applied to help mitigate non-response bias.

Data source, geography & period:

- Family Spending Data, Office for National Statistics
- United Kingdom, Wales, England, Scotland, Northern Ireland
- 2006-08 to 2015-17 (calendar year up to 2012-14 and financial year 2013-15 onwards)

Further information:

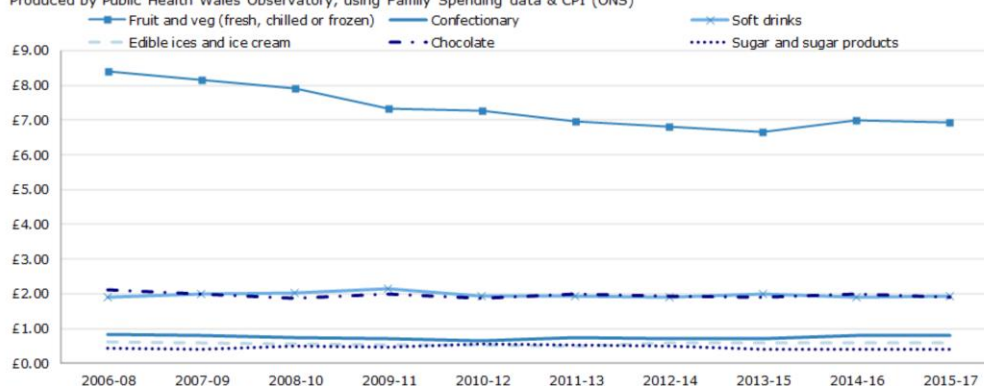
Further information on Family Spending Data be found here:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/financialyearending2017>

Having adjusted for inflation, Welsh residents spent 18% less on fruit and vegetables in 2015-17 compared to 2006-08.

Average weekly spend (£) on food and drink by type*, Wales, 2006-08 to 2015-17†

Produced by Public Health Wales Observatory, using Family Spending data & CPI (ONS)



*Spend adjusted for inflation to 2015

†Data were based on calendar year up to 2012-14 and financial year from 2013-15 onwards.

Food and drink expenditure

55

Indicator definition:

- The average weekly household expenditure on food and non-alcoholic drinks in Wales by food and drink type.
- The survey asked adults to record all their purchases for two weeks in a diary. The adult (persons aged 16+) diary is organised into 10 sections (6 for daily expenditure and 4 for the entire period of the diary's placement). Each purchased item is recorded in the appropriate section with the amount paid. A simpler diary is issued to children aged 7 to 15 to provide details on food and drink items that they had purchased over the same period.

Caveats:

- The figures have been adjusted for inflation to the year 2015 using the annual averages of the Consumer Price Inflation index. Categories of family spending were matched as close as possible to categories of the Consumer Price Inflation index.
- The overall response rate for the survey in 2017 was 45% in Great Britain. A long-term decline in response has been observed for the Living Costs and Food survey, in common with other social surveys. Non-response weighting is applied to help mitigate non-response bias.

Data source, geography & period:

- Family Spending Data, Office for National Statistics
- Wales
- 2006-08 to 2015-17 (calendar year up to 2012-14 and financial year 2013-15 onwards)

Further information:

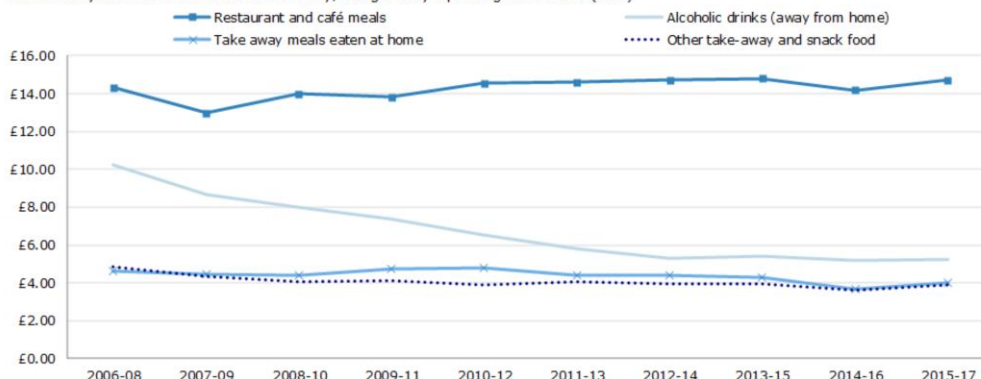
Further information on Family Spending Data be found here:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/financialyearending2017>

When adjusted for inflation, Welsh residents spent 48% less on drinking alcohol away from home in 2015-17 compared to 2006-08.

Average weekly spend (£) on eating and drinking out*, Wales, 2006-08 to 2015-17†

Produced by Public Health Wales Observatory, using Family Spending data & CPI (ONS)



*Spend adjusted for inflation to 2015

†Data were based on calendar year up to 2012-14 and financial year from 2013-15 onwards.

Indicator definition:

- The average weekly household expenditure on eating and drinking out in Wales by activity type.
- The survey asked adults to record all their purchases for two weeks in a diary. The adult (persons aged 16+) diary is organised into 10 sections (6 for daily expenditure and 4 for the entire period of the diary's placement). Each purchased item is recorded in the appropriate section with the amount paid. A simpler diary is issued to children aged 7 to 15 to provide details on food and drink items that they had purchased over the same period.

Caveats:

- The figures have been adjusted for inflation to the year 2015 using the annual averages of the Consumer Price Inflation index. Categories of family spending were matched as close as possible to categories of the Consumer Price Inflation index.
- The overall response rate for the survey in 2017 was 45% in Great Britain. A long-term decline in response has been observed for the Living Costs and Food survey, in common with other social surveys. Non-response weighting is applied to help mitigate non-response bias.

Data source, geography & period:

- Family Spending Data, Office for National Statistics
- Wales
- 2006-08 to 2015-17 (calendar year up to 2012-14 and financial year 2013-15 onwards)

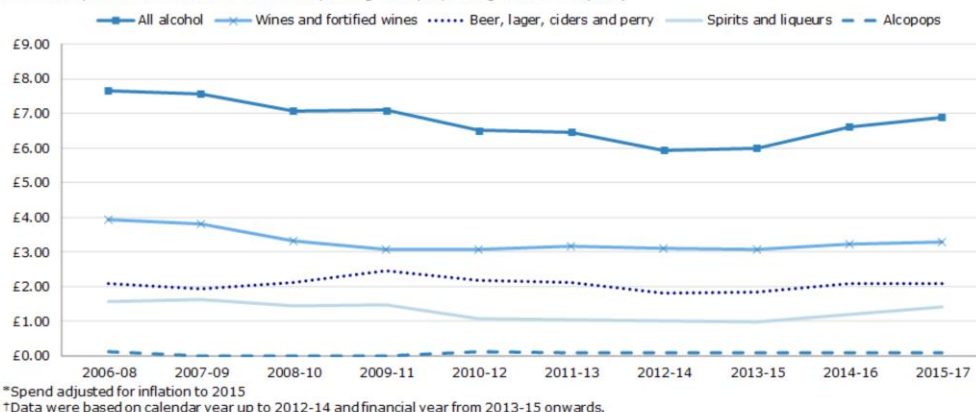
Further information:

Further information on Family Spending Data be found here:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/financialyearending2017>

Welsh residents spent 10% less on drinking alcohol at home 2015-17 compared to 2006-08, with the biggest decrease seen in wines. There have been some increases in spending since 2012-14.

Average weekly spend (£) on alcohol consumed at home*, Wales, 2006-08 to 2015-17†
Produced by Public Health Wales Observatory, using Family Spending data & CPI (ONS)



Indicator definition:

- The average weekly household expenditure on alcohol consumed at home by alcohol type.
- The survey asked adults to record all their purchases for two weeks in a diary. The adult (persons aged 16+) diary is organised into 10 sections (6 for daily expenditure and 4 for the entire period of the diary's placement). Each purchased item is recorded in the appropriate section with the amount paid. A simpler diary is issued to children aged 7 to 15 to provide details on food and drink items that they had purchased over the same period.

Caveats:

- The figures have been adjusted for inflation to the year 2015 using the annual averages of the Consumer Price Inflation index. Categories of family spending were matched as close as possible to categories of the Consumer Price Inflation index.
- The overall response rate for the survey in 2017 was 45% in Great Britain. A long-term decline in response has been observed for the Living Costs and Food survey, in common with other social surveys. Non-response weighting is applied to help mitigate non-response bias.

Data source, geography & period:

- Family Spending Data, Office for National Statistics
- Wales
- 2006-08 to 2015-17 (calendar year up to 2012-14 and financial year 2013-15 onwards)

Further information:

Further information on Family Spending Data be found here:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/financialyearending2017>

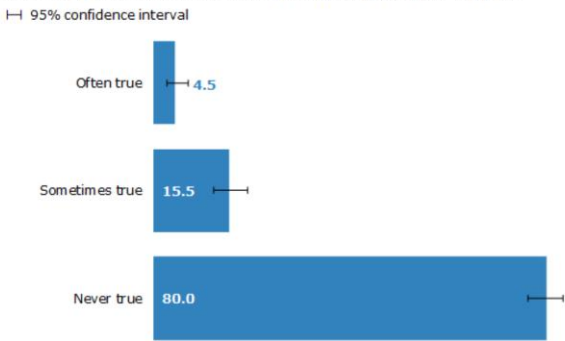
Food and drink environment: Food attitudes

Obesity in Wales



One in five respondents had worried that they would run out of food before having enough money to buy more in the previous 12 months.

Survey respondents who had worried in the previous 12 months that food would run out before they had money to buy more, percentage, persons aged 16+, Wales, Wave 4 of the Food and You survey (2016)
Produced by Public Health Wales Observatory, using Food and You (FSA)



Indicator definition:

- The percentage of adults aged 16+ that reported whether they had worried about running out of food before they had money to buy more in the previous 12 months.
- The statement put before the respondents was: "I/We worried whether my/our food would run out before I/we got money to buy more".

Caveats:

- The data are based on a sample of 492 persons over the period of data collection in wave 4 of the survey (2016).

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2016 (survey wave 4)

Further information:

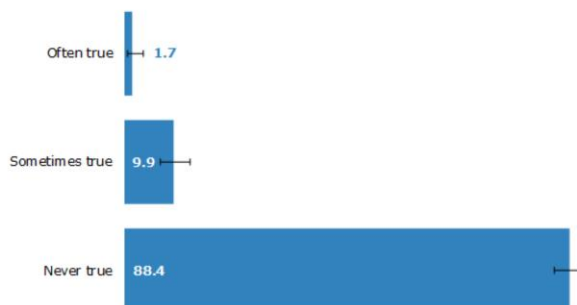
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

Over 10% of adults reported that they could not afford to eat balanced meals at some point in the previous 12 months. Around 2% of respondents reported that this was often the case.

Survey respondents who reported they couldn't afford to eat balanced meals in the previous 12 months, percentage, persons aged 16+, Wales, Wave 4 of the Food and You survey (2016)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Indicator definition:

- The percentage of adults aged 16+ that reported that they couldn't afford to eat balanced meals in the previous 12 months.
- The statement put before the respondents was: "I/We couldn't afford to eat balanced meals".

Caveats:

- The data are based on a sample of 492 persons over the period of data collection in wave 4 of the survey (2016).

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2016 (survey wave 4)

Further information:

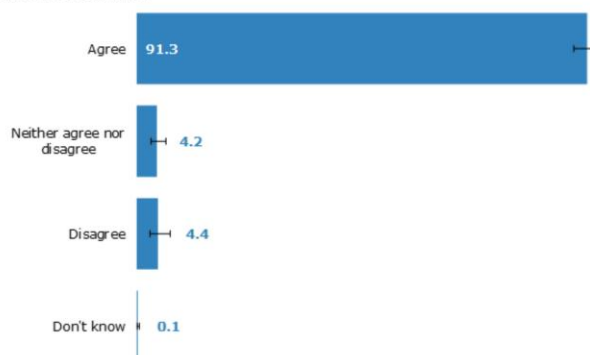
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

Over 90% of Welsh respondents agreed that what you eat makes a big difference to your health.

Responses to the question, "What you eat makes a big difference to how healthy you are", percentage, persons aged 16+, Wales, Waves 1-3 of the Food and You survey (2010, 2012 and 2014)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Food attitudes

61



Arlylfia Iechyd
Cyhoeddus Cymru
Public Health
Wales Observatory

Indicator definition:

- The percentage of adults aged 16+ that reported their agreement with the question "What you eat makes a big difference to how healthy you are?"

Caveats:

- The data are based on a sample of 728 persons over the three periods of data collection in waves 1-3 of the survey.
- Strata with single primary sampling units were combined with strata of similar household income composition in order to produce confidence intervals in STATA. While this is likely to have reduced the size of the confidence intervals somewhat, the overall effect on the data is minimal.

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2010, 2012 and 2014 (survey waves 1-3)

Further information:

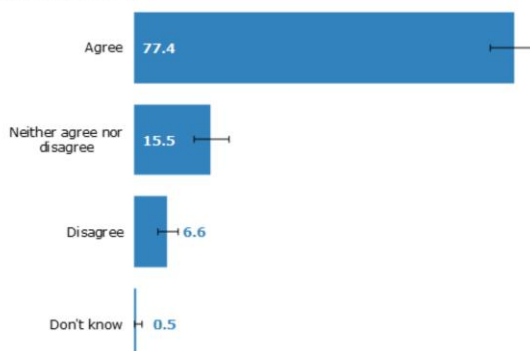
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

The majority of Welsh respondents agreed that experts contradict each other over what foods are good or bad for you.

Responses to the question, "The experts contradict each other over what foods are good or bad for you", percentage, persons aged 16+, Wales, Waves 1-3 of the Food and You survey (2010, 2012 and 2014)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



Indicator definition:

- The percentage of adults aged 16+ that reported their agreement with the question "The experts contradict each other over what foods are good or bad for you?"

Caveats:

- The data are based on a sample of 728 persons over the three periods of data collection in waves 1-3 of the survey.
- Strata with single primary sampling units were combined with strata of similar household income composition in order to produce confidence intervals in STATA. While this is likely to have reduced the size of the confidence intervals somewhat, the overall effect on the data is minimal.

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2010, 2012 and 2014 (survey waves 1-3)

Further information:

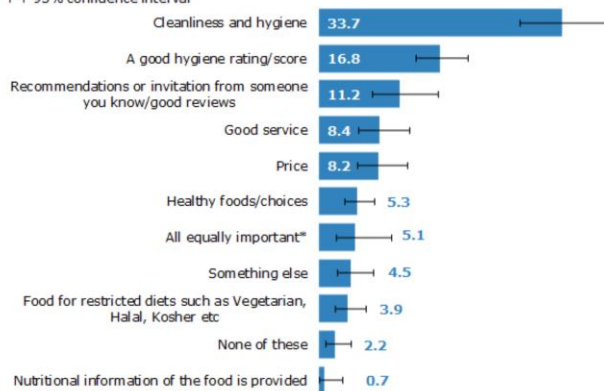
Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

Only 5.3% of adults reported that healthy food choice was the most important factor when deciding where to eat out. Cleanliness / hygiene and a good hygiene rating were the top factors (50.5% of responses).

Factor considered most important when deciding where to eat out, percentage, persons aged 16+, Wales, Wave 4 of the Food and You survey (2016)

Produced by Public Health Wales Observatory, using Food and You (FSA)

— 95% confidence interval



*Spontaneous response only

Indicator definition:

- The percentage of adults aged 16+ that reported the factors considered the most important when deciding where to eat out.

Caveats:

- The data are based on a sample of 492 persons over the period of data collection in wave 4 of the survey (2016).
- 21 participants were excluded due to an answer of 'Not applicable'. This represents 4.3% of total respondents.

Data source, geography & period:

- Food and You Survey (FDS), Food Standards Agency
- Wales
- 2016 (survey wave 4)

Further information:

Further information on the FDS can be found here: <https://www.food.gov.uk/research/food-and-you>

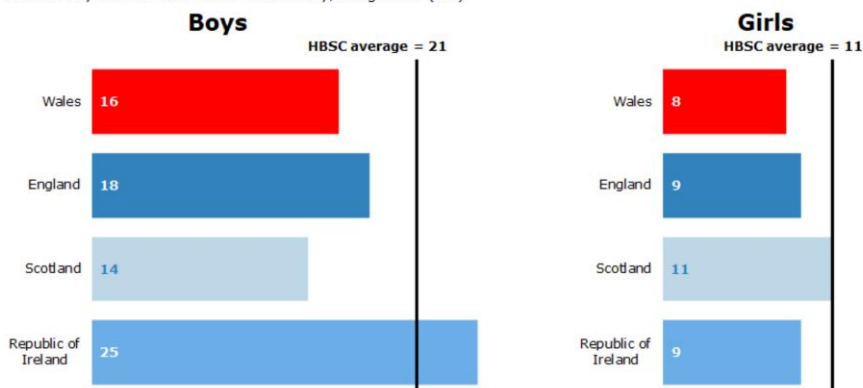
Physical activity

Obesity in Wales



The percentage of 15 year-olds that self-reported being physically active for 60 minutes every day is lower in Wales than England. Physical activity for girls is half that of boys in Wales.

Adolescents reporting to be physically active for 60 minutes every day, percentage, boys and girls aged 15, Wales, England, Scotland & Republic of Ireland, 2013/14
Produced by Public Health Wales Observatory, using HBSC (WG)



Physical activity

65



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Wales Observatory

Indicator definition:

- The percentage of children aged 15 who reported being active for at least 60 minutes every day.
- Young people were asked to report the number of days over the past week during which they were physically active for a total of at least 60 minutes.

Caveats:

- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

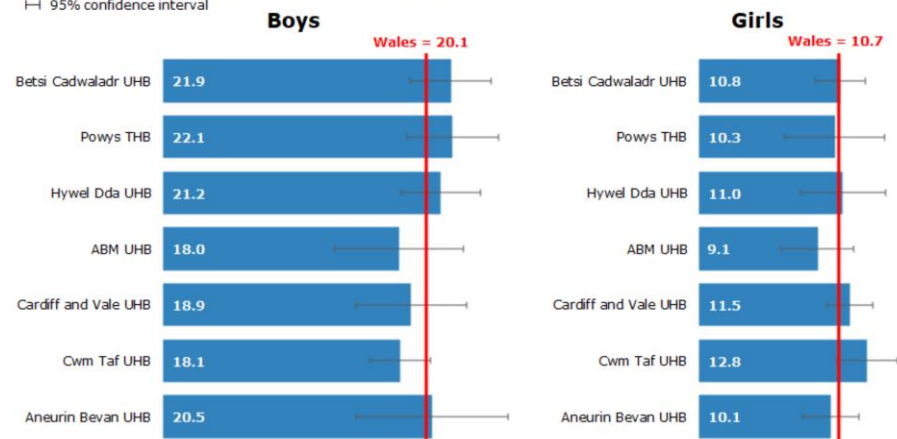
- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales, England, Scotland & Republic of Ireland
- 2013/14

Further information:

Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

Around 1 in 5 boys self-report to be physically active for 60 minutes every day. However, only 1 in 10 girls meet the same guidelines.

Adolescents reporting to be physically active for 60 minutes every day, percentage, boys and girls aged 11-16, Wales health boards, 2013/14
Produced by Public Health Wales Observatory, using HBSC (WG)
— 95% confidence interval



Indicator definition:

- The percentage of children aged 11-16 who reported being active for at least 60 minutes every day.
- Young people were asked to report the number of days over the past week during which they were physically active for a total of at least 60 minutes.

Caveats:

- The use of self-reported surveys administered in schools under examination conditions is particularly appropriate for the nature of the questions asked, with previous research finding that young people are most likely to report risky/sensitive behaviours accurately with this methodology. However, there is still a possibility that some respondents give socially acceptable, rather than accurate, responses.

Data source, geography & period:

- Health Behaviour in School-aged Children (HBSC), Welsh Government
- Wales health boards
- 2013/14

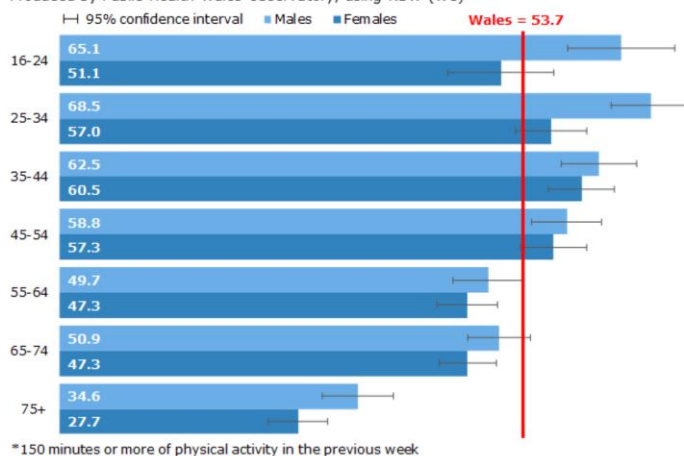
Further information:

Further information on the HBSC be found here: <https://gov.wales/docs/caecd/research/2015/151022-health-behaviour-school-children-2013-14-key-findings-en.pdf>

The percentage of adults reporting to meet physical activity guidelines is higher in men than women for each age group.

Adults reporting to meet physical activity guidelines* by age and sex, percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales Observatory, using NSW (WG)



Physical activity

67



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Public Health
Wales Observatory

Indicator definition:

- The percentage of adults aged 16+ who reported to meet physical activity guidelines (150+ minutes of moderate or vigorous physical activity in the previous week) by age and sex.
- The survey asked respondents on what days in the previous week they walked, completed some moderate physical activity and completed some vigorous physical activity for at least 10 minutes at a time and how much time, on average, they spent doing these activities. Respondents were also asked about their walking pace and the effort involved, walking was included as a moderate activity for those walking at a 'fairly brisk' or 'fast' usual pace. For those aged 65 and over, walking at any pace was included if the effort was enough to make them breathe faster, feel warm or sweat. The information was combined to provide an estimate of the equivalent number of moderate minutes of activity undertaken the previous week. Those with the equivalent of 150 minutes or more moderate activity were classed as meeting the guidelines.

Caveats:

- The NSW data is self-reported. Health-related behaviours can be a complex area to measure, there may be some differences between what people report and what they do (for instance, they may tend to overestimate their levels of physical activity). However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.

Data source, geography & period:

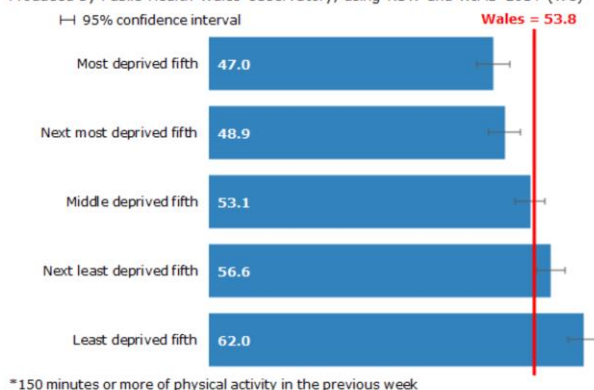
- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

Adults reporting to meet physical activity guidelines increases as deprivation decreases. There is a 15% inequality gap between the least and most deprived areas.

Adults reporting to meet physical activity guidelines* by deprivation fifth, age-standardised percentage, persons aged 16+, Wales, 2016/17
Produced by Public Health Wales Observatory, using NSW and WIMD 2014 (WG)



Indicator definition:

- The age-standardised percentage of adults aged 16+ who reported to meet physical activity guidelines (150+ minutes of moderate or vigorous physical activity in the previous week)
- The survey asked respondents on what days in the previous week they walked, completed some moderate physical activity and completed some vigorous physical activity for at least 10 minutes at a time and how much time, on average, they spent doing these activities. Respondents were also asked about their walking pace and the effort involved, walking was included as a moderate activity for those walking at a 'fairly brisk' or 'fast' usual pace. For those aged 65 and over, walking at any pace was included if the effort was enough to make them breathe faster, feel warm or sweat. The information was combined to provide an estimate of the equivalent number of moderate minutes of activity undertaken the previous week. Those with the equivalent of 150 minutes or more moderate activity were classed as meeting the guidelines.
- Deprivation is classified according to 2014 Welsh Index of Multiple Deprivation fifths.

Caveats:

- The NSW data is self-reported. Health-related behaviours can be a complex area to measure, there may be some differences between what people report and what they do (for instance, they may tend to overestimate their levels of physical activity). However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.
- Not everyone living in an area classified as deprived is living in deprived circumstances, and conversely not everyone living in an area in the least deprived quintile is living in affluent circumstances.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Welsh Index of Multiple Deprivation 2014, Welsh Government
- Wales by deprivation fifth
- 2016/17

Further information:

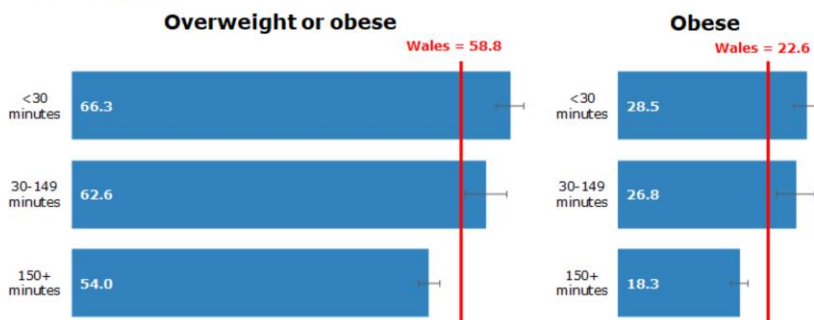
Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

A significantly higher percentage of adults that reported to be physically inactive were obese. A significantly lower percentage of adults that met physical activity guidelines were overweight or obese.

Adults reporting to be overweight or obese by minutes of moderate physical activity, age-standardised percentage, persons aged 16+, Wales, 2016/17

Produced by Public Health Wales, using NSW (WG)

— 95% confidence interval



Physical activity

69



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Public Health
Wales Observatory

Indicator definition:

- The age-standardised percentage of adults aged 16+ who self-reported to be overweight or obese (BMI 25+) or obese (BMI 30+) by physical activity.
- Physical activity guidelines – 150+ minutes of moderate or vigorous exercise in the previous week
- Physical inactivity – less than 30 minutes of moderate or vigorous exercise in the previous week
- The survey asked adults to report their height and their weight. In order to define overweight or obesity, a measurement is required which allows for differences in weight due to height. BMI is calculated as weight (kg) divided by squared height (m²).
- The survey also asked respondents on what days in the previous week they walked, completed some moderate physical activity and completed some vigorous physical activity for at least 10 minutes at a time and how much time, on average, they spent doing these activities. Respondents were also asked about their walking pace and the effort involved, walking was included as a moderate activity for those walking at a 'fairly brisk' or 'fast' usual pace. For those aged 65 and over, walking at any pace was included if the effort was enough to make them breathe faster, feel warm or sweat. The information was combined to provide an estimate of the equivalent number of moderate minutes of activity undertaken the previous week.

Caveats:

- Height and weight are self-reported, and there is evidence to show that some people tend to under report weight and/or over report height resulting in an underestimation of the prevalence of overweight and obesity.
- BMI does not distinguish between mass due to body fat and mass due to muscular physique, nor does it take account of the distribution of fat.
- Ethnicity may affect BMI.
- The NSW data is self-reported. Health-related behaviours can be a complex area to measure, there may be some differences between what people report and what they do (for instance, they may tend to overestimate their levels of physical activity). However, survey data still provides a reliable means of comparing patterns for these behaviours between different groups and over time.

Data source, geography & period:

- National Survey for Wales (NSW), Welsh Government
- Wales
- 2016/17

Further information:

Further information on the NSW be found here: <https://gov.wales/statistics-and-research/national-survey/?tab=current&lang=en>

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Acknowledgements

Project members

Team (analysis and writing): Arthur Duncan-Jones, Rhys Gibbon, Mari Jones, Beth Patterson, Megan Luker, Rhian Hughes, James Allen

Project Board: Kirsty Little, Julie Bishop, Nathan Lester, Natalie Field, Nike Arowobusoye, Nathan Cook, Sian Price

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