

Broken Plate 2020: the state of the nation's food system

Technical Report

Metric 1: Advertising

Data source/s: Nielsen Ad Dynamix, data kindly provided to the Food Foundation pro-bono.

Nielsen measures consumption of programming and advertising across all distribution points. Nielsen's ratings are used by advertisers and networks to shape the buying and selling of advertising.

Analysis: Nielsen ran a report for use in Broken Plate for the calendar year 01 January 2019 to 31 December 2019 on Thursday, 21 May 2020 at 14:34 PM. This included seven different media channels (cinema, direct mail, door drops, outdoor, press, radio and TV) for two major product categories (food and drink) to include our four focus areas:

- Fruit and vegetables
- Confectionary
- Sweet and savoury snacks
- Soft drinks.

We then calculated total advertising spend in sterling and percentage (%) spend per focus area, comparing 2019 to 2017's data for the same four groups of products.

There is a significant amount of volatility year on year in terms of where ad spend goes. As a result, each year some minor product categories drop off the list and new ones come in, with spend per product fluctuating a fair amount. We matched the final list of food and drink products used to calculate total spend in 2017 for Broken Plate 2019 as closely as possible to 2019's data for Broken Plate 2020 in order to track changes.

Eighty-four products were included in the final list of products for 2019. Water, seven general food branding/sponsorship categories, and baby food were excluded in line with last year's methodology. Additionally, we excluded teas, coffees, sports/energy/health drinks, alcohol, and one sponsorship category from this year's analysis as these were additional categories not previously included in 2017's data.

Although there was only a difference of two products between the two lists once non-relevant items had been excluded, the total amount spent on advertising was slightly less in 2019 than the amount spent in 2017 (£612 million vs. £654 million) which will have slightly impacted on our % calculations.

Metric 2. Places to buy food

Data source: Food environment assessment tool (FEAT), UKCRC Centre for Diet and Activity Research (CEDAR), The University of Cambridge

Analysis:

Feat provided data on proportion of fast-food outlets out of total food outlets for each local authority.

Ordnance Survey's Points of Interest (POI) dataset, for June 2019 contains information from over 170 suppliers, and is one of the most complete sources of food outlet locations available in England. The data was extracted from this on the locations of cafes, convenience stores, restaurants, supermarkets, specialty and takeaway ('fast-food') outlets (Ordnance survey, 2018b). POI classes 'fast food and takeaway outlets', 'fast food delivery services', 'fish and chip shops' and 'bakeries' were combined as takeaways. Takeaway food outlets as a proportion of all food outlets (%) within local authorities was then calculated. Local authority deprivation scores were from the Index of Multiple Deprivation 2015.

We then calculated how many had seen an increase/decrease in percentage since June 2018 (the data provided for last year's Broken Plate report).

Metric 3: Affordability of the Eatwell Guide

Data source: The Households Below Average Income (HBAI) dataset for 2017/18 is part of the Family Resources Survey (FRS). We used this in conjunction with [Scarborough's 2016 paper](#) modelling the cost per day of the Eatwell Guide (£5.99 per day) to calculate the percentage (after housing costs) of disposable income spent on the Eatwell Guide per income decile and per income quintile.

The FRS is an annual cross-sectional survey conducted on a representative sample of private households in the UK, capturing information on income of approximately 19,000 private UK households. Further details on the FRS survey design, sampling procedures and methods can be found elsewhere ([Department for Work and Pensions, Family Resources Survey](#)). From the FRS, the Department for Work and Pensions produces an analysis of the UK income distribution in its annual Households Below Average Income (HBAI) publication ([Department for Work and Pensions, HBAI](#)). Data from the 2017/2018 HBAI was used to calculate the average proportion of unequivalised household disposable income that would be used up by the estimated household Eatwell cost, by income decile. The HBAI datasets were obtained from the UK Data Service.

Methodology

Building on the Food Foundation's 2018 report, 'The Affordability of the Eatwell Guide', ([Scott, 2018](#)) and following on from Broken Plate 2019, we adapted the methodology and STATA do file used previously to conduct updated analysis for FRS data 2017/18. Broken Plate 2019 used FRS data for 2016/17.

The Eatwell Guide splits the diet into a five-category pie chart: fruit and vegetables; potatoes, bread, rice, pasta and other starchy carbohydrates; beans, pulses, fish, eggs, meat and other proteins; dairy and alternatives; and oils and spreads. Each section of the pie chart is based on the proportion of the diet that should come from each category and were based on optimisation modelling commissioned by Public Health England and carried out at Oxford University (Scarborough et al., 2016). The optimisation modelling was used to identify a diet that achieved the UK food-based dietary guidelines whilst minimising changes from current consumption in the UK. The cost of such a diet was estimated to be

£5.99 per adult per day, or £41.93 per week. This cost was calculated on a per portion basis (e.g. cost of a single portion of bread), rather than how much a person would need to spend to buy the foods in question (e.g. a loaf of bread), and therefore it is likely to underestimate how much a person would need spend to buy a full weekly diet based on the Eatwell Guide. Subsequent research using a different method supports this assumption, as it found that the cost of a diet meeting 6-8 SACN dietary recommendations would be on average £6.54 per 2000 calories (Jones, Tong and Monsivais, 2018)

To better understand the affordability of healthy diets in the UK, we conducted a secondary analysis of the FRS, in which we consider our estimated cost of an 'Eatwell' diet in relation to UK household disposable income. Weekly Eatwell cost per household was determined based on household composition. To consider different dietary intakes of children under 19 years, as well as economies of scale that would likely affect the overall Eatwell cost for a household, the McClement's equivalence scale was used to adjust the per-adult cost. Although a crude method, the McClement's scale was chosen over alternative equivalisation scales (e.g. OECD) because it better captures age group differences. This approach was also chosen over adjusting the adult cost based on recommended energy requirements (EAR) by age group/sex because it considers economies of scale with increasing numbers of household members, which an EAR approach would not.

Disposable income was defined as the amount of money available for spending and saving after direct taxes (such as income tax, national insurance and council tax) and after housing costs (AHC) are removed. It includes income from earnings and employment, private pensions and investments, and cash benefits provided by the state. Disposable income in the HBAI also includes the value of FSMs. Housing costs removed from disposable income included: rent; water rates, community water charges and council water charges; mortgage interest payments; structural insurance premiums; and ground rent and service charges.

Limitations

The HBAI resets negative incomes before housing costs to zero but negative disposable incomes are still possible after housing costs are removed. The lowest income decile includes some people who have very little or no income. It is made up of a diverse group of people, with some earning precarious incomes, some between jobs, and some living off savings. People who are homeless, sleeping rough or in institutional settings are not included in the Family Resources Survey.

While they may therefore not all be categorised as among the poorest 10% of households, it is not possible to further segregate this group by socioeconomic status. For those households in income decile 1 with a negative disposable income AHC it is therefore not possible to calculate the proportion of disposable income that would be used up by the Eatwell cost. These households were set to 100%, meaning that 100% of their disposable income would have to spent on food. Income quintiles therefore provide a more balanced view of the percentage of disposable income poorer citizens would need to spend to afford the cost of the Eatwell Guide.

The estimated cost of the Eatwell guide uses modelling undertaken in 2016, and so does not take into account any food price inflation in the intervening period. We have therefore used HBAI data for 2017/18 (rather than 2018/19) to minimize this issue, and so as to follow on directly from last year's Broken Plate (which used HBAI 2016/7 data).

Metric 4. Wages in the food sector

Data source:

The Office for National Statistics' Annual Survey of Hours and Earnings (ASHE) is carried out in April each year and is the most comprehensive source of information on the structure and distribution of earnings in the UK. ASHE provides information about the levels, distribution and make-up of earnings and paid hours worked for employees in all industries and occupations. The ASHE tables contain estimates of earnings for employees by sex and full-time or part-time status. Further breakdowns include by region, occupation, industry, age group and public or private sector.

The Resolution Foundation obtained ASHE data for the following dataset: Office for National Statistics. (2019). Annual Survey of Hours and Earnings, 1997-2019: Secure Access. [17/03/2020]. 15th Edition. UK Data Service. SN: 6689. DOI: 10.5255/UKDA-SN-6689-14.

We looked at the annual data for the years 2012 through to 2019.

Methodology

The following filters and definitions were applied:

- GB only
- Low paid = paid less than 2/3 of overall median hourly pay
- Minimum wage or less = paid less than age-relevant minimum wage plus 5p.
- RLW = real living wage (the London or Rest of UK rates are applied, depending on location of worker)
- Covers employees only (i.e. not self-employed)

Relevant food industry sectors were then searched using the following codes:

- Industry groups (codes are all SIC 2007):
 - **Agriculture and fishing:** SIC code 1 (Agriculture, forestry & fishing) excluding 1.7 (Hunting).
 - **Food retail:** SIC codes 47.2 (Retail of food, beverages, and tobacco in specialised stores) excluding 47.26 (Retail of tobacco in specialised stores), plus 47.11 (Retail sale in non-specialised stores with food, beverages or tobacco predominating) and 47.81 (Retail sale via stalls and markets of food, beverages, and tobacco products).
 - **Food wholesale:** SIC codes 46.3 (Wholesale of food, beverages, and tobacco) excluding 46.35 (Wholesale of tobacco products), and 46.17 (Agents involved in the sale of food, beverages and tobacco).
 - **Catering (bars and kitchens):** SIC code 56 (Food and beverage service activities).
- Occupation groups (codes are all SOC 2010):
 - **Kitchen staff:** SOC codes 5434 (Chefs), 5435 (Cooks), 9272 (Kitchen and catering assistants).
 - **Waiters & waitresses:** SOC code 9273.

- Whole food sector: any of the above.

Analysis:

We then looked at the absolute number and percentage of workers within each food industry sector earning the minimum wage, the RLW, or defined as low paid. We used the trend data provided to compare the change in the percentage of workers defined as low paid and the percentage earning at or below the RLW in 2017 to the percentages in 2019.

Comments

Broken Plate 2019 used 2017 ASHE data. This year's report used the 2017 data provided in 2019's report for consistency.

Metric 5: The cost of unhealthy/healthy food

Data sources: The Office for National Statistics (ONS) Consumer Price Index (CPI) continuous dataset; National Diet and Nutrition Survey (NDNS) wave 1-3

The method and much of the data used to calculate the cost of healthy vs. unhealthy food is from The Centre for Diet and Activity Research (CEDAR) at the University of Cambridge, first used in this 2014 paper: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0109343> We updated price data to 2020 and, for the first time, additionally calculated the cost of food in each of the EatWell Guide categories.

Methodology:

Food price

The CPI dataset provides quarterly data on the price of a number of food and drinks products. Food and drink products are selected for inclusion in the CPI based on economic rationale and the list of items is updated each year to reflect the content of an average UK shopping basket. Health considerations are not taken into account. As a result, items drop in and out of the basket every year, and the basket does not necessarily reflect diets recommended in the Eatwell Guide. In order to track price trends over the course of a decade, only the 82 food and drink products that were consistently included in the CPI over 2010-2020 were included in this year's report. We used the mean of quarterly price data in each year for each item to calculate annual prices.

Food weights and nutritional content

We linked updated price data calculated as above to data calculated for the 2014 paper on average purchase weight and nutritional content.

Purchase weight was either as stated in the CPI (e.g. potatoes-new-per-kg); the weight of nearest match products from an online supermarket aggregator for items described in units (e.g. individual pizza); or

weights provided in the USDA National Nutrient database (<https://fdc.nal.usda.gov/>) for loose items (e.g. single fruits).

Nutritional content per 100g was obtained from the UK Nutrient Databank. Some products in the CPI (e.g. tinned fruit) represent broader product groups than in the Nutrient Databank (e.g. tinned peaches, tinned pears). In these cases the mean nutritional content of all products within the group, weighted by consumption frequency from the National Diet & Nutrition Survey (NDNS) years 1-3, was calculated.

Food price data relates to food items as purchased (e.g. 100g of raw chicken breast) whereas nutritional data relates to food as consumed (e.g. 100g grilled chicken breast). To adjust for differences in weight and nutritional composition food yields were used from the US Department of Agriculture handbook 102: Food yields (<https://babel.hathitrust.org/cgi/pt?id=uc1.b3614369&view=1up&seq=1>).

Food categories

Nutritional content was used to categorise foods as either 'less healthy' or 'healthier' using the FSA's nutrient profiling model (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216094/dh_123492.pdf).

Foods were also categorised into the groups in the EatWell Guide using the process described on p55 here: http://assets.wwf.org.uk/downloads/livewell_report_corrected.pdf

Analysis

Annual food prices, linked to nutritional content and food weights, were used to determine the cost per 1000kcal of foods identified as 'healthier' or 'less healthy' and those in each of the EatWell Guide categories for each year from 2010-20.

Comments

There is more recent NDNS data available (2015/16) but we did not have the capacity to undertake the linking process to make this usable within the analysis for this year's Broken Plate 2020 report.

Metric 6. Food products – sugar in cereals

Data source: Action on Salt and Sugar

Analysis:

Action on Salt and Action on Sugar visited 9 major supermarkets; Aldi, Asda, Lidl, Marks and Spencer, Morrisons, Sainsbury's, Tesco and Waitrose and Partners, and the Co-operative, between January and February 2020 (Iceland was excluded as they do not produce their own cereals). Photographic stills of all breakfast cereals available in the retailer cereal aisle, and their nutritional information tables, were obtained and inputted into a food database. Products were checked against data from last year's report. Where products were not available in store at time of collection, data was obtained from online sources

(retailer/manufacturer websites), with the exception of Aldi, Lidl and Marks & Spencer, as they do not provide information online. The data then underwent inclusion and exclusion criteria for what would be deemed 'child friendly packaging' based on previous Action on Sugar and Action on Salt surveys and other literature.

Inclusion:

- A. Child friendly imagery (such as cartoon characters)
- B. Child friendly style (such as bright colours, animated)
- C. Child friendly brand character (such as Tony the Tiger)
- D. Child friendly font (such as balloon letters and child friendly fronts)
- E. Child friendly media partnerships (such as Disney)
- F. Child friendly offers (such as a free game)
- G. Child themed language (such as 'made for kids')
- H. Child friendly activities (such as wordsearches on the back of pack)

Exclusion:

- A. Animations that are part of company logos
- B. Non child-themed lifelike drawings (such as pencil like drawings or sketches)
- C. Duplicates of the same product, in but in different packaging sizes

Out of 501 cereals available in retail, 120 products met the inclusion criteria, and were analysed to note how many products were high, medium, or low in sugar, salt, and saturated fat using the Department of Health's front of pack colour coded nutrition guidelines. In addition to this, a scoring system was created for fibre based on last year's report.

	Low	Medium	High
Colour Code	Green	Amber	Red
Fat	≤3.0g/100g	>3.0g to ≤17.5g/100g	>17.5g/100g
Saturates	≤1.5g/100g	>1.5g to ≤5.0g/100g	>5.0g/100g
(Total) Sugars	≤5.0g/100g	>5.0g to ≤22.5g/100g	>22.5g/100g
Salt	≤0.3g/100g	>0.3g to ≤1.5g/100g	>1.5g/100g
Fibre	≥10g/100g	≥5g to <10g/100g	<5g/100g

This 2020 report includes 120 cereals that meet the inclusion criteria, compared to 77 products with similar inclusion criteria in the 2019 report (breakfast cereals collected in November 2018). The increase of 43 products from last year could be down to numerous factors including, but not limited to, new product development, a broader inclusion criteria or more availability in store at time of collection.

Every effort was made to collect comprehensive data for direct comparisons over the years, but unfortunately we were not able to collect data for all products. This could be due to a number of reasons; they may have been out of stock on the day of collection, not available in that particular store, or no longer in production. Where possible, if data was missing then further data collection was carried out online, but there are certain limitations to this, namely that some retailers do not provide nutrition information online.

A note on retailers removing cartoon characters:

Asda, Aldi and Lidl all made statements to say they were removing cartoon characters from cereal packaging between February and April. Data collection for this survey was carried out before these changes were put in place. Due to current government restrictions on movement, we are unable to determine if this would have an impact on our findings. However, it is not enough for retailers and manufacturers to remove cartoon characters; the resulting design must not be attractive to children, otherwise it defeats the objective.

Metric 7. Food products – veg in ready meals

Data source: Eating Better's Ready Meal's Snapshot Survey 2020 Report. <https://www.eating-better.org/blog/ready-meal-survey-2020>

Methodology

Eating Better's 2020 survey includes 2,803 ready meals available to buy in 11 major UK supermarkets in March 2020. For the first time in the survey series, Eating Better complemented their in-store fieldwork with data from foodDB, a comprehensive, real-time database of food and drink products available online in the UK, developed at the Nuffield Department of Population Health, University of Oxford. With a focus on products available to buy online in all major UK supermarkets, foodDB currently collects information on over 120,000 food and drink products every week

Data from foodDB was used for all ready meals available online in Tesco, Morrisons, Asda, Waitrose, Ocado, Coop, Iceland and Sainsbury's. Where online data was not available (Lidl, Aldi and M&S) Eating Better conducted fieldwork in-store. Two large outlets in London were visited for each of these supermarkets, and each store was visited on two separate days. The online and fieldwork sets of data were added together and analysed by Eating Better.

Analysis

Analysis included both own-brand and branded meals, chilled and frozen options found in the 'ready meals' section of supermarkets. Only main meals designed to be eaten hot were included, using a broad definition of 'main' to include products that would either comprise a meal or else the main part of a meal. Products classified as side dishes and pizzas were excluded. Where the same branded products were found in different retailers, Eating Better included all of them in total products for each retailer, providing a sample of 2,803 meals.

When analysing the total data set from all retailers, branded products were only included once, providing a sample of 2,404 meals. The ingredients text for each product were used to classify it into one of four categories: 'meat', 'fish', 'vegetarian', or 'plant-based'. Vegetarian products may contain eggs or dairy products, but no meat, fish or seafood. They defined plant-based products as those either labelled as suitable for vegans or which did not appear to contain animal products on the label. Ingredients' lists were also used to identify core ingredients, including type of meat (beef, lamb, pork, chicken, turkey, duck) and cheese. Where a dish contained several types of meat, they classified it according to the one used in greatest quantity (listed first). Meal prices (per portion) and special offers were also recorded.

Comments

In previous surveys Eating Better have analysed indicators of 'better' meat and dairy production, such as country of origin, standards and use of animal welfare certifications. This was not possible this year using foodDB. Eating Better plan to incorporate this analysis in future surveys.

Please note that the surveys are cross-sectional designs, providing an accurate picture of a specific moment in time, and are thus useful for showing big changes or trends but are not as useful for highlighting any small variations.

Although the number of ready meals included in this year's survey is higher than the number of ready meals included in 2018, the proportion of meal types has remained relatively stable independent of whether they are from an online or instore source. This suggests that the number of meat-free ready meals has not increased due to the inclusion of ready meals available online only for example. Additionally, proportions have been used to draw comparisons between the two surveys to mitigate the changes in the numbers of ready meals analysed.

Metric 8. Children with obesity

Data sources:

England: National Child Measurement Programme 2018/19. Age group – Reception (4-5-year-olds).

Scotland: Child Health Surveillance Programme 2018/19. Age group – Primary 1 (4.5-6.5-year-olds).

Wales: Child Measurement Programme 2018/18. Age group – 4-5-year-olds.

Analysis:

The Child Measurement Programmes in all three nations are annual surveillance programmes that measures the height and weight of children.

Deprivation was measured by

- England: 2015 Income Deprivation Affecting Children Index (IDACI) which measures the proportion of children under the age of 16 living in low-income households.
- Scotland: Scottish Index of Multiple Deprivation (SIMD)
- Wales: Wales Index of Multiple Deprivation (WIMD)

Deprivation group in all cases compares top and bottom quintiles of deprivation.

Last year's Broken Plate data used the standard definitions of overweight and obesity that are reported by each of the 3 nations. These are:

- At risk of overweight (BMI greater than or equal to 85th centile and less than 95th centile of the British 1990 (UK90) growth reference)
- At risk of obesity (BMI greater than or equal to 95th centile of the British 1990 (UK90) growth reference)

For Northern Ireland, this uses international definitions of overweight and obesity rather than the definitions used by the other three nations in the UK. We therefore didn't include Northern Ireland this year, as it is not comparable to the other countries.

Metric 9. Child growth

Data source: [National Child Measurement Programme](#); [Analysis by PHE](#)

Analysis:

The data presented is for Year 6 children in England only. The National Child Measurement Programme (NCMP) is an annual surveillance programme that measures the height and weight of children attending state-maintained primary schools in England. This data was analysed by Public Health England.

It shows average height in centimetres for children aged 10 to 11 years measured in the NCMP between 2016 to 2017 and 2018 to 2019 by deprivation decile, sex, and ethnic group.

Deprivation was measured using the 2015 Income Deprivation Affecting Children Index (IDACI) which measures the proportion of children under the age of 16 living in low-income households. Deprivation groups have been shown as deciles.

Ethnicity was grouped into White British, Asian, Black and Other Ethnicity as follows:

NHS Ethnicity Code	Ethnicity description	Ethnic grouping in data tables
A	White - British	White
B	White - Irish	White
C	Any Other White Background	White
D	White and Black Caribbean	Black
E	White and Black African	Black
F	White and Asian	Asian
G	Any Other Mixed Background	Other
H	Indian	Asian
J	Pakistani	Asian
K	Bangladeshi	Asian
L	Any Other Asian Background	Asian
M	Black - Caribbean	Black
N	Black - African	Black
P	Any Other Black Background	Black
R	Chinese	Other
S	Any Other Ethnic Group	Other
Z	Not stated / Invalid	Other

Limitations:

We would expect to see a significant difference in height (all other things being equal) between a child measured at the beginning of the school year compared to towards the end of summer term, and as there is some evidence that the average time of year measurements are taken differs across deprivation deciles some of the variation in height could be due to timing of measurements.

Metric 10. Diabetes and amputations

Data source: [Diabetes Footcare Profiles](#)

Analysis:

This profile presents information on people with diabetes from England, who were admitted to hospital for foot disease. The information in the profile is compiled from Hospital Episode Statistics (HES).

Data is provided for adults in England for number of major and minor amputations over three-year periods. A major lower-limb amputation refers to above the ankle. We took an average to work out the average per year over that three-year period.

The total population in England grew 5.6% in the period 2011-2018, so some of the 18% increase in amputations may be due to population growth. There may also have been changes in age profile and racial profile that might account for the increases.

This data includes Type 1 and Type 2 diabetes.

We have reported this metric differently from last year's report as we were unable to source the same data.

The Trajectory

The following data sources were used to model projections for the prevalence of nutrition-related chronic diseases per 100 children for 2020's birth cohort:

General

Marshall L, David Finch D, Cairncross E, Bibby J. Mortality and life expectancy trends in the UK: Stalling progress. Health Foundation 2019 (Projection for cohort born 2005).

Obesity and overweight

Child Overweight and Obesity: National Child Measurement Programme 2018/2019.

Adult Overweight and Obesity: Health Survey for England 2018

Health Survey for England 2018 <https://files.digital.nhs.uk/D3/0BFD4E/HSE18-Adult-Child-Obesity-tab.xlsx> (BMI) and <https://files.digital.nhs.uk/75/0B204E/HSE18-Adult-Health-tab.xlsx> (CVD) (Age 55-74).

Diabetes

Diabetes Prevalence Model, Public Health England, 2016 (age 15-24)

Diabetes Prevalence Model, Public Health England, 2016. (Age 55-74)

Cardiovascular disease

British Heart Foundation, Heart and Circulatory Disease Statistics 2019 (age 16-24)

Cancer

J Maddams et al, Projections of cancer prevalence in the UK. Brit J Cancer. 2012; 107:1195-1202 (age 0-44y)

Osteoporosis

Trends in hospital admissions for fractures of the hip and femur in England, 1989-1990 to 1997-1998. Balasegaram S, Majeed A, Fitz-Clarence H. J Public Health Med. 2001 Mar;23(1):11-7; and Hernlund E, Svedbom A, Ivergard M, Compston J, Cooper C, Stenmark J, McCloskey EV, Jonsson B, Kanis JA. Osteoporosis in the European Union: medical management, epidemiology and economic burden : A report prepared in collaboration with the International Osteoporosis Foundation (IOF) and the European Federation of Pharmaceutical Industry Associations (EFPIA) Arch Osteoporos. 2013;8:136.

Dental decay

Adult Dental Health Survey 2009 reports 3 & 4 <https://digital.nhs.uk/data-and-information/publications/statistical/adult-dental-health-survey/adult-dental-health-survey-2009-summary-report-and-thematic-series> (age 55-74) Trend data unreliable.

Analysis:

We used published forecasts where these are given in the published literature cited here. Where they were not available for the age group and year needed, we used the Excel 'Forecast' function to make projections from the available published data.

We were not able to incorporate differential outcomes for different socio-economic groups, given that it is very difficult to predict what these will look like in the future. However, it is very likely that outcomes will be worse the poorer you are.

Note that the trajectory was *not* included in 2019's Broken Plate report, but was published later as part of the Food Foundation's response to the Department of Health and Social Care's Green Paper *Advancing our health: prevention in the 2020s*, outlining the government's planned approach for prevention of the major preventable health problems facing people in the UK.

<https://foodfoundation.org.uk/the-prevention-green-paper-response-we-need-much-more-much-faster/>. This will be the first year it forms part of Broken Plate.

Comments

Diet-related diseases will occur both among those with high BMI and those at a lower BMI. Cancer has been included as a diet-related disease, with between 30 and 50 per cent of all cancer cases estimated to be preventable through healthy lifestyles (WCRF, 2018).

Note that the projected figures based on trends indicates overweight staying the same or reducing while obesity increases, and especially morbid obesity. This is probably a consequence of the mean BMI moving up through the 'overweight' category towards the threshold for obesity.