

Diet-related health inequalities



Inequalities in diets contribute to overall inequalities in health. Improved diets can improve population-wide health and reduce wider health inequalities. This POSTnote outlines groups affected, underlying causes and summarises approaches to reduce diet-related health inequalities. This topic is a focus in the Government's 2020 Obesity Strategy, the Food Strategy, part of the Levelling Up agenda, and is expected to feature in the Health Disparities White Paper, highlighting the cross-cutting issue of food and health inequalities in England.

Background

Dietary factors make a substantial contribution to health inequalities. Health inequalities are defined as systematic differences in health between groups that are judged to be unfair and avoidable.¹ These inequalities are commonly determined by and measured between groups with differing socio-economic status,² geography,^{3,4} protected characteristics² and vulnerability (for example people experiencing homelessness).⁵⁻⁹ In England, data from the Office of National Statistics (ONS) from 2020 shows that people from the most deprived areas have a lower life expectancy (~10 years), earlier onset of ill-health (early 50s vs early 70s) and live longer (21 vs 12 years) in ill-health than those in the least deprived areas.¹⁰ Diet-related inequalities are widening;¹¹⁻¹³ Box 1 describes approaches to measure them.

Adverse health outcomes linked to poor diet include, but are not limited to, dental caries, overweight and obesity, type 2 diabetes, cardiovascular disease and some cancers.¹⁴⁻²² Poor diets may have excess or inadequate nutrients and dietary components (such as high fat content) associated with poor

Overview

- Poor diet is a key preventable risk factor to ill-health, contributing to lower life expectancy and earlier onset of ill-health.
- People most at risk of diet-related ill health include: the disabled; those on lower incomes; those in deprived areas; those from some minority ethnic backgrounds; and vulnerable people such as the homeless.
- Some groups are likely to be disadvantaged in multiple ways, compounding the risk of poor health outcomes.
- Actions that target individual behaviours are thought unlikely to be successful. Experts argue that strategic change is required to tackle the economic, social and commercial factors that make it harder to eat healthily.
- Researchers believe that current strategies are insufficient to improve population health and reach those most affected.
- The Government committed to publishing a Health Disparities White Paper in 2022.

health outcomes. For example, the UK has one of the highest rates of overweight and obesity²³ in Europe and this is expected to increase.^{17,24-27} Driven by multiple, complex and interacting behavioural, social and environmental risk factors,²⁸ obesity is strongly associated with several other health conditions.^{18,20,28-33} Living with obesity is more common in the most deprived areas, in people with fewer qualifications, men, in some minority ethnic groups and those with disabilities.^{24,34,35} Obesity rates are highest in the north-east of England and the West Midlands.^{24,34,35} Obesity is rising at different rates between areas and across population groups. This leads to greater costs for the health system in those areas, and wider economic and societal impacts.^{16,17,22,36,37}

A food system that provides nutritious and affordable food for everyone is considered to offer benefits for public health, and to support environmental and economic opportunities.³⁸⁻⁴³ The Government acknowledges the importance of diet and health in the Levelling Up agenda.^{44,45} The Government's Food Strategy outlines long-term measures "to support a resilient, healthier and more sustainable food system...affordable to all".⁴⁵ Key

commitments in the strategy focus on improving agricultural systems, food standards, food sector expansion, reducing the food system's environmental impact, and to halve childhood obesity by 2030.⁴⁵ In the Levelling up strategy, the Government committed to publishing a Health Disparities White paper in 2022,^{44,46} expected to be supportive of the Food Strategy.⁴⁵ In 2022, the Government launched Cost of Living support schemes for the wider public and vulnerable groups.⁴⁷

Box 1: Measuring diet-related health inequalities

- The Global Burden of Disease dashboard presents the contribution of dietary risk factors to disease and death.²⁰
- The UK population's diet is monitored with the National Diet and Nutrition Survey,⁴⁸ assessing quality and health impacts, linked to national dietary guidelines.^{49–52}
- The National Child Measurement Programme collects children's weight and height data,^{24,53} UK data on adult overweight and obesity is collected in annual surveys.^{54–57}
- The status of health inequalities⁵⁸ and wider determinants of health⁵⁹ are tracked by Government. Non-governmental and academic sources provide additional insights.^{60–63}
- The Food Foundation¹¹, the Family Resources Survey⁶⁴, the Food Standards Agency's Food and You survey,⁶⁵ and Consumer Insight Tracker⁶⁶ collect food insecurity data.

Government Eatwell Guidance

The Government's Eatwell Guide provides dietary advice.⁶⁷ It recommends minimum intakes of fruit and vegetables, fibre, oily and non-oily fish, and maximum intakes of red and processed meat, fat, sugar, and salt. The advice aims to reduce the risk of developing ill-health,^{49,68} to support management of ill-health^{18,69–71} and to promote maintaining a healthy weight.^{72,73} Poor diets are characterised by irregular eating patterns, high intake of unhealthy foods (red and processed meat, refined grains, fried and processed foods, sugar, salt and fat),^{74,75} and low intake of healthy foods (fruits and vegetables, fibre, nuts and seeds).^{50,76} The Eatwell Guide is criticised for not sufficiently accounting for dietary restrictions and not being inclusive of different food cultures.^{77–81} Of the nine Eatwell recommendations, 30.6% of the UK population adhere to at least five and 0.1% to all of them,^{49,50} highlighting a population-wide need for better diets. For example, despite fruit and vegetable supply becoming more abundant and diverse since the 1980s, there has been little change (and some decline^{81,82}) in intake which is consistently below recommendations.^{83,84}

Groups at risk of poor diet-related health outcomes

Inequalities exist across all diet-related health outcomes, linked to societal and individual factors.^{5,85} Data and knowledge about health inequalities differs across factors and types of diet-related measure.^{86–88} Inequalities in overweight and obesity are well-documented (see [POSTnote 640](#) and other parliamentary briefings: [Obesity](#); [Obesity Statistics](#)).^{34,35,89}

Income and socio-economic status

There is a well-established relationship between socio-economic status and the quality of diets consumed. The relationship is influenced by several factors.

Malnutrition

Household income is positively associated with intake of healthy foods and micronutrient intake (such as vitamins A and D, and

Box 2: Food insecurity, food poverty and food banks

House of Commons Library briefings discuss [food banks, food insecurity and food poverty](#).^{90–92} There is no agreed definition of food insecurity or food poverty. Broadly, a household is food insecure when the ability to acquire "adequate quality or sufficient quantity of food in socially acceptable ways" cannot be guaranteed.⁹¹ Food insecurity is associated with overall poor diet quality (lower nutrient intake and higher intakes of processed foods) and inconsistent dietary patterns,^{93–97} anxiety, depression, and risks for poor long-term health.⁹⁸ Over half (58%) of food insecure households reported buying fewer vegetables and fruits between September and October 2022.¹¹

Food banks

Food banks are intended as temporary emergency food aid,⁹⁰ operating in the voluntary sector, with food and financial donations and some local government subsidies. A small proportion of food-insecure households use food banks, but food insecurity may be most severe among them.⁹⁹ Food bank use is associated with stigma and constraints in food choices.^{100,101} The food provided may be of low dietary quality.^{94,96,102} The population using them is more likely to have mental ill health and disability compared with the general population.^{98,103}

folate)^{50–52} and negatively associated with intake of unhealthy sugar-sweetened drinks.¹⁰⁴ Children from lower income backgrounds tend to eat less fibre and are less likely to consume adequate levels of several micronutrients.^{43,105} Obesity prevalence has increased faster in the most deprived areas, leading to a wider gap compared to the least deprived areas. This inequality is projected to increase.^{12,27}

Consumption patterns

Irregular eating patterns are more likely in lower income households, particularly not eating breakfast.^{106,107} Children living in low income households are more likely to skip or consume poor dietary quality breakfast.^{105,106} Consumption of takeaway and fast foods, which are linked to an unhealthy high content of salt, sugar and fat, are more common in middle and low income households.¹⁰⁸

Food insecurity

The probability of being food insecure (see Box 2) increased in low income households from 28% to 46% between 2004 and 2016.¹⁰⁹ Severe food insecurity is higher among people with lower levels of education and unemployment compared to their counterparts.¹⁰⁹ The Food Foundation estimates that food insecurity among Universal Credit (UC) recipients increased by 10% to 53.8% between April and September 2022.¹¹ In January 2022, 1.9m (22.5%) of pupils in England were eligible for free school meals based on low household income. In children, food insecurity and receipt of free school meals is negatively associated with self-esteem, academic performance and future earning potential.^{61,110,111}

Protected characteristics

- **Disability** - is associated with being severely food insecure.^{109,112} Of those households with individuals limited by disabilities, almost half experienced food insecurity in September 2022. This follows an upward trend since 2021.¹¹
- **Sex** - overweight and obesity are more common in men (68.2%) than women (60.4%).²⁴

- **Age** – there is some indication that elderly people may be at higher risk of food insecurity.¹¹³
- **Ethnicity** - There is a lack of comprehensive data on dietary patterns of minority ethnic groups and it is often grouped together making analysis more difficult.¹¹⁴ There is some evidence that some minority ethnic groups are more likely to meet all dietary recommendations except for oily fish,^{52,114,115} while salt consumption may be higher in some minority ethnic groups compared to White ethnic groups.¹¹⁴ Overall, some minority ethnic groups are more likely to be food insecure (26.9%),¹⁰⁹ than White ethnic groups (18.5%).^{11,13,116} Some minority ethnic groups have higher rates of cardiovascular disease, overweight and obesity and type 2 diabetes.^{36,114}

Geographical location

Regional health inequalities are well-documented,^{3,4,61,117} some of which are diet-related.^{41,43} Households in the North East buy on average 300g fewer fruits and vegetables per week compared to those in the South East.¹¹⁸ Food insecurity and the percentage of children eligible for free school meals is 27.5% in the North East (the highest) vs 16-17% in southern England.⁴¹

Vulnerable groups

Vulnerable groups, for example those who are homeless, claiming asylum, or sex workers, are likely to be nutrient deficient and are at higher risk of ill-health.^{119,120} People with no recourse to public funds are a group at increased risk for poor diet,^{121–123} however, the Government does not collect data on this group.⁷⁷ Researchers are calling for better data collection to understand risks and lived experience.^{121–124}

Underlying causes of diet-related inequality

Two key aspects contribute to differential diet-related health outcomes: inequalities in wider health determinants and the food system,^{87,123,125–129} intersect in the food environment.

Inequalities in the determinants of health

Health is determined by a range of well-established factors: social, economic, cultural and environmental context, social and community networks and individual behaviours.^{7,130,131} These health determinants are interconnected, act cumulatively and determine health risks for groups and individuals.^{1,62,131–134} The independent Marmot reports (2010, 2020) reviewed health inequalities and their causes, some of which relate to diet.^{61,62}

Socioeconomic conditions

The House of Commons Library briefing [Poverty in the UK](#) gives an overview alongside other organisations' high quality analyses.^{135–137} The resources of people in poverty are subject to several pressures; they spend a higher proportion of their income on essentials.¹³⁸ Of essential costs (housing, utilities, food), the food budget and allocating it within a household are the most flexible, and compromised first when circumstances change.⁹¹ Low minimum wage, falling wages, and unemployment are negatively associated with the probability of population-wide food insecurity.^{139,140} Temporary and prolonged uncertainty related to income sources, job security, crime, discrimination, education, and housing increase the risk for low-income households.^{141,142} Financial variability and unpredictability influence individual behaviours, dietary

practices (shopping behaviour, meal planning, food preparation), and make healthy choices more difficult.¹⁴¹ Attention is on households that are above the poverty threshold or on median incomes, but may have insufficient funds to meet cost of living increase.^{64,87,88,122}

The social environment and support networks

Low-income households with financial stability and community cohesion may have a lower risk of being food insecure.^{116,123} A lack of formal and informal support structures and safety nets intensifies vulnerability to poor health.⁶¹ People with disabilities, mental ill-health or facing adverse events may require more support and additional financial resources to overcome barriers to a healthy diet.^{87,91,109,143} The type and number of disabilities impacts levels of food insecurity. Having a physical and mental/cognitive disability increases the odds of being severely food insecure eight-fold.¹¹²

The food system

The food system encompasses all aspects from regulation to production, processing, purchase and consumption. Its structure and function shapes people's interactions with food and their diets.¹⁴⁴ For many groups the food system does not allow for consistent access to affordable, sustainable and healthy food.^{38,43,77} ([POSTnote 626 covers its resilience and vulnerabilities](#).¹⁴⁵) Recommendations to improve the food system, but not the wider determinants of health, were the subject of the National Food Strategy, an independent review.⁴³ Restructuring the UK food system is expected to improve public health^{38–43,146} and prevent health inequalities worsening.¹⁴⁷

The food environment

Definitions of the food environment vary. It can be broadly understood as how someone's circumstances shape their interaction with the food system¹⁴⁸ influencing diet, habits and health.^{148,149} The food environment plays a causal role in obesity,^{16,150} and presents barriers to accessing healthy food.¹⁵¹ Personal and group characteristics, capacity and power to make decisions, the circumstances and experiences of different people, all shape how people interact with their surroundings, influencing their shopping and dietary habits.^{91,133,134}

Cost and affordability

Despite adequate knowledge about health, cooking skills and access to food from different sources, low-income households are less able to afford some food groups, such as fruit and vegetables.^{93,116} Healthy foods, such as fruits and vegetables, are typically more expensive and their price has increased more significantly recently than unhealthy foods.^{43,61,152–154} The poorest 20% need to spend 47% of their disposable income on food to meet dietary recommendations, compared to 11% in the richest 20%.¹⁵⁵ On average, low income households spend £54 per week (14.6% of total income) on food compared to £87 spent across the richest 20% of households.¹³⁸

Access

Access to healthy food can be limited in several ways. Physical access can be impaired via personal vulnerability, such as in elderly and disabled people.^{156,157} There is no consensus on how best to measure physical access to food more generally.^{158–160} Access to food banks, school meals and benefits is determined by eligibility criteria; these can be limited and may not be

aligned with individuals' actual needs^{123,140,161,162} or be culturally inappropriate.^{114,163} This may also extend to people's ability to claim income support.^{86,164} Access can be impaired by material deprivation and lack of facilities.¹⁶⁵ Low-income households, single person households, private renters and the self-employed are more likely to lack access to appliances. This includes those living without a cooker (1.9m), freezer (2.8m) or fridge (0.9m).¹⁶⁶ It is estimated that half of UK households could be in fuel poverty by 2023 (an increase from 13% in 2020, see [Fuel Poverty](#)), limiting the ability to run appliances.^{167,168}

Availability

Global food production is skewed towards energy-rich crops and processed foods;¹⁶⁹ on the other hand not enough fruit and vegetables are available to meet global nutritional needs.^{43,146,170,171} There is an imbalance in production, processing, and marketing that has shaped consumer preferences and behaviour towards cheaper and more profitable unhealthy processed foods that are more readily available.^{43,77,169,172} The more deprived an area is, the greater the concentration of fast food outlets.^{16,41,155,173}

Advertising and promotions

Marketing practices, including advertising, strongly influences individual behaviour and food purchase decisions.^{43,77,174} Some evidence suggests that exposure to advertisements for foods high in fat, salt and sugar and sugary drinks may be higher among lower socio-economic groups, younger adults¹⁷⁵, children¹⁷⁶ and minority ethnic groups.¹⁷² Evidence suggests that price promotions increase sales, resulting in household stockpiling of unhealthy foods.¹⁷⁷ Evidence to date suggests a significant role for digital advertising on behaviour,¹⁷⁸ the extent of the influence is the subject of research.^{128,175,179}

Policies addressing diet-related inequalities

Current policy landscape

A range of cross-government policies address food and dietary inequalities. Policies and their effectiveness are discussed in parliamentary reports,^{89,91,145,151,180} some are highlighted here.

Fiscal policies and reformulation

Reformulation policies and their effectiveness are covered in [POSTnote 638](#).¹⁸⁰ The 2018 Soft Drinks Industry Levy applies a tax to high sugar beverages with the aim to incentivise reformulation. Research to date suggests that the policy has led to sugar reduction and possibly benefitted public health,¹⁸¹⁻¹⁸³ and has public support.^{181,184,185} Applying it to other products is expected to be beneficial,¹⁸⁶ but contested.^{180,187}

Restricting food advertising and promotions

The Government's 2020 Obesity Strategy contained a range of policies to restrict promotion of some unhealthy foods;^{163,188-190} it is currently reviewing these proposals.¹⁹¹ The Health and Care Act 2022 limits promotion in retail environments and will introduce a 9pm watershed on TV and other forms of online advertising in 2023.^{189,192-194} Such policies are expected to have a population-wide positive effect^{172,174,176,179,195}, but estimating the impact and the extent to which they improve health and reduce inequality is challenging.^{178,192,196-198}

Policies to support children

School meals,¹⁹⁹⁻²⁰¹ voucher schemes and breakfast club

programmes are discussed in parliamentary reports.^{91,92,202} Universal free school meals are positively associated with diet quality, food security and academic performance,²⁰³ although the evidence about the wider impacts of free school meals on household finances and food insecurity is unclear.^{87,203} School meal providers highlight barriers to universal free school meals related to school infrastructure and staff shortages.²⁰⁴ Caterers and other organisations call for the expansion of free school meal provision to an additional 0.8m children in England that are currently ineligible despite living in poverty.²⁰⁵⁻²⁰⁷ Recent energy and food cost increases have resulted in school meal caterers reporting having to substitute some ingredients due to supply shortages^{204,208} and, in the case of some items, for less expensive or more processed ingredients. School meal providers also highlight that funding for the provision of free school meals has not kept pace with food inflation and argue that this needs to be urgently addressed.²⁰⁴

Welfare uplift and income

In response to the COVID-19 pandemic, UC claimants received a £20 uplift. Preliminary results suggest that there was a significant reduction in food insecurity among uplift recipients; a further evaluation is forthcoming.^{87,209} Other academic evidence suggests that freezing of benefits since 2016, the 5-week wait for an initial UC payment, extended conditionality, and penalties, are associated with higher demand for food aid (where available).^{61,162,210,211} This indicates that food insecurity among benefit recipients may remain unaddressed.^{162,211}

The physical environment and regional inequalities

The Government's Levelling Up strategy seeks to address structural differences between the most and least deprived regions.⁴⁴ Community-level responses have been shown to be an important and effective way to address varying context-specific needs and limitations,^{123,128,212-217} but can be constrained by the lack of or low-quality local data.^{87,213}

Government plans and stakeholder response

The consensus among a range of researchers is that strategies are currently insufficient to improve population health and reach those most affected by inequalities.^{87,122,123,126-128,218} It is widely thought that changing the physical, economic, social and commercial environment through a range of interventions is required, rather than targeting actions at individual behaviour.^{43,187,213,219,220} This would require sustained and coordinated action in a long-term strategy. Planning and implementation of policies with the affected communities to reflect local needs and make use of existing infrastructure could be the most inclusive²²¹ and effective approach in addressing inequalities.¹⁴⁹ Evidence shows that population-wide interventions with targeted support for those with greater needs are most effective and equitable.^{187,222} Key points for effective reduction of health inequalities are:^{218,161,128,127,43,77,61,7}

- Cross-departmental approach, coordination, leadership, and accountability to address wider health determinants and to transform the food system with interventions at all levels;
- Monitoring, evaluation, and ongoing adjustment of policies;
- Collaboration and partnerships between local, regional and national public and private stakeholders and communities;
- Population-wide approach with targeted income-focused support for the most vulnerable.

References

- The King's Fund (2022). [What are health inequalities? The King's Fund.](#)
- Walsh, D. *et al.* (2022). [Bearing the burden of austerity: how do changing mortality rates in the UK compare between men and women? J. Epidemiol. Community Health, jech-2022-219645.](#)
- Chief Medical Officer (2021). Chief Medical Officer's Annual Report 2021 - Health in Coastal Communities – Summary and recommendations.
- The Health Foundation (2022). [Map of healthy life expectancy at birth.](#)
- The King's Fund (2021). [Health inequalities in a nutshell.](#)
- Cochrane Equity PROGRESS-Plus.
- [Health disparities and health inequalities: Applying All Our Health. GOV.UK.](#)
- WHO (2018). [Health inequities and their causes.](#)
- Public Health Scotland (2021). [What are health inequalities?](#)
- Office for National Statistics (2022). [Health state life expectancies by national deprivation deciles, England: 2018 to 2020.](#)
- Food Foundation (2022). [Food Insecurity Tracking.](#)
- NHS England (2021). [National Child Measurement Programme, England 2020/21 School Year. NHS Digital.](#)
- Power, M. S. *et al.* (2018). [Is food insecurity associated with maternal health among UK ethnic groups? An exploration of women in the BiB cohort. Eur. J. Public Health, Vol 28, 661–663.](#)
- Afshin, A. *et al.* (2019). [Health effects of dietary risks in 195 countries, 1990–2017: A systematic analysis for the Global Burden of Disease Study 2017. The Lancet, Vol 393, 1958–1972.](#)
- Diabetes UK [Diabetes risk factors.](#)
- Public Health England (2017). [Health matters: obesity and the food environment. GOV.UK.](#)
- Cancer Research UK (2016). [Tipping the Scales: Why Preventing Obesity Makes Economic Sense.](#)
- Jannasch, F. *et al.* (2017). [Dietary Patterns and Type 2 Diabetes: A Systematic Literature Review and Meta-Analysis of Prospective Studies. J. Nutr., Vol 147, 1174–1182.](#)
- DHSC (2021). [Chapter 10: Healthier eating. GOV.UK.](#)
- Institute for Health Metrics and Evaluation (2022). [GBD Compare - United Kingdom.](#)
- Pagliai, G. *et al.* (2021). [Consumption of ultra-processed foods and health status: a systematic review and meta-analysis. Br. J. Nutr., Vol 125, 308–318.](#)
- Novo Nordisk UK (2022). [Estimating the full costs of obesity - A report from Novo Nordisk.](#)
- NHS England (2020). [Overweight and obesity are terms that refer to an excess of body fat and they usually relate to increased weight-for-height, measured with the Body Mass Index \(BMI\). A BMI of 25kg/m2 to 29.9kg/m2 means that person is considered to be overweight, a BMI of 30kg/m2 or higher means that person is considered to be obese.](#)
- OHID [Obesity Profile.](#)
- Cancer Research UK (2018). [Obesity could overtake smoking as biggest preventable cause of cancer in women. Cancer Research UK - Cancer News.](#)
- WHO (2022). [Prevalence of overweight among adults, BMI >= 25 \(age-standardized estimate\) \(%\). The Global Health Observatory.](#)
- Cancer Research UK (2022). [Overweight and obesity prevalence projections for the UK, England, Scotland, Wales and Northern Ireland, based on data to 2019/20.](#)
- WHO (2022). [WHO European Regional Obesity Report 2022.](#)
- Brown, K. F. *et al.* (2018). [The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. Br. J. Cancer, Vol 118, 1130–1141. Nature Publishing Group.](#)
- Dong, C. *et al.* (2022). [Cardiovascular disease burden attributable to dietary risk factors from 1990 to 2019: A systematic analysis of the Global Burden of Disease study. Nutr. Metab. Cardiovasc. Dis., Vol 32, 897–907.](#)
- WCRF International (2019). [Obesity, weight gain and cancer risk. WCRF International.](#)
- El-Sayed, A. M. *et al.* (2012). [Unevenly distributed: A systematic review of the health literature about socioeconomic inequalities in adult obesity in the United Kingdom. BMC Public Health, Vol 12, 18.](#)
- World Cancer Research Fund (2018). [Cancer matrix.](#)
- Baker, C. (2022). [Obesity Statistics.](#)
- Balogun, B. *et al.* (2022). [Obesity.](#)
- Diabetes UK [Diabetes statistics. Diabetes UK.](#)
- Scarborough, P. *et al.* (2011). [The economic burden of ill health due to diet, physical inactivity, smoking, alcohol and obesity in the UK: an update to 2006-07 NHS costs. J. Public Health, Vol 33, 527–535.](#)
- Willett, W. *et al.* (2019). [Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. The Lancet, Vol 393, 447–492. Elsevier.](#)
- Springmann, M. *et al.* (2016). [Analysis and valuation of the health and climate change co-benefits of dietary change. Proc. Natl. Acad. Sci., Vol 113, 4146–4151. Proceedings of the National Academy of Sciences.](#)
- Springmann, M. *et al.* (2018). [Options for keeping the food system within environmental limits. Nature, Vol 562, 519–525. Nature Publishing Group.](#)
- Shona Goudie (2022). [Levelling Up on Regional Dietary Inequalities: A Data Story. The Food Foundation.](#)
- Springmann, M. *et al.* (2021). [The global and regional costs of healthy and sustainable dietary patterns: a modelling study. Lancet Planet. Health, Vol 5, e797–e807.](#)
- Henry Dimbleby (2021). [National Food Strategy: The Plan \(Part Two: Final Report\) - An Independent Review for Government.](#)
- Department for Levelling Up, Housing and Communities (2022). [Levelling Up the United Kingdom.](#)
- Defra (2022). [Government food strategy.](#)
- The Parliamentary Under-Secretary of State for Health and Social Care (2022). [Health Disparities White Paper - Volume 723: Debate on Wednesday 30 November 2022. Hansard - UK Parliament.](#)
- Department for Business, Energy & Industrial Strategy (2022). [Getting the Energy Bills Support Scheme discount. GOV.UK.](#)
- Public Health England (2021). [National Diet and Nutrition Survey. GOV.UK.](#)
- Scheelbeek, P. *et al.* (2020). [Health impacts and environmental footprints of diets that meet the Eatwell Guide recommendations: Analyses of multiple UK studies. BMJ Open, Vol 10, e037554. British Medical Journal Publishing Group.](#)
- Public Health England (2019). [National Diet and Nutrition Survey - Years 1 to 9 of the Rolling Programme \(2008/2009 – 2016/2017\): Time trend and income analyses.](#)
- Mak, T. N. *et al.* (2013). [Patterns of sociodemographic and food practice characteristics in relation to fruit and vegetable consumption in children: results from the UK National Diet and Nutrition Survey Rolling Programme \(2008–2010\). Public Health Nutr., Vol 16, 1912–1923. Cambridge University Press.](#)
- Yau, A. *et al.* (2020). [Differences in diet quality and socioeconomic patterning of diet quality across ethnic groups: Cross-sectional data from the HELIUS Dietary Patterns study. Eur. J. Clin. Nutr., Vol 74, 387–396. Nature Publishing Group.](#)
- NHS England [National Child Measurement Programme. NHS Digital.](#)

54. Department of Health Northern Ireland (2017). [Health survey Northern Ireland](#).
55. Scottish Government (2022). [Scottish Health Survey](#).
56. StatsWales (2022). [Adult lifestyles. National Survey for Wales](#).
57. NHS England (2022). [Health Survey for England. NHS Digital](#).
58. OHID (2022). [Health Inequalities Dashboard](#).
59. OHID [Wider Determinants of Health Dashboard](#).
60. Institute for Fiscal Studies (2022). [Inequality: the IFS Deaton Review](#).
61. Marmot, M. *et al.* (2020). [Health Equity in England: The Marmot Review 10 Years On](#).
62. Marmot, M. (2010). [Fair Society Healthy Lives \(The Marmot Review\)](#).
63. The Progressive Policy Think Tank (2022). [Revealed: The health inequalities holding back growth in key areas of the UK. IPPR](#).
64. Department for Work and Pensions (2022). [Family Resources Survey. GOV.UK](#).
65. Food Standards Agency [Food and You. Food Standards Agency](#).
66. [Consumer Insights Tracker – Monthly Bulletin \(October 2022\). Food Standards Agency](#).
67. Public Health England (2018). [The Eatwell Guide. GOV.UK](#).
68. Miller, V. *et al.* (2022). [Global dietary quality in 185 countries from 1990 to 2018 show wide differences by nation, age, education, and urbanicity. Nat. Food, Vol 3, 694–702. Nature Publishing Group](#).
69. Wong, M. Y. Z. *et al.* (2018). [Dietary intake and diabetic retinopathy: A systematic review. PLOS ONE, Vol 13, e0186582. Public Library of Science](#).
70. Reynolds, A. N. *et al.* (2020). [Dietary fibre and whole grains in diabetes management: Systematic review and meta-analyses. PLOS Med., Vol 17, e1003053. Public Library of Science](#).
71. Merino, J. *et al.* (2021). Diet quality and risk and severity of COVID-19: a prospective cohort study. *Gut*, Vol 70, 2096–2104.
72. Kamyari, N. *et al.* (2021). Diet, Nutrition, Obesity, and Their Implications for COVID-19 Mortality: Development of a Marginalized Two-Part Model for Semicontinuous Data. *JMIR Public Health Surveill.*, Vol 7, e22717.
73. Jayawardena, R. *et al.* (2020). [Balanced diet is a major casualty in COVID-19. Diabetes Metab. Syndr., Vol 14, 1085–1086](#).
74. Rauber, F. *et al.* (2020). [Ultra-processed food consumption and indicators of obesity in the United Kingdom population \(2008-2016\). PLOS ONE, Vol 15, e0232676. Public Library of Science](#).
75. Rauber, F. *et al.* (2018). Ultra-Processed Food Consumption and Chronic Non-Communicable Diseases-Related Dietary Nutrient Profile in the UK (2008–2014). *Nutrients*, Vol 10, E587.
76. d'Angelo, C. *et al.* (2020). [Food consumption in the UK: Trends, attitudes and drivers. RAND Corporation](#).
77. Select Committee on Food, Poverty, Health and the Environment (2020). [Hungry for change: fixing the failures in food](#).
78. Saint Hill, M. (2022). [The African and Caribbean Eatwell Guide](#).
79. MyNutriWeb (2022). The Eatwell Guide - Time for a shake up? - a Roundtable discussion.
80. myBMI (2021). [The History of the Eatwell Guide](#).
81. Bayford, K. (2022). [Vegetable consumption falls by 7.5% as consumers grapple with cost-of-living crisis - Grocery Gazette - Latest Grocery Industry News](#).
82. Veg Power (2022). [Simply Veg. Veg Power](#).
83. Berger, N. *et al.* (2019). [Recent trends in energy and nutrient content of take-home food and beverage purchases in Great Britain: an analysis of 225 million food and beverage purchases over 6 years. BMJ Nutr. Prev. Health, Vol 2, BMJ Specialist Journals](#).
84. Stewart, C. *et al.* (2021). [Trends in UK meat consumption: Analysis of data from years 1–11 \(2008–09 to 2018–19\) of the National Diet and Nutrition Survey rolling programme. Lancet Planet. Health, Vol 5, e699–e708. Elsevier](#).
85. Food Foundation [Dietary Inequalities](#).
86. Boyle, N. B. *et al.* (2021). [Proxy longitudinal indicators of household food insecurity in the UK. Emerald Open Res., Vol 3, 16](#).
87. Loopstra, R. (2022). University of Liverpool.
88. Peck, A. *et al.* (2022). Office for Health Improvement and Disparities (OHID).
89. [POST Note 640 - Childhood Obesity](#).
90. Gorb, A. *et al.* (2022). [Food Banks in the UK](#).
91. Francis-Devine, B. *et al.* (2022). [Food poverty: Households, food banks and free school meals](#).
92. Francis-Devine, B. *et al.* (2021). [Food poverty: Households, food banks and free school meals](#).
93. Power, M. *et al.* (2021). ["The reality is that on Universal Credit I cannot provide the recommended amount of fresh fruit and vegetables per day for my children": Moving from a behavioural to a systemic understanding of food practices. Emerald Open Research](#).
94. Fallaize, R. *et al.* (2020). [Nutritional adequacy and content of food bank parcels in Oxfordshire, UK: a comparative analysis of independent and organisational provision. J. Hum. Nutr. Diet., Vol 33, 477–486](#).
95. Barker, M. E. *et al.* (2019). [Food security, nutrition and health of food bank attendees in an English city: a cross-sectional study. J. Hunger Environ. Nutr., Vol 14, 155–167. Taylor & Francis](#).
96. Irwin, J. D. *et al.* (2007). [Can Food Banks Sustain Nutrient Requirements? Can. J. Public Health., Vol 98, 17–20](#).
97. Simmet, A. *et al.* (2017). [The Nutritional Quality of Food Provided from Food Pantries: A Systematic Review of Existing Literature. J. Acad. Nutr. Diet., Vol 117, 577–588](#).
98. Loh, S. *et al.* (2021). [Working-age adults using food banks in England have significantly poorer health and higher rates of mental health conditions than adults in the general population: A cross-sectional quantitative study. Health Soc. Care Community, Vol 29, 1594–1605](#).
99. Food Standards Agency (2022). [Food and You 2 - Wave 3. Food Standards Agency](#).
100. Purdam, K. *et al.* (2016). [Hungry? Food Insecurity, Social Stigma and Embarrassment in the UK. Sociology, Vol 50, 1072–1088. SAGE Publications Ltd](#).
101. Bazerghi, C. *et al.* (2016). [The Role of Food Banks in Addressing Food Insecurity: A Systematic Review. J. Community Health, Vol 41, 732–740](#).
102. Beck, D. (2016). [Why does the growth of food banks matter? The Conversation](#).
103. Tom Pollard (2021). [Pushed to the Edge: Poverty, Food Banks and Mental Health](#).
104. Crilley, E. *et al.* (2022). [The Diet of Children Attending a Holiday Programme in the UK: Adherence to UK Food-Based Dietary Guidelines and School Food Standards. Int. J. Environ. Res. Public Health, Vol 19, 55. Multidisciplinary Digital Publishing Institute](#).
105. Coulthard, J. D. *et al.* (2017). [Breakfast consumption and nutrient intakes in 4–18-year-olds: UK National Diet and Nutrition Survey Rolling Programme \(2008–2012\) Br. J. Nutr., Vol 118, 280–290](#).
106. Gaal, S. *et al.* (2018). [Breakfast Consumption in the UK: Patterns, Nutrient Intake and Diet Quality. A Study from the International Breakfast Research Initiative Group](#).

- Nutrients*, Vol 10, 999. Multidisciplinary Digital Publishing Institute.
107. Goisis, A. *et al.* (2016). [Why are poorer children at higher risk of obesity and overweight? A UK cohort study.](#) *Eur. J. Public Health*, Vol 26, 7–13.
 108. Cornelsen, L. *et al.* (2019). [Socio-economic patterning of expenditures on 'out-of-home' food and non-alcoholic beverages by product and place of purchase in Britain.](#) *Soc. Sci. Med.*, Vol 235, 112361.
 109. Loopstra, R. *et al.* (2019). [The rise of hunger among low-income households: an analysis of the risks of food insecurity between 2004 and 2016 in a population-based study of UK adults.](#) *J Epidemiol Community Health*, Vol 73, 668–673. BMJ Publishing Group Ltd.
 110. Fang, D. *et al.* (2021). [The association between food insecurity and mental health during the COVID-19 pandemic.](#) *BMC Public Health*, Vol 21, 607.
 111. Office for National Statistics (2022). [Why free school meal recipients earn less than their peers.](#)
 112. Hadfield-Spoor, M. *et al.* (2022). [Food insecurity among disabled adults.](#) *Eur. J. Public Health*, Vol 32, 593–599.
 113. Purdam, K. *et al.* (2019). [Food insecurity amongst older people in the UK.](#) *Br. Food J.*, Vol 121, 658–674. Emerald Publishing Limited.
 114. Leung, G. *et al.* (2011). [Diets of minority ethnic groups in the UK: influence on chronic disease risk and implications for prevention.](#) *Nutr. Bull.*, Vol 36, 161–198.
 115. Roberts, K. *et al.* (2018). [Empirically Derived Dietary Patterns in UK Adults Are Associated with Sociodemographic Characteristics, Lifestyle, and Diet Quality.](#) *Nutrients*, Vol 10, 177. Multidisciplinary Digital Publishing Institute.
 116. Power, M. *et al.* (2018). [Hidden hunger? Experiences of food insecurity amongst Pakistani and white British women.](#) *Br. Food J.*, Vol 120, 2716–2732.
 117. Baker, C. (2019). [Health inequalities: Income deprivation and north/south divides.](#)
 118. Department for Environment, Food & Rural Affairs (2022). [Family Food 2019/20.](#) *GOV.UK.*
 119. Aldridge, R. W. *et al.* (2018). Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: a systematic review and meta-analysis. *Lancet Lond. Engl.*, Vol 391, 241–250.
 120. Huang, C. *et al.* (2022). A systematic review of the nutritional status of adults experiencing homelessness. *Public Health*, Vol 208, 59–67.
 121. Food Foundation (2022). [At Risk Groups.](#) *The Food Foundation.*
 122. Goudie, S. (2022). The Food Foundation.
 123. Thompson, C. (2022). University of Hertfordshire.
 124. Sustain (2020). [COVID-19 Briefing: No Recourse to Public Funds and the Right to Food | Sustain.](#)
 125. Sustain (2022). [What is food poverty? Sustainweb.](#)
 126. White, M. (2022). MRC Epidemiology Unit, University of Cambridge.
 127. Adams, J. (2022). MRC Epidemiology Unit, University of Cambridge.
 128. Cummins, S. (2022). London School of Hygiene and Tropical Medicine.
 129. Power, M. (2022). University of York.
 130. Williamson, S. *et al.* (2017). Deprivation and healthy food access, cost and availability: a cross-sectional study. *J. Hum. Nutr. Diet. Off. J. Br. Diet. Assoc.*, Vol 30, 791–799.
 131. Public Health England (2017). [Chapter 6: Social determinants of health. Health Profile For England: 2017.](#)
 132. WHO (2017). [Determinants of health.](#)
 133. Winpenny, E. M. *et al.* (2020). [Changes in physical activity, diet, and body weight across the education and employment transitions of early adulthood: A systematic review and meta-analysis.](#) *Obes. Rev.*, Vol 21,
 134. Winpenny, E. M. *et al.* (2021). [Early adulthood socioeconomic trajectories contribute to inequalities in adult cardiovascular health, independently of childhood and adulthood socioeconomic position.](#) *J. Epidemiol. Community Health*, Vol 75, 1172–1180.
 135. Francis-Devine, B. (2022). [Poverty in the UK: Statistics.](#)
 136. Social Metrics Commission (2019). [Measuring Poverty 2019 - A report of the Social Metrics Commission.](#)
 137. Joseph Rowntree Foundation (2022). [UK Poverty Statistics.](#)
 138. Office for National Statistics (2022). [Family spending in the UK.](#)
 139. Rachel Loopstra *et al.* (2016). [Food insecurity and social protection in Europe: Quasi-natural experiment of Europe's great recessions 2004–2012.](#) *Prev. Med.*, Vol 89,
 140. Reeves, A. *et al.* (2021). [Wage-Setting Policies, Employment, and Food Insecurity: A Multilevel Analysis of 492 078 People in 139 Countries.](#) *Am. J. Public Health*, Vol 111, 718–725. American Public Health Association.
 141. Thompson, C. (2022). [Dietary health in the context of poverty and uncertainty around the social determinants of health.](#) *Proc. Nutr. Soc.*, Vol 81, 134–140.
 142. Power, M. *et al.* (2020). [How COVID-19 has exposed inequalities in the UK food system: The case of UK food and poverty.](#) *Emerald Open Res.*, Vol 2, 11.
 143. Smith, J. *et al.* (2022). [Food insecurity and severe mental illness: understanding the hidden problem and how to ask about food access during routine healthcare.](#) *BJPsych Adv.*, 1–9. Cambridge University Press.
 144. High Level Panel of Experts (2018). [Nutrition and food systems.](#)
 145. [POST Note 626 - A resilient UK food system.](#)
 146. White, M. *et al.* (2020). [What role should the commercial food system play in promoting health through better diet?](#) *BMJ*, Vol 368, m545. British Medical Journal Publishing Group.
 147. Munro, A. *et al.* (2020). [Sustainable health equity: Achieving a net-zero UK.](#) *Lancet Planet. Health*, Vol 4, e551–e553. Elsevier.
 148. Turner, C. *et al.* (2019). [Food Environment Research in Low- and Middle-Income Countries: A Systematic Scoping Review.](#) *Adv. Nutr.*, nmz031.
 149. Isaacs, A. *et al.* (2022). [From healthy food environments to healthy wellbeing environments: Policy insights from a focused ethnography with low-income parents' in England.](#) *Health Place*, Vol 77, 102862.
 150. Lake, A. *et al.* (2006). [Obesogenic environments: exploring the built and food environments.](#) *J. R. Soc. Promot. Health*, Vol 126, 262–267. SAGE Publications.
 151. [POST Note 522 - Barriers To Healthy Food.](#)
 152. Jones, N. R. V. *et al.* (2014). [The Growing Price Gap between More and Less Healthy Foods: Analysis of a Novel Longitudinal UK Dataset.](#) *PLOS ONE*, Vol 9, e109343. Public Library of Science.
 153. Food Foundation (2022). [Food Prices Tracking.](#)
 154. Pancrazi, R. *et al.* (2022). How distorted food prices discourage a healthy diet. *Sci. Adv.*, Vol 8, eabi8807.
 155. The Food Foundation (2022). [The Broken Plate 2022.](#)
 156. Butler, S. (2020). [Food deliveries to vulnerable in UK 'need better coordination'.](#) *The Guardian.*
 157. Schwartz, N. *et al.* (2019). Disability and food access and insecurity: A scoping review of the literature. *Health Place*, Vol 57, 107–121.
 158. Ver Ploeg, M. *et al.* (2015). [Measuring Food Access and Food Deserts for Policy Purposes†.](#) *Appl. Econ. Perspect. Policy*, Vol 37, 205–225.

159. Titis, E. *et al.* (2022). [Assessing physical access to healthy food across United Kingdom: A systematic review of measures and findings.](#) *Obes. Sci. Pract.*, Vol 8, 233–246.
160. Barrett, M. *et al.* (2017). [Greater access to healthy food outlets in the home and school environment is associated with better dietary quality in young children.](#) *Public Health Nutr.*, Vol 20, 3316–3325.
161. Oliver, M. (2022). Sustain.
162. Reeves, A. *et al.* (2021). [The Continuing Effects of Welfare Reform on Food Bank use in the UK: The Roll-out of Universal Credit.](#) *J. Soc. Policy*, Vol 50, 788–808. Cambridge University Press.
163. Department of Health and Social Care (2020). [Tackling obesity: Empowering adults and children to live healthier lives.](#)
164. Child Poverty Action Group (2022). [800,000 children in poverty not getting free school meals.](#) CPAG.
165. Thompson, C. *et al.* (2018). [Understanding the health and wellbeing challenges of the food banking system: A qualitative study of food bank users, providers and referrers in London.](#) *Soc. Sci. Med.*, Vol 211, 95–101.
166. Turn 2 Us (2020). Living Without - The Scale of Appliance Poverty.
167. Child Poverty Action Group (2022). [Fuel poverty: Estimates for the UK.](#) CPAG.
168. Suzanna Hinson *et al.* (2022). [Fuel Poverty.](#)
169. Chavez-Ugalde, Y. *et al.* (2021). [Conceptualizing the commercial determinants of dietary behaviors associated with obesity: A systematic review using principles from critical interpretative synthesis.](#) *Obes. Sci. Pract.*, Vol 7, 473–486.
170. Milani, P. *et al.* (2022). [The whole grain manifesto: From Green Revolution to Grain Evolution.](#) *Glob. Food Secur.*, Vol 34, 100649.
171. Griffith, R. (2021). [How does the price of different food products vary with the healthiness of that product?](#) Institute for Fiscal Studies and University of Manchester.
172. Finlay, A. *et al.* (2022). [A scoping review of outdoor food marketing: exposure, power and impacts on eating behaviour and health.](#) *BMC Public Health*, Vol 22, 1431.
173. Public Health England (2018). [Fast food outlets: Density by local authority in England.](#) GOV.UK.
174. Boyland, E. *et al.* (2022). [Systematic review of the effect of policies to restrict the marketing of foods and non-alcoholic beverages to which children are exposed.](#) *Obes. Rev.*, Vol 23, e13447.
175. Yau, A. *et al.* (2021). [Sociodemographic differences in self-reported exposure to high fat, salt and sugar food and drink advertising: A cross-sectional analysis of 2019 UK panel data.](#) *BMJ Open*, Vol 11, e048139.
176. Coleman, P. C. *et al.* (2022). [A rapid review of the evidence for children's TV and online advertisement restrictions to fight obesity.](#) *Prev. Med. Rep.*, Vol 26, 101717.
177. Watt, T. *et al.* (2022). [The impact of price promotions on sales of unhealthy food and drink products in British retail stores.](#) *Health Econ.*,
178. Department of Health and Social Care *et al.* (2021). [Introducing further advertising restrictions on TV and online for products high in fat, salt and sugar: Government response.](#) GOV.UK.
179. Thomas, C. *et al.* (2022). [The health, cost and equity impacts of restrictions on the advertisement of high fat, salt and sugar products across the transport for London network: A health economic modelling study.](#) *Int. J. Behav. Nutr. Phys. Act.*, Vol 19, 93.
180. POST Note 638 - Food and drink reformulation to reduce fat, sugar and salt.
181. Pell, D. *et al.* (2019). [Support for, and perceived effectiveness of, the UK soft drinks industry levy among UK adults: Cross-sectional analysis of the International Food Policy Study.](#) *BMJ Open*, Vol 9, e026698. British Medical Journal Publishing Group.
182. Scarborough, P. *et al.* (2020). [Impact of the announcement and implementation of the UK Soft Drinks Industry Levy on sugar content, price, product size and number of available soft drinks in the UK, 2015-19: A controlled interrupted time series analysis.](#) *PLOS Med.*, Vol 17, e1003025. Public Library of Science.
183. Law, C. *et al.* (2020). [The impact of UK soft drinks industry levy on manufacturers' domestic turnover.](#) *Econ. Hum. Biol.*, Vol 37, 100866.
184. Adams, J. *et al.* (2021). [Public acceptability of the UK Soft Drinks Industry Levy: Repeat cross-sectional analysis of the International Food Policy Study \(2017–2019\).](#) *BMJ Open*, Vol 11, e051677. British Medical Journal Publishing Group.
185. Gillison, F. *et al.* (2020). [Parents' Perceptions and Responses to the UK Soft Drinks Industry Levy.](#) *J. Nutr. Educ. Behav.*, Vol 52, 626–631.
186. Jennesson, V. *et al.* (2021). [The impact of a tax on added sugar and salt.](#) The IFS.
187. Marteau, T. M. *et al.* (2019). [Increasing healthy life expectancy equitably in England by 5 years by 2035: Could it be achieved?](#) *Lancet Lond. Engl.*, Vol 393, 2571–2573.
188. Department of Health and Social Care (2022). [Restricting promotions of products high in fat, sugar or salt by location and by volume price: implementation guidance.](#) GOV.UK.
189. Department of Health and Social Care (2021). [Promotions of unhealthy foods restricted from October 2022.](#) GOV.UK.
190. Department of Health and Social Care (2021). [Calorie labelling in the out of home sector.](#) GOV.UK.
191. Mary Glendon (2022). [Question for Department of Health and Social Care: Obesity: Health Services.](#) *Written questions, answers and statements.*
192. Department of Health and Social Care (2021). [Introduction of a 21:00-05:30 watershed on TV and online ban for paid advertising of food and drink that are high in fat, salt and sugar \(HFSS\):RPC Opinion.](#) GOV.UK.
193. [Health and Care Act 2022.](#)
194. [Communications Act 2003](#)
195. Yau, A. *et al.* (2022). [Changes in household food and drink purchases following restrictions on the advertisement of high fat, salt, and sugar products across the Transport for London network: A controlled interrupted time series analysis.](#) *PLOS Med.*, Vol 19, e1003915. Public Library of Science.
196. Department of Health and Social Care (2021). [Restricting promotions of food and drink that is high in fat, sugar and salt.](#) GOV.UK.
197. Department of Health and Social Care (2021). [Impact Assessment: Introducing a 2100-0530 watershed on TV and online restriction for paid advertising of food and drink that are High in Fat, Salt and Sugar \(HFSS\) products.](#)
198. Department of Health and Social Care (2020). [Impact assessment: Restricting checkout, end-of-aisle, and store entrance sales of food and drinks high in fat, salt, and sugar \(HFSS\).](#)
199. Welsh Government (2022). [Universal Primary Free School Meals \(UPFSM\).](#) GOV.WALES.
200. Scottish Government (2021). [Free school meals.](#)
201. NIHR (2022). [Mixed methods evaluation of Universal Free School Meals provision in two secondary schools. London Borough of Hammersmith and Fulham.](#) *NIHR Public Health Interventions Research Studies Teams (PHIRST).*

202. Long, R. *et al.* (2022). [School Meals and Nutritional Standards \(England\)](#).
203. Cohen, J. F. W. *et al.* (2021). [Universal School Meals and Associations with Student Participation, Attendance, Academic Performance, Diet Quality, Food Security, and Body Mass Index: A Systematic Review](#). *Nutrients*, Vol 13, 911. Multidisciplinary Digital Publishing Institute.
204. Pearce, B. *et al.* (2022). Local Authority Caterers Association (LACA).
205. Cohen, D. (2022). [Hunger crisis for children not eligible for free school meals but living in poverty](#). *Evening Standard*.
206. Food Foundation (2022). [Feed the Future campaign](#).
207. Kingdon, C. *et al.* (2022). Feed the Future: Urgent Expansion of the Free School Meals Scheme.
208. Fazackerley, A. (2022). [Schools in England warn of crisis of 'heartbreaking' rise in hungry children](#). *The Observer*.
209. Baumberg Geiger, B. *et al.* (2022). Did the £20 per week uplift in Universal Credit reduce food insecurity among claimants in 2020-21?
210. Jenkins, R. H. *et al.* (2021). [The relationship between austerity and food insecurity in the UK: A systematic review](#). *EClinicalMedicine*, Vol 33, 100781.
211. Loopstra, R. *et al.* (2018). [Impact of Welfare Benefit Sanctioning on Food Insecurity: A Dynamic Cross-Area Study of Food Bank Usage in the UK](#). *J. Soc. Policy*, Vol 47, 437–457. Cambridge University Press.
212. [LEAP Cocreate Fund](#). *LEAP*.
213. Frew, E. (2022). University of Birmingham.
214. Sustain (2022). [Good Food for All Londoners: Tracking council action on food](#).
215. NICE (2012). [Tackle obesity through a 'community-wide' approach](#). NICE.
216. PHE (2019). [Whole systems approach to obesity](#). *GOV.UK*.
217. Everson-Hock, E. S. *et al.* (2013). [Community-based dietary and physical activity interventions in low socioeconomic groups in the UK: A mixed methods systematic review](#). *Prev. Med.*, Vol 56, 265–272.
218. Vincent, B. *et al.* (2022). Cancer Research UK.
219. Adams, J. *et al.* (2016). [Why Are Some Population Interventions for Diet and Obesity More Equitable and Effective Than Others? The Role of Individual Agency](#). *PLOS Med.*, Vol 13, e1001990. Public Library of Science.
220. The Progressive Policy Think Tank (2021). [Building a food system that works for everyone](#). *IPPR*.
221. WHO (2009). [Interventions on diet and physical activity: what works: summary report](#).
222. Ogilvie, D. *et al.* (2020). [Using natural experimental studies to guide public health action: Turning the evidence-based medicine paradigm on its head](#). *J. Epidemiol. Community Health*, Vol 74, 203–208.