

Why consider what people eat?

B

This section shows the importance of poor diets in the development of avoidable chronic diseases, and in health inequalities. It will be useful to public health professionals, registered public health nutritionists, dietitians and other professionals as background information on which to base strategies on nutrition, particularly for people on low incomes, or for making the case for action to colleagues in primary care.

Modern malnutrition and obesity

Overall, adults in England are eating:¹⁻³

- 50% more saturated fat than the maximum recommended
- around 50% more than the maximum amount of salt recommended
- half the fruit and vegetables recommended
- insufficient amounts of fibre which are up to a third less than recommended
- half the fish recommended.

Overall, children aged 4 to 18 in England are eating:^{4,5}

- a quarter of the fruit and vegetables recommended
- more than twice the maximum recommended salt intake
- 50% more saturated fat than recommended
- 50% more sugar than recommended, and
- teenagers are getting insufficient calcium and iron.

Levels of overweight and obesity in the UK are high and rising dramatically:

- Eleven per cent of 9 year olds are obese.⁶
- Obesity becomes more common throughout childhood and adult life.
- More than a third of young people aged 16-24 are overweight or obese.⁶
- Fifty-nine per cent of all adult women and 68% of all adult men in England are overweight or obese.⁷
- The proportion of obese adults in England has tripled since the mid-1980s.⁷
- The number of obese boys aged 2-15 doubled to 6%, and increased from 5% to 8% among girls between 1995 and 2002.⁶

Obesity results when a person's energy intake from food and drink exceeds the energy they use up, over a prolonged period of time. This imbalance is known as positive energy balance. The combination of obesity and a diet dominated by sweet, salty and fatty foods with too little fruit and vegetables and fibre is known as *modern malnutrition*. It is more common in those from lower socioeconomic groups. In spite of this imbalance of foods, *average* blood levels of micro-nutrients are still well above the recommended levels.¹ However, there are important deficiencies in some

population groups, such as deficiencies of iron and calcium in teenagers. Also, as people reduce their calorie intake, for example when dieting, care must be taken to ensure that their nutrient levels do not fall. With prolonged extreme diets involving daily calorie intakes of less than 1,200Kcal per day, it becomes difficult to achieve a diet that is sufficient in all nutrients.

Although the levels of obesity are rising, the average energy intake from food eaten in the home has apparently decreased steadily in adults and children over the past decades.⁸ The reasons for this apparent contradiction are: firstly, the increase in the amount of snacks and fast food eaten outside the home (which it is difficult to measure); and secondly, the fall in people's levels of physical activity. That is why most programmes which aim to prevent a further rise in overweight and obesity must also consider local initiatives to increase physical activity levels.

Poor nutrition is a major health risk

Poor nutrition contributes to:

- at least 30% of coronary heart disease deaths,⁸ and
- 33% of all cancer deaths.⁹

Poor nutrition and lack of physical activity together are responsible for:

- 30% of years of life lost in early death and disability¹⁰ in developed countries, attributable to:
 - lack of fruit and vegetables: 3.9%
 - overweight and obesity: 7.4%
 - raised blood cholesterol: 7.6%
 - hypertension: 10.9%
 - overweight and obesity which lead to 58% of diabetes and 21% of coronary heart disease deaths globally.

Poor nutrition also contributes to:

- loss of independence and increased falls and fractures in older people¹¹
- low birthweight leading to increased mortality and morbidity throughout childhood, and increased risk of cardiovascular disease in adult life¹²
- increased incidence of stillbirths and neural tube defects (such as spina bifida),¹³ and
- increased dental caries in children.¹³

All these diseases are more common in lower socioeconomic groups.

The wider effects of poor nutrition

There is growing evidence to support the link between poor diets and anti-social behaviour. In a placebo-controlled study in a men's prison, vitamin, mineral and essential fatty acid supplements were associated with a decrease of 37% in serious incidents.¹⁴ Another study in the US suggests that improved diet is associated with improved behaviour in 20% of young offenders.¹⁵

There is considerable anecdotal evidence, but little research evidence, of the beneficial effects of improved diet and easy access to drinking water on children's behaviour and their ability to concentrate at school. However, there is currently a trial in US schools to see if improved diets will improve behaviour among schoolchildren. A study carried out in Scotland has shown that breakfast clubs can improve attendance and behaviour at school.¹⁶ There is fairly good evidence of improvement in cognitive function and school achievement from treating iron-deficient children aged over 2 years old with iron.^{17,18} There is also a body of evidence suggesting such benefits in younger children.¹⁹

Inequalities in diet-related diseases

There are considerable inequalities in diseases related to diet across socioeconomic groups, in the different regions of England, and across ethnic groups.

Socioeconomic inequalities in diet-related diseases

Socioeconomic differences account for 5,000 premature diet-related deaths a year in men aged under 65.¹²

In all age groups, people living on a low income have higher rates of diet-related diseases than other people.

- The premature death rate from coronary heart disease is over twice as high in female manual workers compared with female non-manual workers.⁷ For men, the rate is over 50% higher.
- Diabetes is one and a half times more likely to develop at any age in those in the most deprived 20% of the population compared with the average.²⁰
- The prevalence of obesity among women in social class V is twice that of women in social class I. The corresponding prevalence figure for men is 50% higher.²¹
- Central obesity* is more common in adults from manual social classes than non-manual classes. This pattern is stronger in women than in men: the prevalence of central obesity is 50% higher for women in social class V than in social class I.⁷
- There is a slight increase in hypertension in women from social class I to social class V but there is no such trend for men.⁷
- People from deprived backgrounds are more likely to get some types of cancer and are less likely to survive. For example, breast cancer and colon cancer five-year survival rates are 7% and 4% less, respectively, in the most deprived groups compared with the most affluent.²²
- Babies with fathers in social classes IV and V have a birthweight on average 130g lower than babies with fathers in social classes I and II.¹²
- Dental caries is more prevalent in children from lower socioeconomic groups.¹²

Geographical inequalities in diet-related diseases

There are significant differences in diet-related diseases between the four countries of the UK and between regions, and there are also major differences between much smaller areas.²³ Finding out what these inequalities are is an essential first step in developing a local nutrition and food poverty strategy. (See also Section C *Why prioritise strategies for nutrition and food poverty?*)

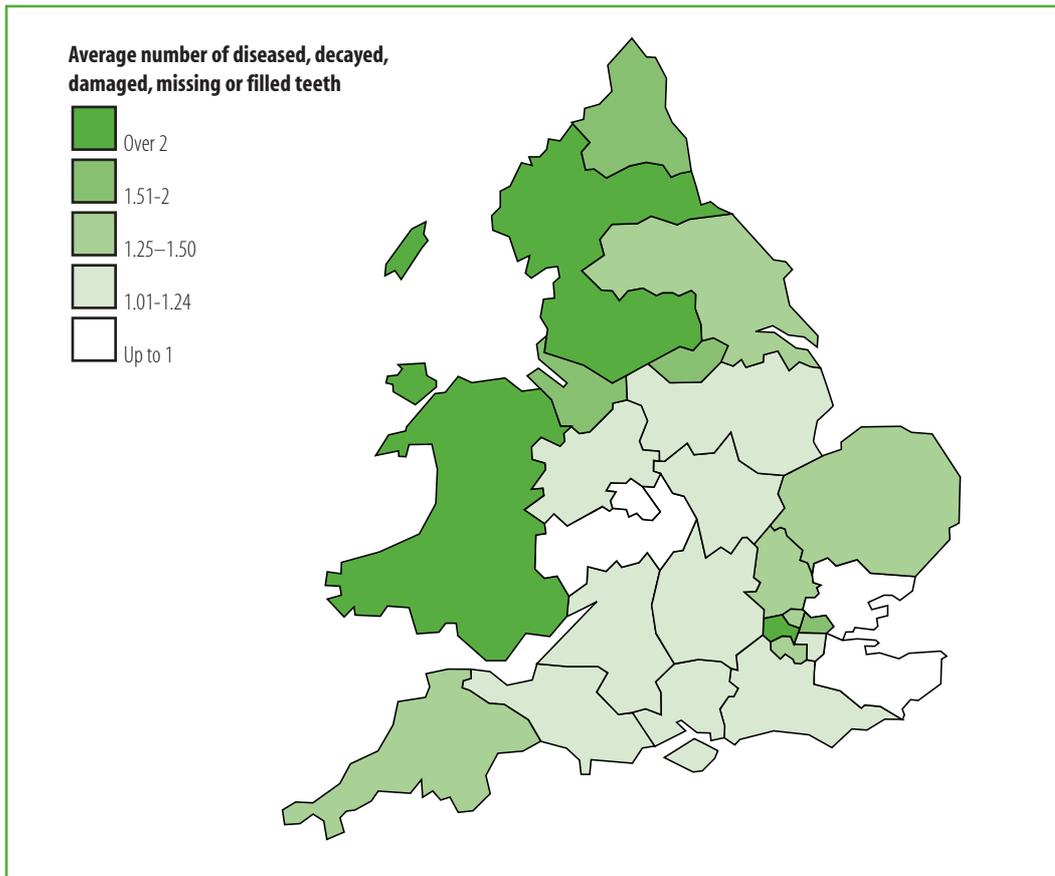
See Tool D3 *Sources of data at ward level.*



Generally, obesity is a significant problem across the whole of England, and for men there is a steady rise in obesity rates the further north they live. There is also a similar north/south gradient for coronary heart disease, but no clear pattern of regional differences for type 2 diabetes. Marked regional differences in dental caries are seen in children as young as 5 years old. (See Figure 1 and Table 8.)

* Central obesity is when fat accumulates mainly around the abdomen. The definition is a waist/hip ratio of 0.95 or more for a man and 0.85 or more for a woman. As a guide, a waist measurement of 32 inches (80cm) or more for a woman or 37 inches (94cm) for a man denotes central obesity.

Figure 1 Dental caries experience of 5 year old children in England and Wales, 2001/02



Source: BASCD co-ordinated NHS Dental Epidemiology Programme survey of 5-year-old children, 2001/2002. See reference 24.

Table 8 Regional differences in Body Mass Index, and prevalence of type 2 diabetes and treated coronary heart disease

Former NHS region	Body Mass Index	Prevalence of type 2 diabetes	Prevalence of coronary heart disease
	% of adult men with BMI 30 or above, 1998	Standardised rate per 1,000 male patients, 1994-98	Standardised rate per 1,000 female patients, 1994-98
Northern and Yorkshire	23	9.0	28
Trent	24	9.5	21.8
West Midlands	22	10.1	19.3
North West	20	10.3	25.7
North Thames	21	11.3	16.1
South Thames	18	8.8	16.3
South and West	19	9.9	17.2
Anglia and Oxford	19	9.5	18.4

Source: See reference 23.

Ethnic variations in diet-related diseases

- Coronary heart disease mortality is around 50% higher in South Asian men and women living in the UK than the average in England and Wales.⁸
- Stroke mortality rates are around 50% higher in South Asians and black Caribbean men and women, and nearly three times higher in West African men, than the average in England and Wales.⁸
- Diabetes is three times higher in Pakistani and Bangladeshi men and women, two and a half times higher in black Caribbean men, and four times higher in black Caribbean women than in the general population in England.⁸
- Babies born in the UK whose mothers were born in the Indian subcontinent are on average 200g lighter at birth than those whose mothers were born in the UK.¹²

Inequalities in what people eat

There are considerable differences in what people eat depending on their socioeconomic group, where they live in the UK, and their ethnic background.

Socioeconomic inequalities in diet

- People in the UK living in households without an earner consume more total calories, and considerably more fat, salt and non-milk extrinsic sugars than those living in households with one or more earners.²⁵ (See Table 9.)
- People on low incomes eat less variety of foods.²⁶ This is related to economies of scale and fear of potential waste.
- People on low incomes eat more processed foods which are much higher in saturated fats and salt – such as fast food, white bread, processed vegetables, and meat products.¹²
- According to the National Diet and Nutrition Survey, people living on state benefits eat less fruit and vegetables, less fish and less high-fibre breakfast cereals than those not on benefits. One in three people on benefits ate no fruit at all in the week of the survey.¹
- Social classes D and E have not increased their fresh fruit consumption and have had a greater decline in vegetable consumption than social class A over the period 1979-1995.²⁷
- Men and women living on benefits eat more sugar and sweets, and women also eat more whole milk, burgers and kebabs, meat pies and pasties, than those not on benefits.¹
- Children of semi-skilled and unskilled manual workers eat more fatty food more often, and less fruit and vegetables, than children of professionals and managers.²⁸
- Fish consumption has declined markedly in social classes D and E but remained steady in social class A.²⁷
- Children in lower socioeconomic groups tend to have lower blood levels of vitamins such as folate, riboflavin, vitamin D and iron.⁴

Table 9 Average daily intakes of calories and fatty, salty and sugary foods: differences by household income and between households with and without an earner, United Kingdom, 2000

	Gross weekly income of head of household						
	Households with one or more earner				Households without an earner		
	Over £725	£375-£725	£180-£375	Less than £180	Over £180	Less than £180	OAP
Total calories (Kcal)	1,930	1,895	1,945	1,890	2,245	2,130	2,280
Total fat (g)	83	79	83	83	97	88	99
Sodium (g)	2.74	2.82	2.84	2.68	3.09	2.96	3.02
Non-milk extrinsic sugars (g)	52	53	56	60	69	61	65

Source: National Food Survey 2000. See reference 25.

Geographical inequalities in diet

- For fresh fruit and vegetables, there is a strong north/south gradient, with people in the South East eating 33% more than those in the North West.²⁹
- For fibre, regional differences are not so pronounced, but the lowest consumption is in the North West (11.6g per day) and the highest in the South East (13.5g per day).²⁹

Ethnic variations in diet

- There is considerable variation in eating habits between minority ethnic groups.³⁰ Bangladeshi men and women eat more red meat and fatty foods, and less fruit, than any other minority ethnic group. Pakistani men and women have the lowest vegetable consumption of minority ethnic groups. Chinese men and women eat the most fruit and vegetables.
- The practice of adding salt to cooking is almost universal among South Asian and Chinese groups and is more common in black Caribbean adults than in the general population.

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