

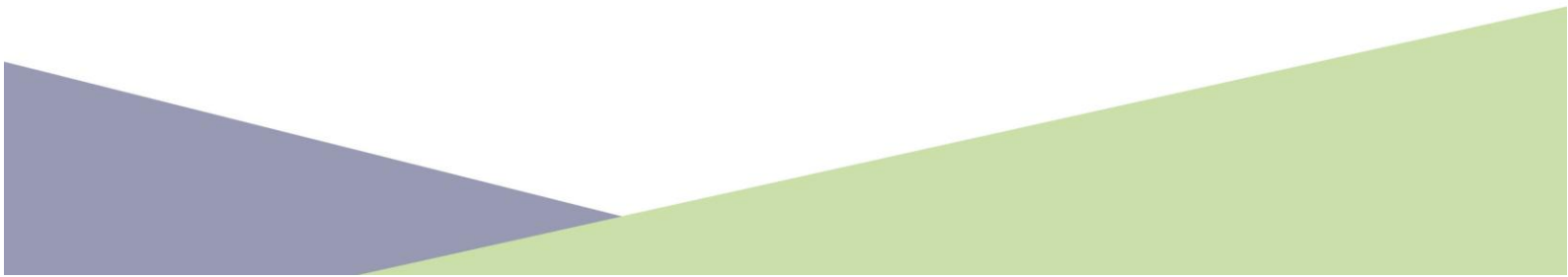
Theme One: Food and Nutrition as a Determinant of Population Health

Chapter 2: Population impact of food and nutrition: health, social and economic impacts



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Chapter 2: Population impact of food and nutrition: health, social and economic impacts

This chapter focuses on the impacts of poor diet and nutrition on the population. We begin with an overview of how diet-related risks contribute to ill-health and early mortality, using disability-adjusted life years (DALYs).

We then outline the specific health impacts of poor diet and nutrition, with a particular focus on sugar and dental health, followed by the health impacts of excess weight and obesity, including obesity-related hospital admissions. The social and economic impacts of poor diet and nutrition follow, with particular attention to given to the impacts of tooth decay and obesity.

Summary

Population health impacts of food and nutrition

- The impact of poor diet and nutrition on population health can be shown by how diet-related risks contribute to years lived in ill-health or disability (YLD) and years of life lost due to early mortality (YLL), which add up to equal disability-adjusted life years (DALYs).
- Four of the five biggest risk factors for all-cause DALYs are diet-related, both in West Sussex and nationally. After tobacco, high body mass index (BMI), dietary risks, high blood sugar levels and high blood pressure account for the highest number of DALYs in West Sussex.
- Dietary risks contributing most significantly to DALYs in the West Sussex population are diets low in whole grains, fruit, nuts and seeds, or vegetables, and diets high in processed or red meat. Diets high in processed meat is the largest dietary risk factor contributing to years lived in poor health and has risen most steeply over the past three decades.
- The contribution of dietary risks and high blood pressure to DALYs has been consistently higher in males than females in West Sussex and nationally over time. DALYs associated with high blood sugar and BMI, in contrast, are not dissimilar in males and females.
- Over the past three decades, the relative contribution of each of the contemporary top five risk factors for DALYs, YLDs and YLLs has changed. Whilst DALYs associated with high blood pressure and dietary risks have fallen substantially over time, DALYs and YLDs have increased for high BMI and high blood sugar levels. High BMI and high blood sugar levels now surpass tobacco in their contribution to years lived in poor health in the West Sussex population. This, along with an increase in YLD for dietary risks, may show an increasing trend of people living in ill-health for longer due to these diet-related risks, compared to previous years.
- DALYs associated with child and maternal malnutrition are similar across West Sussex, the South East and England and have trended downwards over time.

- Following the national recommended guidelines for a healthy, balanced diet is an important part of maintaining good physical and mental health. Eating enough fibre, wholegrains and fruits and vegetables can have beneficial effects on health, including a lower risk of poor mental health, chronic diseases, such as cardiovascular disease, cancers and type-2 diabetes, and all-cause mortality.
- Eating too much saturated fat, sugar, salt and red meat can have negative effects on health, including increased risk of obesity, tooth decay, cardiovascular disease, such as coronary heart disease and strokes, high blood pressure and cancers.
- Ultra-processed foods (UPFs) are clearly linked to poor health outcomes; however, it is currently unclear whether UPFs are inherently unhealthy due to processing or because many UPFs are high in energy, saturated fat, salt and/or free sugars.
- Food and drinks that are high in sugar increase the risk of tooth decay. In West Sussex in 2023/24, 5-9 year-olds had the highest rate of hospital tooth extractions due to tooth decay, at 140.2 per 100,000. Hospital admissions for dental caries and tooth extractions due to dental decay in children and young people are lower in West Sussex than in England and the South East.
- In England, amongst both children and adults, there is a clear social gradient in the prevalence of tooth decay.

Population health impacts of overweight and obesity

- Having excess weight is an outcome of a poorer diet and nutritional balance (alongside additional risk factors) and can have impacts across the life course.
- During pregnancy, labour and birth, a BMI above the healthy range is associated with greater risks for both mother and baby. These risks include thrombosis, high blood pressure, gestational diabetes and pre-eclampsia during pregnancy, alongside neural tube defects, stillbirths and complications during labour and birth.
- Overweight and obesity are associated with numerous adverse health outcomes, including increased risk of cardiovascular disease, high blood pressure, type-2 diabetes, cancers, non-alcoholic fatty liver disease, asthma, musculoskeletal (MSK) conditions such as osteoarthritis, dementia and poor mental health.
- Overweight and obesity is also associated with an increased and earlier risk of complex multi-morbidity and increased risk of all-cause mortality and lower life expectancy.
- Children and adolescents who are obese are around five times more likely to be obese in adulthood compared to non-obese children and adolescents.
- In 2023/24, there were nearly 17,200 hospital admissions where obesity was recorded as the primary or secondary diagnosis in West Sussex. There were 240 admissions with a primary diagnosis of obesity, including 185 admissions for bariatric surgical procedures. Of admissions where obesity was a factor, the most

common diagnoses related to maternity issues, knee and hip issues, and breast cancer. Admissions of both of these types were around twice as likely in the most deprived quintile compared to the least deprived quintile.

Social impacts of food and nutrition

- Tooth decay can cause pain, infection and potentially affect appearance, all of which can have a negative impact on wellbeing. Problems may arise with eating, sleeping, socialising and communication, and may lead to time away from school and work.
- Children and adults who are overweight or obese may experience weight-related stigmatisation, teasing or bullying, which may affect mental and physical health, including lower self-esteem, body dissatisfaction, lower levels of physical activity, unhealthy eating behaviours, weight gain and higher levels of stress.
- Children who are overweight/obese are up to 54% more likely to be absent from school than children of a healthy weight. Obesity during adolescence may also be associated with lower academic attainment in girls, although the same association is not seen in boys.
- Excess weight may affect employment, including disadvantage across a range of workplace outcomes including hiring, performance evaluation and promotion outcomes. Long-term conditions associated with overweight and obesity (e.g., MSK) may also affect ability to work.

Economic impacts of food and nutrition

- At an individual level, financial impacts due to the ill-health and disability that can result from poor diet and nutrition may include time away from work, lost or lower income and the cost of care.
- At the societal level, this economic burden includes losses in productivity, the cost of health, social and dental care, and state benefit payments.

Population health impact of food and nutrition: Contribution of diet-related risks to DALYs

Using data from the Global Burden of Disease Study 2021¹, the contribution of diet-related risks to ill-health and early mortality can be estimated, using disability-adjusted life years (DALYs). DALYs are estimated by adding together the number of years that someone may live with ill-health or disability (years lived with disability (YLD)) and the number of years of life lost (YLL) due to premature mortality (compared to the average life expectancy).

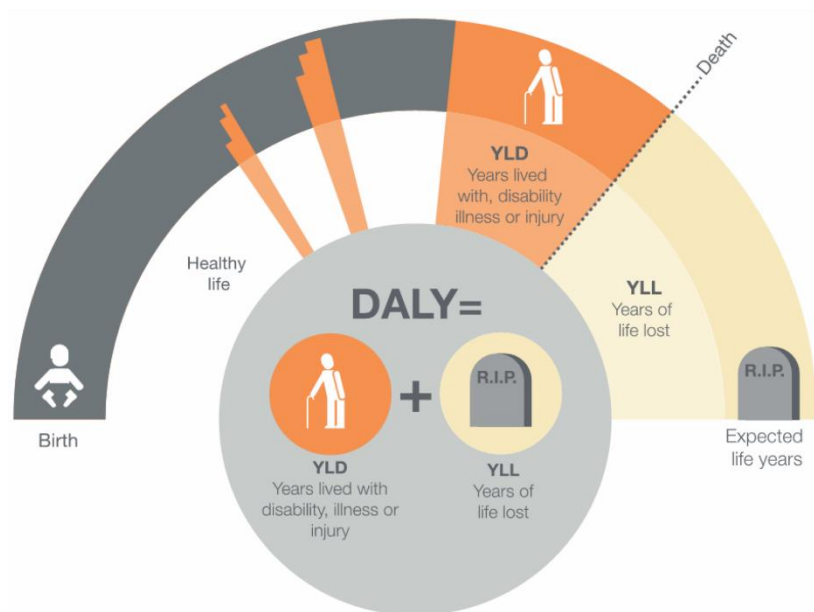


Figure 1. Calculating DALYs. Source: Public Health England.

In West Sussex and nationally, four of the five biggest risk factors for all-cause DALYs are diet-related. After tobacco, high BMI, dietary risks, high-fasting plasma glucose (blood sugar levels) and high blood pressure account for the highest number of DALYs in West Sussex in 2021 (Figure 2).

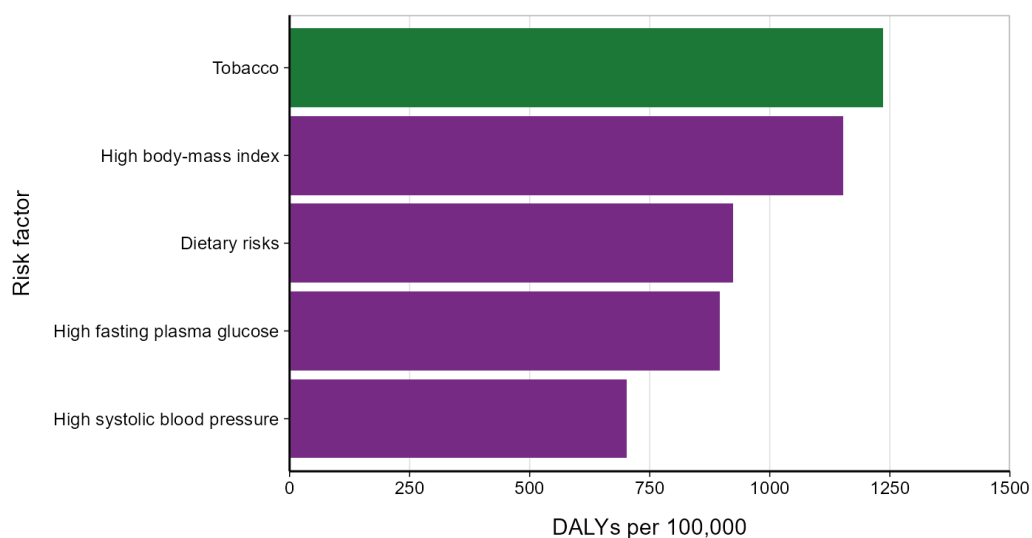


Figure 2. Top five risk factors for disability-adjusted life-years (DALYs) per 100,000 age-standardised population in West Sussex, 2021. Data source: Global Burden of Disease Study, 2021.

Over the past three decades (since the Global Burden of Disease Study began in 1990), the relative contribution of each of the contemporary top five risk factors for DALYs, YLDs and YLLs has changed. DALYs associated with high blood pressure and dietary risks have fallen substantially over time (as has tobacco) and begun to plateau in the 2010s, whilst, in this latter decade, high BMI and high blood sugar levels have begun to rise to meet or overtake these risk factors (Figure 3).

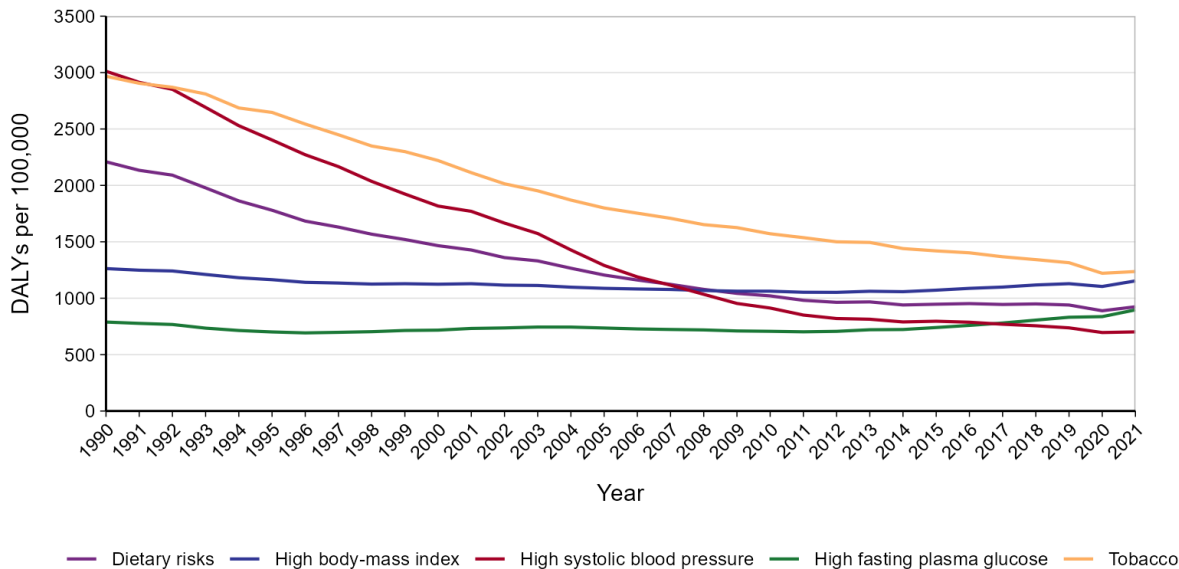


Figure 3. Top five risk factors for disability-adjusted life-years (DALYs) per 100,000 age-standardised population in West Sussex, over time (1990-2021). Data source: Global Burden of Disease Study, 2021.

However, breaking DALYs down into YLD and YLL shows a more nuanced picture. Whilst YLL have decreased or remained stable for each of these risk factors, YLD have increased for high BMI, high blood sugar levels, and dietary risks. This may show an increasing trend of people living in ill-health due to these diet-related risks for longer than in previous years.

The rising population impact of diet-related risk factors on years lived in poor health can also be illustrated when compared with other key contributors to ill-health, such as tobacco use. Although DALYs associated with tobacco use remain higher than the other top risk factors, high BMI and high blood sugar levels have surpassed tobacco in their contribution to years lived in poor health in the West Sussex population (Figure 4).

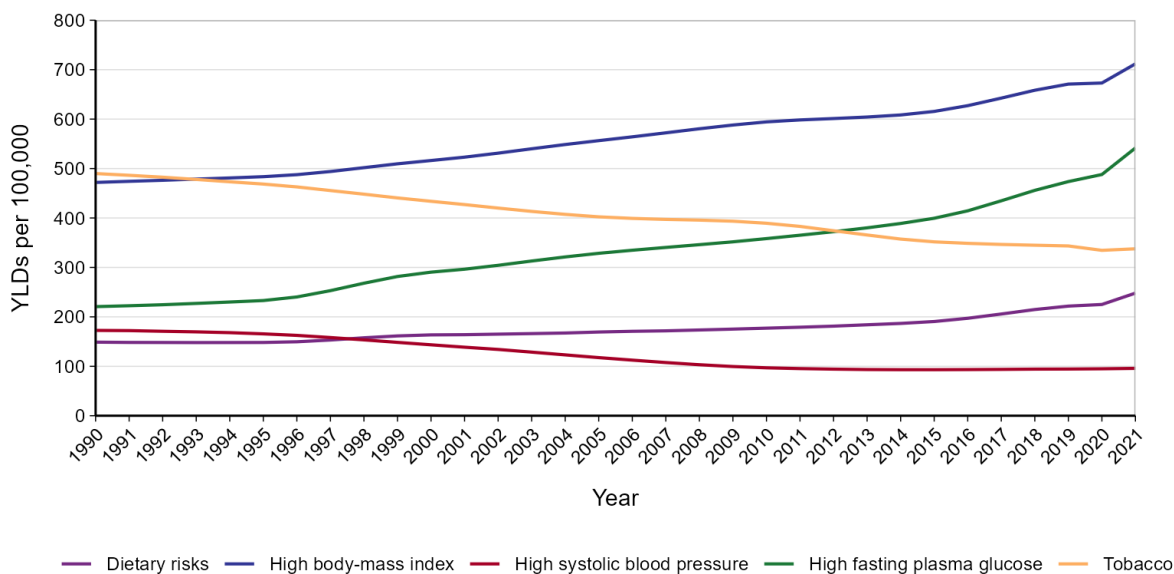


Figure 4. Top five risk factors for years lived with disability (YLDs) per 100,000 age-standardised population in West Sussex, over time (1990-2021). Data source: Global Burden of Disease Study, 2021.

Each of these diet-related risk factors are explored in greater detail below.

Dietary risks DALYs and YLDs

In the West Sussex population, dietary risks contributed to around 16,740 DALYs in 2021, equivalent to 924 DALYs per 100,000 population (age-standardised). The rate of DALYs associated with dietary risks per 100,000 in West Sussex was similar to the South East (890 per 100,000) and England (1,049 per 100,000) in this period.

Over time, DALYs due to dietary risks have consistently been higher in males than females in West Sussex, the South East and in England, although this gap has lessened over time. In 2021, there were 1,195 DALYs per 100,000 male population (age-standardised) in West Sussex, compared to 688 DALYs per 100,000 female population (age-standardised) (Figure 5).

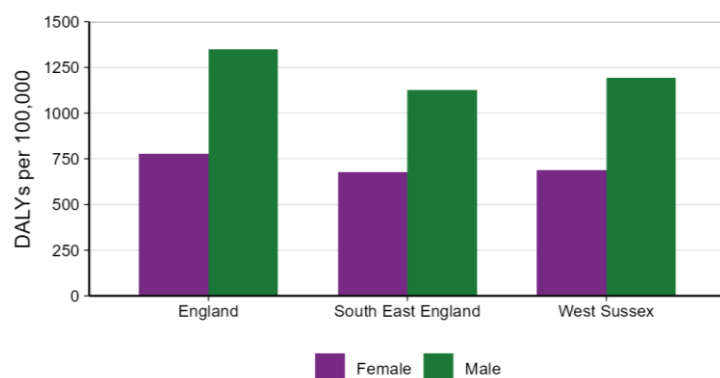


Figure 5. Contribution of dietary risks to disability-adjusted life-years (DALYs) per 100,000 age-standardised population of males and females in West Sussex, the South East region and England in 2021. Data source: Global Burden of Disease Study, 2021.

In West Sussex and nationally, dietary risk factors contributing most significantly to the rate of DALYs per 100,000 population were diets low in whole grains, fruit, nuts and seeds, or vegetables, and diets high in processed or red meat. Diets low in whole grains and high in processed meat were particularly prevalent, with these dietary risks each contributing to more than 200 DALYs per 100,000 age-standardised population in West Sussex in 2021 (Figure 6).

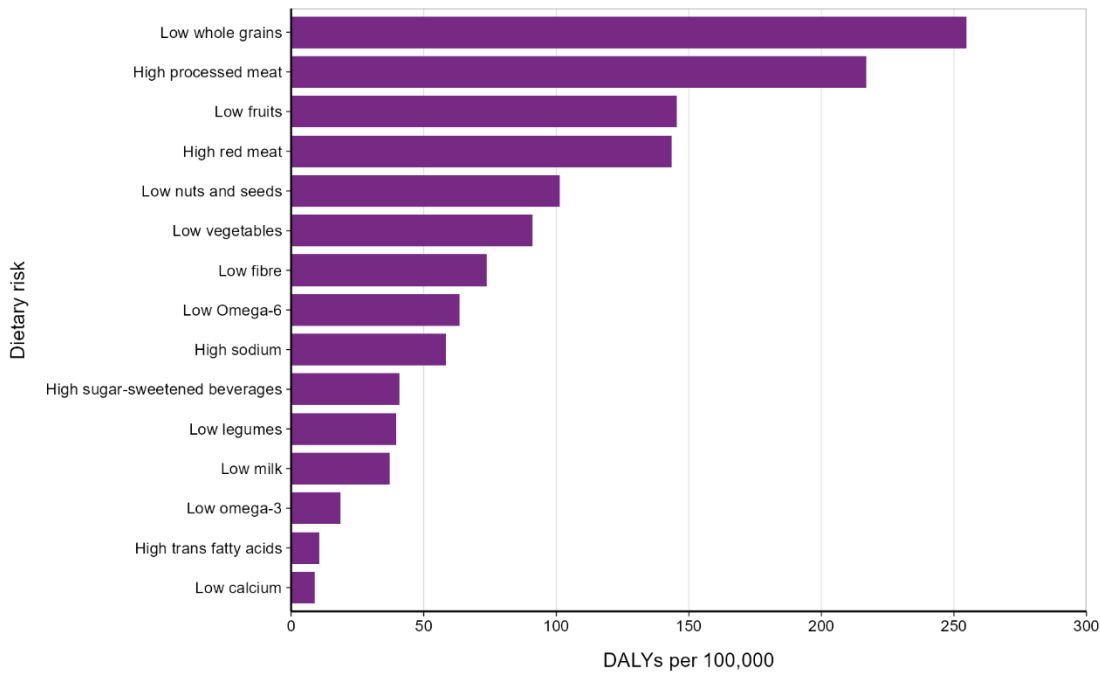


Figure 6. Contribution of different dietary risks to disability-adjusted life-years (DALYs) per 100,000 age-standardised population in West Sussex in 2021. Data source: Global Burden of Disease Study, 2021.

Over the last three decades, DALYs due to dietary risks have decreased in West Sussex and nationally. However, breaking DALYs down into years lived with ill-health/disability (YLD) and years of life lost (YLL) shows that whilst YLL due to dietary risks have decreased in this period, YLD have increased (Figure 7). This may show an increasing trend of people living in ill-health due to dietary risks for longer than in previous years.

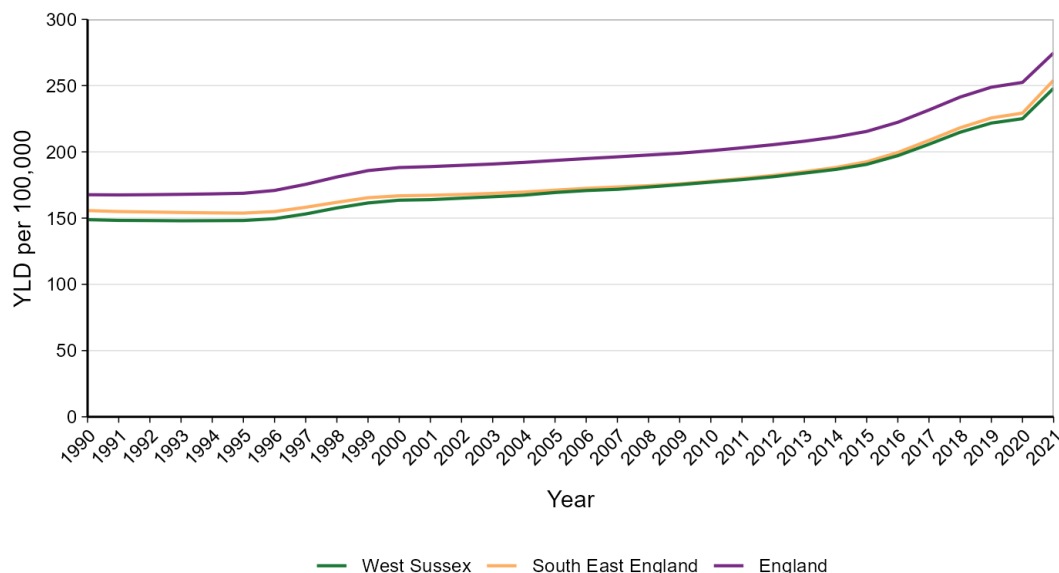


Figure 7. Contribution of dietary risks to years of life lived in ill-health, disability or with injury (YLD) per 100,000 age-standardised population in West Sussex, the South East region and England, 1990-2021. Data source: Global Burden of Disease Study, 2021.

Compared to other dietary risks, YLD due to diets high in processed meat have risen most steeply over the past three decades, followed by diets high in sugar-sweetened beverages. These dietary risks have also seen particularly steep increases in the most recent years (Figure 8).

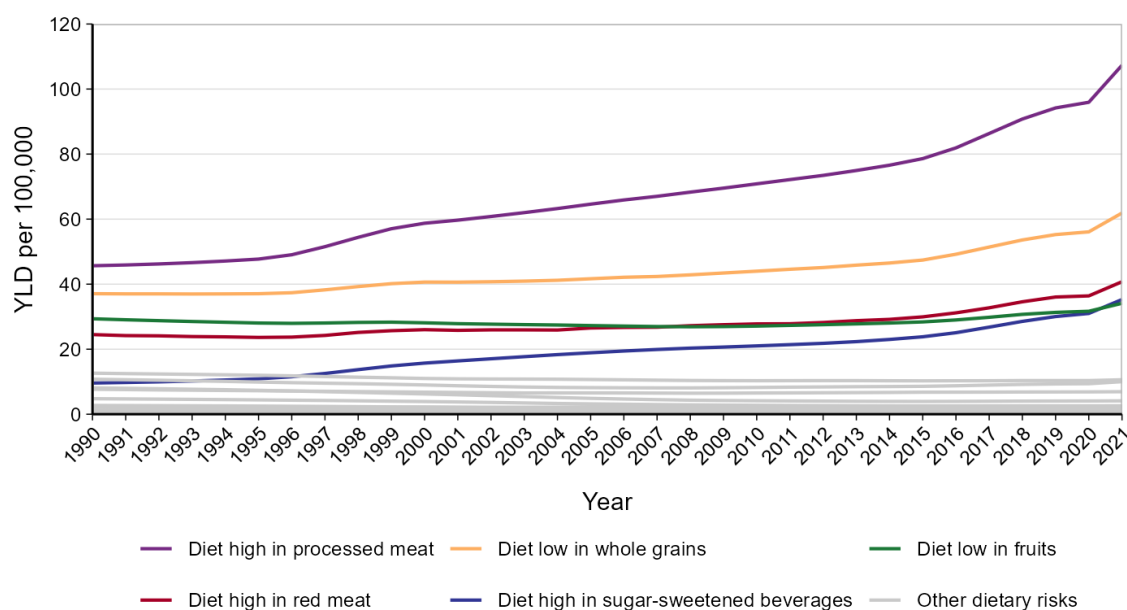


Figure 8. Contribution of different dietary risks to years of life lived in ill-health, disability or with injury (YLD) per 100,000 age-standardised population in West Sussex, 1990-2021. Data source: Global Burden of Disease Study, 2021.

High-fasting plasma glucose DALYs and YLDs

Having high blood sugar levels after a period of not eating (a high fasting plasma glucose concentration) may be indicative of pre-diabetes or diabetes. Diet is a key risk factor for pre-diabetes, which can develop into type 2 diabetes if undiagnosed or untreated. Being overweight or carrying excess body fat is a key risk factor for pre-diabetes and type 2 diabetes, although individuals who are of a healthy weight can also develop type 2 diabetes².

In the West Sussex population, having a high fasting blood sugar level was associated with 16,053 DALYs in 2021, equivalent to 897 DALYs per 100,000 population (age-standardised). The rate of DALYs associated with high blood sugar per 100,000 in West Sussex was similar to the South East (903 per 100,000) and England (1,001 per 100,000) in this period. DALYs associated with high blood sugar were not dissimilar between males and females in West Sussex and nationally.

Over the last decade, the rate of DALYs associated with high fasting blood sugar has risen in West Sussex and nationally, whilst the rate of YLLs has plateaued (following a downward trend in the preceding two decades). YLDs have been steadily rising over the last several decades (Figure 9). In West Sussex in 2021, high fasting blood sugar was associated with 8,176 YLDs, equivalent to 542 YLDs per 100,000 population (age-standardised).

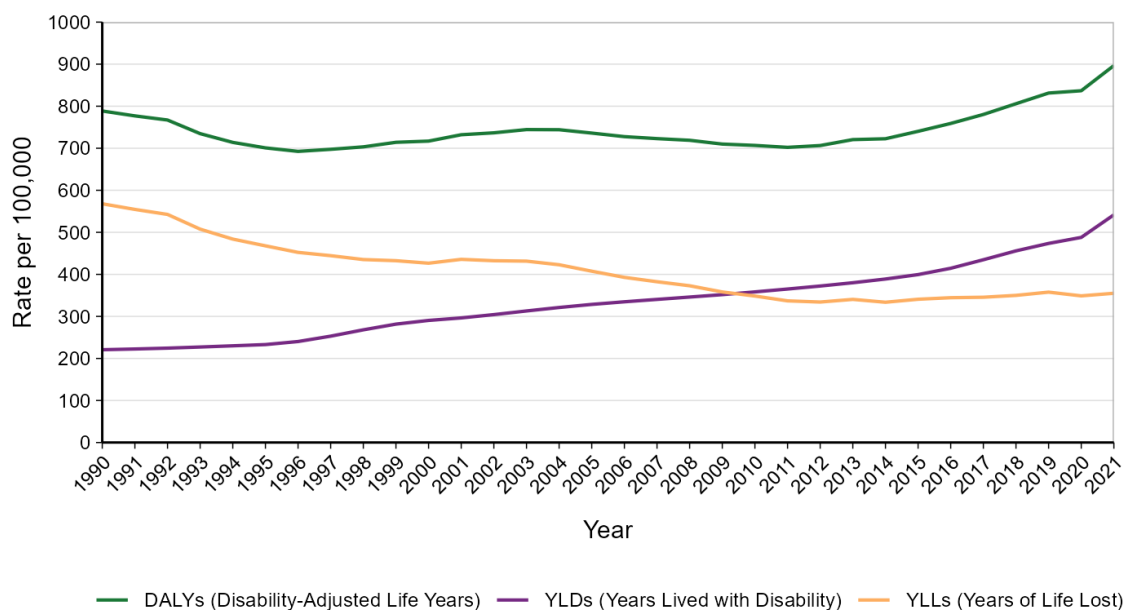


Figure 9. Contribution of high fasting plasma glucose (blood sugar) levels to the rates per 100,000 age-standardised population of disability-adjusted life-years (DALYs), years of life lived in ill-health, disability or with injury (YLD) and years of life lost (YLLs) in West Sussex, 1990-2021. Data source: Global Burden of Disease Study, 2021.

Over time, the impact of high blood sugar on years lived in poor health has been rising and has overtaken tobacco as a top contributor to YLD. Although the rate of DALYs associated with high fasting blood sugar remains lower than tobacco, the rate of YLD per 100,000 associated with high fasting blood sugar has been higher than the YLDs associated with tobacco since 2011, with this gap widening as YLDs associated with high blood sugar continues to rise (see Figure 4).

High systolic blood pressure DALYs and YLDs

Blood pressure is measured using two numbers: systolic pressure and diastolic pressure. Systolic blood pressure is the pressure against the arteries when the heart is pumping blood around the body, and diastolic is the pressure in the arteries when the heart relaxes between beats. An unhealthy diet, particularly excess salt consumption, is one of several risk factors for high blood pressure that are lifestyle-related, alongside obesity, excessive alcohol consumption and others. Having high blood pressure increases the strain on blood vessels, the heart and other organs, such as the brain, kidneys and eyes. If untreated, high blood pressure can increase the risk of serious conditions, including heart disease, heart attacks, strokes, heart failure, kidney disease and vascular dementia.

In the West Sussex population, having high blood pressure was associated with 15,090 DALYs in 2021, equivalent to 701 DALYs per 100,000 population (age-standardised). The rate of DALYs associated with high blood pressure per 100,000 in West Sussex was similar to the South East (679 per 100,000) and England (824 per 100,000) in this period.

Over time, DALYs associated with high blood pressure have been consistently higher in males than females in West Sussex, the South East and in England. In 2021, the rate of DALYs in the male population in West Sussex was approximately double that of the female population, at 962 DALYs and 468 DALYs per 100,000 (age-standardised), respectively (Figure 10).

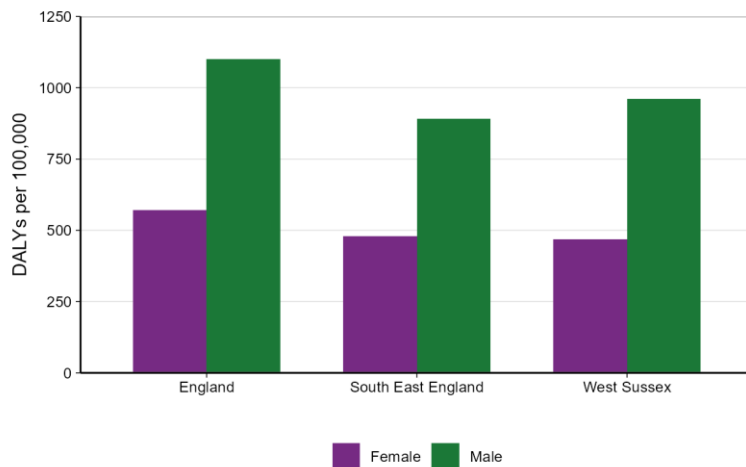


Figure 10. Contribution of high systolic blood pressure to disability-adjusted life-years (DALYs) per 100,000 age-standardised population of males and females in West Sussex, the South East region and England in 2021. Data source: Global Burden of Disease Study, 2021.

DALYs associated with high blood pressure decreased substantially between 1990 and 2010, falling by a factor of three, from 3,012 DALYs to 913 DALYs per 100,000 (age-standardised) in this period (see Figure 3). Although DALYs associated with high blood pressure have continued to fall over the last decade, the rate of decrease has been much slower. YLDs and YLLs have also been decreasing over time, although the decrease in YLDs has plateaued in the last decade (see Figure 4).

High body-mass index DALYs and YLDs

BMI measures whether a person is a healthy weight for their height. For most people, having a high BMI (a BMI score equal or above 23-25, depending on ethnicity; see Chapter 2: Nutritional epidemiology and excess weight) indicates that they are overweight or obese³. Having a poor diet and nutritional balance is a key risk factor for having excess weight (although, as outlined in the previous chapter, there are numerous factors that can influence weight).

In the West Sussex population, high BMI was associated with around 18,580 DALYs in 2021, equivalent to 1,153 DALYs per 100,000 population (age-standardised). The rate of DALYs associated with high BMI per 100,000 in West Sussex was similar to the South East (1,154 per 100,000) and England (1,284 per 100,000) in this period. DALYs associated with high BMI was similar between males and females in West Sussex and nationally.

In recent years (2013 onwards), the rate of DALYs associated with BMI has risen, in West Sussex and nationally. Although YLL have trended downward then remained stable over time, YLD have been steadily rising over the last several decades (Figure 11).

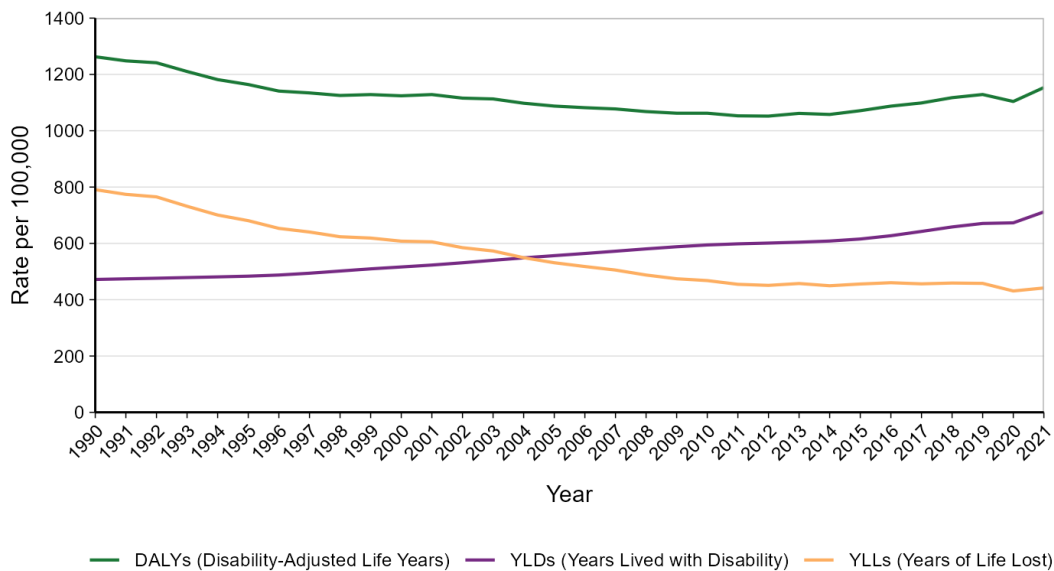


Figure 11. Contribution of high body-mass index (BMI) to rates per 100,000 age-standardised population of disability-adjusted life-years (DALYs), years of life lived in ill-health, disability or with injury (YLD) and years of life lost (YLLs) in West Sussex, 1990-2021. Data source: Global Burden of Disease Study, 2021.

The increasing effect of high BMI on years lived in poor health can be illustrated when compared with other key contributors to ill-health, such as tobacco use. In West Sussex in 2021, although DALYs associated with tobacco remained higher than DALYs associated with high BMI, the number and rate of YLD associated with high BMI were more than double those of tobacco, at 9,958 YLD associated with high BMI, equivalent to a rate of 712 per 100,000 (see Figure 4).

Child and maternal malnutrition DALYs and YLDs

In the Global Burden of Disease Study 2021, risk factors for child and maternal malnutrition include suboptimal breastfeeding, child growth failure, low birthweight and short gestation, and several micronutrient deficiencies (vitamin A, iron and zinc).

In West Sussex, child and maternal malnutrition was associated with around 2,314 DALYs in 2021, equivalent to 547 DALYs per 100,000 population (age-standardised). The rate of DALYs associated with child and maternal malnutrition per 100,000 in West Sussex was similar to the South East (452 per 100,000) and England (500 per 100,000) in this period.

Although 2021 saw a slight uptick in the rate of DALYs associated with child and maternal malnutrition, DALYs and YLLs have trended downwards over time, in West Sussex and nationally, whilst the rate of YLD has remained fairly stable (Figure 12).

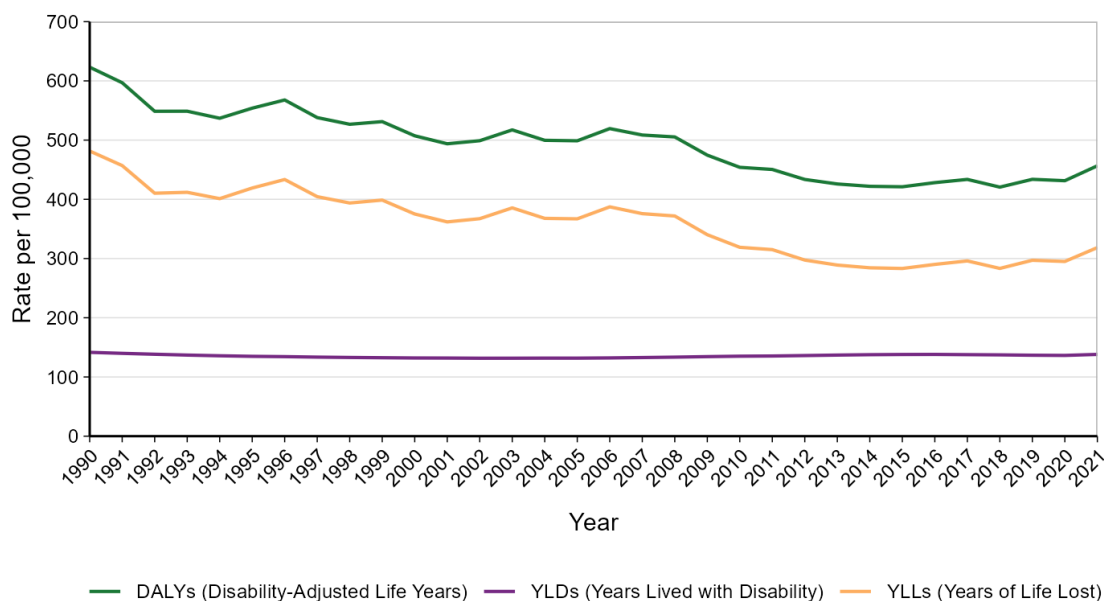


Figure 12. Contribution of risk factors for child and maternal malnutrition to the rates per 100,000 age-standardised population of disability-adjusted life-years (DALYs), years of life lived in ill-health, disability or with injury (YLD) and years of life lost (YLLs) in West Sussex, 1990-2021. Data source: Global Burden of Disease Study, 2021.

Health impacts of diet and nutrition

Following the national recommended guidelines for a healthy, balanced diet is an important part of maintaining good health, both physical and mental. Eating enough fibre, wholegrains and fruits and vegetables can have beneficial effects on health, whilst eating too much saturated fat, sugar, salt and red meat can have negative effects. These physical and mental health impacts are outlined below, including the emerging evidence around ultra-processed foods, followed by an in-depth look at the impact of sugar on oral health, including the impacts on dental health at the West Sussex level.

Health benefits of fibre

Government dietary recommendations state that adults should consume 30g of fibre per day. Meta-analyses suggest that a higher fibre intake can decrease the risk of several chronic diseases including cardiovascular disease, stroke, Type 2 diabetes and colorectal cancer^{4 5 6 7}. A higher intake of fibre has also been found to reduce the risk of all-cause mortality⁸.

Health benefits of a Mediterranean diet

A Mediterranean diet is one that includes plenty of fruits, vegetables, beans, pulses, nuts, seeds and wholegrains, some lean protein such as chicken, eggs and fish and smaller amounts of red meat and processed foods⁹. A meta-analysis which included over 1.5 million people followed-up for up to 18 years found that a Mediterranean diet is associated with a small but significant reduction in overall mortality (9%), mortality from cardiovascular disease (9%), incidence of or mortality from cancer (6%) and incidence of Parkinson's and Alzheimer's disease (13%)¹⁰.

Health impacts of saturated fats

Consuming saturated fats is linked to cardiovascular disease and coronary heart disease¹¹. Having too much saturated fat in the diet can raise “bad” low-density lipoprotein (LDL) cholesterol in the blood, which can increase the risk of heart disease and stroke¹².

Health impacts of sugar

Eating foods and drinks that are high in sugar can contribute to people consuming too many calories, which can lead to weight gain. Excess weight increases the risk of numerous health problems, such as Type 2 diabetes and heart disease, which are outlined later in this chapter¹³.

Regularly consuming foods and drinks high in sugar also increases the risk of tooth decay. The impacts of sugar on dental health in West Sussex are outlined later in this section.

Health impacts of salt

Eating too much salt can cause hypertension, which can increase the risk of heart attacks and strokes¹⁴.

Health impacts of red meat

The International Agency for Research on Cancer has classified red meat (e.g. pork, beef and lamb) as a probable cause of cancer. Consumption of red meat has been associated with cancer of the colorectum, pancreas and prostate¹⁵.

Emerging evidence around health impacts of ultra-processed foods

A review of 45 meta-analyses which included nearly 10 million participants found that higher dietary exposure to ultra-processed foods (UPFs) was associated with a higher risk of adverse health outcomes in 32 out of 45 pooled analyses. Adverse health outcomes included mortality, cancer, mental, respiratory, cardiovascular, gastrointestinal, and metabolic ill health¹⁶. The evidence of adverse health effects is varied by food categories, with clearer associations between meat, animal products and sweetened drinks and poorer health, and no association between vegetarian alternative UPFs and poorer health. Although UPFs are clearly linked to adverse health outcomes, limitations in the available evidence mean that it is unclear whether UPFs are inherently unhealthy due to processing or because a large majority of them are high in energy, saturated fat, salt and/or free sugars¹⁷.

Impact of diet on mental health and wellbeing

Growing evidence shows that healthier diets are linked to better mental health and wellbeing than unhealthy diets. Following a mediterranean-style diet or avoiding a pro-inflammatory diet, for example, is associated with a lower risk of depression¹⁸. Although the direction of such relationships between diet and mental health are, as yet, unclear – for example, mood itself may affect food choices – there are numerous mechanisms which may plausibly explain how diet may be a causal factor in poor mental health. These include the hormonal response to the rapid fluctuation of blood glucose levels caused by refined carbohydrates, the effects of inflammation produced by trans-fats and refined carbohydrates, and the altering effect of unhealthy diets on the gut microbiome, which may consequently affect the complex signalling pathways between the gut microbiome and the brain¹⁹.

Diet may also indirectly affect mental health, via the chronic conditions and illnesses that may result from unhealthy diets. Obesity and diabetes, for example, are linked to poorer mental health, and may have further social impacts, resulting from negative social attitudes towards weight (as outlined below)²⁰.

Impact of sugar on dental health in West Sussex

Food and drinks that are high in sugar increase the risk of tooth decay. Between 21/22-23/24, there were 120 hospital admissions for dental caries in 0-5 year-olds in West Sussex, equivalent to 74.0 admissions per 100,000 population of 0-5 year-olds. This rate was lower than England (207.2 per 100,000) and the South East region (94.5 per 100,000), although this latter rate should be treated with caution, due to missing data for some areas²¹.

In 2023/24, there were 150 hospital tooth extractions due to dental decay in 0-19 year-olds in West Sussex, equivalent to 76.2 extractions per 100,000 population of 0-19 year-olds²². This rate was lower than the South East (98.8 per 100,000) and England (229.2 per 100,000). Although the rates in all local authorities across the county were lower than England, rates in Adur (139.9 per 100,000) and Crawley (127.5 per 100,000) were notably higher than West Sussex overall and the South East (Figure 13).

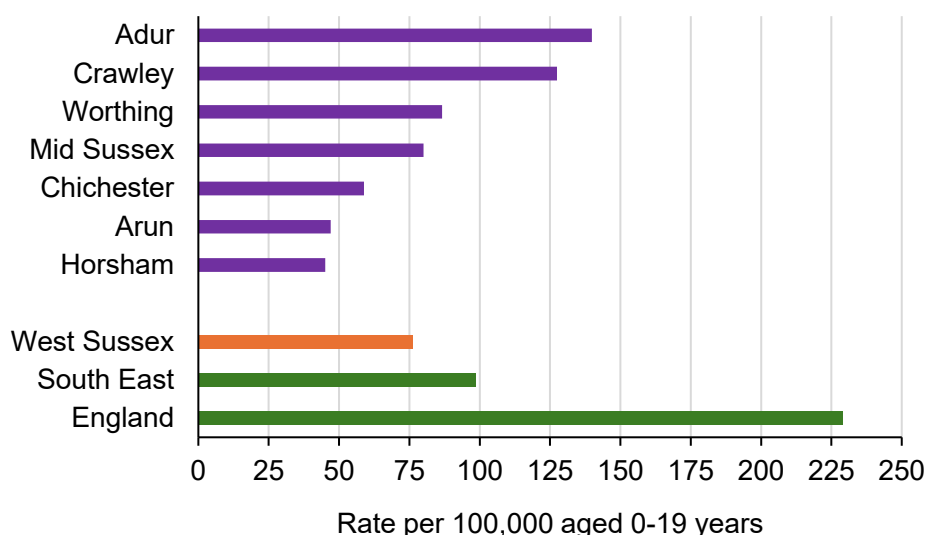


Figure 13. Rate of hospital tooth extractions due to tooth decay per 100,000 target population in West Sussex local authorities, the South East and England, 2023/24. Data source: OHID.

By five-year age-band, 5-9 year-olds had the highest rate of extractions due to tooth decay, at 140.2 per 100,000 in West Sussex in 2023/24 (Figure 14).

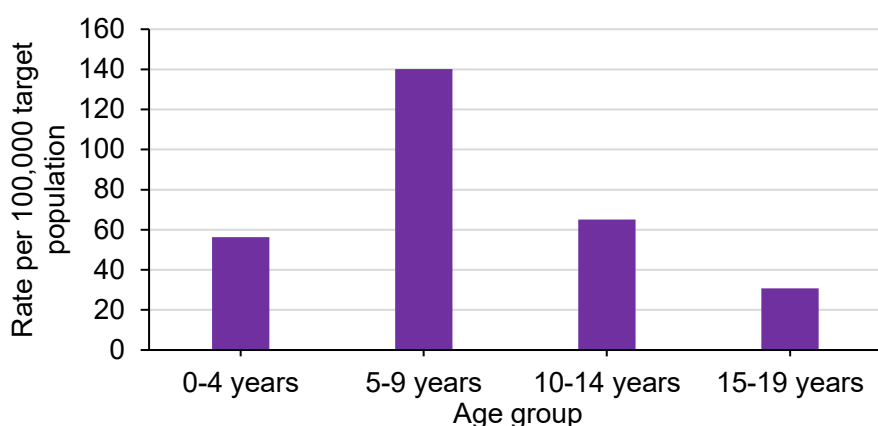


Figure 14. Rate, by five-year age band, of hospital tooth extractions due to tooth decay per 100,000 target population in West Sussex, 2023/24. Data source: OHID.

For many children, tooth extraction in hospital is their first experience of dental care, which can result in fear and anxiety with lifelong consequences²³, such as avoidance of future dental care.

The National Dental Epidemiological Programme for England (NDEP) collects data about the prevalence of visually obvious dental decay in 5-year olds via a biennial survey. Although the most recent survey was undertaken in the 2023/24 academic year, most local authorities in the South East region, including West Sussex, did not participate. The most recent data for West Sussex is from 2016/17, when the percentage of 5-year-olds with visually obvious dental decay was 15.1% and significantly lower than the England average (23.3%). In 2023/24, the percentage of 5-year-olds with visually obvious dental decay in England was 22.4% and, in the South East, where three of 19 constituent local authorities participated, 19.4%. In local authorities that are demographically and socioeconomically similar to West Sussex (CIPFA neighbours, most of whom did participate), the average percentage of 5-year-olds with visually obvious dental decay was 17.2%²⁴.

Higher consumption of sugar by children from more deprived areas contributes to inequalities in poor oral health amongst children from different social backgrounds, which have increased over time²⁵. Data from NDEP shows that children living in the most deprived areas are more than twice as likely to experience dental decay compared to children living in the least deprived areas in England²⁶. This social gradient is also seen in hospital tooth extractions due to dental decay, with the rate of extractions in England nearly 3.5-times higher in children from the most deprived quintile compared to the least deprived quintile²⁷.

Inequalities in oral health may also exist between other groups of children with additional vulnerabilities, although there is less evidence available. Amongst children in special support schools, the prevalence and severity of tooth decay is slightly lower than in 5-year-old and 12-year-old children attending mainstream schools, although dental plaque and tooth extractions are more prevalent in children attending special support schools. Amongst looked after children, there is some evidence indicating that the prevalence of tooth decay is greater compared to children who are not subject to a child protection plan²⁸.

Amongst adults, there is also a clear social gradient in the prevalence of tooth decay, with studies finding inequalities by education, income and social class. The available evidence exploring the prevalence of and inequalities in poor oral health by groups with protected characteristics in the UK is limited. Little evidence is available for disability and pregnancy/maternity, although some studies suggest that there may be differences in

tooth decay by ethnic group. Evidence is similarly limited for other vulnerable groups, although studies consistently find a high levels of poor oral health, including tooth decay, amongst people experiencing homelessness²⁹.

Impact of overweight and obesity on health

Having excess weight is an outcome of a poorer diet and nutritional balance (alongside additional risk factors). Overweight and obesity are themselves associated with a number of adverse health outcomes. The most well-established outcomes are described below.

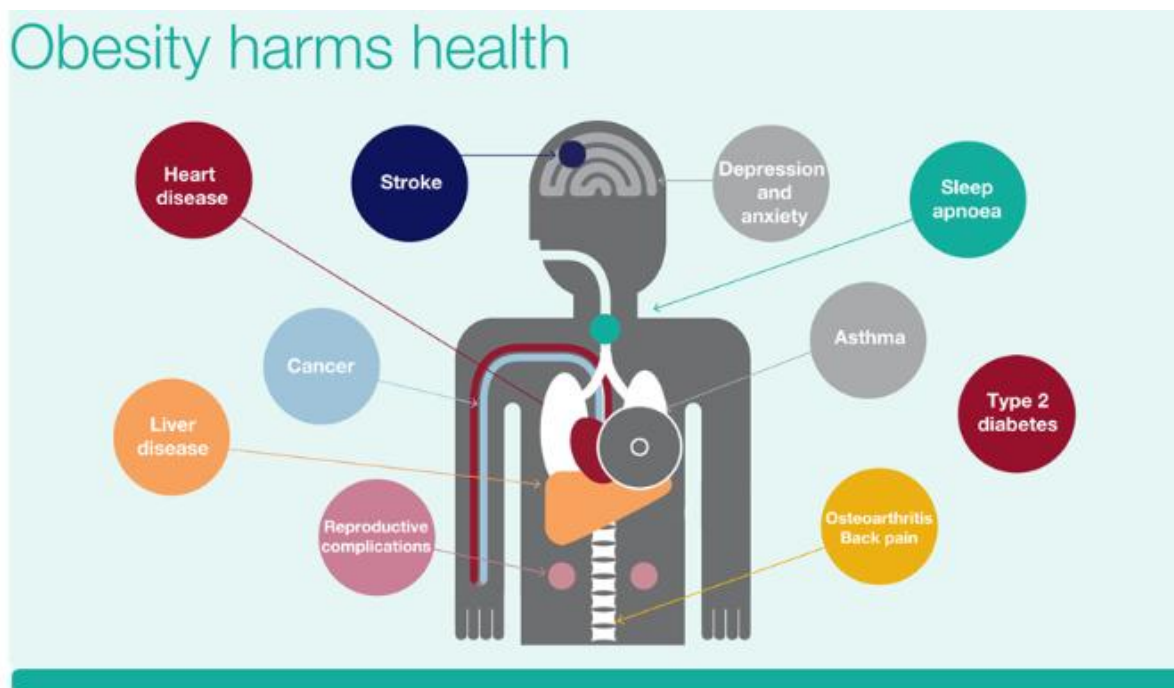


Figure 15: Adverse health outcomes associated with obesity (Infographic taken from *Adult obesity: applying All Our Health*³⁰).

Heart disease

Being overweight or obese increases the risk of heart disease. Using data from the European Prospective Investigation into Cancer and Nutrition (EPIC), a cohort study of more than half a million people in 10 European countries, researchers found that, compared to those with a healthy bodyweight, being overweight or obese increased the risk of heart disease by 28%, even when individuals had healthy blood pressure, blood sugar and cholesterol levels³¹. It has been estimated that around 31,000 heart and circulatory deaths each year are attributed to overweight and obesity³².

In 2021, the age-standardised number of DALYs due to ischemic heart disease in West Sussex attributable to high body-mass index was 134.99 per 100,000 (ranked 3rd for DALYs attributable to high body mass index). The number of ischemic heart disease deaths attributable to high body mass index was 6.2 per 100,000.

Stroke

Obesity is a risk factor for stroke. A meta-analysis found that overweight and obesity in young adulthood are associated with an elevated risk of stroke, with the risk effect increasing with increasing weight³³. In 2021, the age-standardised number of DALYs due to stroke in West Sussex attributable to high body-mass index was 32.15 per 100,000

(ranked 10th for DALYs attributable to high body mass index). The number of stroke deaths attributable to high body mass index was 1.2 per 100,000.

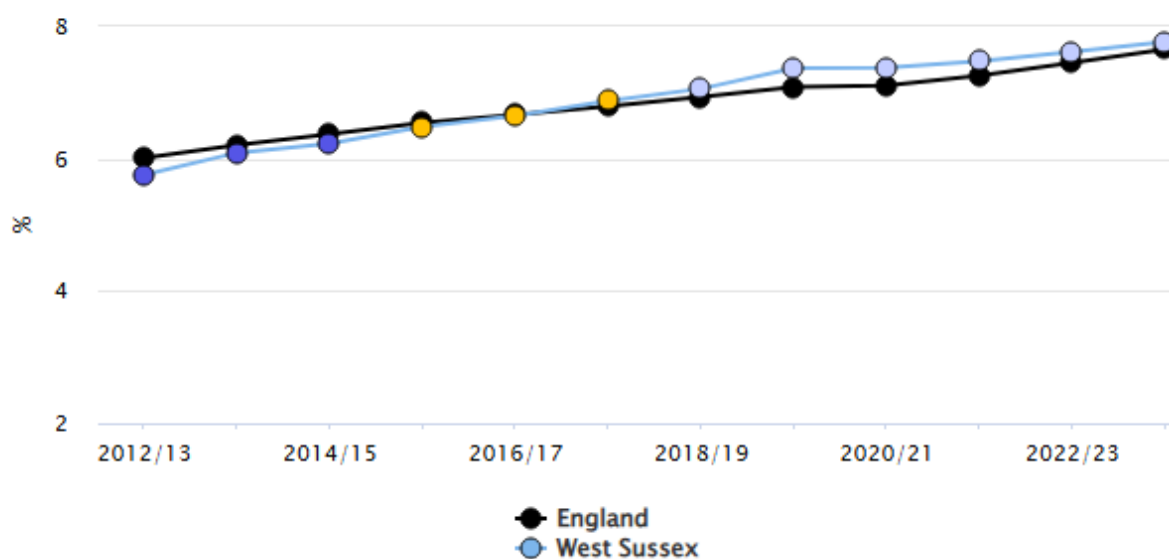
Hypertension

The association between obesity and hypertension is well-established, with the Framingham Heart Study first demonstrating this prospectively in the late 1960s³⁴. Using data from the Health Survey for England, the Office for National Statistics found that hypertension was more common among adults who were classified as obese (males: 53%, females: 44%), compared to those who were overweight (males: 35%, females: 27%) or not overweight or obese (males: 24%, females: 18%)³⁵. Obesity is also associated with high blood pressure in children and young people³⁶.

Diabetes

According to the Quality and Outcomes Framework (QOF), there were 59,769 patients aged 17 or over with diabetes in West Sussex in 2023/24 (7.8%). This is slightly higher than England overall (7.7%). The prevalence of diabetes in both England and West Sussex has been steadily increasing since 2012/13 (Figure 16). Data from Diabetes UK suggests that around 90% of people with diabetes have Type 2 diabetes³⁷.

Figure 16. QOF prevalence of diabetes, individuals aged 17 or over



Type 2 diabetes

It has been estimated that 7% of adults in England have Type 2 diabetes and around a third of these, equating to around 1 million adults, are undiagnosed³⁸. Type 2 diabetes is largely preventable through lifestyle modifications. Being overweight or obese is the main modifiable risk factor for Type 2 diabetes. In England, 90% of adults with Type 2 diabetes are overweight or obese. Compared to adults who are a healthy weight, those who are obese are five times more likely to be diagnosed with diabetes³⁹. Children who are obese are four times more likely to develop Type 2 diabetes, with increasing obesity contributing to an increased incidence of Type 2 diabetes⁴⁰. Obesity is also associated with pre-diabetes in children and young people⁴¹.

In 2021, the age-standardised number of DALYs due to diabetes in West Sussex attributable to high body mass index was 321.42 per 100,000 and is ranked top for DALYs attributable to high body mass index. The number of diabetes deaths attributable to high body mass index was 1.67 per 100,000.

Cancer

Overweight and obesity is the UK's biggest cause of cancer after smoking, with an estimated 6% of all cancer cases caused by overweight and obesity. The more an individual is overweight and the longer they are overweight for increases their risk of developing cancer. There is no known association between obesity and childhood cancers^{42 43}.

Liver disease

People who are obese or overweight are at an increased risk of developing non-alcoholic fatty liver disease. The prevalence of non-alcoholic fatty liver disease in the overweight population has been estimated to be 70%, with an estimated prevalence of 75% among the obese population⁴⁴.

Asthma

Children and adults who are overweight or obese are at a greater risk of asthma. Compared to those of a healthy weight with asthma, obese adults and children with asthma have greater severity and poorer control of symptoms, more frequent and severe exacerbations and decreased quality of life^{45 46}. In 2021, the age-standardised number of Disability-Adjusted Life Years due to asthma in West Sussex attributable to high body-mass index was 85.67 per 100,000 (ranked 4th for DALYs attributable to high body mass index). Obesity is also associated with breathing difficulties in children and young people⁴⁷.

Dementia

Being overweight or obese is associated with an increased risk of dementia. The English Longitudinal Study of Ageing (ELSA) followed up over 6,500 men and women over 50 for an average of 11 years. Those who were obese at the start of the study had third greater (34%) risk of dementia than people who were a healthy weight. Women who carried excess weight around their waistline were particularly at risk (39% greater risk)⁴⁸. In West Sussex, the number of Alzheimer's disease and dementia deaths attributable to high body mass index was 2.3 per 100,000.

Musculoskeletal conditions

Musculoskeletal conditions (MSK) affect the bones, joints, muscles and spine and can cause significant long-term pain and physical disability. Being overweight or obese is one of multiple risk factors that can increase people's susceptibility to MSK problems. In 2017, the prevalence of MSK (all causes) in England was estimated to be 15,899,000 (30.1%)⁴⁹. There are over 150 musculoskeletal conditions including osteoporosis (which affects the bones), osteoarthritis and rheumatoid arthritis (which affect the joints) and sarcopenia (which affects the muscles).

Osteoarthritis

Osteoarthritis is the most common type of arthritis in the UK and causes joints to become painful and stiff. While osteoarthritis can affect almost any joint in the body, it mainly causes issues in the knees, hips and hands. Being overweight or obese is a cause of osteoarthritis as it puts strain on joints, particularly those that bear weight such as knees

and hips. Losing weight may help to lower the risk of developing osteoarthritis⁵⁰. In 2021, the age-standardised number of DALYs due to osteoarthritis in West Sussex attributable to high body-mass index was 70.89 per 100,000 (ranked 5th for DALYs attributable to high body mass index). Obesity is also associated with bone and joint problems in children and young people⁵¹.

Mental health

There is a two-way association between mental health and obesity. Being overweight or obese can increase the risk of mental health issues because of the perceived stigma and body image issues around weight gain, and having mental health issues can increase the risk of becoming overweight or obese because food may be used as a coping strategy and because low mood can affect adherence to weight management programmes⁵². In addition, a common adverse effect of antipsychotic, antidepressant, mood stabilising and other medicines used to treat common mental health conditions is weight gain^{53 54}.

Evidence suggests that up to 80% of individuals detained in secure mental health settings are overweight or obese⁵⁵. Research suggests that secure mental health settings may predispose patients to excessive weight gain due to the heightened salience of food due to the relative lack of other activities and events, the inadequacy of food, limited healthy options for patients, limited opportunities for physical activity due to locked ward environments and ward cultures that are not conducive to healthy behaviours⁵⁶.

People in prison are significantly more likely to experience mental health problems than the general population⁵⁷. There is evidence that men and women in prison gain weight while in prison⁵⁸, however a systematic review published in 2018 found that the prevalence of obesity among males in prison ranged from 8.1% to 55.6%⁵⁹. When compared to the general population, review studies have found either no difference, or a lower prevalence of obesity, among people in prison compared to the general population^{60 61}. A limitation of this body of evidence is that it predominantly includes prison populations outside the UK so the findings may not be applicable to people in prison in the UK.

During pregnancy⁶²

A BMI above the healthy range is associated with greater risks for both a mother and her baby during pregnancy, labour and birth, and the higher the BMI, the greater the risks.

During pregnancy, risks to mothers include an increased risk of thrombosis and high blood pressure. Compared to women with a BMI under 25, those with a BMI of 30 or over are three times more likely to develop gestational diabetes and are at a 2-4 times higher risk of pre-eclampsia. Among women with a BMI of 30 and above, the risk of miscarriage in early pregnancy increases from 20% to 25%. Being overweight before, or during early pregnancy, can also affect the way a baby develops in the uterus. If a woman's BMI is 30 or above, the risk of neural tube defects (problems with the development of the baby's skull and spine), are doubled from 1 in 1000 to 2 in 1000.

There is an increased risk of complications during labour and birth, particularly among those with a BMI of 40 or more. These include a preterm birth (a baby born before 37 weeks of pregnancy), a longer labour, a baby's shoulder becoming 'stuck' during birth (shoulder dystocia) and more complications after a caesarean birth such as heavy bleeding, anaesthetic complications and wound infection. Women who are overweight are more likely to have a baby weighing more than 4kg which increases the risk of complications for mother and baby. There is also an increased risk of stillbirth from 1 in 200 births to 1 in 100 births among those with a BMI of 30 or above.

Increased risk of becoming overweight/obese as an adult

A systematic review and meta-analysis of fifteen prospective cohort studies which followed up over 200,000 participants found that obese children and adolescents were around five times more likely to be obese in adulthood compared to those who were not obese. The study found that 55% of obese children will go on to be obese in adolescence and 80% of obese adults will still be obese in adulthood⁶³

Morbidity and life expectancy

Overweight and obesity is associated with an increased risk of all-cause mortality, with a large systematic review and meta-analysis of 230 cohort studies which included 3.74 million deaths among 30.3 million participants suggesting that the lowest risk was observed at BMI 22-23 among healthy never smokers⁶⁴. This study also found an increased risk of mortality among underweight individuals, however the authors suggest this could be due to a non-causal association⁶⁵. Compared to individuals of a healthy weight, the risk of complex multimorbidity has been found to be 12 times greater among those with obesity and the proportion of participants of healthy weight with complex multimorbidity by age 75 was observed by 55 years in participants with obesity⁶⁶.

Obesity has also been associated with a reduction in life expectancy. A population-based cohort study of 3.6 million adults in the UK found that obesity was associated with a 4.2 year and 3.5 year reduction in life expectancy for male and female 40-year-old never smokers respectively compared to individuals of a healthy weight. The largest reductions in life expectancy were seen for the most severely obese (males: 9.1 years; females: 7.7 years). Reductions in life expectancy were also seen among underweight men and women (men: 4.3 years; women: 4.5 years)⁶⁷.

Obesity-related hospital admissions in West Sussex

Hospital Episode Statistics data shows that there were 240 hospital admissions with a primary diagnosis of obesity in West Sussex in 2023/24. Most admissions were in females (77%), which is similar to the last five years and consistent with the national picture⁶⁸. NB: many of these admissions were for bariatric surgical procedures, which are explored in detail further down.

There were nearly 17,200 hospital admissions where obesity was recorded as the primary or secondary diagnosis in West Sussex in 2023/24. The age-standardised rate of obesity-related admissions in 2023/24 was 1,872 per 100,000 (all ages) in West Sussex.

Nearly two-thirds of these admissions where obesity was a factor were in females (64.1%), which is similar to the previous year and consistent with the national picture. By age, hospital admissions with a primary diagnosis of obesity in West Sussex in 2023/24 increased with age up to a peak in those aged 35-44 years, then decreased in older age groups. This was similar between males and females and reflects the national picture of hospital admissions directly attributable to obesity.

For admissions where obesity was a factor in West Sussex in 2023/24, there were differences between men and women in the number of admissions by age. In men, admissions were relatively low in the younger age groups (e.g., 240 admissions in those aged 25-34 years) and increased steadily with age until plateauing at 55 years and above (at around 1,400-1,540 admissions in each 10-year age band). For women, obesity-related admissions were highest in those aged 25-34 years (around 2,340 admissions) and 35-44 years (around 1,870 admissions). Higher admissions in these age groups may in part

reflect the relatively high number of admissions relating to maternity issues. For older women, obesity-related admissions decreased with age.

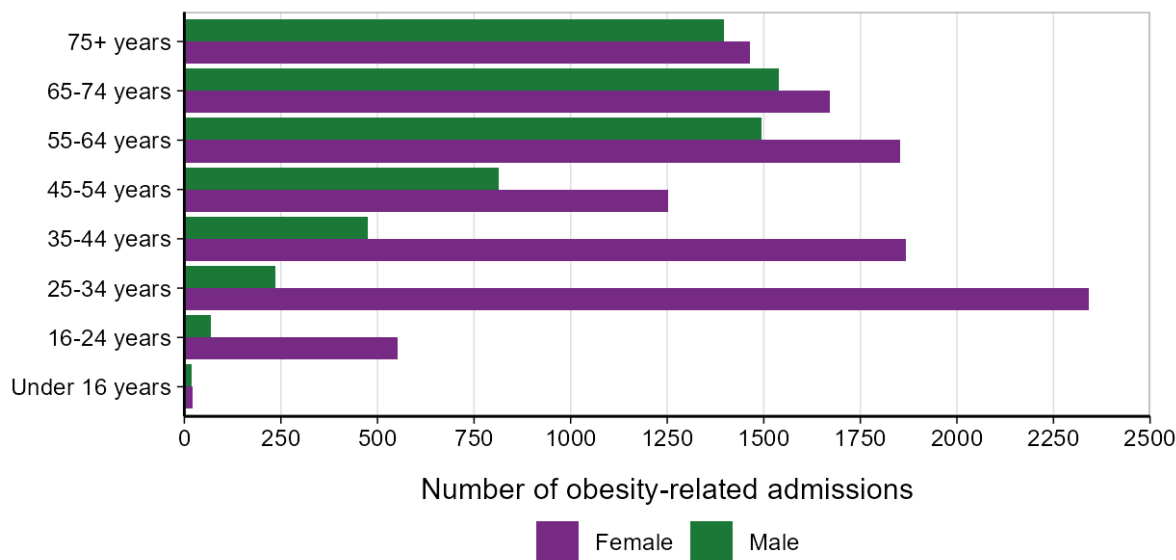


Figure 17. Number of obesity-related hospital admissions, by age and sex, in West Sussex in 2023/24. Data source: Hospital Episode Statistics.

As seen nationally, admissions where obesity was a factor showed a clear social gradient in West Sussex, with the age-standardised rate of admissions increasing with greater levels of deprivation. Obesity-related admissions were twice as likely in the most deprived quintile (2,912 per 100,000 population, all ages), compared to the least deprived quintile (1,401 per 100,000 population, all ages) in 2023/24.

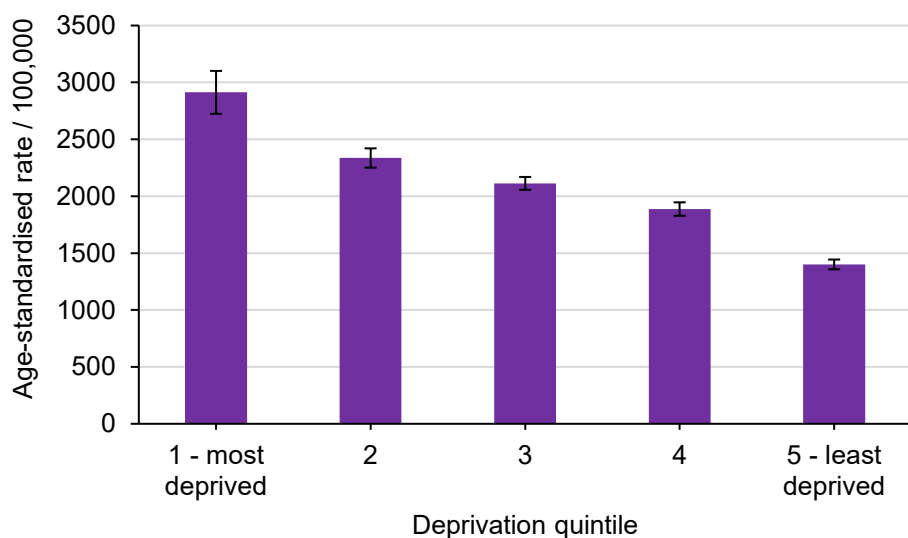


Figure 18. Age-standardised rate, by deprivation quintile, per 100,000 population of patients admitted with a primary or secondary diagnosis of obesity in West Sussex, 2023/24. Error bars show 95% confidence intervals. Data sources: Hospital Episode Statistics, ONS and MHCLG. Rate calculated using the Indices of Multiple Deprivation 2019 and small area (LSOA) 2022 population estimates.

Of admissions in West Sussex where obesity was a factor, but not the main reason for the admission, the most common diagnoses related to maternity issues, knee and hip issues, and breast cancer (Table 1). The formation of gallstones (cholelithiasis), pneumonia, abnormal heart rhythms, and abdominal and pelvic pain were also in the top ten diagnoses where obesity was a factor in the admission. Collectively, the top ten main diagnoses where obesity was a factor accounted for only around 20% of all obesity-related admissions; there were hundreds of other primary diagnoses recorded for the remaining 80% of obesity-related admissions.

Table 1. Top 10 primary diagnoses where obesity was a factor in admission (i.e., a secondary diagnosis) in West Sussex in 2023/24. Numbers rounded to nearest 5. Data source: Hospital Episode Statistics.

Primary diagnosis – ICD 10 code and description		Obesity-related admissions	
		N	%
Total number of admissions		17,190	100
C50	Malignant neoplasm of breast	595	3.5
M17	Gonarthrosis [arthrosis of knee]	515	3.0
O36	Maternal care for other known or suspected foetal problems	450	2.6
K80	Cholelithiasis	370	2.2
M16	Coxarthrosis [arthrosis of hip]	305	1.8
O68	Labour and delivery complicated by foetal stress [distress]	290	1.7
O34	Maternal care for known or suspected abnormality of pelvic organs	275	1.6
J18	Pneumonia, organism unspecified	245	1.4
I48	Atrial fibrillation and flutter	240	1.4
R10	Abdominal and pelvic pain	230	1.3

Obesity-related hospital admissions for bariatric surgical procedures

Bariatric surgical procedures include gastric bypasses, gastric bands and sleeve gastrectomy, and can be performed to support weight loss in people with obesity. In its updated guideline for overweight and obesity management (NG246), NICE recommends that adults should be referred for assessment for bariatric surgery if they have a BMI of 40 kg/m² or above, or if they have a BMI of 35-39.9 kg/m² and have additional health problems that could be improved if they lost weight, such as cardiovascular disease, hypertension, non-alcoholic fatty liver disease and Type-2 diabetes. NICE evidence reviews show that bariatric surgery is effective and cost-effective in improving several important

outcomes, including weight loss, cardiovascular disease and mortality, in adults with obesity. Without the option of bariatric surgery, adults experiencing a high BMI remain at high risk. In contrast to the previous guideline, the updated NICE guideline does not recommend that all appropriate non-surgical measures are tried before bariatric surgery, as the current evidence does not support using surgery only as a last resort, and this requirement may be unjustified barrier that could limit or delay access to effective treatment^{69, 70}.

In hospital admissions data, bariatric surgical procedures that are performed to support weight loss are indicated by a primary diagnosis of obesity⁷¹. In 2023/24, there were 185 hospital admissions for bariatric surgical procedures with a primary diagnosis of obesity in West Sussex. Numbers of admissions have increased over the last three years and have increased by 32.1% from the 2019/20 pre-pandemic level (140 admissions) – NB: changes over time may in part reflect changes in uptake of these procedures, so do not necessarily reflect changes in prevalence⁷². The age-standardised rate of admissions in 2023/24 was higher in West Sussex (around 22 per 100,000 all ages) than England (around 9 per 100,000 all ages).

Most admissions for obesity-related bariatric surgical procedures were in females (81%), which is similar to the last five years and consistent with the national picture. By age, around 42% of patients in West Sussex were aged 35-44 years (Figure 19). This was higher than the proportion of patients aged 35-44 years in England and higher than the previous two years in West Sussex (where slightly over a quarter of patients were aged 35-44 years).

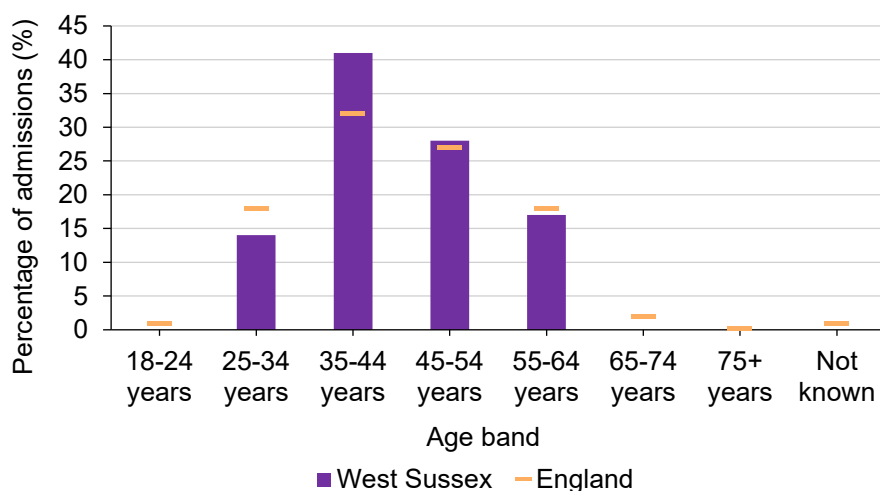


Figure 19. Percentage of patients admitted for bariatric surgical procedures with a primary diagnosis of obesity in West Sussex, by age-band, 2023/24. Data source: Hospital Episode Statistics (HES) and National Obesity Audit, using HES data.

As seen nationally, age standardised admission rates for obesity-related bariatric surgical procedures in West Sussex generally showed a social gradient by level of deprivation. Admissions for obesity-related bariatric surgical procedures were more than twice as likely in the most deprived quintile (33.5 per 100,000 population, all ages), compared to the least deprived quintile (14.3 per 100,000 population) in 2023/24.

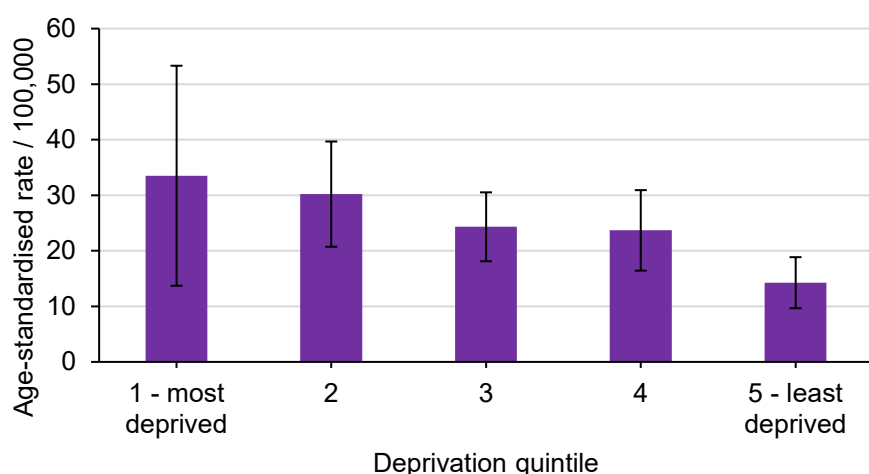


Figure 20. Age-standardised rate, by deprivation quintile, per 100,000 population of patients admitted for bariatric surgical procedures with a primary diagnosis of obesity in West Sussex, 2023/24. Error bars show 95% confidence intervals. Data sources: Hospital Episode Statistics, ONS and MHCLG. Rate calculated using the Indices of Multiple Deprivation 2019 and small area (LSOA) 2022 population estimates.

Social impacts of food and nutrition

Social impacts of tooth decay and oral health

Tooth decay can cause pain, infection and potentially affect appearance, all of which can have a negative impact on wellbeing. Problems may arise with eating, sleeping, socialising and communication, and may lead to time away from the valuable educational and social environments of school and work⁷³. Over the course of a year, at least 60,000 days of school are missed for hospital tooth extractions⁷⁴, whilst further classroom time is missed for restorative dental appointments. In contrast, good oral health supports overall health and wellbeing, and can help older adults to stay independent for longer or to recover from episodes of crisis or frailty⁷⁵.

There are social inequalities in the impacts of poor oral health. Fewer children who are eligible for free school meals (FSM) report good or very good oral health compared to their non-FSM-eligible peers and are found to have a higher prevalence of oral health impacting on quality of life. Parents of children eligible for FSMs are also more likely to report that their children's oral health had impacts on the family. In adults, greater deprivation is linked to poorer self-reported oral health, and those in manual occupations have lower oral health-related quality of life than those in professional and non-manual occupations⁷⁶.

Data from the West Sussex School Health Check show that primary school-aged pupils report the highest levels of oral pain (7.3%) and difficulties eating (6.1%), compared to older age groups, and similar levels of not wanting to talk to other children because of their teeth and mouth as pupils in Years 8 and 10 (5.5% in Years 4, 5 and 6 and 5.7% in Years 8 and 10). The most commonly reported issue across all age groups is feeling upset about their mouth or teeth, with pupils in Years 8 and 10 reporting the highest levels of this (9.9%), followed by pupils in Years 4, 5 and 6 (7.5%). Pupils in Years 12 and 13 report

the lowest levels.

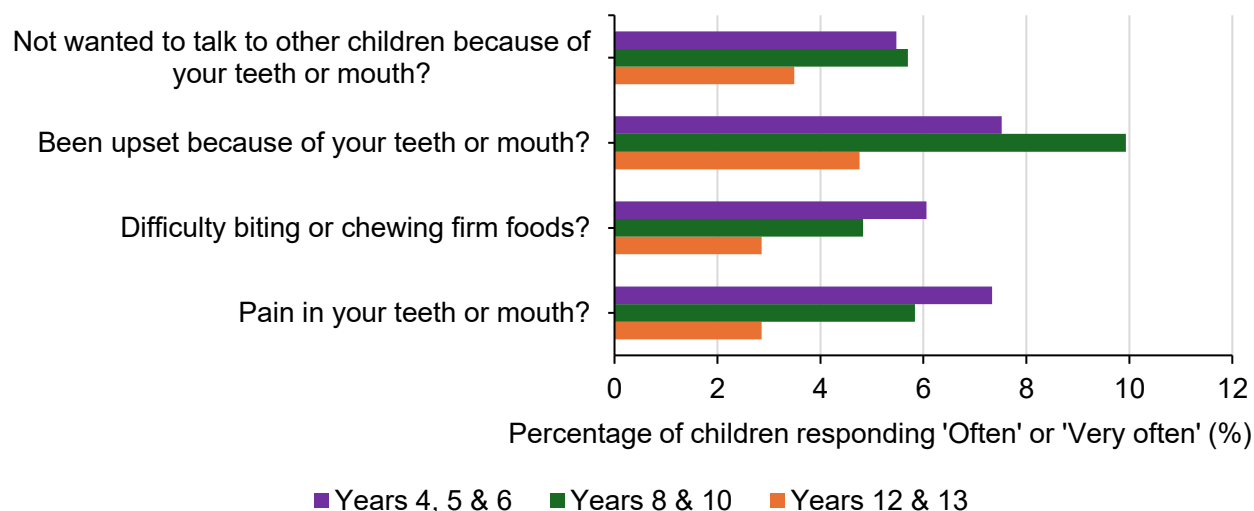


Figure 21. Oral health concerns experienced often or very often by West Sussex primary and secondary school and further education college pupils in 2025. Data source: West Sussex School Health Check, 2025.

Data from the West Sussex School Health Check also shows that most pupils have not been absent from school due to toothache in the last 12 months. On average, 4% of primary and secondary school-aged pupils (Years 4, 5 and 6, and Years 8 and 10) reported being absent due to toothache in the last year, as did 1% of pupils in Years 12 and 13. Missing school due to a medical or dental appointment was more common (32% in Years 4, 5 and 6, 45% in Years 8 and 10, and 44% in Years 12 and 13); however, these data are not split by type of appointment, so do not reflect the specific impact of poor dental health on school attendance.

Social impacts of overweight and obesity

Stigmatisation

Literature suggests that children who are overweight and obese experience weight-related stigmatisation by their peers, parents and educators⁷⁷. Negative attitudes towards overweight peers have been demonstrated in children as young as three years of age and stigmatising attitudes increase with age^{78 79}. The consequences of weight-related stigmatisation include lower self-esteem, body dissatisfaction and lower levels of physical activity⁸⁰. Adults also experience weight-related stigmatisation⁸¹. Among adults, weight-related stigmatisation has been associated with unhealthy eating behaviours, (e.g. binge eating, emotional overeating), body dissatisfaction, lower levels of physical activity, higher levels of stress and weight gain⁸².

Bullying

Research suggests that children and young people who are overweight or obese are more likely to experience weight-based teasing and to be victims of bullying compared to children of a healthy weight^{83 84}.

School absence

A systematic review and meta-analysis of thirteen studies conducted in seven countries found that eleven studies reported a positive association between childhood overweight/obesity and school absence. The odds of being absent from school was 27% and 54% higher among children who were overweight and obese compared to children of a healthy weight⁸⁵.

Educational outcomes

There is some evidence to suggest that being obese in adolescence is associated with academic attainment. Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC), girls who were obese at 11 years of age had lower academic attainment at 11, 13 and 16 years compared with those of a healthy weight, even when a wide range of confounders was controlled for. However, the same association was not seen among boys⁸⁶.

Employment

There is a dearth of literature exploring whether there is an association between food and nutrition and employment. A small study of 540 individuals working at manufacturing workplaces in Cork, Ireland, found that consuming a high-quality diet reduced absenteeism by 36%⁸⁷.

There is also evidence to suggest that weight may have an impact on employment. Data from two rounds of the Health Survey for England (1997 and 1998) suggest that that among both men and women, obesity has a negative effect on employment⁸⁸. Other research suggests that having a higher BMI is associated with higher unemployment and that there are stronger links between having a higher BMI and adverse employment outcomes for women⁸⁹. In addition, a meta-analytic review of twenty-five experimental studies found that compared to non-overweight individuals, overweight individuals may be disadvantaged across a range of workplace outcomes including hiring, performance evaluation and promotion outcomes.

Having a long-term health condition can restrict an individual's ability to work. Musculoskeletal and mental health conditions, which are both associated with overweight and obesity, are the most common work-limiting health conditions reported by people aged 16-64, both in and out of work⁹⁰. Analysis by The Health Foundation using Labour Force Survey data found that in 2023, approximately 2 million people aged 16-64 years reported a primary work-limiting musculoskeletal condition. Around half of these people were not in employment (either inactive or unemployed). A further 2 million people reported a primary work-limiting mental health condition. Just over half of these people were not in employment⁹¹.

Economic impact of food and nutrition

There are significant economic costs to the ill-health and disability that can result from poor diet and nutrition, both at an individual level and at a societal level. Financial impacts for individuals may include lost or lower income and the cost of care, whilst the economic burden for wider society includes losses in productivity, the cost of health and social care, and state benefit payments.

Information describing the societal and economic impacts of poor diet and nutrition, including tooth decay and overweight and obesity are outlined below, including a detailed look at obesity-related hospital admissions in West Sussex.

Tooth decay and oral health

A high level of dietary refined sugars is a risk factor for poor oral and dental health. In 2017/18, dental care cost the NHS in England £3.6 billion, whilst a similar amount was estimated to be spent on private dental care in the UK⁹². Over 31,000 hospital tooth extractions due to dental decay in 0-19 year-olds were performed in England in 2022/23, at a cost of £40.7 million. Tooth decay remained the most common reason for hospital admission in 5-9 year olds in England in 2022/23⁹³.

The need for dental care can also have financial impacts on individuals and the wider economy, due to the time that employed adults may need to take off work due to pain or treatment, either for themselves or for their children⁹⁴.

Overweight and obesity

Social care costs

Higher BMI is associated with greater need for social care⁹⁵, with significant costs associated with caring for people with obesity and obesity-related long-term health conditions. As a direct effect of body weight, size and shape, severe obesity can lead to mobility difficulties, physical disability and an impaired ability for self-care. These factors put pressure on social care, including increased demand for specialist, expensive bariatric equipment and housing adaptations (e.g., beds, toilets, showers, stairlifts) and carer provision.

There is limited data quantifying the economic burden of obesity and related long-term conditions on social care. One study⁹⁶ estimated that the overall value of obesity-related informal care was around £3.9 billion per year in 2011 and increasing by £200 million each year due to rising obesity. Another study⁹⁷ estimated that the yearly cost of council-funded community-based social care for an individual aged 65+ and living at home with severe obesity (BMI of 40) is nearly double that of a person with BMI in the healthy range (BMI of 23), at £1086 per year.

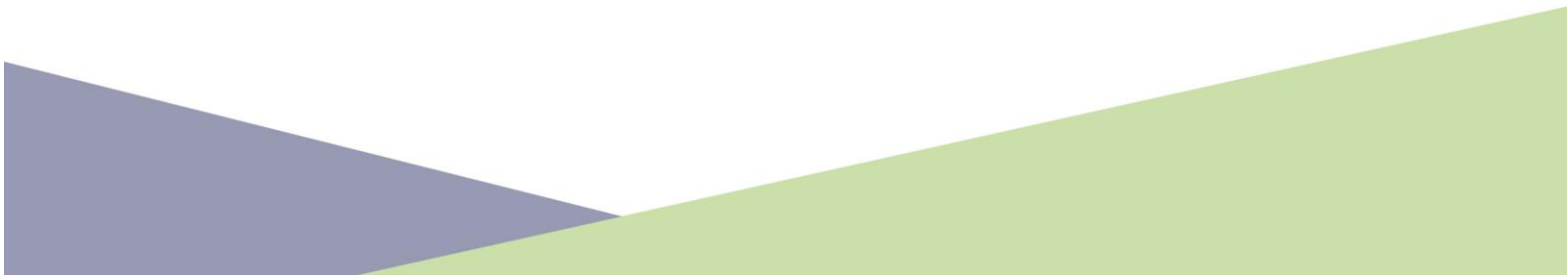
Considering rising levels of obesity, combined with the UK's ageing population, an increasing number of people may live for longer in poorer health and thus require costly social care.

Health care costs

The financial burden that overweight and obesity-related ill-health places on the NHS was estimated at £6.1 billion in 2014/15⁹⁸, with this cost projected to reach £9.7 billion by 2050⁹⁹. These are the most widely cited figures estimating the future economic costs of overweight and obesity in the UK, originally published by the UK government in 2007; however, considering inflation over time, particularly the high levels of inflation seen in recent years, these projections are likely to be significant underestimates. These projections also do not include the social care costs associated with obesity, as described above, which would inflate the economic burden of obesity even more.

Employment and benefit costs

Overweight and obesity have an effect on employment and business, with the costs to wider society such as sickness absence, lost earnings and the need for state benefits related to obesity projected to reach £37.2 billion per year by 2025 and £49.9 billion by 2050¹⁰⁰.



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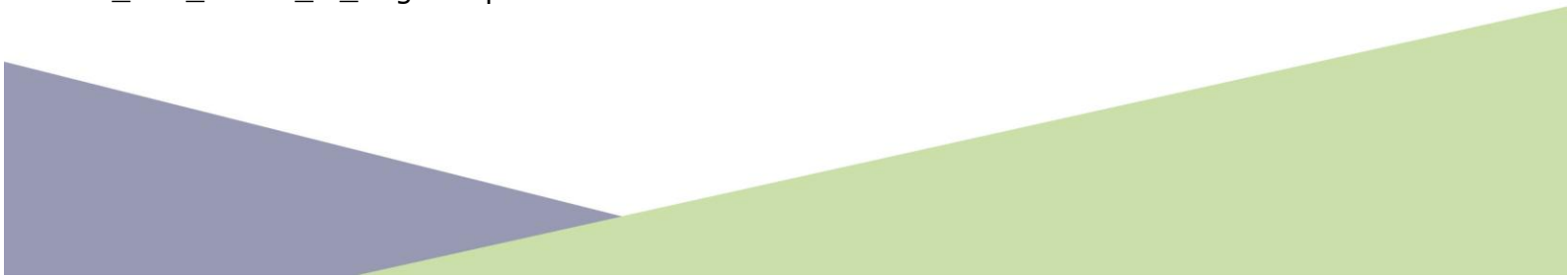
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