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ESTIMATION OF FOOD AND NUTRIENT INTAKES FROM FOOD PURCHASE DATA IN SCOTLAND

2001-2018

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This work was carried out using LCFS data from the UK Data Archive, University of Essex (http://www.data-archive.ac.uk/). Additional variables on sampling and income were provided by ONS.

Executive Summary

Introduction

In 2016, Revised Dietary Goals for Scotland were published, updating the 2013 Scottish Dietary Goals. These goals encompassed recommendations for intakes of both foods and nutrients, the same as the 2013 goals for energy, energy density, fruit and vegetables, oily fish, red meat, total fat, saturated fat, trans fatty acids, and salt. The goal for sugar as non-milk extrinsic sugars (NMES) was changed to *free sugars* and reduced; the goal for fibre as non-starch polysaccharides (NSP) was changed to *AOAC fibre* and increased; and a new goal was added for total carbohydrate based on recommendations from the Scientific Advisory Committee on Nutrition (SACN).

Progress towards the goals is monitored using a combination of surveys, but principally via secondary analysis of the Living Costs and Food Survey (LCFS) data from 2001 to 2018, following the endorsement of the 2004 Working Group Report on Monitoring Scottish Dietary Targets which concluded that it was the most appropriate method for Scotland at that time. The major exceptions to this are energy, trans fatty acids, and salt. LCFS is not used to monitor energy intakes because, as with all dietary intake monitoring, it could be subject to under-reporting. Trans fatty acid intake has been monitored using NDNS, and salt intake is monitored using urinary sodium surveys.

The results presented in this report support work by Food Standards Scotland and the Scottish Government to facilitate improvements to the diet in Scotland to promote health and wellbeing and reduce the levels of overweight and obesity and diet-related disease.

Objective

The purpose of this work was to obtain robust estimates of food consumption and nutrient intakes for 2016, 2017, and 2018 in Scotland in order to continue to monitor progress toward the 2016 Scottish Dietary Goals. Furthermore, the main contributors to intakes of energy, fat, saturated fat, free sugars, and fibre were explored.

Methods

LCFS data for each year, in raw form, were obtained from the UK Data Archive, University of Essex. Data on sampling methodology were obtained from the Office for National Statistics (ONS). Food consumption and nutrient intake in Scotland calculated in the previous reports (covering 2001 to 2015) was updated by the addition of the years 2016, 2017, and 2018. It should be noted that due to changes in the LCFS, these 3 years had a reduced sample size of households compared to previous years, however the sample was still representative of the Scottish population. Adjustments were made to allocate the correct proportion of each food to the appropriate food group and to account for waste. In addition, the contribution that food groupings made to intakes of energy, fat, saturated fat, free sugars, and fibre was also calculated. Data were analysed weighting to the Scottish population and taking account of sampling methods. Results are presented as population means (i.e. including consumers and non-consumers) for household and eating out foods combined.

Key Findings for 2001-2003 to 2016-2018: Scottish Dietary Goals

- There was little progress towards meeting the 2016 Scottish Dietary Goals over the 18-year period except for a significant decrease in free sugars intake.
- **Energy density** did not change; average energy density is 38% higher than the goal.
- **Fruit and vegetable** consumption did not change; average consumption is 34% lower than the goal.
- **Oil rich fish** consumption did not change; average consumption is 76% lower than the goal.
- **Red and processed meat** consumption decreased; average consumption met the goal.
- **Total fat** (as a percentage of food energy) increased significantly, but **saturated fat** (as a percentage of food energy) did not change; mean intakes of both total and saturated fat remain higher than the goals (40% and 15% respectively).
- **Free sugars** (as a percentage of total energy) significantly decreased; however mean intake remains two and a half times (168%) higher than the goal.
- **Fibre** intake significantly decreased; average intake is 48% lower than the goal.
- **Carbohydrate** intake did not change; average intake is 11% lower than the goal.

Mean food consumption and nutrient intakes in relation to the Scottish Dietary Goals from 2001-2003 to 2016-2018

	2016 Scottish Dietary Goal	2001-2003	2016-2018	Change between 2001-2003 and 2016-2018[1]	Progress Towards SDG
Total Energy (kcal/day)	A reduction in calorie intake by 120 kcal per person per day	2126	1893	↓	N/A[2]
Energy density (kcal/100g)	Average energy density of the diet to be lowered to 125 kcal/100g	171	172	No Change	Goal not met
Fruit and Vegetables (g/day)	At least 5 portions per person per day (>400 g/day)	256	265	No Change	Goal not met
Oil rich fish (g/week)	Increase to one portion per person (140g) per week	29	33	No Change	Goal not met
Red Meat (g/day)	Average intake of red and processed meat to be pegged at around 70g per person per day	65	55	↓	**Goal met**
Fat (% food energy)	≤35% food energy	38.8	39.7	↑	Goal not met
Saturated Fat (% food energy)	≤11% of food energy	15.6	15.4	No Change	Goal not met
Free Sugars[3] (% total energy)	≤5% of total energy in adults and children over 2 years	15.1	13.4	↓	Goal not met
Fibre (g/day)	Increase in average consumption of AOAC[4] fibre to 30g/day	16.4	15.6	↓	Goal not met
Carbohydrate (% total energy)	50% of total energy with no more than 5% total energy from free sugars	45.2	44.3	No Change	Goal not met

[1]Based on P-value for linear association ≤0.01; [2]LCFS is not used to monitor energy intakes because, as with all dietary intake monitoring, it could be subject to under-reporting, since energy SDG was introduced in 2013 there has only been a 39kcal/day reduction; [3]Free sugars are sugars added to food or drink and those which are found naturally in honey, syrups, and fruit juices, NMES figures provided as a proxy for free sugars; [4]Fibre as measured by American Association of Analytical Chemists (AOAC) methods, calculated from non-starch polysaccharide (NSP) as measured by Englyst method (AOAC fibre is estimated as NSP multiplied by 1.33).

Key Findings for 2001-2003 to 2016-2018: Additional Foods and Drinks Indicative of Diet Quality

- **Total bread** consumption significantly decreased, however brown/wholemeal bread, high fibre and total breakfast cereal consumption remained fairly constant.
- Consumption of **discretionary foods**[1] such as cakes, sweet biscuits, and confectionery remained fairly constant.
- **Sugar and preserves** consumption significantly decreased from 19g/day to 13g/day.
- **Sugar containing soft drinks** consumption significantly decreased from 245g/day to 138g/day, and consumption of **sugar free soft drinks** significantly increased.
- **Bacon and ham** consumption significantly decreased (from 12g/day to 10g/day), as did **other processed red meat products** (from 29g/day to 26g/day) including **savoury pies** (from 10.0g/day to 8.8g/day).
- **Total spread** consumption significantly decreased (from 16g/day to 13g/day); however, this was due to a reduction in low fat spread consumption as margarine consumption increased and butter consumption remained fairly constant.
- **Cooking oil** consumption significantly decreased from 5.4g/day to 3.3g/day.
- **Total milk** consumption significantly decreased from 248g/day to 196g/day.
- **White fish** consumption significantly decreased from 92g/week to 68g/week.
- **Fresh potato** consumption significantly decreased from 60g/day to 38g/day.
- **Processed potato and savoury snack** consumption did not change.
- **Nut** consumption significantly increased from 2.0g/day to 3.9g/day.

[1]Discretionary foods are foods and drinks that are not required for a healthy diet, including confectionery, cakes, biscuits, pastries, savoury snacks, and sugar containing soft drinks. They should be only eaten occasionally and in small amounts.

Key Findings: Contribution of Foods to Intakes of Energy, Fat, Saturated Fat, and Free Sugars

- **Discretionary foods** that are high in sugar and fat, namely **sweet biscuits**; **confectionery**; **crisps and savoury snacks**; **cakes, pastries and puddings**; and **sugar containing soft drinks** are significant contributors to energy in the diet. Sweet biscuits and confectionery, in particular, are two of the top five contributors to energy, fat, saturated fat, and free sugars.
- These five food groupings contribute almost 20% of energy, fat, and saturated fat intakes, and more than 50% of free sugars intake.
- In relation to food groupings that contribute more than 5% to energy, fat, saturated fat, and free sugars intake - significant reductions were found between 2001-2003 and 2016-2018 in the percentage contribution of:
    a. **processed red meat**, **bread and rolls**, and **milk** to energy intake.
    b. **processed red meat**, **spreading fats**, and **milk** to fat intake, with **processed red meat** and **milk** also producing significant reductions in the percentage contribution of saturated fat intake.
    c. **sugar containing soft drinks, sugar, fruit and vegetables, and alcoholic drinks** to free sugars intake.
- Between 2001-2003 and 2016-2018, **sweet biscuits** and **confectionery** contributed less to saturated fat intake and more to free sugars intake, both in terms of absolute weight and percentage contribution.

Mean contribution of selected discretionary foods and drinks to energy, fat, saturated fat, and free sugars intake in 2016-2018. Values are intake (percentage) per person per day.

	Weight	Energy	Fat	Saturated Fat	Free sugars
	g	kcal (%)	g (%)	g (%)	g (%)
Sweet Biscuits	20.4	98.1 (5.2)	4.8 (5.9)	2.4 (7.8)	5.6 (8.2)
Total Confectionery	22.4	98.2 (5.2)	4.1 (5.1)	2.2 (7.2)	13.3 (19.7)
Crisps and Savoury Snacks	12.8	64.0 (3.4)	3.6 (4.4)	0.5 (1.5)	0.02 (0.02)
Cakes, Pastries and Puddings	16.2	58.6 (3.1)	2.7 (3.4)	1.1 (3.7)	4.3 (6.4)
Sugar Containing Soft Drinks	138	51.3 (2.7)	Nil	Nil	13.2 (19.5)
Total		*370 (19.6)*	*15.2 (18.8)*	*6.3 (20.2)*	*36.4 (53.8)*

Conclusion

A robust standardised methodology, used to calculate food consumption and nutrient intakes on a population basis over an 18-year period, has allowed comparisons to be made over time, enabling a clear assessment of any dietary change. As with previous monitoring of the Scottish diet, little change has been found for most of the foods/nutrients monitored since 2001 however, the goal for red and processed meat consumption has been met since 2001 and there has been a significant decreasing trend in free sugars intake which is making some progress towards the goal. This suggests that policies implemented to reduce free sugar intake are taking effect, but mean intake is still more than double the goal, and there is still a long way to go until the goal is reached based on current rates of decline. It is of concern that fibre intake has consistently decreased since 2010 showing movement away from the goal rather than progress towards it. In addition, fruit and vegetable intake has not increased despite numerous policies and campaigns. This is something that needs consideration in future strategies to improve dietary intake. This work continues to be an important part of Food Standards Scotland's dietary surveillance programme.

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List of Abbreviations Used

AOAC	Association of Analytical Chemists
Defra	Department of the Environment, Food and Rural Affairs
EFS	Expenditure and Food Survey
FSA	Food Standards Agency
FSS	Food Standards Scotland
g	gram
HH	Household
kcal	kilocalorie
LCFS	Living Costs and Food Survey
MJ	Megajoule = 1000 kilojoules
n	number
NDNS	National Diet and Nutrition Survey
NFS	National Food Survey
NMES	Non-Milk Extrinsic Sugar
NSP	Non-Starch Polysaccharides
ONS	Office for National Statistics
P	People
PP	Per Person
PW	People Weighted
SACN	Scientific Advisory Committee on Nutrition
SDG	Scottish Dietary Goal
SDT	Scottish Dietary Target
SHeS	Scottish Health Survey
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
WRAP	Waste and Resource Action Programme
95% CI	95% Confidence Interval
>	greater than
<	less than
%	percent / percentage

Explanatory notes on some terms used in the report

Confidence Interval (CI) and 95% Confidence Interval (95% CI) of the Mean	A range of values that, it is estimated includes a population statistic at a specific level of confidence. The 95% confidence interval (95% CI) of the mean refers to the range of values 2 standard errors above and 2 standard errors below the mean. There is only a 5% chance that this range excludes the true mean of the population. The 95% confidence interval (CI) calculates the region around the mean where the true figure is likely to be. The narrower the confidence interval about the observed mean the more reliable it is.
Discretionary Foods	Foods and drinks that are not required for a healthy diet, including confectionery, cakes, biscuits, pastries, savoury snacks, and sugar containing soft drinks. They should be only eaten occasionally and in small amounts.
Fibre	Fibre is taken to mean AOAC fibre for the purposes of this report. AOAC Fibre: Dietary fibre measured by methods of the Association of Analytical Chemists, which are widely used by the food industry. AOAC methods of measuring fibre include a larger range of non-digestible material than the Englyst method (non-starch polysaccharide); and it is suggested this larger range should be included in the definition of dietary fibre. NSP Fibre: Dietary fibre measured by Englyst method. Non-starch polysaccharide (cellulose, soluble and insoluble non-cellulose polysaccharides (NCP)); unavailable carbohydrate also includes resistant starch, some other starch and lignin.
Food Energy	The energy obtained from food and drink (excluding alcohol).
Mean	The mean intake is calculated by summing all intakes and dividing by the total number of people in the sample. Therefore, it is moderated by the high and/or low consumers. When there are non-consumers in the sample (i.e. those with an intake = 0) the population average must take these into account. The 95% CI calculates the region around the mean where the true figure is likely to be. The narrower the 95% CI of the observed mean the more reliable it is.
Median	The median is the middle value of a set of figures, i.e. for an odd number of cases the median is the middle score. For an even number of cases the median is the average of the two middle scores. For normally distributed data the mean equals the median. The interquartile range represents 25% of values either side of the median. Data on food consumption and nutrient intake in a population is not usually normally distributed, some intakes will be very high or very low e.g. vitamin C or oil rich fish. For this reason, it is more meaningful to give median food consumption and nutrient intake and to show interquartile ranges. This allows the proportion of low (e.g. for fruit and vegetables) or high consumers (e.g. for free sugars) to be placed relative to the goal. Due to the nature of the LCFS data it is not possible to produce reliable medians.
P-value	The probability that a particular statistical measure, such as the mean or standard deviation, of an assumed probability distribution will be greater than or equal to (or less than or equal to in some instances) observed results.
Percentage Food Energy (% Food Energy)	The percentage of food energy (the energy obtained from food and drink (excluding alcohol)) intake derived from a macronutrient i.e. fat, carbohydrate or protein.
Percentage Total Energy (% Total Energy)	The percentage of total energy (the energy obtained from food and drink (including alcohol)) intake derived from a macronutrient i.e. fat, carbohydrate or protein.
Quintile	The portion of a frequency distribution containing one fifth of the total sample. For example, the first quintile is the point with 1/5 of the data below it and 4/5 above it.
Significant	The term significant refers to statistical significance (at the 95% level).

	It is not intended to imply substantive importance.
Sodium	Sodium chloride is the chemical name for salt. 100 millimoles of sodium is equivalent to the Scottish Dietary Goal of 6g of salt based on SACN advice.
Sugars	Free sugars: All added sugars in any form; all sugars naturally present in fruit and vegetable juices, purées and pastes and similar products in which the structure has been broken down; all sugars in drinks (except for dairy-based drinks); and lactose and galactose added as ingredients. The sugars naturally present in milk and dairy products, fresh and most types of processed fruit and vegetables and in cereal grains, nuts and seeds are excluded from the definition. The only difference between Non-Milk Extrinsic Sugars (NMES) and free sugars is that NMES includes 50% of the fruit sugars from stewed, dried or canned fruit, but free sugars include none. Non-Milk Extrinsic Sugars (NMES): Sugars, excluding those in milk and milk products that are not incorporated into the cellular structure of foods, such as fruit and vegetables e.g. sugar released from fruit when it is blended or juiced, table sugar, honey and added sugar in cakes, biscuits, sweets, breakfast cereals and soft drinks. NMES includes 50% of the fruit sugars from stewed, dried or canned fruit.
Total Energy	The energy obtained from food and drink (including alcohol).
UK Data Archive	The UK Data Archive is a centre of expertise in data acquisition, preservation, dissemination, and promotion and is curator of the largest collection of digital data in the social sciences and humanities in the UK.
Years	For the purposes of this report, for ease of understanding, dates have been presented in the text as single years: 2001 = 2001/2002, which refers to April 2001 to March 2002 2002 = 2002/2003, which refers to April 2002 to March 2003 2003 = 2003/2004, which refers to April 2003 to March 2004 2004 = 2004/2005, which refers to April 2004 to March 2005 2005 = 2005/2006, which refers to April 2005 to March 2006 In 2006 the EFS moved from a financial year to a calendar year basis. As a consequence of this the January to March 2006 data are duplicated in the 2005/2006 and the 2006 results. Removing the duplicated quarter from one of the years (2005/2006 or 2006) would have led to a smaller sample for the year in question which may have not been representative and may have been skewed due to seasonal purchases. In 2015, the LCFS moved back from a calendar year to a financial year, however data was still collected for the first quarter of 2015, so 2015 was analysed as a calendar year. 2006 to 2015 = refers to Jan to Dec of the year in question In order to aid analysis, subsequent years have been analysed as a financial year with no data from the first quarter of 2016 included in the analysis. Similarly to before, for the purposes of this report, for ease of understanding, dates have been presented in the text as single years: 2016 = 2016/2017, which refers to April 2016 to March 2017 2017 = 2017/2018, which refers to April 2017 to March 2018 2018 = 2018/2019, which refers to April 2018 to March 2019
Periods	2001-2003 or 1st period = 2001/2002 - 2003/2004, which refers to April 2001 to March 2004 2004-2006 or 2nd period = 2004/2005 - 2006, which refers to refers to April 2004 to December 2006 2007-2009 or 3rd period refers to January 2007 to December 2009 2010-2012 or 4th period refers to January 2010 to December 2012 2013-2015 or 5th period refers to January 2013 to December 2015 2016-2018 or 6th period refers to April 2016 to March 2019

1. Background

1.1 The Scottish Dietary Goals

In 1996, Scottish Dietary Targets (SDTs) were set as part of the Scottish Diet Action Plan (Scottish Office, 1996) in response to a report published by the Scottish Office in 1993 which highlighted the need for "radical change in Scotland…to achieve the health targets for 2000" (Scottish Office, 1993). These targets were based on the UK Dietary Reference Values (Department of Health, 1991) for selected nutrients (total fat, saturated fat, salt, sugar as non-milk extrinsic sugars (NMES), and total complex carbohydrates), and also included key foods (fruit and vegetables, bread, breakfast cereals, white fish, and oil rich fish). The baseline figures used in the setting of these targets were derived mainly from the National Food Surveys of 1989-1991 and were an indication of food consumption and nutrient intake at that time. The SDTs were originally intended for achievement in 2005, but the timescale was extended to 2010 (Scottish Executive, 2003, Scottish Executive, 2004).

In 2013, *Revised Dietary Goals for Scotland* were published, updating the previous SDTs to "indicate the direction of travel, and assist policy development to reduce the burden of obesity and diet-related disease in Scotland" and to help to "facilitate improvements in the Scottish diet" (Scottish Government, 2013). These goals encompassed recommendations for intakes of both foods and nutrients, similar to those in the original SDTs regarding fruit and vegetables, oily fish, total fat, saturated fat, NMES, and salt. However, targets for consumption of bread, breakfast cereal and white fish were removed, and goals were added for red and processed meat, energy, energy density, trans fatty acids, and fibre as non-starch polysaccharides (NSP).

Following the publication of the Scientific Advisory Committee on Nutrition (SACN) *Carbohydrates and Health* report in 2015 (Scientific Advisory Committee on Nutrition (SACN), 2015), the Scottish Government further revised the Scottish Dietary Goals in 2016 (Scottish Government, 2016). In these revised goals (Table 1), the definition for sugar was changed from that of NMES to free sugars, and the goal was reduced; the goal for fibre intake was increased and the method for calculating fibre was amended to that developed by Association of Analytical Chemists (AOAC); and total carbohydrate was included as a new goal.

The Public Health England definition of free sugars (Swan *et al.*, 2018) includes: all added sugars in any form; all sugars naturally present in fruit and vegetable juices, purées and pastes and similar products in which the structure has been broken down; all sugars in drinks (except for sugars naturally present in dairy-based drinks); and lactose and galactose added as ingredients. The sugars naturally present in milk and dairy products, fresh and most types of processed fruit and vegetables and in cereal grains, nuts and seeds are excluded from the definition. The only difference between NMES and free sugars is that NMES includes 50% of the fruit sugars from stewed, dried or canned fruit, but free sugars include none (Scientific Advisory Committee on Nutrition (SACN), 2015).

Until the SACN *Carbohydrates and Health* report (Scientific Advisory Committee on Nutrition (SACN), 2015) dietary reference values for fibre intake were based on non-starch polysaccharides (NSP) (measured by Englyst method) (Department of Health, 1991). In 2015, SACN recommended that the method used to calculate fibre content in foods, should be that measured by American Association of Analytical Chemists methods (AOAC) (Scientific Advisory Committee on Nutrition (SACN), 2015), which are widely used by the

food industry. The AOAC methods of measuring fibre include a larger range of non-digestible material than the Englyst method, and it is suggested this larger range should be included in the definition of dietary fibre.

Table 1: Revised Dietary Goals for Scotland (Scottish Government, 2016)

Calories	A reduction in calorie intake by 120 kcal/person/day* Average energy density of the diet to be lowered to 125 kcal/100g by reducing intake of high fat and/or sugary products and by replacing with starchy carbohydrates (e.g. bread, pasta, rice, and potatoes), fruits and vegetables
Fruit & Vegetables	Average intake of a variety of fruit and vegetables to reach at least 5 portions per person per day (>400g per day)
Oily Fish	Oil rich fish consumption to increase to one portion per person (140g) per week
Red Meat	Average intake of red and processed meat to be pegged at around 70g per person per day Average intake of the very highest consumers of red and processed meat (90g per person per day) not to increase*
Fats	Average intake of total fat to reduce to no more than 35% food energy Average intake in saturated fat to reduce to no more than 11% food energy Average intake of trans fatty acids to remain below 1% food energy*
Free Sugars	Average intake of free sugars[1], not to exceed 5% of total energy in adults and children over 2 years
Salt	Average intake of salt to reduce to 6g per day*
Fibre	An increase in average consumption of AOAC fibre[2] for adults (16+) to 30g/day. Dietary fibre intakes for children to increase in line with SACN recommendations[3]
Total Carbohydrate	Total carbohydrate to be maintained at an average population intake of approximately 50% of total dietary energy with no more than 5% total energy from free sugars

*Not monitored using data from the LCFS. [1]Free sugars are all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups, and unsweetened fruit juices. Lactose when naturally present in milk and milk products is excluded. [2]Dietary fibre as measured using AOAC methodology (the association of analytical chemists). [3]It is recommended that the average population intake of dietary fibre for children aged 2 to 5 years should approximate 15g/day, for children aged 5 to 11 years 20g/day, for children aged 11 to 16 yeas 25 g/day and for adolescent aged 16 to 18 years about 30g/day.

1.2 Monitoring Progress towards the Scottish Dietary Goals

Progress towards the goals is monitored using a combination of surveys (Scottish Government, 2016), with the secondary analysis of the Living Costs and Food Survey (LCFS, known as the Expenditure and Food Survey (EFS) before 2008) as the primary means of monitoring from 2001 to 2018, following the endorsement of the Working Group Report on Monitoring Scottish Dietary Targets who concluded that it was the most appropriate method for Scotland (Food Standards Agency in Scotland, 2004) at that time. Other surveys that collect data on dietary intake include the Scottish Health Survey (SHeS) (McLean and Wilson, 2020) and the UK National Diet and Nutrition Survey (NDNS) (Bates *et al.*, 2014b, Bates *et al.*, 2016, Roberts *et al.*, 2018, Bates *et al.*, 2020), however neither survey currently provides annual data suitable for monitoring the goals. Food Standards Scotland (FSS) commissioned a pilot of Intake24 in the 2018 SHeS (Rowland *et al.*, 2020) with the view to using this as part of their dietary surveillance programme moving forward to monitor progress towards the SDGs and other dietary change in Scotland. Intake24 is being included as part of the 2021 SHeS, with all participants aged 16 and over eligible to take part by completing 2 dietary recalls. FSS also monitor retail purchase and price promotions (Food Standards Scotland, 2020a) and the out of home environment (Quirk *et al.*, 2020) as part of their dietary surveillance programme.

Secondary analysis of the LCFS has monitored trends in population food consumption and nutrient intakes from 2001. Previous reports describe the monitoring of progress towards the SDTs and additional foods and

drinks indicative of diet quality (further foods from the Scottish Diet report (Scottish Office, 1993)) from 2001-2006 (Barton *et al.*, 2010), 2001 to 2009 (Barton and Wrieden, 2012) and energy density (Wrieden and Barton, 2011), 2001-2012 (Wrieden and Barton, 2015) and 2013-2015 (Barton *et al.*, 2018). This current report updates previous reports, with the inclusion of data from 2016, 2017, and 2018, monitoring progress towards the 2016 Scottish Dietary Goals. The major exceptions to this are energy, trans fatty acids, and salt. LCFS is not used to monitor energy intakes because, as with all dietary intake monitoring, it could be subject to under-reporting. Trans fatty acid intake has been monitored using NDNS, and salt intake is monitored using urinary sodium surveys. This report also includes an update of consumption data, for 2001 to 2018, of foods that contribute to energy, fat, saturated fat, free sugars, and fibre in a further report by Barton and Wrieden (2015) and Barton *et al*. (2018).

1.3 Monitoring Improvements in the Diets of the Population

The prevalence of overweight and obesity in adults aged 16 and over in Scotland rose from 62% in 1995 to 66% in 2019, although this high level has remained fairly constant since 2008 (McLean and Wilson, 2020). Scotland continues to have one of the highest prevalence rates of overweight and obesity in Europe (World Obesity Federation, 2018). Obesity increases the risk of non-communicable diseases such as type 2 diabetes, hypertension, cardiovascular disease, certain cancers, and osteoarthritis (World Health Organisation, 2003) which are the leading causes of death and disability in Scotland. In addition, individuals living with obesity are at increased risk of morbidity and mortality from COVID-19 (Popkin *et al.*, 2020).

In 2018, the Scottish Government published *A healthier future: Scotland's diet and healthy weight delivery plan* following a consultation with a wide range of stakeholders regarding proposed actions to improve diet and physical activity in Scotland (Scottish Government, 2018a). The delivery plan sets out how the Scottish Government will work with partners to assist the Scottish population to make healthier food choices and includes five key outcomes: 1. Children have the best start in life - they eat well and have a healthy weight; 2. The food environment supports healthier choices; 3. People have access to effective weight management services; 4. Leaders across all sectors promote healthy weight and diet; and 5. Diet-related health inequalities are reduced. It was partly informed by experience of implementing the Obesity Route Map (Scottish Government, 2010), with progress towards the route map actions monitored through a set of 16 indicators and associated desired outcomes. Secondary analysis of the LCFS was used to monitor the Obesity Route Map indicators of fat, saturated fat, and free sugars intake (Scottish Government, 2018b) and results from this report will allow the Diet and Healthy Weight Monitoring Report to be updated with data to 2018/19 (Scottish Government, 2020).

The importance of improving diet in order to achieve a healthy weight and to tackle obesity rates has been identified as a priority in the Scottish Government's *Healthy Weight Delivery Plan* (Scottish Government, 2018a). Likewise, FSS's *Situation Report: The Scottish Diet: It needs to change, 2020 update* (Food Standards Scotland, 2020b) highlighted the on-going challenge to improve the Scottish diet; including the need to reduce consumption of discretionary foods, tackle price promotions, and improve the out of home eating environment.

In addition, one of the outcomes of the FSS strategy for 2021-2026 *Healthy, Safe, Sustainable: Driving Scotland's Food Future* is that *Consumers Have Healthier Diets* (Food Standards Scotland, 2021). This

strategy outlines how FSS plans for the period of 2021-2026 to achieve these outcomes, through a series of six goals, in particular:

- Goal 3: A research and data science capability which enables us to detect risks, monitor public health trends and consumer behaviours, and translate evidence into action.
- Goal 5: A food environment which empowers consumers to make safe, healthy, and sustainable choice.
- Goal 6: Engage with all parts of society in Scotland; understanding the issues that matter to consumers and providing information that is tailored to their needs.

The results presented in this report will continue to support work by FSS and the Scottish Government to facilitate improvements to the diet in Scotland to promote health and wellbeing and reduce the levels of overweight and obesity and diet-related disease.

1.4 Purpose

The purpose of this work was to obtain robust estimates of food consumption and nutrient intakes for 2016, 2017, and 2018 in Scotland in order to monitor progress towards the 2016 Scottish Dietary Goals and any change in the consumption of additional foods and drinks indicative of diet quality. Results are presented for 2001 to 2018 for the population. In addition, the main contributors to intakes of energy, fat, saturated fat, free sugars, and fibre were explored in order to inform FSS and Scottish Government policy to support people in Scotland to have healthier diets.

2. Methodology

2.1 Monitoring Scottish Dietary Goals and additional foods and drinks indicative of diet quality

2.1.1 Overview

The methodology reported by Barton *et al.* (2010), Wrieden *et al*. (2014) and Barton *et al.* (2018) (summarised below) was used to calculate mean food consumption, nutrient intake, and energy density from LCFS data for 2016, 2017 and 2018 in order that comparisons could be made with results from previous years. LCFS data for each year, in its raw form, was obtained from UK Data Archive (University of Essex) and the Office for National Statistics (ONS). Population average intakes of foods, nutrients, and energy density relating to the 2016 Scottish Dietary Goals and additional foods and drinks indicative of diet quality, were estimated based on household purchases. Full details on the methodology can be found in Appendix 1, and the advantages and disadvantages of using data from the LCFS are provided in Appendix 2.

2.1.2 Coding Frames and Conversion Factors

The detailed coding frames (Appendix 3 and Appendix 4) used in this analysis were developed previously by Barton *et al.* (2010) and Wrieden and Barton (2011), for both household (includes take-away/delivery) and eating out food purchases. They list foods/drinks (and codes) which form part of each food based dietary goal or food group of interest (Appendix 3) or are included within the food and milk method of calculating energy density (Appendix 4) and provide details of conversion factors applied to the food weights. Conversion factors were applied to food purchases to estimate the actual amount of each food that was consumed. They were applied (to each food code) to estimate the proportion of fruit, vegetable, meat etc. in a composite food; the proportion of food in a food grouping (where it bridges more than one food grouping); to convert a raw to cooked weight (where appropriate); and to account for the proportion of inedible waste. Estimates of edible waste for the UK population published by WRAP (Waste and Resource Action Programme Survey (WRAP), 2008) have been mapped by Defra to each of the household food codes used in the LCFS (Appendix 5) and these were subtracted from the purchased weight. Any foods where no information was available (e.g. liquids which are usually disposed of down the sink), were allocated a waste factor of 10% as is applied by Defra in their Family Food publications when comparing estimated nutrient intake to dietary recommendations. Eating out food weights are estimated as 'as eaten' by Defra using published portion sizes, therefore no waste factor was applied to eating out foods. Inedible waste (i.e. bone) was taken into account when calculating the conversion factor for each food code (Appendix 3 and Appendix 4).

2.1.3 Data Handling

Appendix 6 provides a flowchart which illustrates the data handling process for data from each year (in MS Access, MS Excel, and SPSS), which were then merged in SPSS to obtain one working data file. Data on sampling strata and clusters were obtained from the UK ONS.

In brief, for estimating food consumption, in MS Access the raw LCFS data were linked to a table constructed from the coding frame which listed each food grouping, each food within these groupings and the appropriate conversion and waste factors to be applied to the calculations. Household and eating out purchases for two weeks, minus waste, for each food code were multiplied by the appropriate conversion factor and summed by food grouping. This was then divided by the number of individuals in the household and divided by 14 to

obtain the mean daily consumption per person, except for oil rich fish consumption, which is expressed as a weekly intake.

For estimating nutrient intake, in MS Access, household and eating out purchase data minus waste for each food code were multiplied by the appropriate nutrient content per gram (annual nutrient data provided by Defra) to provide the nutrient intake per food. The annual food composition data originates from the NDNS, with each of the Defra food codes having at least one NDNS composition code. Where more than one NDNS code was required to make up a food type from the EFS/LCFS, a weighted average nutrient composition was calculated based on market share estimates. The nutrient composition data were supplied to Defra by the Food Standards Agency (FSA) for 2001-2009 and by the Department of Health and Public Health England for 2010 onwards (Public Health England, 2018) which is updated annually to include new foods, and any changes in nutrient composition due to reformulation. Household, eating out, and combined nutrient intakes for foods were then summed for each household. These were then divided by the number of individuals in the household and divided by 14 to obtain the mean daily intake per person for each nutrient. Due to the food composition database not having information for free sugars and AOAC fibre, NMES have been provided as a proxy for free sugars and AOAC fibre has been estimated by multiplying NSP by 1.33 (Lunn and Buttriss, 2007). It is appreciated that NMES values are higher than those for free sugar, as NMES includes 50% of the fruit sugars from stewed, dried, or canned fruit, but free sugars include none. However, the contribution from this is small at approximately 1.8% NMES intake. Energy density for food and milk was calculated using the methodology developed by Wrieden *et al.* (2014) and quintiles of energy density were calculated in SPSS by year (to negate any difference in energy density quintile over time).

Food consumption and nutrient data were exported from MS Access to SPSS and merged with household variables as described in Appendix 1.

2.2 Contribution of foods to intakes of energy and selected nutrients

As per section 2.1.3, household purchase data over two weeks minus estimated edible waste (Appendix 5) for each food code was multiplied by the appropriate nutrient content per gram (provided by Defra) in MS Access to obtain the nutrient intake per food for each household (any inedible waste was taken into account in the nutrient composition of the food). These intakes were then divided by the number of individuals in the household and divided by 14 to obtain the mean daily nutrient intake per person for each food. The food groupings described by (Barton and Wrieden, 2015) were used in the current analysis with the exception of confectionery and sweet biscuits which were considered separately to enable more detailed analysis. Therefore, the current analysis was for 65 food groupings and 7 combined groups (Appendix 7 and Appendix 8). As this work considered foods *as consumed*, these food groupings are broad and are different to those used for monitoring SDGs and additional foods and drinks indicative of diet quality (described in 2.1) in that they do not consider the different components of composite dishes / items. For example, the 'total processed red meat' group includes the carbohydrate component for some items (e.g. pastry) and the 'fruit and vegetable' group does not include the vegetable component of composite dishes (e.g. Bolognese, pizza etc.). Mean daily intakes per person of each of the food groupings were calculated and the resultant data was exported to SPSS. In order to calculate mean population intakes it was also necessary to add information on zero intake for non-consumers of foods per household (as described by Barton *et al*., (2015)). The contribution that each food grouping made to energy, fat, saturated fat, free sugars, and fibre intake was then calculated.

2.3 Analysis of Data

Due to the multi-staged stratified sampling procedure of the LCFS, data were analysed using Descriptive Statistics and General Linear Models within the Complex Samples module of SPSS, version 27 (SPSS Inc., Chicago, IL, USA). Sampling of the EFS/LCFS is designed in such a way to ensure that the results are representative of the population of the UK (Office for National Statistics, 2020b) and each of the survey regions, of which Scotland is one. The data were weighted according to the sampling methodology of the original data collected by ONS (Office for National Statistics, 2020a) to reduce the effect of non-response bias and to ensure that data were representative of the Scottish population. The weights were produced in two stages: firstly the data were weighted to compensate for non-response (sample-based weighting) and secondly the sample distribution was weighted so that it matched the population distribution in terms of region, age group, and sex (population-based weighting) (Department for Environment Food & Rural Affairs (Defra), 2015). The weights were provided by Defra.

From 2016, the sample size for those households who completed food purchase diaries reduced. This was caused by changes in the data collection methodology of the LCFS by ONS and a reduction in the number of households who were requested to keep detailed diaries on food and drink purchases. Despite this, the Scottish sample was still representative and LCFS remains the study with the largest annual Scottish sample on total diet (based on food purchases) and provides a good indication of dietary habits of the Scottish population. It is acknowledged that 95% confidence intervals (95% CI) for the data presented from 2016 onwards will be greater than in previous years due to this reduction in sample size.

Linear associations between food consumption/ nutrient intake/ energy density and year or 3-year block were assessed by general linear modelling which was used to obtain estimates of the means with 95% CI and associated p-values. Overall associations between food consumption/ nutrient intake/ energy density, and year or 3-year block were assessed by adjusted Wald tests. The adjusted Wald test was used within regression analyses to test whether the value for all years or 3-year block were equal or whether there was at least one difference between year or 3-year block. P-values ≤0.01 are highlighted in bold to indicate significance at the 1% level, the stricter significance threshold was chosen to account for multiple testing.

3. Results

3.1 Monitoring Scottish Dietary Goals and additional foods and drinks indicative of diet quality

Results are presented as population per capita means (i.e. including consumers and non-consumers) for household and eating out foods combined, in g per day for foods and drinks with the exception of fish, which is expressed in g per week. Comparison is made against the 2016 Scottish Dietary Goals (where applicable). P-values ≤0.01 are highlighted in bold to indicate significance at the 1% level (the stricter significance threshold was chosen to account for multiple testing), although it should be noted that changes or differences that are statistically significant might not be large enough to be nutritionally meaningful.

From 2001-2006 data were collected by ONS on a financial year basis i.e. from April of one year to March of the next, however for ease of understanding dates are presented as single years e.g. 2001/2002 is presented as 2001 which refers to the period of April 2001 to March 2002. From 2006 to 2014 data were collected on a calendar year basis. As a consequence of this, data from January to March 2006 are duplicated in the 2005/2006 and 2006 results. In 2015, ONS moved back to collecting data on a financial year basis however data were still collected for the first quarter of 2015, so 2015 was analysed as a calendar year. In order to aid analysis, subsequent years have been analysed as a financial year with no data from the first quarter of 2016 included in the analysis. Similarly, for ease of understanding, dates have been presented in the text as single years - see *Explanatory notes on some terms used in the report* for further details on sampling years.

Mean food consumption and nutrient intakes relating to the Scottish Dietary Goals (**Table** 1) and additional foods, drinks, and nutrients indicative of diet quality are presented in 3-year blocks from 2001-2003 through to 2016-2018. Data on individual years from 2010 through to 2018 are presented in Appendix 9 with data for 2001 provided for comparison. For data from 2016, the 95% CI are wider than in previous years due to a reduction in sample size, however it is noted that this does not appear to have had a substantial effect on the results presented.

3.1.1 Food Consumption Relating to the 2016 Scottish Dietary Goals

3.1.1.1 Food Consumption Relating to the Scottish Dietary Goals

Fruit and Vegetables

Between 2001-2003 and 2016-2018 there was no significant difference in overall consumption of fruit and vegetables (including fruit and vegetable juices, beans, and pulses). Mean consumption of fruit and vegetables for 2016-2018 was 265g/day (Table 2). This equates to just over three portions per day and is considerably lower than the 2016 goal of at least 400g or five portions per day. Inclusion of fruit (and vegetable) juice increased fruit and vegetable consumption figures by the equivalent of around one fifth of a portion per day. There has been a significant reduction in the consumption of fruit juice since 2001-2003. Mean daily consumption of fruit juice has decreased from 43g in 2001-2003 to 34g in 2016-2018 (Table 2) (P-value for linear association = 0.002). As there has been little change in fruit consumption over the 18-year period, and there has been a significant decrease in fruit juice consumption, this suggests that whole fruit consumption has increased.

Mean fruit and vegetable consumption remains almost two portions below the '5 a day' population goal.

There was no significant increase in fruit and vegetable consumption over the 18-year period to 2018.

There was a significant decrease in fruit (and vegetable) juice consumption over the 18-year period to 2018.

Oil Rich Fish

The Scottish Dietary Goal for oil rich fish was not met by 2016-2018 and there was no significant change in consumption since 2001-2003. Mean consumption for 2001-2003 was 29g/week and for 2016-2018 33g/week (Table 2), which is considerably less than the goal of 140g/week.

There was no significant change in oil rich fish consumption between 2001-2003 and 2016-2018.

Red and Processed Meat

There has been a significant reduction in the consumption of red and processed meat since 2001-2003. Mean daily consumption of red and processed meat has decreased from 65g in 2001-2003 to 55g in 2016-2018 (Table 2) (P-value for linear association <0.001). This was partly accounted for by a fall in bacon and ham, and other processed red meat products (which includes the meat portion of sausages, meat pies, corned beef, burgers, and pate) from a combined total of 41g/day in 2001-2003 to 36g/day in 2016-2018 (Table 5). Due to the nature of the LCFS data it is not possible to assess the SDG for the highest consumers (≥90g per day) because the data is at a household and not an individual level.

There was a significant reduction in red and processed meat consumption between 2001-2003 and 2016-2018.

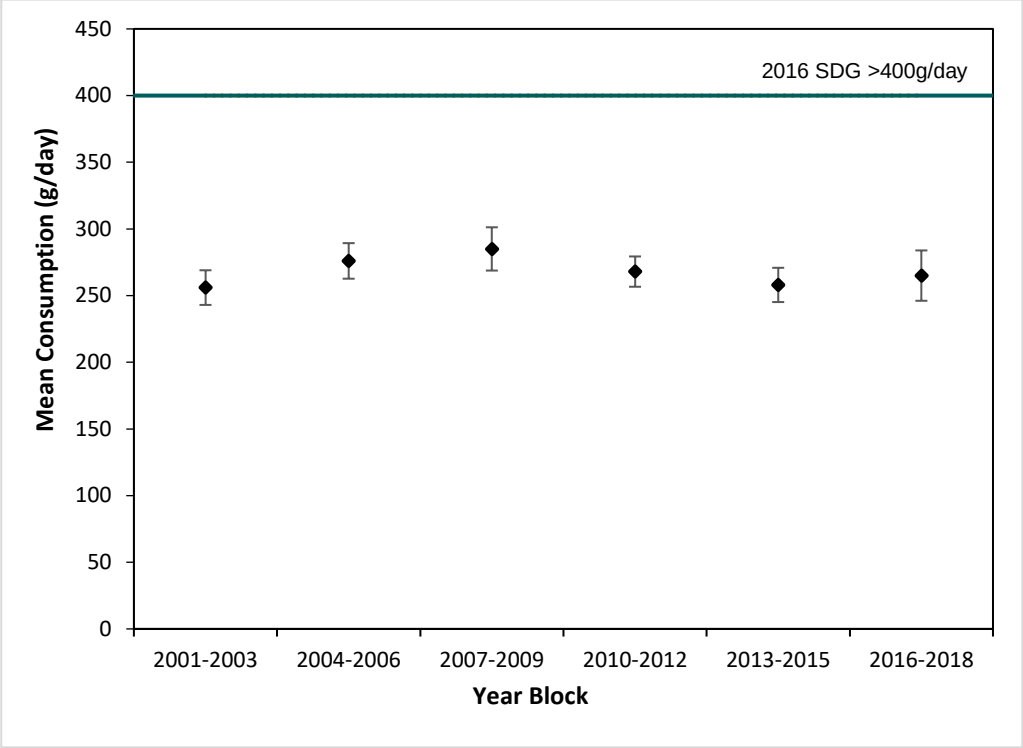
The population is meeting the Scottish Dietary Goal for red and processed meat consumption.

Table 2: Mean Consumption[1] of 2016 Scottish Dietary Goal Foods by 3-Year Block 2001-2003 to 2016-2018 - EFS / LCFS data (g/person/day with the exception of fish: g/person/week)

Food[2]	2016 Scottish Dietary Goal	2001-2003 Mean 95% CI	2004-2006[3] Mean 95% CI	2007-2009 Mean 95% CI	2010-2012 Mean 95% CI	2013-2015 Mean 95% CI	2016-2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Fruit and Vegetables[4,5]	>400g per day	256 243, 269	276 262, 289	285 268, 301	268 256, 279	258 245, 271	265 246, 284	*0.678*	*0.031*
Fruit[4]		133 123, 142	147 138, 156	154 143, 166	140 133, 148	129 121, 138	134 123, 145	*0.154*	***0.002***
Fruit (and vegetable) juice		43 38, 47	45 40, 50	47 42, 52	44 38, 50	37 32, 42	34 29, 39	***0.002***	*0.011*
Vegetables[5]		123 118, 128	129 123, 135	130 123, 137	128 121, 134	129 122, 135	131 120, 142	*0.294*	*0.550*
Oil Rich Fish	140g per week	29 25, 32	35 29, 41	29 26, 33	29 26, 33	29 25, 34	33 27, 39	*0.826*	*0.272*
Red and Processed Meat[6]	≤70g per day	65 63, 67	61 58, 64	61 58, 64	61 58, 64	56 53, 59	55 52, 59	***<0.001***	***<0.001***
n Households		*1750*	*1733*	*1537*	*1436*	*1266*	*536*		
n People		*4022*	*3979*	*3373*	*3181*	*2825*	*1131*		
n People Weighted[7]		*14934*	*14792*	*15364*	*15337*	*15679*	*15555*		

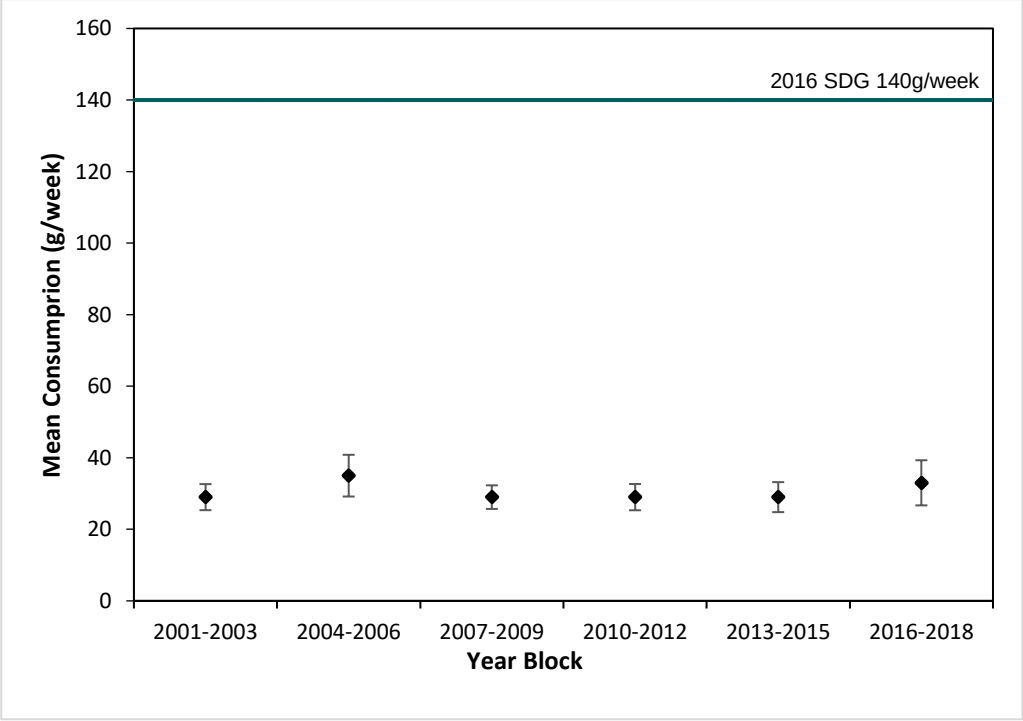
[1]Household and eating out consumption combined; [2]See appendices 1 & 3 for methodology; [3]From 2006 the EFS moved from a financial year to a calendar year basis. As a consequence of this the January to March 2006 data are duplicated in the 2004-2006 results; [4]Fruit includes fruit and vegetable juice; [5]Vegetables include beans and pulses; [6]Meat portion only (includes processed red meat products e.g. sausages, meat pies, burgers, and pate); [7]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population.

Figure 1: Mean [95% CI] Fruit and Vegetables Consumption by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (>400g per day)



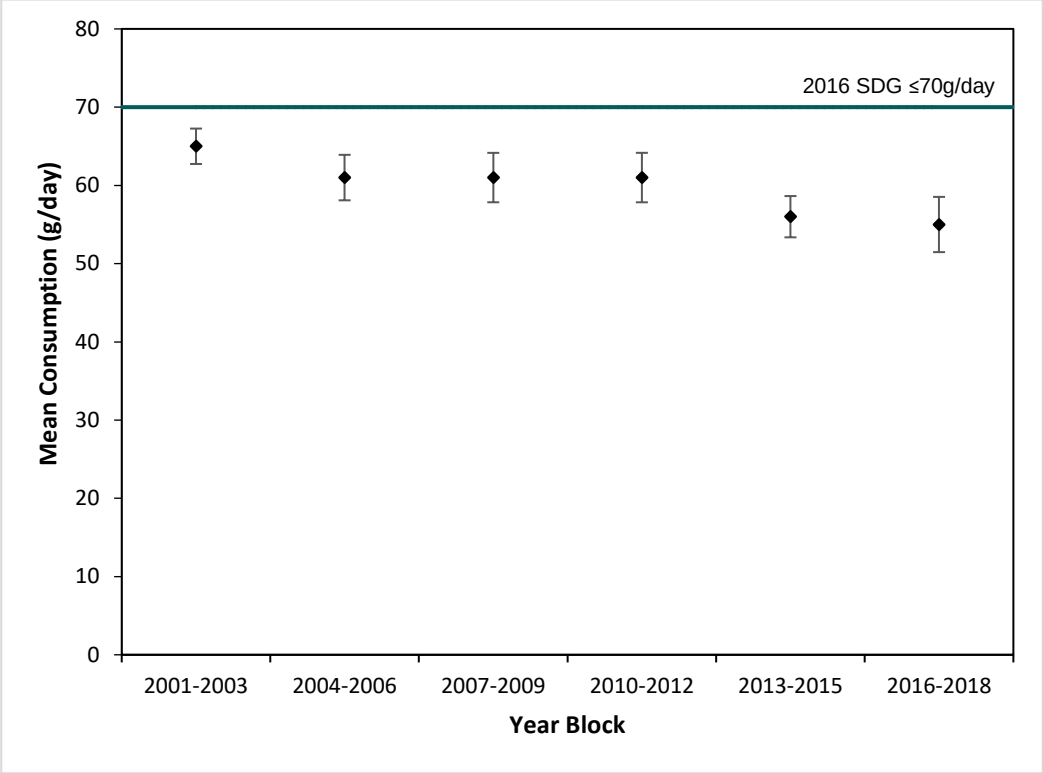
P (linear association) = 0.678; P (overall association) = 0.031

Figure 2: Mean [95% CI] Oil Rich Fish Consumption by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (140g per week)



P (linear association) = 0.826; P (overall association) = 0.272

Figure 3: Mean [95% CI] Red and Processed Meat* Consumption by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (≤70g per day)



*P (linear association) <0.001; P (overall association) <0.001; *Meat portion only*

3.1.2 Nutrient Intake Relating to the 2016 Scottish Dietary Goals

There was little change in intakes of most of the Scottish Dietary Goal nutrients between 2001 and 2018, except that there has been a statistically significant but small decrease in free sugars intake over the 18-year period. In contrast, there has been a significant increase in total fat intake and a significant decrease in fibre intake; both of which show movement away from goals rather than progress towards goals. None of the goals for nutrient intakes were met by 2018.

3.1.2.1 Nutrient Intake Relating to the Scottish Dietary Goals

Energy Density

Energy density, calculated from food and milk, was similar between 2001-2003 and 2016-2018 (Table 3). The mean energy density for 2016-2018 was 172 kcal/100g, which is considerably higher than the 2016 Scottish Dietary Goal of 125 kcal/100g.

Energy density has remained similar between 2001-2003 and 2016-2018.

Total Fat and Saturated Fat

There has been no evidence of progress towards the 2016 Scottish Dietary Goals for total fat or saturated fat (average intakes to reduce to no more than 35% and 11% of food energy respectively) with intakes considerably higher than the goals (Table 3). Mean intake of total fat increased significantly, from 38.8% of food energy for 2001-2003 to 39.7% for 2016-2018 (P-value for linear association = 0.003) and mean intake of saturated fat remained similar from 2001-2003 to 2016-2018 at 15.4% food energy for 2016-2018. (Table 3).

Total fat intake increased significantly between 2001-2003 and 2016-2018, but saturated fat intake (as a percentage of food energy) did not change.

Free Sugars

Due to the change in the terminology of sugar in the 2016 Scottish Dietary Goals, the term NMES, provided in previous reports, has been replaced by free sugars which has a slightly different definition. However, due to the food composition database not having information for free sugars, NMES have been provided as a proxy for free sugars as there is little difference between the two (NMES including 50% of the fruit sugars from stewed, dried, or canned fruit, but free sugars including none). In addition, in previous reports NMES was calculated as % food energy, but for this report all years have been recalculated as % total energy.

A significant reduction over time was found for the percentage of total energy from free sugars (Table 3). The mean percentage of total energy contributed by free sugars fell from 15.1% in 2001-2003 to 13.4% in 2016-2018. The overall decrease in the percentage of total energy from free sugars was highly statistically significant (P-value for linear association <0.001), however intake remains very high compared to the 2016 Scottish Dietary Goal of no more than 5% total energy.

Free sugars intake (as a percentage of total energy) has fallen significantly between 2001-2003 and 2016-2018, however mean intake exceeds the population goal by two and a half times (168%).

Fibre

Due to the change in the method for calculating fibre intake in the 2016 Scottish Dietary Goals, NSP provided in previous reports, has been replaced by AOAC fibre which for most foods has a higher value. However, due to the food composition database not having information for AOAC fibre, it has been estimated by multiplying NSP by 1.33 (Lunn and Buttriss, 2007).

There has been a significant decrease in the mean intake of fibre between 2001-2003 and 2016-2018 (P-value for linear association = 0.006) (Table 3). The mean amount of fibre consumed fell from 16.4g/day in 2001-2003 to 15.6g/day in 2016-2018 and remains considerably below the 2016 Scottish Dietary Goal of 30g/day.

There has been a significant decrease in fibre intake between 2001-2003 and 2016-2018.

Carbohydrate

Carbohydrate intake, as a percentage of total energy, was similar between 2001-2003 and 2016-2018 (Table 3). The mean percentage carbohydrate intake for 2016-2018 was 44.3%, which is below the 2016 Scottish Dietary Goal of 50% total energy.

Carbohydrate intake has remained similar between 2001-2003 and 2016-2018.

Energy

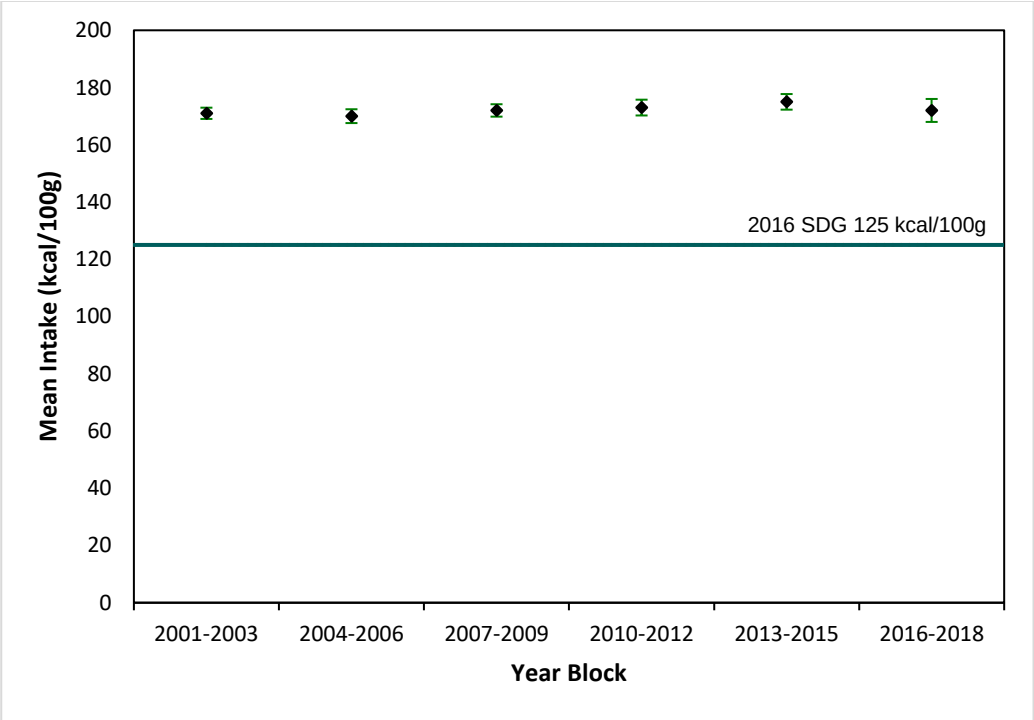
Energy intake is not monitored using data from the LCFS and is provided for comparison purposes only as it is used for calculating energy density and percent energy from fat, saturated fat, carbohydrate, and free sugars. A significant reduction over time was found for total and food energy intake (Table 3), with a mean intake in 2001-2003 of 2126 kcal/day total energy compared to 1893 kcal/day in 2016-2018 (P-value for linear association <0.001) and a mean intake in 2001-2003 of 2052 kcal/day food energy compared to 1829 kcal/day in 2016-2018 (P-value for linear association <0.001).

Table 3: Mean Intake[1] of 2016 Scottish Dietary Goal Nutrients by 3-Year Block 2001-2003 to 2016-2018 – EFS / LCFS data (units/person/day)

Nutrient[2]	2016 Scottish Dietary Goal	2001-2003 Mean 95% CI	2004-2006[3] Mean 95% CI	2007-2009 Mean 95% CI	2010-2012 Mean 95% CI	2013-2015 Mean 95% CI	2016-2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Total Energy kcal	120 kcal reduction	2126	2065	2107	2011	1952	1893	***<0.001***	***<0.001***
		2082, 2170	2019, 2111	2052, 2161	1955, 2067	1894, 2009	1823, 1962		
Total Energy MJ		8.9	8.6	8.8	8.4	8.2	7.9	***<0.001***	***<0.001***
		8.7, 9.1	8.4, 8.8	8.6, 9.0	8.2, 8.6	7.9, 8.4	7.6, 8.2		
Energy Density kcal/100g[4]	125kcal/100g	171	170	172	173	175	172	*0.088*	*0.078*
		169, 173	168, 173	170, 174	170, 176	173, 178	168, 176		
% Food Energy Fat	≤35%	38.8	38.7	38.9	39.1	39.3	39.7	***0.003***	*0.999*
		38.4, 39.2	38.3, 39.2	38.5, 39.3	38.6, 39.6	38.8, 39.8	39.1, 40.2		
% Food Energy Saturated Fat	≤11%	15.6	15.5	15.3	15.2	15.3	15.4	*0.080*	*0.034*
		15.4, 15.7	15.3, 15.7	15.1, 15.4	14.9, 15.5	15.0, 15.5	15.1, 15.6		
% Total Energy Free Sugars[5]	≤5%	15.1	14.7	14.4	14.0	13.8	13.4	***<0.001***	***<0.001***
		14.7, 15.5	14.2, 15.1	14, 14.7	13.6, 14.4	13.2, 14.4	12.8, 13.9		
Fibre[6]	30g/day	16.4	16.4	17.0	16.2	15.8	15.6	***0.006***	*0.024*
		16.0, 16.8	16.0, 16.9	16.4, 17.6	15.7, 16.8	15.3, 16.3	14.8, 16.3		
% Total Energy Carbohydrate	50%	45.2	45.2	45.1	44.9	44.8	44.3	*0.016*	*0.246*
		44.7, 45.6	44.8, 45.7	44.6, 45.6	44.4, 45.3	44.2, 45.4	43.7, 45.0		
Food Energy kcal		2052	1991	2038	1942	1889	1829	***<0.001***	***<0.001***
		2011, 2094	1947, 2035	1985, 2092	1885, 1998	1833, 1945	1762, 1896		
Food Energy MJ		8.6	8.4	8.6	8.1	7.9	7.7	***<0.001***	***<0.001***
		8.5, 8.8	8.2, 8.6	8.3, 8.8	7.9, 8.3	7.7, 8.2	7.4, 8.0		
n Households		*1750*	*1733*	*1537*	*1436*	*1266*	*536*		
n People		*4022*	*3979*	*3373*	*3181*	*2825*	*1131*		
n People Weighted[7]		*14934*	*14792*	*15364*	*15337*	*15679*	*15555*		

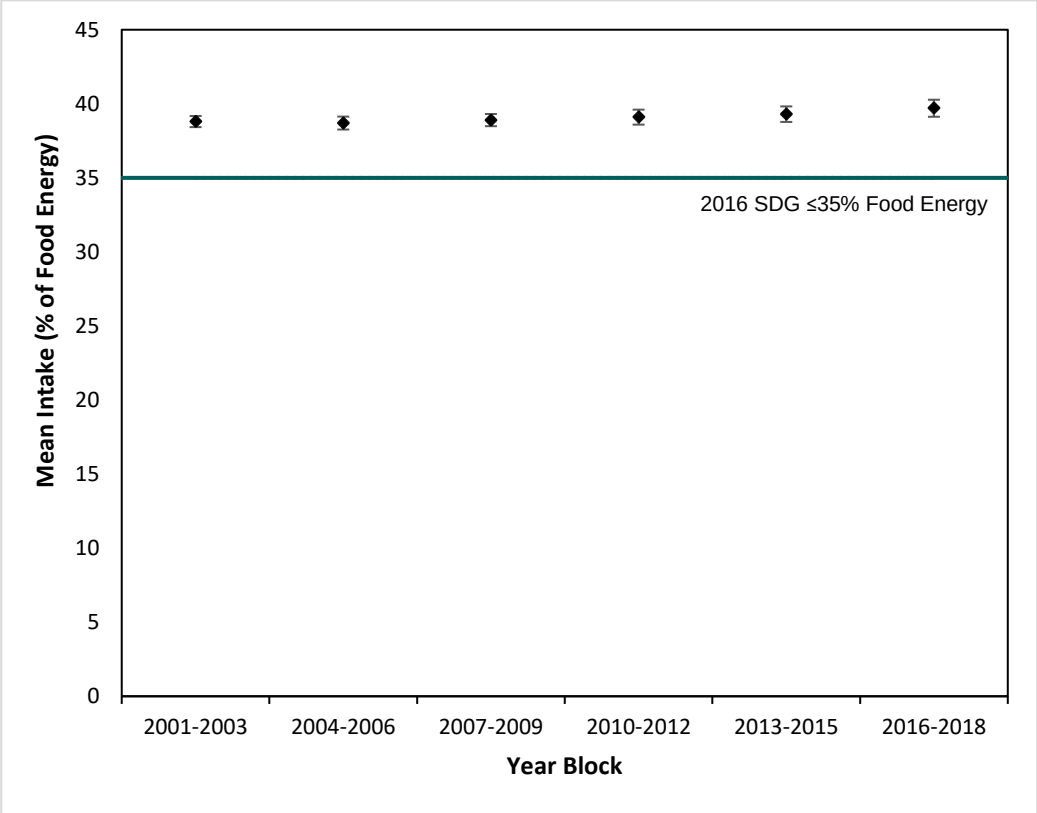
[1]Household and eating out intakes combined; [2]See appendices 1, 3 and 4 for methodology; [3]From 2006 the EFS moved from a financial year to a calendar year basis. As a consequence of this the January to March 2006 data are duplicated in the 2004-2006 results; [4]Calculated from food and milk; [5]Free sugars are sugars added to food or drink and those which are found naturally in honey, syrups, and fruit juices, NMES figures provided as a proxy for free sugars; [6]Fibre as measured by American Association of Analytical Chemists (AOAC) methods, calculated from non-starch polysaccharide (NSP) as measured by Englyst method (AOAC fibre is estimated as NSP multiplied by 1.33); [7]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population.

Figure 4: Mean [95% CI] Energy Density (food and milk) by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (125 kcal/100g)



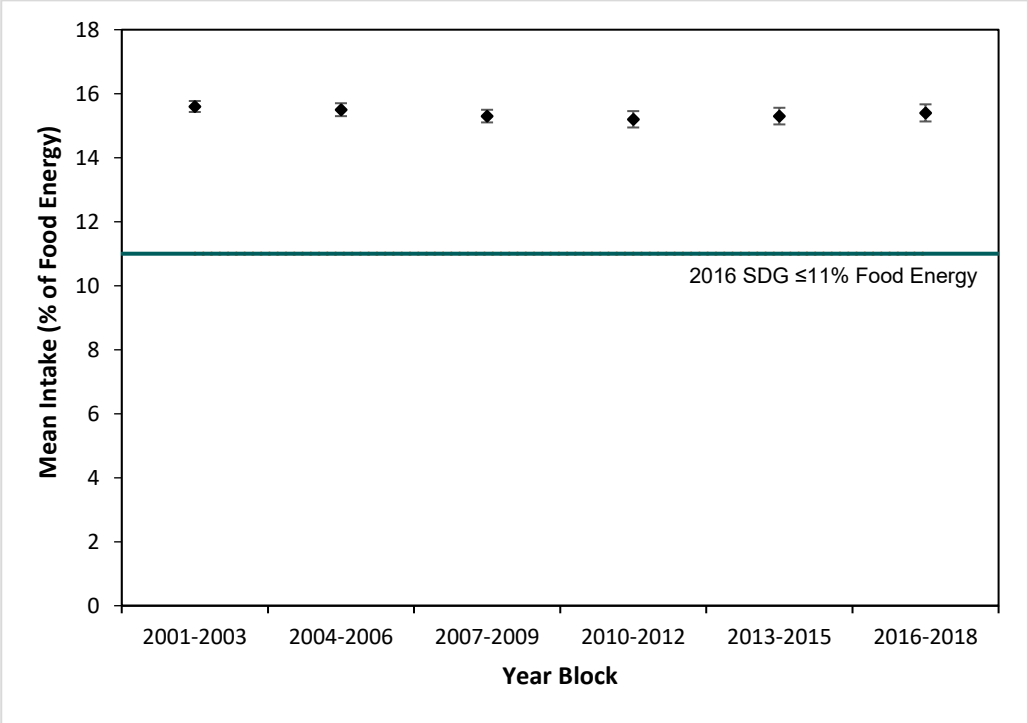
P (linear association) = 0.088; P (overall association) = 0.078

Figure 5: Mean [95% CI] Fat Intake by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (<35% food energy)



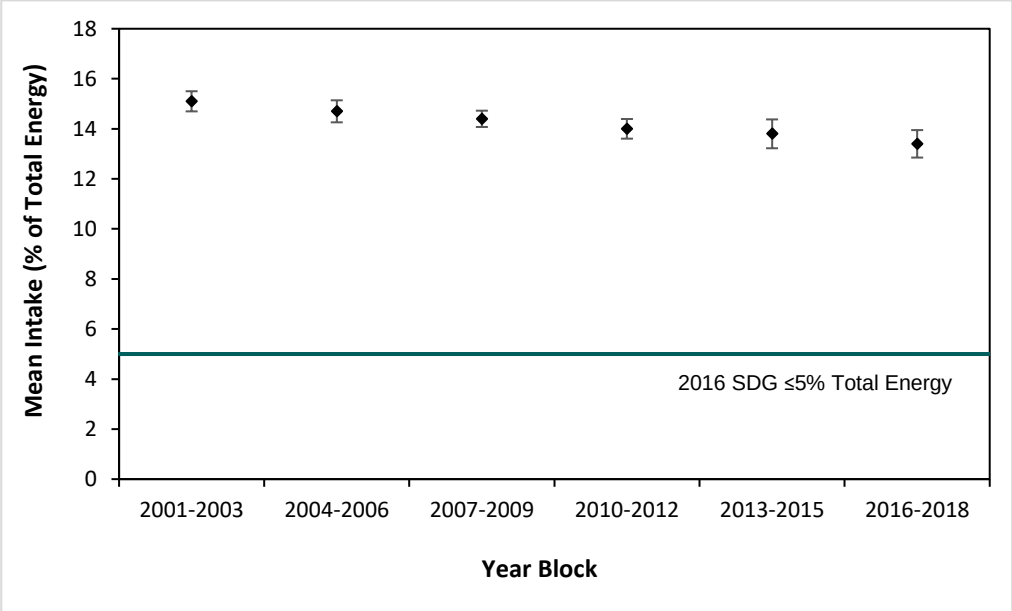
P (linear association) = 0.003; P (overall association) = 0.999

Figure 6: Mean [95% CI] Saturated Fat Intake by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (≤11% food energy)



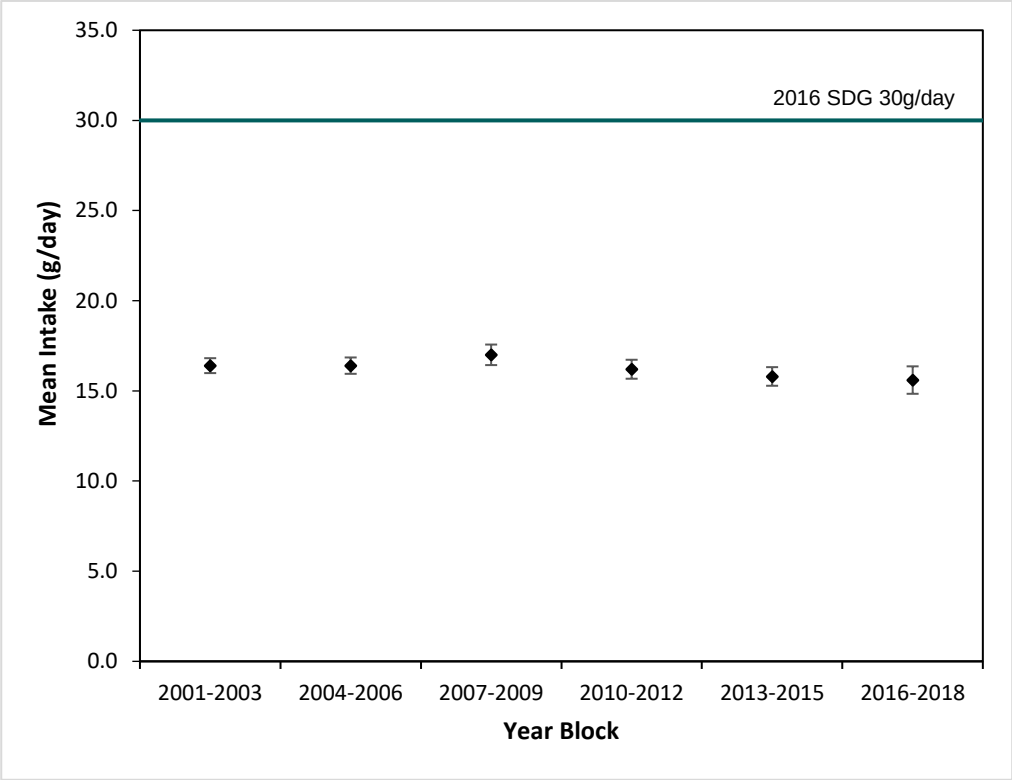
P (linear association) = 0.080; P (overall association) = 0.034

Figure 7: Mean [95% CI] Free Sugars* Intake by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (≤5% total energy)



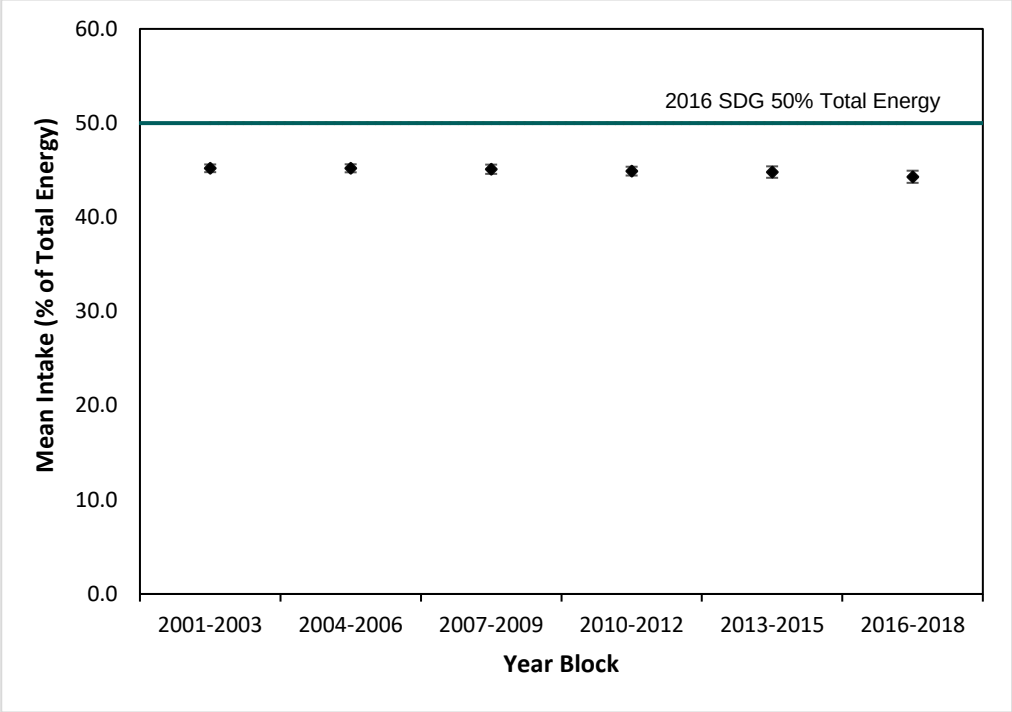
*P (linear association) <0.001; P (overall association) <0.001; *NMES figures provided as a proxy for free sugars*

Figure 8: Mean [95% CI] Fibre* Intake by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (30g/day)



*P (linear association) = 0.006; P (overall association) = 0.024; *AOAC fibre is estimated as NSP multiplied by 1.33*

Figure 9: Mean [95% CI] Carbohydrate Intake by 3-Year Block 2001-2003 to 2016-2018, compared to the 2016 Scottish Dietary Goal (50% total energy)



P (linear association) = 0.016; P (overall association) = 0.246

3.1.3 Consumption of Additional Foods and Drinks Indicative of Diet Quality

Bread

Mean total daily bread consumption decreased significantly over the period 2001-2003 to 2016-2018 (from 107g to 81g, or the equivalent of about two-thirds of a slice of bread (Food Standards Agency, 2002), P-value for linear association <0.001) (Table 4). This was accounted for by a steady decrease in white bread. However, consumption of brown/wholemeal bread has remained fairly constant with a mean consumption for 2016-2018 of 18g/day. By 2016-2018, 22.2% of bread consumed was brown/wholemeal compared to 16.8% for 2001-2003.

Breakfast Cereal

Mean high fibre and total breakfast cereal consumption remained fairly constant from 2001-2003 to 2016-2018. The mean consumption for 2016-2018 was 13g/day and 20g/day respectively (Table 4).

Cakes, Sweet Biscuits and Pastries; Sugar and Preserves; Confectionery and Ice Cream and Dairy Desserts

Mean consumption of cakes, sweet biscuits and pastries, confectionery, and ice cream and dairy desserts have remained similar between 2001-2003 and 2016-2018 with mean consumption for 2016-2018 of 36, 22 and 35g/day respectively (Table 4**)**. Mean consumption of sugar and preserves mirrored that of free sugars intake and has decreased significantly over the period 2001-2003 and 2016-2018 (from 19g to 13g, P-value for linear association <0.001) (Table 3, Table 4, and Figure 7).

Soft Drinks

The trends in consumption of sugar-containing soft drinks mirrored that of free sugars intake (Table 3, Table 4, Figure 7, and Figure 10). Overall, sugar-containing soft drink consumption decreased significantly from 245g/day for 2001-2003 to 138g/day for 2016-2018, the equivalent of one third of a 330ml can of sugar-

containing soft drink (P-value for linear association <0.001). Appendix 9, Figure 20 presents data on sugar containing soft drinks annually from 2001-2018, and highlights drops between 2010 and 2011, and year on year drops from 2016. In contrast, the mean consumption of sugar free soft drinks increased significantly from 104g/day for 2001-2003 to 158g/day for 2016-2018 (P-value for linear association <0.001).

Processed Red Meat Products

Mean consumption of bacon and ham, and other processed red meat products decreased significantly over the period 2001-2003 to 2016-2018 with bacon and ham consumption decreasing from 12g to 10g/day (P-value for linear association = 0.006), and other processed red meat products decreasing from 29 to 26g/day (P-value for linear association = 0.003) (this includes the meat content of savoury pies). Savoury meat pie consumption (based on total pie weight) decreased significantly from 10g/day for 2001-2003 to 8.8g/day for 2016-2018 (P-value for linear association = 0.001) (Table 5).

Dairy Products and Fat

There was no overall significant difference in mean butter consumption from 2001-2003 to 2016-2018, despite a significant increase in the period 2001-2003 to 2013-2015. The mean consumption for 2016-2018 was 4.7g/day. Mean soft margarine consumption increased significantly from 1.3g/day for 2001-2003 to 4.9 g/day for 2016-2018 (P-value for linear association <0.001). Over the same period, there was a significant reduction in mean low fat spread consumption from 8.9 to 4.0g/day (P-value for linear association <0.001) (Table 5), such that there was a significant reduction in total spread consumption (P-value for linear association 0.001). There was a significant reduction in the mean consumption of cooking oil from 5.4g/day for 2001-2003 to 3.3g/day for 2016-2018 (P-value for linear association = 0.006). There was no significant change to mean cheese or cream consumption over time. Mean total daily milk consumption decreased from 248g for 2001-2003 to 196g for 2016-2018 (P-value for linear association <0.001). This was caused mainly by a decrease in mean whole milk consumption from 89 to 47g/day (P-value for linear association <0.001) (Table 5).

White Fish

Mean white fish consumption has decreased significantly from 92g/week for 2001-2003 to 68g/week for 2016-2018 (P-value for linear association <0.001) (Table 5**)**.

Potatoes, Nuts and Savoury Snacks

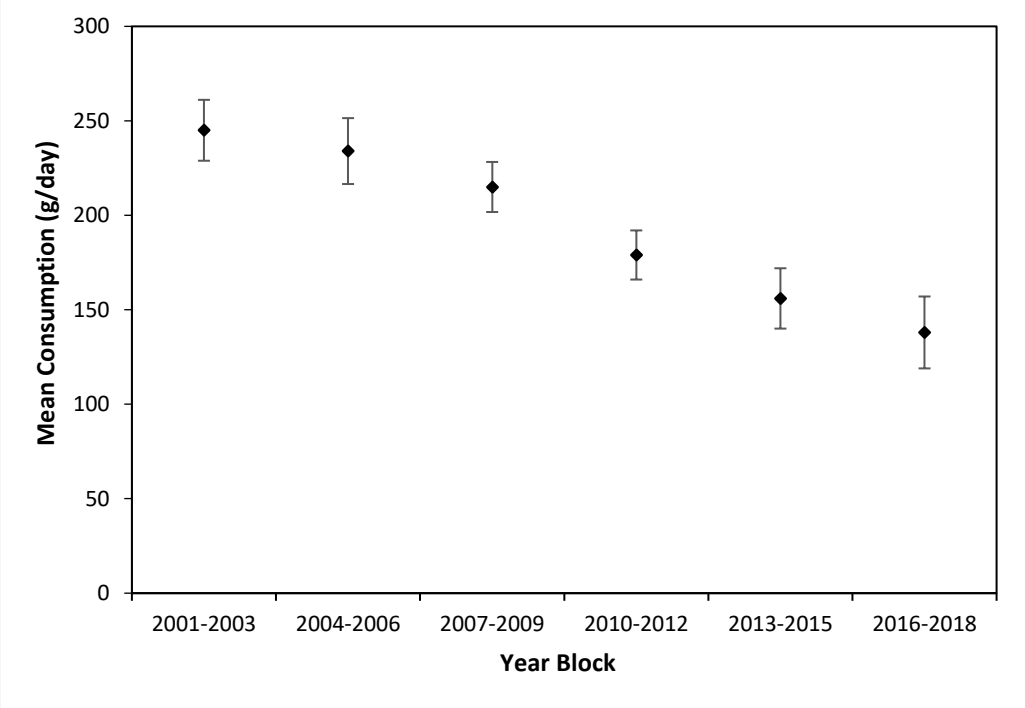
There was a significant decrease in fresh potato consumption between 2001-2003 and 2016-2018 (P-value for linear association <0.001), with a mean consumption for 2016-2018 of 38g/day compared with a mean consumption for 2001-2003 of 60g/day. Processed potato (e.g. chips) and savoury snack consumption (e.g. potato-based snacks) fluctuated slightly between 2001-2003 and 2016-2018, with no statistically significant linear association. Mean nut consumption significantly increased from 2.0g/day for 2001-2003 to 3.9g/day for 2016-2018 (P-value for linear association <0.001) (Table 5).

Table 4: Mean Consumption[1] of Additional Foods and Drinks Indicative of Diet Quality by 3-Year Block 2001-2003 to 2016-2018 - EFS / LCF data (g/person/day)

Food[2]	2001-2003 Mean 95% CI	2004-2006[3] Mean 95% CI	2007-2009 Mean 95% CI	2010-2012 Mean 95% CI	2013-2015 Mean 95% CI	2016-2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Brown/Wholemeal Bread	18	23	23	22	18	18	*0.045*	***<0.001***
	17, 19	21, 24	21, 24	20, 23	17, 20	16, 20		
Total Bread	107	101	95	91	83	81	***<0.001***	***<0.001***
	104, 111	97, 105	92, 98	88, 94	80, 86	75, 88		
High fibre Breakfast Cereal	10	11	13	12	12	13	*0.117*	*0.027*
	9.2, 11	10, 12	12, 15	11, 13	10, 13	10, 15		
Total Breakfast Cereal	19	20	22	21	20	20	*0.848*	*0.160*
	18, 21	18, 21	21, 24	20, 23	19, 22	17, 23		
Cakes and Pastries	17	17	17	16	16	16	*0.138*	*0.391*
	16, 19	16, 19	17, 18	15, 17	15, 18	14, 18		
Sweet Biscuits	22	21	24	21	22	20	*0.145*	*0.095*
	21, 23	20, 22	22, 25	19, 22	20, 23	18, 23		
Cakes, Sweet Biscuits and Pastries	40	39	41	37	38	36	*0.062*	*0.116*
	38, 42	37, 40	39, 43	35, 39	36, 40	33, 40		
Ice Cream and Dairy Desserts	33	33	33	31	33	35	*0.525*	*0.779*
	30, 35	30, 36	29, 36	28, 33	30, 36	29, 40		
Sugar and Preserves	19	17	18	17	16	13	***<0.001***	***0.001***
	17, 21	15, 19	16, 20	15, 19	14, 17	11, 15		
Chocolate Confectionery	15	14	15	14	14	15	*0.822*	*0.315*
	14, 16	13, 15	14, 17	13, 15	12, 15	14, 17		
Sugar Confectionery	7.8	6.8	6.8	7.0	7.7	7.3	*0.888*	*0.065*
	7.1, 8.4	6.1, 7.5	6.2, 7.4	6.3, 7.6	6.8, 8.6	6.2, 8.5		
Total Confectionery	23	21	22	21	21	22	*0.930*	*0.509*
	21, 24	19, 22	20, 24	19, 23	20, 23	20, 25		
Sugar-Containing Soft Drinks	245	234	215	179	156	138	***<0.001***	***<0.001***
	229, 261	216, 251	202, 228	166, 192	140, 172	119, 157		
Sugar Free Soft Drinks	104	94	88	118	133	158	***<0.001***	***<0.001***
	95, 113	83, 104	78, 98	105, 132	116, 149	129, 187		
Total Soft Drinks	349	328	303	298	288	296	***<0.001***	***<0.001***
	331, 367	305, 350	285, 322	279, 316	268, 309	265, 327		
n Households	*1750*	*1733*	*1537*	*1436*	*1266*	*536*		
n People	*4022*	*3979*	*3373*	*3181*	*2825*	*1131*		
n People Weighted[4]	*14934*	*14792*	*15364*	*15337*	*15679*	*15555*		

[1]Household and eating out consumption combined; [2]See appendices 1 & 3 for methodology; [3]From 2006 the EFS moved from a financial year to a calendar year basis. As a consequence of this the January to March 2006 data are duplicated in the 2004-2006 results; [4]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Figure 10: Mean [95% CI] Sugar Containing Soft Drinks Consumption by 3-Year Block 2001-2003 to 2016-2018



P (linear association) <0.001; P (overall association) < 0.001

Table 5: Mean Consumption[1] of Additional Foods and Drinks Indicative of Diet Quality by 3-Year Block 2001-2003 to 2016-2018 - EFS/ LCF data (g/person/day)

Food[2]	2001-2003 Mean 95% CI	2004-2006[3] Mean 95% CI	2007-2009 Mean 95% CI	2010-2012 Mean 95% CI	2013-2015 Mean 95% CI	2016-2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Bacon and Ham	12	12	12	13	11	10	***0.006***	*0.012*
	11, 13	11, 12	12, 13	12, 14	10, 12	9.2, 11		
Other Processed Red Meat Products[4,5]	29	27	27	27	26	26	***0.003***	***0.004***
	28, 31	25, 29	26, 28	25, 28	24, 27	24, 28		
Savoury Meat Pies	10.0	10.0	10.0	10.0	8.7	8.8	***0.001***	*0.028*
	9.6, 11.0	9.4, 11.0	8.9, 10.0	9.0, 10.0	7.9, 10.0	7.7, 9.8		
Butter	5.8	6.7	6.5	7.2	7.7	4.7	*0.500*	***<0.001***
	5.2, 6.4	5.9, 7.5	5.8, 7.1	6.4, 8.1	6.8, 8.5	3.8, 5.5		
Soft Margarine	1.3	1.6	2.1	2.1	1.7	4.9	***<0.001***	***<0.001***
	1.0, 1.5	1.3, 1.9	1.7, 2.4	1.7, 2.4	1.4, 2.1	3.9, 5.9		
Low Fat Spread	8.9	7.4	7.0	6.2	5.0	4.0	***<0.001***	***<0.001***
	8.2, 9.6	6.7, 8.0	6.3, 7.7	5.4, 7.0	4.5, 5.6	3.1, 4.9		
Total Spreading Fats	16	16	16	16	14	13	***0.001***	*0.016*
	15, 17	15, 17	15, 16	14, 17	13, 15	12, 15		
Cooking Oil	5.4	6.1	6.6	6.3	6.3	3.3	***0.006***	***<0.001***
	4.7, 6.0	4.9, 7.4	5.6, 7.6	5.3, 7.3	5.3, 7.2	2.4, 4.2		
Cream	2.4	3.0	3.1	3.3	3.6	3.0	*0.026*	***0.001***
	2.1, 2.8	2.6, 3.4	2.7, 3.5	2.9, 3.8	3.0, 4.1	2.4, 3.6		
Cheese	14	14	15	15	15	17	*0.020*	*0.051*
	13, 15	13, 15	14, 16	14, 15	13, 16	15, 18		
Whole Milk	89	66	57	45	38	47	***<0.001***	***<0.001***
	80, 98	57, 75	50, 65	39, 51	33, 43	37, 58		
Semi-skimmed Milk	125	129	138	135	132	114	*0.268*	*0.131*
	117, 133	120, 138	127, 149	125, 144	123, 140	99, 129		
Skimmed Milk	12	14	17	15	12	17	*0.404*	*0.112*
	9.5, 15	11, 17	14, 20	12, 18	8.7, 15	11, 23		
Total Milk	248	228	231	213	197	196	***<0.001***	***<0.001***
	238, 258	218, 238	220, 241	204, 223	188, 207	182, 209		
White Fish	92	88	93	81	75	68	***<0.001***	***<0.001***
	86, 97	81, 95	87, 99	73, 89	69, 81	60, 76		
Fresh Potatoes	60	57	53	46	40	38	***<0.001***	***<0.001***
	56, 64	53, 61	48, 57	43, 50	37, 43	34, 42		
Processed Potatoes	33	28	28	29	29	29	*0.213*	***0.008***
	31, 34	26, 30	26, 30	27, 31	27, 31	25, 32		
Nuts	2.0	3.0	3.6	2.9	4.0	3.9	***<0.001***	***<0.001***
	1.6, 2.3	2.5, 3.5	3.1, 4.2	2.4, 3.5	3.5, 4.5	3.0, 4.7		
Savoury Snacks	15	12	13	12	13	13	*0.104*	***<0.001***
	14, 15	11, 13	12, 14	12, 13	13, 14	12, 14		
n Households	*1750*	*1733*	*1537*	*1436*	*1266*	*536*		
n People	*4022*	*3979*	*3373*	*3181*	*2825*	*1131*		
n People Weighted[6]	*14934*	*14792*	*15364*	*15337*	*15679*	*15555*		

[1]Household and eating out consumption combined; [2]See appendices 1 & 3 for methodology; [3]From 2006 the EFS moved from a financial year to a calendar year basis. As a consequence of this the January to March 2006 data are duplicated in the 2004- 2006 results; [4]Meat portion only – see appendices 1 & 3 of Wrieden and Barton, (2015) for methodology; [5]Other processed red meat products includes the meat portion of sausages, meat pies, corned beef, burgers and pate and is a component of red and processed meat; [6]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

3.2 Contribution of Foods to Intakes of Energy, Fat, Saturated Fat, Free Sugars, and Fibre

3.2.1 Differences in Contributing Foods over Time

Results are presented for food groupings (foods / drinks within these food groupings are presented in Appendix 8), which contribute more than 1% of energy, fat, saturated fat, free sugars, and fibre. Results are provided for population data (i.e. includes consumers and non-consumers) for the contribution of each food grouping to the total nutrient intake for energy in kcal, and for fat, saturated fat, free sugars, and fibre in grams. The tables presenting results for 2001-2003 to 2016-2018 have been ordered in descending order for the highest overall contributor of energy, fat, saturated fat, free sugars, and fibre, for 2016-2018. The tables also provide results on percentage contribution to household and eating out consumption for the period 2016-2018. P-values were calculated for linear and overall association over time of the contributing amount in kcal or g rather than the % contribution, and p-values ≤0.01 are highlighted in bold to indicate significance at the 1% level (the stricter significance threshold was chosen to account for multiple testing). Household and Eating Out categories reported in previous reports are not directly comparable to those reported in the current report as previously takeaway foods were included as household purchases but were changed for 2016-2018 to eating out purchases. In previous reports takeaway foods were included as household purchases as this is the way they are reported by Defra in the Family Food reports reporting on LCFS food purchases however, as FSS define takeaway foods as eating out, they were re-classified for this report to enable comparison with other work. The 2001-2003 household and eating out figures presented for comparison purposes have been re-calculated for this report following the re-categorisation of takeaway foods from household purchases to eating out purchases.

Contribution to Energy Intake

As presented in Table 3**,** mean total energy intakes reduced significantly between 2001-2003 and 2016-2018 from 2126 kcal/day to 1893 kcal/day respectively (P<0.001). For 2016-2018, 86.5% of energy intake was from household food purchases and 13.5% was from eating out purchases. The proportion of energy obtained from household purchases has increased slightly from 82.5% for 2001-2003 while the proportion of energy obtained from eating out purchases has reduced slightly from 17.5% for 2001-2003.

Table 6 shows that the highest contributors to energy were total processed red meat (7.8%), bread and rolls (6.4%), total milk (5.6%), unclassified foods[1] (5.3%), total confectionary (5.2%) and sweet biscuits (5.2%). With the exception of unclassified foods[1] and sandwiches, household consumption provided the greatest proportion of total energy for each of the food groupings. The highest contributors to total energy from eating out foods and drinks were unclassified foods[1] (3.1%), processed potatoes (1.2%), total processed red meat (1.1%), sandwiches (1.0%), alcoholic drinks (1.0%), pizza (0.6%), sugar containing soft drinks (0.6%), and cakes, pastries and puddings (0.5%). On the whole, foods for which there was a significant decrease in the absolute amount over time from 2001-2003 to 2016-2018 also had a decreasing percentage contribution to energy over time. These foods were bread and rolls, total milk, spreading fats, crisps and savoury snacks, sugar containing soft drinks, unprocessed red meat, cooking oil, sugar, and sandwiches. Conversely the contribution from savoury sauces and dressings, ready meals, other baked goods, and pizza to energy increased over the 18-year period (Table 6).

[1]Includes unspecified foods, mainly eaten out such as ‘meal’, ‘school meal’ or ‘meal at work’, and unspecified meals on wheels - see Appendix 3 for details of all foods included in this food grouping

Contribution to Fat Intake

As presented in Table 3**,** mean total fat intakes increased significantly between 2001-2003 and 2016-2018 from 38.8% food energy to 39.7% food energy respectively (P=0.003). For 2016-2018, 86.2% of fat intake was from household food purchases and 13.8% was from eating out purchases. The proportion of fat obtained from household purchases has increased slightly from 81.9% for 2001-2003 while the proportion of fat obtained from eating out purchases has reduced slightly from 18.1% for 2001-2003.

Table 7 shows that the highest contributors to fat were total processed red meat (12.4%), total spreading fats (11.8%), unclassified foods[1] (6.0%), total cheese (6.0%), sweet biscuits (5.9%), total milk (5.7%), and total confectionary (5.1%). With the exception of unclassified foods[1], processed potatoes and sandwiches, household consumption provided the greatest proportion of fat for each of the food groupings. The highest contributors to fat from eating out foods and drinks were unclassified foods[1] (3.9%), total processed red meat (1.5%), processed potatoes (1.3%), sandwiches (1.2%), cakes, pastries and puddings (0.6%), and pizza (0.6%). On the whole, foods for which there was a significant decrease in the absolute amount over time from 2001-2003 to 2016-2018 also had a decreasing percentage contribution to energy over time. These foods were total processed red meat, spreading fats, total milk, crisps and savoury snacks, cooking oil, unprocessed red meat, eggs, sandwiches, and bread and rolls. In contrast, contribution from savoury sauces and dressings, ready meals, nuts, pizza, total breakfast cereal, and other baked goods increased over the 18-year period (Table 7).

Contribution to Saturated Fat Intake

As presented in Table 3**,** mean saturated fats intake remained similar between 2001-2003 and 2016-2018 at 15.6% food energy and 15.4% food energy respectively. For 2016-2018, 88.8% of saturated fat intake was from household food purchases and 11.2% was from eating out purchases. The proportion of saturated fat obtained from household purchases has increased slightly from 85.5% for 2001-2003 while the proportion of saturated fat obtained from eating out purchases has reduced slightly from 14.4% for 2001-2003.

Table 8 shows that the highest contributors to saturated fat were total spreading fats (13.1%), total processed red meat (12.3%), total cheese (9.8%), total milk (9.0%), sweet biscuits (7.8%), total confectionery (7.2%), and unclassified foods[1] (5.0%). With the exception of unclassified foods[1], sandwiches, and processed potatoes, household consumption provided the greatest proportion of saturated fat for each of the food groupings. The highest contributors to saturated fat from eating out foods and drinks were unclassified foods[1] (2.7%), total processed red meat (1.6%), sandwiches (0.9%), cakes, pastries and puddings (0.6%), pizza (0.6%), processed potatoes (0.6%), and total confectionary (0.5%). On the whole, foods for which there was a significant decrease in the absolute amount over time also had a decreasing percentage contribution to energy over time. These foods were total processed red meat, total milk, unprocessed red meat, crisps and savoury snacks, sandwiches, and processed potatoes. In contrast, contribution from pizza increased (Table 8).

Contribution to Free Sugars Intake

As presented in Table 3**,** mean free sugars intakes decreased significantly between 2001-2003 and 2016-2018 from 15.1% total energy to 13.5% total energy respectively (P<0.001). For 2016-2018, 90.2% of free sugars intake was from household food purchases and 9.8% was from eating out purchases. The proportion

[1] Includes unspecified foods, mainly eaten out such as ‘meal’, ‘school meal’ or ‘meal at work’, and unspecified meals on wheels - see Appendix 3 for details of all foods included in this food grouping

of free sugars obtained from household purchases has increased slightly from 86.2% for 2001-2003 while the proportion of free sugars obtained from eating out purchases has reduced slightly from 13.8% for 2001-2003. Table 9 shows that the highest contributors to free sugars were total confectionery (19.7%), sugar containing soft drinks (19.5%), sugar (10.4%), sweet biscuits (8.2%), cakes, pastries and puddings (6.4%), total fruit and vegetables (6.4%), ice cream and dairy desserts (5.6%), and jam, marmalade, honey and sweet spreads (5.2%). For all food groupings, except alcoholic drinks, household consumption provided the greatest proportion of free sugars. The highest contributors to free sugars from eating out foods and drinks were sugar-containing soft drinks (4.1%), alcoholic drinks (1.7%), total confectionery (1.1%), and cakes, pastries, and puddings (0.7%). Sugar containing soft drinks contributed an average of 22.5g (25.8% of total free sugars) in 2001-2003 but this decreased to 13.2g (19.5%) by 2016-2018. The percentage contribution from sugar, total fruit and vegetables, and alcoholic drinks, decreased between 2001-2003 and 2016-2018 and percentage contribution from ice cream and dairy desserts increased (Table 9).

Contribution to Fibre Intake

As presented in Table 3**,** mean fibre intakes decreased significantly between 2001-2003 and 2016-2018 from 16.4g/day to 15.6g/day respectively (P=0.006). For 2016-2018, 85.4% of fibre intake was from household food purchases and 14.6% was from eating out purchases. The proportion of fibre obtained from household purchases has increased slightly from 80.6% for 2001-2003 while the proportion of fibre obtained from eating out purchases has reduced slightly from 19.4% for 2001-2003.

Table 10 shows that the highest contributors to fibre were total fruit and vegetables (24.9%), bread and rolls (12.8%), total breakfast cereals (9.9%), unclassified foods[1] (8.4%), and processed potatoes (5.2%). With the exception of unclassified foods[1] and sandwiches, household consumption provided the greatest proportion of fibre for each of the food groupings. The highest contributors to fibre from eating out foods and drinks were unclassified foods[1] (5.0%), processed potatoes (2.4%), sandwiches (0.9%), fruit and vegetables (0.8%), pizza (0.8%), total processed red meat (0.6%), and soup (0.5%). A significant decrease in the contribution of bread and rolls, crisps and savoury snacks, and potatoes, to fibre was seen in absolute terms, which was reflected in a decreasing percentage contributed. However, a small significant increase in the contribution from pasta, rice and noodles, total processed meat, other baked goods (i.e. items such as non-standard breads such as garlic bread, teacakes etc.), total confectionery, ready meals, cakes pastries and puddings, savoury biscuits, and nuts was observed (Table 10).

[1] Includes unspecified foods, mainly eaten out such as ‘meal’, ‘school meal’ or ‘meal at work’, and unspecified meals on wheels - see Appendix 3 for details of all foods included in this food grouping

Table 6: Mean contribution of foods providing more than 1% of energy (2001-2018 data)

Food Grouping[1]	% Contribution to Total kcal			kcal (% Contribution to Total kcal)						*P-value for Linear Association*[2]	*P-value for Overall Association*[3]
	2016-2018			2001-2003	2004-2006	2007-2009	2010-2012	2013-2015	2016-2018		
	All	Household	Eating out	All	All	All	All	All	All		
Total Processed Red Meat[4]	7.8	6.7	1.1	163 (7.7)	152 (7.4)	152 (7.2)	151 (7.5)	146 (7.5)	147 (7.8)	***0.009***	*0.014*
Bread and Rolls	6.4	6.3	0.1	189 (8.9)	172 (8.3)	157 (7.5)	147 (7.3)	130 (6.7)	122 (6.4)	***<0.001***	***<0.001***
Total Milk	5.6	5.5	0.1	139 (6.5)	125 (6.0)	124 (5.9)	113 (5.6)	104 (5.3)	106 (5.6)	***<0.001***	***<0.001***
Unclassified Foods[5]	5.3	2.3	3.1	130 (6.1)	108 (5.2)	116 (5.5)	112 (5.6)	115 (5.9)	101 (5.3)	*0.053*	*0.131*
Total Confectionery	5.2	4.9	0.3	97.5 (4.6)	90.9 (4.4)	96.7 (4.6)	92.0 (4.6)	92.2 (4.7)	98.2 (5.2)	*0.931*	*0.559*
Sweet Biscuits	5.2	5.1	0.1	110 (5.2)	104 (5.0)	114 (5.4)	98.8 (4.9)	103 (5.3)	98.1 (5.2)	*0.040*	*0.039*
Total Fruit and Vegetables	4.8	4.6	0.2	93.7 (4.4)	102 (5.0)	106 (5.0)	98.1 (4.9)	91.9 (4.7)	90.5 (4.8)	*0.018*	***<0.001***
Spreading Fats	4.6	4.5	0.0	102 (4.8)	97.0 (4.7)	95.5 (4.5)	96.8 (4.8)	93.9 (4.8)	86.1 (4.6)	***0.006***	*0.126*
Alcoholic Drinks	3.8	2.8	1.0	82.3 (3.9)	83.3 (4.0)	76.5 (3.6)	79.6 (4.0)	71.1 (3.6)	72.5 (3.8)	*0.013*	*0.092*
Total Breakfast Cereal	3.8	3.8	0.0	69.8 (3.3)	70.5 (3.4)	82.4 (3.9)	77.9 (3.9)	73.8 (3.8)	71.9 (3.8)	*0.660*	*0.034*
Crisps and Savoury Snacks	3.4	3.2	0.2	75.1 (3.5)	63.4 (3.1)	67.5 (3.2)	61.9 (3.1)	67.1 (3.4)	64.0 (3.4)	***0.008***	***<0.001***
Total Cheese	3.1	3.1	0.0	51.6 (2.4)	51.6 (2.5)	56.1 (2.7)	52.8 (2.6)	51.4 (2.6)	58.8 (3.1)	*0.107*	*0.068*
Cakes, Pastries and Puddings	3.1	2.6	0.5	64.1 (3.0)	64.1 (3.1)	63.7 (3.0)	59.6 (3.0)	59.7 (3.1)	58.6 (3.1)	*0.083*	*0.242*
Pasta, Rice and Noodles	2.9	2.6	0.4	56.7 (2.7)	53.8 (2.6)	58.1 (2.8)	62.4 (3.1)	61.8 (3.2)	55.5 (2.9)	*0.481*	*0.765*
Sugar Containing Soft Drinks	2.7	2.1	0.6	87.3 (4.1)	81.5 (3.9)	75.5 (3.6)	65.4 (3.3)	57.0 (2.9)	51.3 (2.7)	***<0.001***	***<0.001***
Processed Potatoes	2.7	1.4	1.2	55.5 (2.6)	47.7 (2.3)	47.9 (2.3)	49.9 (2.5)	50.6 (2.6)	50.5 (2.7)	*0.437*	***0.004***
Unprocessed Red Meat	2.3	2.2	0.1	55.6 (2.6)	51.4 (2.5)	52.2 (2.5)	50.2 (2.5)	43.7 (2.2)	43.0 (2.3)	***<0.001***	***<0.001***
Poultry	2.1	1.8	0.3	37.0 (1.7)	38.3 (1.9)	37.4 (1.8)	39.1 (1.9)	36.6 (1.9)	39.9 (2.1)	*0.471*	*0.755*
Ice Cream and Dairy Desserts	2.0	1.9	0.1	34.8 (1.6)	34.5 (1.7)	34.5 (1.6)	34.3 (1.7)	36.8 (1.9)	37.9 (2.0)	*0.170*	*0.733*
Savoury Sauces and Dressings	2.0	1.9	0.1	29.8 (1.4)	33.2 (1.6)	39.4 (1.9)	37.6 (1.9)	35.9 (1.8)	37.7 (2.0)	***0.001***	***<0.001***
Ready Meals	2.0	2.0	0.0	28.0 (1.3)	31.2 (1.5)	32.1 (1.5)	33.1 (1.6)	32.9 (1.7)	37.4 (2.0)	***<0.001***	***0.001***
Other Baked Goods	1.9	1.7	0.2	24.6 (1.2)	28.4 (1.4)	32.7 (1.6)	31.2 (1.6)	33.0 (1.7)	36.1 (1.9)	***<0.001***	***<0.001***
Pizza	1.6	1.0	0.6	21.7 (1.0)	23.1 (1.1)	23.1 (1.1)	28.8 (1.4)	27.8 (1.4)	30.7 (1.6)	***<0.001***	***<0.001***
Potatoes	1.5	1.3	0.2	26.0 (1.2)	36.2 (1.8)	33.6 (1.6)	30.7 (1.5)	28.7 (1.5)	27.9 (1.5)	*0.078*	***<0.001***
Cooking Oil	1.4	1.4	0.0	44.2 (2.1)	50.5 (2.4)	54.2 (2.6)	52.0 (2.6)	51.6 (2.6)	27.4 (1.4)	***0.006***	***<0.001***
Sugar	1.4	1.4	0.0	51.3 (2.4)	41.9 (2.0)	42.4 (2.0)	43.3 (2.2)	35.7 (1.8)	26.3 (1.4)	***<0.001***	***<0.001***
Sandwiches	1.3	0.2	1.0	31.3 (1.5)	30.1 (1.5)	29.4 (1.4)	27.4 (1.4)	24.5 (1.3)	24.1 (1.3)	***<0.001***	***0.001***
Yoghurt and Fromage Frais	1.2	1.2	0.0	18.3 (0.9)	23.1 (1.1)	23.5 (1.1)	23.3 (1.2)	21.3 (1.1)	23.6 (1.2)	*0.027*	***<0.001***
Eggs	1.0	0.9	0.1	20.1 (0.9)	17.4 (0.8)	18.6 (0.9)	16.7 (0.8)	15.9 (0.8)	18.9 (1.0)	*0.091*	***<0.001***
Other Food Groupings[6]	7.9	6.0	1.9	136 (6.4)	158 (7.6)	164 (7.8)	145 (7.2)	158 (8.1)	149 (7.9)	-	-
Total % Contributions	100.0	86.5	13.5	-	-	-	-	-	-	-	-

[1]See Appendix 8 for details of foods in each food grouping; [2]P-values are for the linear association over time of the contributing amount in kcal; [3]P-values are for the overall association over time of the contributing amount in kcal; [4]May include starch component e.g. pastry / potato / bread; [5]Includes unspecified foods, mainly eating out such as 'meal', 'school meal' or 'meal at work', and unspecified meals on wheels - see Appendix 3 for details of all foods included in this food grouping; [6]Includes all food groupings not already listed - a full list of food groupings is provided in Appendix 7

Table 7: Mean contribution of foods providing more than 1% of fat (2001-2018 data)

Food Grouping[1]	% Contribution to Total Fat			Fat g (% Contribution to Total Fat)						*P-value for Linear Association*[2]	*P-value for Overall Association*[3]
	2016-2018			2001-2003	2004-2006	2007-2009	2010-2012	2013-2015	2016-2018		
	All	Household	Eating out	All	All	All	All	All	All		
Total Processed Red Meat[4]	12.4	10.9	1.5	11.3 (12.7)	10.5 (12.1)	10.5 (11.7)	10.4 (12.3)	10.1 (12.0)	10.1 (12.4)	***0.004***	***0.006***
Spreading Fats	11.8	11.7	0.1	11.1 (12.5)	10.6 (12.3)	10.5 (11.8)	10.7 (12.6)	10.4 (12.4)	9.5 (11.8)	***0.010***	*0.174*
Unclassified Foods[5]	6.0	2.1	3.9	6.7 (7.5)	5.5 (6.3)	5.9 (6.6)	5.6 (6.6)	5.8 (6.9)	4.8 (6.0)	*0.017*	*0.056*
Total Cheese	6.0	6.0	0.0	4.3 (4.8)	4.3 (4.9)	4.6 (5.2)	4.3 (5.1)	4.2 (5.1)	4.8 (6.0)	*0.136*	*0.060*
Sweet Biscuits	5.9	5.8	0.1	5.3 (6.0)	5.0 (5.7)	5.4 (6.0)	4.7 (5.6)	4.9 (5.9)	4.8 (5.9)	*0.055*	*0.046*
Total Milk	5.7	5.6	0.1	6.5 (7.3)	5.6 (6.5)	5.4 (6.0)	4.8 (5.7)	4.4 (5.2)	4.6 (5.7)	***<0.001***	***<0.001***
Total Confectionery	5.1	4.8	0.3	3.8 (4.3)	3.7 (4.2)	4.0 (4.5)	3.8 (4.5)	3.7 (4.5)	4.1 (5.1)	*0.284*	*0.405*
Crisps and Savoury Snacks	4.4	4.1	0.3	4.6 (5.1)	3.9 (4.5)	4.0 (4.5)	3.5 (4.1)	3.8 (4.5)	3.6 (4.4)	***<0.001***	***<0.001***
Cooking Oil	3.8	3.8	0.0	4.9 (5.5)	5.6 (6.5)	6.0 (6.8)	5.8 (6.8)	5.7 (6.8)	3.0 (3.8)	***0.006***	***<0.001***
Unprocessed Red Meat	3.4	3.3	0.1	3.7 (4.1)	3.3 (3.9)	3.5 (3.9)	3.3 (3.8)	2.8 (3.4)	2.8 (3.4)	***<0.001***	***<0.001***
Cakes, Pastries and Puddings	3.4	2.7	0.6	2.9 (3.2)	2.9 (3.3)	3.0 (3.3)	2.8 (3.3)	2.8 (3.3)	2.7 (3.4)	*0.287*	*0.593*
Savoury Sauces and Dressings	3.4	3.2	0.2	1.9 (2.2)	2.3 (2.6)	2.8 (3.1)	2.6 (3.1)	2.5 (3.0)	2.7 (3.4)	***<0.001***	***<0.001***
Poultry	2.7	2.4	0.3	2.0 (2.2)	2.1 (2.4)	2.0 (2.2)	2.1 (2.5)	2.0 (2.4)	2.2 (2.7)	*0.259*	*0.611*
Processed Potatoes	2.4	1.1	1.3	2.2 (2.5)	1.9 (2.2)	1.8 (2.1)	1.8 (2.2)	1.9 (2.3)	2.0 (2.4)	*0.107*	***<0.001***
Ready Meals	2.3	2.3	0.0	1.3 (1.5)	1.5 (1.8)	1.6 (1.8)	1.6 (1.9)	1.6 (2.0)	1.9 (2.3)	***<0.001***	***<0.001***
Ice Cream and Dairy Desserts	2.3	2.1	0.2	1.9 (2.1)	1.9 (2.2)	1.8 (2.0)	1.7 (2.0)	1.8 (2.1)	1.8 (2.3)	*0.338*	*0.218*
Nuts	1.7	1.7	0.0	0.7 (0.8)	1.2 (1.4)	1.4 (1.6)	1.2 (1.4)	1.6 (1.9)	1.4 (1.7)	***<0.001***	***<0.001***
Eggs	1.6	1.4	0.2	1.5 (1.7)	1.3 (1.5)	1.4 (1.6)	1.2 (1.4)	1.1 (1.3)	1.3 (1.6)	***0.002***	***<0.001***
Sandwiches	1.5	0.3	1.2	1.6 (1.8)	1.5 (1.8)	1.5 (1.7)	1.4 (1.6)	1.2 (1.5)	1.2 (1.5)	***<0.001***	***0.002***
Pizza	1.5	0.9	0.6	0.8 (0.9)	0.9 (1.0)	0.8 (1.0)	1.1 (1.3)	1.1 (1.3)	1.2 (1.5)	***<0.001***	***<0.001***
Bread and Rolls	1.4	1.3	0.1	1.7 (1.9)	1.6 (1.9)	1.5 (1.7)	1.4 (1.6)	1.2 (1.4)	1.1 (1.4)	***<0.001***	***<0.001***
Cream	1.4	1.3	0.0	0.9 (1.0)	1.1 (1.3)	1.1 (1.3)	1.2 (1.4)	1.3 (1.6)	1.1 (1.4)	*0.026*	***0.001***
Total Breakfast Cereal	1.1	1.1	0.0	0.6 (0.7)	0.7 (0.8)	0.9 (1.0)	0.8 (1.0)	0.8 (1.0)	0.9 (1.1)	***<0.001***	***<0.001***
Other Baked Goods	1.0	0.9	0.1	0.6 (0.7)	0.7 (0.8)	0.8 (0.9)	0.7 (0.9)	0.8 (0.9)	0.8 (1.0)	***<0.001***	***<0.001***
Total Fruit and Vegetables	1.0	0.9	0.1	0.8 (0.9)	0.9 (1.0)	0.9 (1.0)	0.8 (0.9)	0.8 (0.9)	0.8 (1.0)	*0.196*	***0.002***
Other Food Groupings[6]	7.0	4.5	2.5	5.5 (6.2)	6.2 (7.2)	5.9 (6.7)	5.4 (6.4)	5.6 (6.7)	5.7 (7.0)	-	-
Total % Contributions	100.0	86.2	13.8	-	-	-	-	-	-	-	-

[1]See Appendix 8 for details of foods in each food grouping; [2]P-values are for the linear association over time of the contributing amount in g; [3]P-values are for the overall association over time of the contributing amount in g; [4]May include starch component e.g. pastry / potato / bread; [5]Includes unspecified foods, mainly eating out such as 'meal', 'school meal' or 'meal at work', and unspecified meals on wheels - see Appendix 8 for details of all foods included in this food grouping; [6]Includes all food groupings not already listed - a full list of food groupings is provided in Appendix 7

Table 8: Mean contribution of foods providing more than 1% of saturated fat (2001-2018 data)

Food Grouping[1]	% Contribution to Total Saturated Fat			Saturated Fat g (% Contribution to Total Saturated Fat)						*P-value for Linear Association*[2]	*P-value for Overall Association*[3]
	2016-2018			2001-2003	2004-2006	2007-2009	2010-2012	2013-2015	2016-2018		
	All	Household	Eating out	All	All	All	All	All	All		
Spreading Fats	13.1	13.0	0.1	4.6 (13.0)	4.9 (14.2)	4.7 (13.8)	5.0 (15.5)	5.1 (16.0)	4.1 (13.1)	*0.292*	*0.027*
Total Processed Red Meat[4]	12.3	10.8	1.6	4.4 (12.3)	4.0 (11.8)	4.0 (11.6)	4.0 (12.3)	3.8 (12.0)	3.8 (12.3)	***0.001***	***0.003***
Total Cheese	9.8	9.8	0.0	2.7 (7.6)	2.7 (7.9)	3.0 (8.6)	2.7 (8.5)	2.7 (8.4)	3.1 (9.8)	*0.180*	*0.059*
Total Milk	9.0	8.9	0.2	4.1 (11.5)	3.5 (10.2)	3.4 (9.7)	3.0 (9.2)	2.7 (8.5)	2.8 (9.0)	***<0.001***	***<0.001***
Sweet Biscuits	7.8	7.7	0.1	2.8 (7.9)	2.6 (7.5)	2.7 (7.8)	2.4 (7.4)	2.5 (7.7)	2.4 (7.8)	*0.017*	***0.005***
Total Confectionery	7.2	6.7	0.5	2.1 (6.1)	2.0 (6.0)	2.2 (6.5)	2.1 (6.4)	2.0 (6.3)	2.2 (7.2)	*0.828*	*0.363*
Unclassified Foods[5]	5.0	2.3	2.7	2.0 (5.7)	1.7 (5.0)	1.9 (5.5)	1.8 (5.5)	1.8 (5.8)	1.6 (5.0)	*0.043*	*0.097*
Ice Cream and Dairy Desserts	3.9	3.6	0.3	1.2 (3.5)	1.2 (3.6)	1.2 (3.5)	1.1 (3.4)	1.2 (3.7)	1.2 (3.9)	*0.579*	*0.430*
Unprocessed Red Meat	3.7	3.6	0.2	1.5 (4.4)	1.4 (4.2)	1.5 (4.2)	1.4 (4.3)	1.2 (3.7)	1.2 (3.7)	***<0.001***	***<0.001***
Cakes, Pastries and Puddings	3.7	3.1	0.6	1.2 (3.5)	1.2 (3.6)	1.3 (3.6)	1.2 (3.6)	1.2 (3.7)	1.1 (3.7)	*0.085*	*0.283*
Cream	2.2	2.2	0.0	0.6 (1.6)	0.7 (2.0)	0.7 (2.1)	0.8 (2.4)	0.8 (2.6)	0.7 (2.2)	*0.026*	***0.001***
Poultry	2.0	1.7	0.2	0.6 (1.6)	0.6 (1.7)	0.6 (1.6)	0.6 (1.8)	0.6 (1.8)	0.6 (2.0)	*0.266*	*0.619*
Pizza	1.5	0.9	0.6	0.3 (0.9)	0.4 (1.0)	0.3 (1.0)	0.4 (1.4)	0.4 (1.4)	0.5 (1.5)	***<0.001***	***<0.001***
Crisps and Savoury Snacks	1.5	1.2	0.3	1.8 (5.1)	1.5 (4.4)	1.2 (3.3)	0.5 (1.5)	0.5 (1.6)	0.5 (1.5)	***<0.001***	***<0.001***
Ready Meals	1.4	1.4	0.0	0.4 (1.1)	0.4 (1.3)	0.4 (1.2)	0.4 (1.2)	0.4 (1.2)	0.4 (1.4)	*0.603*	*0.256*
Sandwiches	1.2	0.3	0.9	0.5 (1.3)	0.4 (1.3)	0.5 (1.3)	0.4 (1.3)	0.4 (1.2)	0.4 (1.2)	***<0.001***	***0.002***
Cooking Oil	1.2	1.2	0.0	0.6 (1.6)	0.6 (1.9)	0.7 (2.0)	0.7 (2.1)	0.7 (2.1)	0.4 (1.2)	*0.017*	***<0.001***
Eggs	1.2	1.0	0.1	0.4 (1.2)	0.4 (1.1)	0.4 (1.1)	0.3 (1.0)	0.3 (1.0)	0.4 (1.2)	***<0.001***	***<0.001***
Savoury Sauces and Dressings	1.1	1.0	0.2	0.3 (0.9)	0.4 (1.1)	0.4 (1.2)	0.3 (1.1)	0.3 (1.0)	0.3 (1.1)	*0.918*	***<0.001***
Processed Potatoes	1.1	0.5	0.6	0.4 (1.2)	0.4 (1.1)	0.3 (0.9)	0.3 (1.0)	0.3 (1.1)	0.3 (1.1)	***<0.001***	***<0.001***
Yoghurt and Fromage Frais	1.0	1.0	0.0	0.3 (0.8)	0.3 (1.0)	0.3 (1.0)	0.3 (1.0)	0.3 (0.9)	0.3 (1.0)	*0.410*	***<0.001***
Other Food Groupings[6]	8.9	6.9	2.0	2.5 (7.2)	2.8 (8.2)	2.9 (8.5)	2.6 (8.1)	2.7 (8.4)	2.8 (8.9)	-	-
Total % Contributions	100.0	88.8	11.2	-	-	-	-	-	-	-	-

[1]See Appendix 8 for details of foods in each food grouping; [2]P-values are for the linear association over time of the contributing amount in g; [3]P-values are for the overall association over time of the contributing amount in g; [4]May include starch component e.g. pastry / potato / bread; [5]Includes unspecified foods, mainly eating out such as 'meal', 'school meal' or 'meal at work', and unspecified meals on wheels - see Appendix 8 for details of all foods included in this food grouping; [6]Includes all food groupings not already listed - a full list of food groupings is provided in Appendix 7

Table 9: Mean contribution of foods providing more than 1% of free sugars* (2001-2018 data)

Food Grouping[1]	% Contribution to Total Free Sugars			Free Sugars g (% Contribution to Total Free Sugars)						*P-value for Linear Association*[2]	*P-value for Overall Association*[3]
	2016-2018			2001-2003	2004-2006	2007-2009	2010-2012	2013-2015	2016-2018		
	All	Household	Eating out	All	All	All	All	All	All		
Total Confectionery	19.7	18.6	1.1	13.9 (16.0)	12.8 (15.5)	13.3 (16.1)	12.6 (16.5)	12.8 (17.9)	13.3 (19.7)	*0.453*	*0.350*
Sugar Containing Soft Drinks	19.5	15.4	4.1	22.5 (25.8)	21.1 (25.6)	19.5 (23.7)	17.0 (22.2)	14.9 (20.8)	13.2 (19.5)	***<0.001***	***<0.001***
Sugar	10.4	10.3	0.0	13.7 (15.7)	11.2 (13.6)	11.3 (13.7)	11.5 (15.1)	9.5 (13.3)	7.0 (10.4)	***<0.001***	***<0.001***
Sweet Biscuits	8.2	8.1	0.1	6.3 (7.3)	5.8 (7.1)	6.4 (7.8)	5.5 (7.2)	5.7 (8.0)	5.6 (8.2)	*0.022*	***0.009***
Cakes, Pastries and Puddings	6.4	5.7	0.7	4.9 (5.6)	4.9 (6.0)	4.8 (5.8)	4.4 (5.8)	4.4 (6.2)	4.3 (6.4)	*0.022*	*0.048*
Total Fruit and Vegetables	6.4	6.0	0.4	5.7 (6.6)	6.1 (7.4)	6.4 (7.8)	5.9 (7.7)	4.9 (6.8)	4.3 (6.4)	***<0.001***	***<0.001***
Ice Cream and Dairy Desserts	5.6	5.3	0.3	2.9 (3.3)	2.8 (3.4)	3.0 (3.6)	3.3 (4.4)	3.7 (5.1)	3.8 (5.6)	***<0.001***	***<0.001***
Jam, marmalade, honey and sweet spreads	5.2	5.2	0.1	3.2 (3.7)	3.5 (4.3)	3.9 (4.7)	3.5 (4.6)	3.5 (4.9)	3.5 (5.2)	*0.595*	*0.392*
Total Breakfast Cereal	3.5	3.5	0.0	2.9 (3.3)	2.6 (3.1)	2.9 (3.6)	2.5 (3.2)	2.5 (3.5)	2.3 (3.5)	*0.021*	*0.020*
Alcoholic Drinks	2.9	1.2	1.7	2.7 (3.1)	2.7 (3.3)	2.3 (2.7)	2.2 (2.9)	1.8 (2.5)	2.0 (2.9)	***<0.001***	***<0.001***
Savoury Sauces and Dressings	2.8	2.8	0.0	2.0 (2.3)	1.9 (2.4)	2.0 (2.4)	2.0 (2.6)	1.9 (2.6)	1.9 (2.8)	*0.246*	*0.548*
Yoghurt and Fromage Frais	2.8	2.8	0.0	1.5 (1.7)	1.8 (2.2)	1.9 (2.3)	1.9 (2.4)	1.7 (2.4)	1.9 (2.8)	*0.023*	***<0.001***
Unclassified Foods[4]	1.1	0.7	0.4	0.9 (1.0)	0.9 (1.0)	0.9 (1.1)	0.8 (1.0)	0.7 (1.0)	0.7 (1.1)	*0.033*	*0.270*
Other Food Groupings[5]	0.8	4.2	4.8	4.2 (4.8)	4.2 (5.1)	3.9 (4.7)	3.4 (4.5)	3.6 (5.0)	3.7 (5.5)	-	-
Total % Contributions	100.0	90.2	9.8	-	-	-	-	-	-	-	-

**NMES figures provided as a proxy for free sugars; [1]See Appendix 8 for details of foods in each food grouping; [2]P-values are for the linear association over time of the contributing amount in g; [3]P-values are for the overall association over time of the contributing amount in g; [4]Includes unspecified foods, mainly eating out such as 'meal', 'school meal' or 'meal at work', and unspecified meals on wheels - see Appendix 8 for details of all foods included in this food grouping; [5]Includes all food groupings not already listed - a full list of food groupings is provided in Appendix 7*

Table 10: Mean contribution of foods providing more than 1% of fibre* (2001-2018 data)

Food Grouping[1]	% Contribution to Total Fibre			Fibre g (% Contribution to Total Fibre)						*P-value for Linear Association*[2]	*P-value for Overall Association*[3]
	2016-2018			2001-2003	2004-2006	2007-2009	2010-2012	2013-2015	2016-2018		
	All	Household	Eating out	All	All	All	All	All	All		
Total Fruit and Vegetables	24.9	24.0	0.8	3.8 (23.5)	4.1 (25.1)	4.3 (25.1)	3.9 (24.1)	3.8 (24.1)	3.9 (24.9)	*0.226*	*0.011*
Bread and Rolls	12.8	12.7	0.2	2.7 (16.3)	2.7 (16.2)	2.5 (14.7)	2.3 (14.4)	2.1 (13.5)	2.0 (12.8)	***<0.001***	***<0.001***
Total Breakfast Cereal	9.9	9.9	0.0	1.7 (10.5)	1.6 (9.5)	1.8 (10.3)	1.6 (10.0)	1.5 (9.7)	1.5 (9.9)	*0.196*	*0.117*
Unclassified Foods[4]	8.4	3.4	5.0	1.7 (10.4)	1.4 (8.4)	1.5 (8.7)	1.4 (8.7)	1.4 (9.2)	1.3 (8.4)	*0.046*	*0.105*
Processed Potatoes	5.2	2.8	2.4	0.8 (5.1)	0.7 (4.3)	0.7 (4.4)	0.8 (5.1)	0.8 (5.2)	0.8 (5.2)	*0.323*	***0.001***
Pasta, Rice and Noodles	4.1	3.7	0.4	0.5 (3.0)	0.5 (3.3)	0.6 (3.7)	0.6 (3.8)	0.6 (3.8)	0.6 (4.1)	***0.002***	***<0.001***
Sweet Biscuits	3.6	3.5	0.1	0.6 (3.5)	0.5 (3.3)	0.6 (3.6)	0.6 (3.5)	0.6 (3.7)	0.6 (3.6)	*0.957*	*0.085*
Crisps and Savoury Snacks	3.5	3.2	0.3	0.9 (5.4)	0.7 (4.5)	0.6 (3.7)	0.6 (3.5)	0.6 (3.6)	0.5 (3.5)	***<0.001***	***<0.001***
Total Processed Red Meat[5]	2.9	2.3	0.6	0.4 (2.5)	0.4 (2.4)	0.4 (2.3)	0.4 (2.8)	0.4 (2.8)	0.5 (2.9)	***<0.001***	***0.001***
Other Baked Goods	2.7	2.6	0.2	0.3 (1.6)	0.3 (2.0)	0.4 (2.2)	0.4 (2.3)	0.4 (2.5)	0.4 (2.7)	***<0.001***	***<0.001***
Potatoes	2.6	2.2	0.4	0.5 (3.2)	0.8 (4.8)	0.7 (4.3)	0.6 (3.6)	0.4 (2.6)	0.4 (2.6)	***<0.001***	***<0.001***
Total Confectionery	2.5	2.5	0.0	0.2 (1.1)	0.2 (1.1)	0.2 (1.2)	0.4 (2.2)	0.4 (2.2)	0.4 (2.5)	***<0.001***	***<0.001***
Ready Meals	2.2	2.2	0.0	0.2 (1.4)	0.2 (1.5)	0.3 (1.5)	0.3 (1.8)	0.3 (1.9)	0.3 (2.2)	***<0.001***	***<0.001***
Cakes, Pastries and Puddings	1.9	1.5	0.3	0.2 (1.5)	0.2 (1.5)	0.3 (1.6)	0.3 (1.8)	0.3 (1.9)	0.3 (1.9)	***0.002***	***<0.001***
Pizza	1.7	1.0	0.8	0.2 (1.4)	0.2 (1.5)	0.2 (1.3)	0.3 (1.6)	0.2 (1.6)	0.3 (1.7)	*0.030*	*0.092*
Savoury Sauces and Dressings	1.6	1.5	0.1	0.2 (1.3)	0.2 (1.5)	0.3 (1.6)	0.3 (1.6)	0.2 (1.6)	0.2 (1.6)	*0.046*	***<0.001***
Savoury Biscuits	1.4	1.4	0.0	0.1 (0.8)	0.1 (0.9)	0.2 (1.0)	0.2 (1.1)	0.2 (1.2)	0.2 (1.4)	***<0.001***	***<0.001***
Nuts	1.4	1.4	0.0	0.1 (0.7)	0.2 (1.2)	0.2 (1.4)	0.2 (1.2)	0.3 (1.6)	0.2 (1.4)	***<0.001***	***<0.001***
Flour	1.3	1.3	0.0	0.2 (1.0)	0.2 (1.2)	0.3 (1.6)	0.2 (1.3)	0.3 (1.6)	0.2 (1.3)	*0.321*	*0.030*
Sandwiches	1.2	0.2	0.9	0.2 (1.4)	0.2 (1.4)	0.2 (1.3)	0.2 (1.3)	0.2 (1.2)	0.2 (1.2)	***<0.001***	***0.002***
Soup	1.0	0.6	0.5	0.2 (1.1)	0.2 (1.1)	0.2 (1.0)	0.2 (1.2)	0.2 (1.0)	0.2 (1.0)	*0.099*	*0.168*
Other Food Groupings[6]	0.3	0.1	0.2	0.5 (3.2)	0.6 (3.5)	0.6 (3.3)	0.5 (3.2)	0.6 (3.6)	0.5 (3.3)	-	-
Total % Contributions	100.0	85.4	14.6	-	-	-	-	-	-	-	-

**AOAC fibre is estimated as NSP multiplied by 1.33; [1]Please see Appendix 8 for details of foods in each food grouping; [2]P-values are for the linear association over time of the contributing amount in g; [3]P-values are for the overall association over time of the contributing amount in g; [4]Includes unspecified foods, mainly eating out such as 'meal', 'school meal' or 'meal at work', and unspecified meals on wheels - see Appendix 8 for details of all foods included in this food grouping; [5]May include starch component e.g. pastry / potato / bread; [5]Full list of food groupings are provided in Appendix 2; [6]Includes all food groupings not already listed - a full list of food groupings is provided in Appendix 7*

4. Discussion

Monitoring of Scottish Dietary Goals and Additional Foods and Drinks Indicative of Diet Quality

Estimates of mean food consumption and nutrient intake for Scotland, calculated using the household and eating out data from LCFS purchase data, and described previously (Barton *et al.*, 2010, Wrieden and Barton, 2011, Barton and Wrieden, 2012, Wrieden and Barton, 2015) were updated by the addition of the years 2016, 2017, and 2018 to give trend data from 2001 through to 2018; which has been used to assess progress towards the Scottish Dietary Goals. Until 2018, this was the only method of monitoring the complete diet over time in Scotland. Following the pilot of Intake24 in the 2018 SHeS (Rowland *et al.*, 2020), Intake24 is being included in the 2021 SHeS, as part of FSS's dietary surveillance programme monitoring progress towards SDGs and other dietary change in Scotland. FSS also monitor retail purchase and price promotions (Food Standards Scotland, 2020a) and the out of home environment (Quirk *et al.*, 2020) as part of their dietary surveillance programme. Advantages and disadvantages of using the LCFS to estimate food consumption and nutrient intake are presented in Appendix 2. Advantages include the annual robust sample size for Scotland, collection of data over 14 days, and the possibility of the data being less susceptible to misreporting and non-response bias. Disadvantages include that the data is collected at a household level, therefore results are for a typical average person in the household with no differentiation for age/sex or consumer/non-consumer, and that it is purchase rather than consumption data.

A summary of the results for the goals measured here are presented in Table 11. Although there have been fluctuations over the 18 years, little change was found in intakes of most foods and nutrients between 2001 and 2018. Red and processed meat consumption has significantly decreased, and the goal has been met since 2001. There has been a significant decrease in free sugars intake making some progress towards the goal, however progress is slow, and mean intake exceeds the population goal by two and a half times (168%). In contrast, there has been a significant increase in total fat intake and a significant decrease in fibre intake; both of which show movement away from the goals rather than progress towards them.

Table 11: Mean food consumption and nutrient intakes in relation to the Scottish Dietary Goals from 2001-2003 to 2016-2018

	2016 Scottish Dietary Goal	2001-2003	2016-2018	Change between 2001-2003 and 2016-2018[1]	Progress Towards SDG
Total Energy (kcal/day)	A reduction in calorie intake by 120 kcal per person per day	2126	1893	↓	N/A[2]
Energy density (kcal/100g)	Average energy density of the diet to be lowered to 125 kcal/100g	171	172	No Change	Goal not met
Fruit and Vegetables (g/day)	At least 5 portions per person per day (>400 g/day)	256	265	No Change	Goal not met
Oil rich fish (g/week)	Increase to one portion per person (140g) per week	29	33	No Change	Goal not met
Red Meat (g/day)	Average intake of red and processed meat to be pegged at around 70g per person per day	65	55	↓	**Goal met**
Fat (% food energy)	≤35% food energy	38.8	39.7	↑	Goal not met
Saturated Fat (% food energy)	≤11% of food energy	15.6	15.4	No Change	Goal not met
Free Sugars[3] (% total energy)	≤5% of total energy in adults and children over 2 years	15.1	13.4	↓	Goal not met
Fibre (g/day)	Increase in average consumption of AOAC[4] fibre to 30g/day	16.4	15.6	↓	Goal not met
Carbohydrate (% total energy)	50% of total energy with no more than 5% total energy from free sugars	45.2	44.3	No Change	Goal not met

[1]Based on P-value for linear association ≤0.01; [2]LCFS is not used to monitor energy intakes because, as with all dietary intake monitoring, it could be subject to under-reporting, since energy SDG was introduced in 2013 there has only been a 39kcal/day reduction; [3]Free sugars are sugars added to food or drink and those which are found naturally in honey, syrups, and fruit juices, NMES figures provided as a proxy for free sugars; [4]Fibre as measured by American Association of Analytical Chemists (AOAC) methods, calculated from non-starch polysaccharide (NSP) as measured by Englyst method (AOAC fibre is estimated as NSP multiplied by 1.33).

Results from the LCFS suggest little progress towards the Scottish Dietary Goals except for free sugar intake. There has been a statistically significant reduction in free sugar intake over the period 2001-2018; in particular, there has been a statistically significant fall in 2018 (April 2018 to March 2019) alone (see Appendix 9, Table 15, and Figure 17) which may have some relation to the introduction of the Soft Drinks Industry Levy on 6th April 2018 (HM Revenue & Customs, 2016). For other foods and nutrients, little or no change was found in the trends of consumption of the food-based goals over the period 2001-2018. For data from 2016, the 95% CI are greater than in previous years due to a reduction in sample size, however it is noted that this does not appear to have had a substantial effect on the results presented.

The small, but statistically significant, increase in mean consumption of fruit and vegetables, found in the 10-year period from 2001 to 2010 stalled for 2012-2015 however, mean consumption for 2016-2018 has almost recovered to 2010-2012 levels, with no significant change overall between 2001-2003 and 2016-2018. Mean fruit and vegetable consumption remains almost 2 portions below the population target of 5 portions per day. No change has been found in oil rich fish consumption. Red and processed meat consumption reduced significantly between 2001-2003 and 2016-2018 with mean consumption meeting the goals. Total fat intake has been steadily increasing since 2004-2006 and now shows a significant increase between 2001-2003 and 2016-2018; this trend moves total fat intake

in the opposite direction from the Scottish Dietary Goal. Similar results have also been found in other recent reports (Bates *et al.*, 2020, Food Standards Scotland, 2020a). However, it is acknowledged that, due to the proportionate nature of macronutrient intake to total energy intake, this increase in fat intake (as a percentage of food energy) has occurred due to the decrease in carbohydrate intake (as a percentage of total energy) brought about by the reduction in free sugars, and not by an increase in fat intake in grams (which has actually decreased). Total energy intake has also decreased.

The changes reported in fat and oil consumption over the 18-year period, particularly in the last three years, were further investigated to check that there had been no re-categorisation of any fat spreads over this period. Defra confirmed that no changes have been made. In addition, reported changes are mirrored in data for the UK (Department for Environment Food & Rural Affairs (Defra), 2020) so are unlikely to be caused by an anomaly in the Scottish data. Fibre intake increased between the 2001-2003 and 2007-2009 periods, however, has been steadily decreasing since then, with a statistically significant fall between 2001-2003 and 2016-2018. Concerningly, this trend moves fibre intake in the opposite direction from the Scottish Dietary Goal.

Whilst energy intake is not monitored using data from the LCFS, a significant reduction over time was found, with mean intakes of total energy in 2016-2018 159kcal/day lower than that reported for 2001-2003. However, over the same period, no reduction was found in overweight and obesity levels for Scotland. There are several reasons why this may be the case, and due to not having information on energy intake and energy expenditure of individuals it is difficult to draw conclusions. The mean energy density of the diet is now similar to that of 2001-2003, reversing the statistically significant increase found between 2001-2003 and 2013-2015.

The significant decrease in the percentage of energy from free sugars observed in previous LCFS reports continued to 2016-2018; this was in line with the significant reduction in sugar-containing soft drink consumption. A reduction in sugar-containing soft drinks has also been found in other recent reports (Bates *et al.*, 2020, Food Standards Scotland, 2020a). The observation that sugar-containing soft drink consumption mirrored the trend in free sugars is important, as a key part of strategies, such as the introduction of the Soft Drinks Industry Levy (HM Revenue & Customs, 2016), to improve diet related health by reducing consumption of sugar-containing soft drinks (Scottish Government, 2018a). The reduction in free sugars intake as a percentage of total energy, regardless of the increase in carbohydrate intake from other sources (1.7% decrease in free sugar intake, with only a 0.8% decrease in carbohydrate intake), has caused the percentage increase in total fat intake, due to the proportionate nature of macronutrient intake to energy intake.

Contribution of Foods to Intakes of Energy, Fat, Saturated Fat, Free sugars, and Fibre

Discretionary foods that are high in sugar and fat, namely sweet biscuits; confectionery; crisps and savoury snacks; cakes, pastries, and puddings; and sugar containing soft drinks are significant contributors to energy in the diet. In the current analysis, these five food groupings contributed around 20% of energy, fat, and saturated fat intakes and more than 50% of free sugars intake as is shown in Table 12. Whilst only including retail food and drinking purchase into the home, data collected by Kantar in 2018 also highlight considerable proportions of energy, fat, saturated fat, and sugar being purchased through discretionary foods (Food Standards Scotland, 2020a). In the Eatwell Guide

(Public Health England, 2016) discretionary foods/drinks were excluded from the main part of the guide in order to highlight that these foods/drinks are not needed in the diet. Reducing consumption of discretionary foods, in particular those presented in Table 12, has the potential to redress the balance of the Scottish Diet, by reducing energy, fat, saturated fat and free sugar intakes and in turn reducing overweight and obesity, and diet related disease statistics.

Table 12: Mean contribution of selected discretionary foods and drinks to energy, fat, saturated fat and free sugars intake in 2016-2018 (intake (percentage) per person per day)

	Weight	Energy	Fat	Saturated Fat	Free sugars
	g	kcal (%)	g (%)	g (%)	g (%)
Sweet Biscuits	20.4	98.1 (5.2)	4.8 (5.9)	2.4 (7.8)	5.6 (8.2)
Total Confectionery	22.4	98.2 (5.2)	4.1 (5.1)	2.2 (7.2)	13.3 (19.7)
Crisps and Savoury Snacks	12.8	64.0 (3.4)	3.6 (4.4)	0.5 (1.5)	0.02 (0.02)
Cakes, Pastries and Puddings	16.2	58.6 (3.1)	2.7 (3.4)	1.1 (3.7)	4.3 (6.4)
Sugar Containing Soft Drinks	138	51.3 (2.7)	Nil	Nil	13.2 (19.5)
Total		*370 (19.6)*	*15.2 (18.8)*	*6.3 (20.2)*	*36.4 (53.8)*

Comparison with the National Diet and Nutrition Survey

Unlike NDNS data for 2008/09-2011/12 (Bates *et al.*, 2014a, Bates *et al.*, 2014b) results from the NDNS for 2012/13-2013/14 (Bates *et al.*, 2016), 2014/15-15/16 (Roberts *et al.*, 2018), and 2016/17-18/19 (Bates *et al.*, 2020) are not available separately for Scotland as there was no boosted sample for Scotland for these years. Therefore, any comparison against recent NDNS results must be made against UK data.

Table 13 provides a comparison of Scottish LCFS data from 2016-2018 against UK NDNS data for 19-64 years from 2016/17-2018/19 for SDG foods and nutrients monitored by the LCFS. It can be seen that, with the exception of red and processed meat and carbohydrate, there are few similarities in the results from the two surveys. However, despite some similarities being found in food consumption and nutrient intake between the LCFS and NDNS data, it must be appreciated that the LCFS results are based on purchase data and are expressed per capita, i.e. are an average of all ages, so comparison of the results with other studies should be carried out with caution. Further possible reasons for the differences in percentage of energy from the macronutrients presented have been discussed previously (Barton *et al.*, 2010, Wrieden and Barton, 2011, Barton and Wrieden, 2012, Wrieden and Barton, 2015). These include that fats and oils used for cooking (particularly frying) are not likely to be fully consumed and waste is difficult to quantify due to them being disposed of down domestic drains, and that individuals often under-report foods high in fat and/or sugar in dietary surveys such as the NDNS. In addition, the figures for waste used to adjust the purchase data are from a UK WRAP survey of 2008 (Waste and Resource Action Programme Survey (WRAP), 2008) and do not account for reductions in waste over recent years (WRAP, 2018). WRAP waste figures for Scotland were published in 2009 (WRAP Scotland, 2009), but these could not be used in the current analysis as data were not available as a percentage of individual foods/food groups, and therefore no mapping to Defra food codes could be carried out using these data. Nevertheless, the fact that the LCFS provides a continuous survey of a representative sample of households in Scotland allows comparisons to be made over time, the ability to apply consistent definitions over time and consider any inconsistencies in the data, enabling a clearer assessment to be made of any dietary change.

Table 13: Comparison of mean food consumption and nutrient intakes in relation to the 2016

Scottish Dietary Goals between LCFS 2016-2018 and 19-64y NDNS 2016/17-2018/19

Food / Nutrient	Scottish Dietary Goal (SDG)	LCFS 2016-2018		NDNS 2016/17-2018/19	
		Population	SDG	19-64 years	SDG
Fruit and Vegetables (g/day)	At least 5 portions per person per day (>400g/day)	265	Goal not met	311	Goal not met
Oil rich fish (g/week)	Increase to one portion per person (140g) per week	33	Goal not met	8	Goal not met
Red Meat (g/day)	Average intake of red and processed meat to be pegged at around 70g per person per day	55	**Goal met**	56	**Goal met**
Fat (% food energy)	≤35% food energy	39.7	Goal not met	35.5	Goal not met
Saturated Fat (% food energy)	≤11% of food energy	15.4	Goal not met	12.8	Goal not met
Free Sugars[1] (% total energy)	≤5% of total energy in adults and children over 2 years	13.4	Goal not met	9.9	Goal not met
Fibre[2] (g/day)	Increase in average consumption of AOAC fibre to 30g/day	15.6	Goal not met	19.7	Goal not met
Carbohydrate (% total energy)	50% of total energy with no more that 5% total energy from free sugars	44.3	Goal not met	45.0	Goal not met

[1]Free sugars are sugars added to food or drink and those which are found naturally in honey, syrups, and fruit juices, NMES figures provided as a proxy for free sugars; [2]Fibre as measured by American Association of Analytical Chemists (AOAC) methods, calculated from non-starch polysaccharide (NSP) as measured by Englyst method (AOAC fibre is estimated as NSP multiplied by 1.33).

Future monitoring of the Scottish Dietary Goals

The Scottish Dietary Goals were revised in 2016 (Scottish Government, 2016), in order to reflect recommendations on total carbohydrate, sugar and fibre intakes from the Scientific Advisory Committee on Nutrition (SACN) published in 2015 (Scientific Advisory Committee on Nutrition (SACN), 2015). The recommended intake of sugar was halved, the recommended intake of fibre was increased, and the terminology for sugar and fibre were both revised. An additional 2016 goal specified that total carbohydrate should "be maintained at an average population intake of approximately 50% of total dietary energy", with the term "total dietary energy" referring to the energy provided by protein, carbohydrate, fat, and alcohol. This suggested an increase in total carbohydrate from the previous dietary reference value of a population average intake of 47% total energy (50% food energy) (Department of Health, 1991).

The 2013 Scottish Dietary Goals for *average intake of NMES to reduce to less than 11% of food energy in children and adults* was replaced with the 2016 goal for *average intake of free sugars not to exceed 5% of total energy in adults and children over 2 years*. Replacing the term *NMES* with *free sugars* results in a slightly lower mean intake since NMES includes 50% of the fruit sugars from stewed dried or canned fruit, and free sugars includes none (Scientific Advisory Committee on Nutrition (SACN), 2015). In this report, NMES intake were used as a proxy for free sugars intake, which means that the reported figures were slightly higher than that for free sugars. Nevertheless, current free sugars intakes are likely to still be more than twice the recommended intake, based on findings from the current report. In order to monitor the 2016 goal for free sugars accurately, food composition databases need to be updated.

The 2016 Scottish Dietary Goals specified that fibre should be measured using the AOAC method rather than the Englyst method which measures NSP only, and that average intake of AOAC fibre should be 30g/day in adults. This goal represents an increase in the recommended fibre intake, since the 2013 goal of 18g/day for NSP equates to around 23-24g/day of AOAC fibre. In this report, NSP intakes were multiplied by 1.33 to provide an estimate for AOAC intake to compare to the 2016 SDG. In order to monitor the 2016 goal for AOAC fibre accurately, new analyses of foods and drinks need to be carried out to ensure that AOAC fibre data are available for key contributing foods, as AOAC fibre data is incomplete in the current food composition tables.

Conclusion

A robust standardised methodology, used to calculate food consumption and nutrient intakes on a population basis over an 18-year period, has allowed comparisons to be made over time, enabling a clear assessment of any dietary change. As with previous monitoring of the Scottish diet, little change has been found for most of the foods/nutrients monitored since 2001 however, the goal for red and processed meat consumption has been met since 2001 and there has been a significant decreasing trend in free sugars intake which is making some progress towards the goal. This suggests that policies implemented to reduce free sugar intake are taking effect, but mean intake is still more than double the goal, and there is still a long way to go until the goal is reached based on current rates of decline. It is of concern that fibre intake has consistently decreased since 2010 showing movement away from the goal rather than progress towards it. In addition, fruit and vegetable intake has not increased despite numerous policies and campaigns. This is something that needs consideration in future strategies to improve dietary intake. This work continues to be an important part of Food Standards Scotland's dietary surveillance programme.

5. References

BARTON, K. L., MASSON, L. & WRIEDEN, W. L. 2018. *Estimation of food and nutrient intakes from food purchase data in Scotland 2001-2015,* Aberdeen: Food Standards Scotland.

BARTON, K. L. & WRIEDEN, W. L. 2012. *Estimation of food and nutrient intakes from food survey data in Scotland 2001-2009,* Aberdeen: Food Standards Agency in Scotland.

BARTON, K. L. & WRIEDEN, W. L. 2015. *Contribution of foods to intakes of energy and selected nutrients using food purchase data in Scotland 2001-2012,* Aberdeen: Food Standards Agency in Scotland.

BARTON, K. L., WRIEDEN, W. L., GREGOR, A., ARMSTRONG, J. & SHERRIFF, A. 2010. *Estimation of Food and Nutrient Intakes from Expenditure and Food Survey Data in Scottish 2001-2006,* Aberdeen: Food Standards Agency in Scotland.

BATES, B., COLLINS, D., JONES, K., PAGE, P., ROBERTS, C., STEER, T. & SWAN, G. 2020. *National Diet and Nutrition Survey: Rolling programme Years 9 to 11 (2016/2017 - 2018/2019),* London: Public Health England.

BATES, B., COX, L., NICHOLSON, S., PAGE, P., PRENTICE, A., STEER, T. & SWAN, G. 2016. *National Diet and Nutrition Survey Results from Years 5 and 6 (combined) of the Rolling Programme (2012/2013 - 2013/2014),* London: Public Health England.

BATES, B., LENNOX, A., PRENTICE, A., BATES, C., PAGE, P., NICHOLSON, S., MILNE, A. & SWAN, G. 2014a. *National Diet and Nutrition Survey Rolling Programme (NDNS RP) Results from Years 1- 4 (combined) for Scotland (2008/09 – 2011/12),* London: Food Standards Agency in Scotland and Public Health England.

BATES, B., LENNOX, A., PRENTICE, A., BATES, C., PAGE, P., NICHOLSON, S. & SWAN, G. 2014b. *National Diet and Nutrition Survey Results from Years 1, 2, 3 and 4 (combined) of the Rolling Programme (2008/2009 – 2011/2012),* London: Public Health England.

CHAN, W., BROWN, J., CHURCH, S. M. & BUSS, D. H. 1996. *Meat products and dishes: Sixth supplement to the fifth edition of McCance and Widdowson's The Composition of Foods,* Cambridge: Royal Society of Chemistry.

CHAN, W., BROWN, J., LEE, S. M. & BUSS, D. H. 1995. *Meat, poultry and game: Fifth supplement to the fifth edition of McCance and Widdowson's The Composition of Foods,* Cambridge: Royal Society of Chemistry.

CHESHER, A. 1997. Diet Reveald?: Semiparametric Estimation of Nutrient Intake-Age Relationships. Journal of the Royal Statistical Society. *Series A (Statistics in Society),* 160**,** 389-428.

DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS (DEFRA). 2008. *Family Food. A report on the 2007 Expenditure and Food Survey,* London: The Stationery Office.

DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS (DEFRA). 2015. *Survey sampling for Family Food* [Online]. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/486047/familyfood-method-sampling-17dec15.pdf [Accessed 17 May 2021].

DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS (DEFRA). 2020. *Family Food 2018/19* [Online]. Available: https://www.gov.uk/government/statistics/family-food-201819/family-food-201819 [Accessed 28 May 2021.

DEPARTMENT OF HEALTH. 1991. *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom. Report of the Panel on Dietary Reference Values of the Committee on Medical Aspects of Food Policy (COMA) Department of Health Report on Health and Social Subjects 41,* London: HMSO.

FOOD STANDARDS AGENCY. 2002. *Food Portion Sizes,* London: The Stationery Office.

FOOD STANDARDS AGENCY IN SCOTLAND. 2004. *Report of the Working Group on Monitoring Scottish Dietary Targets,* Aberdeen: Food Standards Agency in Scotland.

FOOD STANDARDS SCOTLAND. 2020a. *Monitoring retail purchase and price promotions in Scotland (2014 – 2018)* [Online]. Aberdeen: Food Standards Scotland. Available:

https://www.foodstandards.gov.scot/downloads/MONITORING_RETAIL_PURCHASE_AND_PRICE_PROMOTIONS_2014_-_2018.pdf [Accessed 28 May 2021].
FOOD STANDARDS SCOTLAND. 2020b. *Situation Report: The Scottish Diet: It needs to change. 2020 update* [Online]. Available: https://www.foodstandards.gov.scot/downloads/Situation_Report_-_The_Scottish_Diet_It_Needs_to_Change_%282020_update%29.pdf [Accessed 21 May 2021].
FOOD STANDARDS SCOTLAND. 2021. *Healthy, Safe, Sustainable: Driving Scotland's Food Future. Food Standards Scotland Strategy for 2021–2026* [Online]. Available: https://www.foodstandards.gov.scot/downloads/FSS_Strategy_2021-2026.pdf [Accessed 21 May 2021].
HENDERSON, L., GREGORY, J. & SWAN, G. 2002. *The National Diet and Nutrition Survey: adults aged 19-64 years. Volume 1: Types and quantities of foods consumed,* London: TSO.
HM REVENUE & CUSTOMS. 2016. *Policy paper: Soft Drinks Industry Levy* [Online]. Available: https://www.gov.uk/government/publications/soft-drinks-industry-levy/soft-drinks-industry-levy [Accessed 21 May 2021].
HOLLAND, B., UNWIN, I. D. & BUSS, D. H. 1992a. *Fruit and nuts: First supplement to the fifth edition of McCance and Widdowson's The Composition of Foods,* Cambridge: Royal Society of Chemistry.
HOLLAND, B., WELCH, A. A. & BUSS, D. H. 1992b. *Vegetable dishes: Second supplement to the fifth edition of McCance and Widdowson's The Composition of Foods,* Cambridge: Royal Society of Chemistry.
LUNN, J. & BUTTRISS, J. L. 2007. Carbohydrates and dietary fibre. *Nutrition Bulletin,* 32**,** 21-64.
MCLEAN, J. & WILSON, V. 2020. *The Scottish Health Survey: 2019 Edition, Volume 1, Main Report,* Edinburgh: Scottish Government.
OFFICE FOR NATIONAL STATISTICS. 2020a. *Family spending in the UK: April 2018 to March 2019* [Online]. Available: https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/bulletins/familyspendingintheuk/april2018tomarch2019 [Accessed 17 May 2021].
OFFICE FOR NATIONAL STATISTICS. 2020b. *Living Costs and Food Survey technical report: financial years ending March 2018 and March 2019* [Online]. Newport: Office for Narional Statistics. Available: https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/expenditure/methodologies/livingcostsandfoodsurveytechnicalreportfinancialyearsendingmarch2018andmarch2019 [Accessed 17 May 2021].
POPKIN, B. M., DU, S., GREEN, W. D., BECK, M. A., ALGAITH, T., HERBST, C. H., ALSUKAIT, R. F., ALLUHIDAN, M., ALAZEMI, N. & SHEKAR, M. 2020. Individuals with obesity and COVID-19: A global perspective on the epidemiology and biological relationships. *Obesity Reviews,* 21**,** e13128.
PUBLIC HEALTH ENGLAND. 2016. *The Eatwell Guide* [Online]. Public Health England. Available: http://www.gov.uk/government/publications/the-eatwell-guide [Accessed 17 May 2021].
PUBLIC HEALTH ENGLAND. 2018. *NDNS Results from years 7-8. Appendix A - Dietary data collection and editing*. London: PUBLIC HEALTH ENGLAND.
QUIRK, S., CROWTHER, H. & STEWART, C. 2020. *The Out of Home Environment in Scotland (2019)* [Online]. Aberdeen: Food Standards Scotland. Available: https://www.foodstandards.gov.scot/downloads/The_Out_of_Home_Environment_in_Scotland_2019_PDF.pdf [Accessed 28 May 2021].
ROBERTS, C., STEER, T., MAPLETHORPE, N., COX, L., MEADOWS, S., NICHOLSON, S., PAGE, P. & SWAN, G. 2018. *National Diet and Nutrition Survey Results from Years 7 and 8 (combined) of the Rolling Programme (2014/2015 - 2015/2016),* London: Public Health England.
ROWLAND, M. K., ROSE, J., MCLEAN, J., KNUDSEN, L., POLIAKOV, I., E., F. & ADAMSON, A. J. 2020. *Pilot of Intake24 in the Scottish Health Survey* [Online]. Aberdeen: Food Standards Scotland. Available: https://www.foodstandards.gov.scot/downloads/Pilot_of_Intake24_in_the_Scottish_Health_Survey_-_Final_Report.pdf [Accessed 28 May 2021].

SCIENTIFIC ADVISORY COMMITTEE ON NUTRITION (SACN). 2015. *Carbohydrates and Health,* London: The Stationery Office.
SCOTTISH EXECUTIVE. 2003. *Improving health in Scotland : the challenge,* Edinburgh: Scottish Executive.
SCOTTISH EXECUTIVE. 2004. *Eating for Health: Meeting the Challenge: Co-ordinated action, improved communication and leadership for Scottish Food and Health Policy 2004,* Edinburgh: Scottish Executive.
SCOTTISH GOVERNMENT. 2010. *Preventing Overweight and Obesity in Scotland: A Route Map Towards Healthy Weight,* Edinburgh: The Scottish Government.
SCOTTISH GOVERNMENT. 2013. *Revised Dietary Goals for Scotland,* Edinburgh: Scottish Government.
SCOTTISH GOVERNMENT. 2016. *Revised Dietary Goals for Scotland* [Online]. Edinburgh. Available: http://www.scotland.gov.uk/Topics/Health/Healthy-Living/Food-Health/DietaryGoalsScot [Accessed 17 May 2021].
SCOTTISH GOVERNMENT. 2018a. *A Healthier Future: Scotland's diet and healthy weight delivery plan.,* Edinburgh: Scottish Government.
SCOTTISH GOVERNMENT. 2018b. *Obesity Indicators: Progress Report - October 2018,* Edinburgh: Scottish Government.
SCOTTISH GOVERNMENT. 2020. *Diet and healthy weight: monitoring report 2020* [Online]. Scottish Government. Available: https://www.gov.scot/publications/diet-healthy-weight-monitoring-report-2020/ [Accessed 11 June 2021].
SCOTTISH OFFICE. 1993. *Scotland's health a challenge to us all. The Scottish Diet : report of a Working Party to the Chief Medical Officer for Scotland,* Edinburgh: The Scottish Office Home and Health Department.
SCOTTISH OFFICE. 1996. *Scotland's health a challenge to us all. Eating for Health: A diet action plan for Scotland,* Edinburgh: The Scottish Office Department of Health.
SWAN, G. E., POWELL, N. A., KNOWLES, B. L., BUSH, M. T. & LEVY, L. B. 2018. A definition of free sugars for the UK. *Public Health Nutrition,* 21**,** 1636-1638.
WASTE AND RESOURCE ACTION PROGRAMME SURVEY (WRAP). 2008. *The Food We Waste*. Oxon: WRAP.
WORLD HEALTH ORGANISATION. 2003. *Diet, nutrition and the prevention of chronic diseases. Joint WHO/FAO Expert Consultation . WHO Technical Report Series no. 916*. Geneva: WHO.
WORLD OBESITY FEDERATION. 2018. *European Overweight & Obesity in Adults* [Online]. Available: https://www.worldobesity.org/data/obesity-data-repository/resources/charts/3/ [Accessed 17 May 2021].
WRAP. 2009. *Household Food and Drink Waste in the UK*. Oxon: WRAP.
WRAP. 2018. *Household food waste: restated data for 2007-2015,* Oxon: WRAP.
WRAP SCOTLAND. 2009. *The food we waste in Scotland*. Stirling: WRAP.
WRIEDEN, W. L., ARMSTRONG, J., ANDERSON, A. S., SHERRIFF, A. & BARTON, K. L. 2014. Choosing the best method to estimate the energy density of a population using food purchase data. *Journal of Human Nutrition and Dietetics,* 28**,** 126-134.
WRIEDEN, W. L. & BARTON, K. L. 2011. *The Scottish Diet: Estimations of energy density and expenditure,* Aberdeen: Food Standards Agency in Scotland and the Scottish Government.
WRIEDEN, W. L. & BARTON, K. L. 2015. *Estimation of food and nutrient intakes from food purchase data in Scotland 2001-2012,* Aberdeen: Food Standards Agency in Scotland.
WRIEDEN, W. L., BARTON, K. L., ARMSTRONG, J. & MCNEIL, G. 2006. *A review of food consumption and nutrient intakes from national surveys in Scotland: comparison to the Scottish Dietary Targets,* Aberdeen: Food Standards Agency in Scotland.
WRIEDEN, W. L., PEACE, H., ARMSTRONG, J. & BARTON, K. L. 2003. *Monitoring the Scottish Diet Action Plan Targets: Review of National dietary surveys and Scottish research studies,* Aberdeen: Food Standards Agency in Scotland.

6. Appendices

Appendix 1: Further Detail on Methodology of Monitoring Work

Appendix 2: Advantages and Disadvantages of the LCFS

Appendix 3: Monitoring Scottish Dietary Goals and Additional Foods and Drinks Indicative of Diet Quality Coding Frame

Appendix 4: Energy Density Coding Frame

Appendix 5: Defra Food Codes with Recommended Estimates of Edible Food Waste

Appendix 6: Flowchart of Data Handling Process for Monitoring Work*

Appendix 7: Food Groupings Used for Contributing Foods Analysis1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

Appendix 9: Mean Food Consumption and Nutrient Intake Results by Year

Appendix 1: Further Detail on Methodology of Monitoring Work

The Living Costs and Food Survey / Expenditure and Food Survey

The Living Costs and Food Survey (LCFS) (before 2008 known as the Expenditure and Food Survey (EFS)) is a continuous survey of households in the UK commissioned jointly by the Office for National Statistics (ONS) and the Department for Environment and Rural Affairs (Defra). The LCFS is an annual household budget survey designed to collect information about household food and expenditure. It provides a valuable source of information about food purchases of the population, which can be translated into estimates of food consumption and nutrient intake (Wrieden *et al.*, 2006). The survey however is not designed to measure food consumption and nutrient intakes of specific individuals. The LCFS collects household food purchase and eating out data from every person over 7 years of age in each household over a 14-day period (each household member aged 16 and over is asked to keep diary records (and collect till receipts) of daily expenditure with simplified diaries being kept by children aged between 7 and 15). Whilst only those over 7 years of age are asked to complete a diary, all household purchases are recorded by the household reference person, so the data includes all household members from birth to old age. However, LCFS data requires considerable secondary analysis to group the foods relevant to the Scottish Dietary Goals and calculate statistically meaningful figures. Due to the nature of household food purchase data, the LCFS cannot be used to give information on median food consumption and nutrient intakes or classify by age or gender (further advantages and disadvantages of the LCFS are discussed in Appendix 2). Therefore, the prevalence of individuals who are particularly high or low consumers of specific foods cannot be determined. The calculation of mean per capita consumption and nutrient intakes, with 95% confidence intervals, is not straightforward and requires a series of factors to be applied to the data. This process is essential if any meaningful comparisons are to be made between years.

Changes to Methodology over Time

Methods for the secondary analysis of the food purchase data of the LCFS and its predecessor (the EFS) have been further developed and improved since the original report (Wrieden *et al.*, 2006). For example, in the original analysis all food purchase data were adjusted by subtracting 10% to take account of wastage following a similar procedure used by Defra in their analysis of the National Food Survey (NFS) and EFS and LCFS data. Following the publication of the Waste and Resource Action Programme (WRAP) survey (Waste and Resource Action Programme Survey (WRAP), 2008), Defra provided new figures which were based on more recent estimations of waste which varied according to food group. The data from 2001 onwards were subsequently revised to incorporate improvements to the methodology as follows:

1. Account for free food (e.g. from school meals, meals on wheels etc.). Defra adjusted the EFS data since the results of the secondary analysis published in 2006 (Wrieden *et al.*, 2006) and have backdated these changes to 2001.
2. Adjust for waste using new factors following the publication of the 2008 WRAP report (Waste and Resource Action Programme Survey (WRAP), 2008).
3. Include factors to account for the LCFS sampling methodology.

4. Make use of a refined coding frame to allocate specific proportions of foods to appropriate food groupings.

Coding Frames

The detailed coding frame reported by Barton *et al.* (2010) compiled for both household and eating out food purchases was re-ordered in line with the Scottish Dietary Goals and used for the analysis (Appendix 3). This was based on that reported by Wrieden *et al*. (2006) which provides further detail on its derivation and on the disaggregation of foods where appropriate. The coding frame is based on 522 food codes allocated by Defra to household or eating out food purchases. It lists groupings of foods (and codes) which form part of each dietary goal (or food group of interest) and gives details of conversion factors applied to the food weights. Conversion factors are necessary to apply the proportion of the food code applicable to the target food – for example, the vegetable contribution of vegetarian dishes is x0.4, a factor calculated from the NDNS adults 19-64 (Henderson *et al.*, 2002). Where no factor was necessary, a factor of 1.0 was applied. Due to the type of data, it is not possible to put a ceiling on the contribution that fruit juice and baked beans make to total fruit and vegetable consumption and "5-a-day" as often happens in dietary survey reporting. It was decided following the Wrieden *et al*. (2006) report to only report total fruit and vegetable consumption rather than with and without fruit juice and baked beans. This decision was based on the fact that average fruit juice consumption from 2001-2003 was 42g/day and average baked bean consumption was 12g/day, therefore well below the ceilings usually applied to fruit juice and baked beans of one 80g portion per day.

The coding frame for energy density (Appendix 4) was compiled in a similar way (Wrieden and Barton, 2011); it indicates which foods/drinks were included within the food and milk method of calculating energy density and lists conversion factors. Foods which may not be consumed in their purchased state e.g. flour, stock cubes, jelly cubes were given a conversion factor of 1 as it was not possible to tell how these foods may be prepared and subsequently consumed.

Categorisation of Foods

The Defra EFS coding frames for household and eating out food purchases were examined and foods forming part of each dietary goal (or additional foods and drinks indicative of diet quality) were selected and categorised accordingly.

Conversion Factors

The conversion factors are applied to food purchases to estimate the actual amount of each food that is consumed. A conversion factor was calculated (for each food code, for household and eating out purchases); for the proportion of fruit, vegetable, meat etc. in a composite food; for the proportion of food in a food grouping (where it bridges more than one food grouping); raw to cooked weight (where appropriate); proportion of inedible waste. Data for these conversion factors were taken from the 1st, 2nd, 5th and 6th supplements of the 5th edition of McCance and Widdowson's composition of foods (Holland *et al.*, 1992a, Holland *et al.*, 1992b, Chan *et al.*, 1995, Chan *et al.*, 1996). Where these data were not available from the above sources, information was sought from manufacturers' label data or

market share data supplied by the Food Standards Agency. For details see Appendix 3 and Appendix 4.

Edible Waste

Estimates of waste for the UK population were first published by WRAP in 2008. The annex of the report on the 2007 EFS (Department for Environment Food & Rural Affairs (Defra), 2008) expands on the information available in the WRAP report and provides waste information at a more detailed level. Defra have mapped waste figures, based on those in the WRAP report, to each of the household food codes used in the LCFS. This information was obtained from Defra and used to assign a waste factor to each food code. The waste figures were provided for single and multiple adult households and were linked to the appropriate type of household prior to analysis. The figures published by WRAP account for edible waste; inedible waste (i.e. bone) was taken into account when calculating the conversion factor for each food code, as described above. WRAP waste figures for Scotland were published in 2009 (WRAP Scotland, 2009), however these could not be used in the current analysis as data were not available as a percentage of individual foods/food groups and therefore no mapping to Defra food codes could be carried out on this regional data. Likewise, the UK 2009 update (WRAP, 2009) did not provide waste as a percentage of individual foods/food groups. Any foods where no information was available (e.g. liquids which are usually disposed of down the sink), were allocated a waste factor of 10% as is applied by Defra in their Family Food publications when comparing estimated nutrient intake to dietary recommendations. Eating out food weights are estimated as 'as eaten' by Defra using published portion sizes, therefore no waste factor was applied to eating out foods. For details see Appendix 5.

Data Handling

LCFS data for each year, in raw form, were obtained from the UK Data Archive, University of Essex (or from Defra and ONS ahead of it being made available from the UK Data Archive). The data comprised 3 files for each year – an Access (Microsoft Corporation) database containing raw data (at the household level) for food and drink purchases; and 2 SPSS (IBM Corporation) files – one containing information on each household (HH file) and the other containing information on each person within each household (PP file). Appendix 6 provides a flowchart which illustrates the data handling process for data from each year. Data from each year were concatenated in SPSS to obtain one long working data file. The Scottish sample of the LCFS for each year was extracted from the Access database and the HH and PP SPSS files. Each household was allocated a new ID due to overlap in Case IDs between years.

In addition, further data on sampling strata and clusters, and household income, not available in the UK Data Archive files are obtained from the UK ONS.

Food Purchase Data

The Access database containing the Scottish food purchase data was linked to a table constructed from the coding frame, which listed each food grouping, each food within these groupings and the appropriate conversion factor (see above) to be applied to the calculations (where no factor was

necessary 1.0 was applied). This table also contained data on edible waste for single and multiple adult households. Single and multiple adult households were selected in turn, the appropriate adjustment was then made for waste and the databases re-joined.

For foods: household and eating out consumption data minus edible waste (based on purchases) for each food code was multiplied by the appropriate conversion factor and summed by food grouping. This was then divided by the number of individuals in the household and divided by 14 to obtain the mean daily consumption per person. Inedible waste was accounted for in the conversion factors.

For nutrients: household consumption data minus edible waste (based on purchases) for each food code was multiplied by the appropriate nutrient content per gram (provided by Defra) to provide the nutrient intake per food (any inedible waste was taken into account in the nutrient composition of the food). Household, eating out, and combined nutrient intakes for foods were then summed for each household. These were then divided by the number of individuals in the household and divided by 14 to obtain the mean daily intake per person for each nutrient.

Energy density for food and milk was calculated using the methodology developed by Wrieden *et al.* (2014) in three stages in MS Access and quintiles of energy density were calculated in SPSS by year (to negate any difference in energy density quintile over time).

1. Calculating weight of food/milk - the total weight of food/milk for each household was calculated by summing the weights of each food after making adjustments for edible waste and multiplying by the conversion factors described previously. Inedible waste was accounted for in the conversion factors.
2. Calculating energy content of food/milk - the total energy from food/milk for each household was calculated by summing the energy content of each food after making adjustments for edible waste only, as the nutrient values in the database are based on the foods in their purchased form and not in the form they are consumed, hence any inedible waste was taken into account in the nutrient composition of the food.
3. Calculating energy density - the energy density values per 100g for each household were calculated by dividing the total household energy content for food/milk (2) by the total household weight for food/milk (1) and multiplying by 100.

Derivation of Household Variables Required for Analysis Purposes

Descriptive variables for each household were extracted from the two SPSS files described previously and merged with data on sampling strata and clusters, and household income, to form a SPSS file containing all household variables.

Analysis of Data

The food consumption and nutrient intake data were exported to SPSS and merged with the household variables file. Due to the multi-staged stratified sampling procedure of the LCFS, data were analysed using Descriptive Statistics and General Linear Models within the Complex Samples module of SPSS and weighted according to the Scottish population. The data were weighted so that estimates

obtained for mean food consumption and nutrient intake more accurately reflected that of the Scottish population. The weights were provided by Defra, and are those used by the LCFS.

Linear associations between food consumption/ nutrient intake/ energy density and year or three-year block were assessed by general linear modelling which was used to obtain estimates of the means with 95% confidence intervals (95% CI) and associated p-values. Overall associations between food consumption/ nutrient intake/ energy density, and year or three-year block were assessed by adjusted Wald tests. The adjusted Wald test was used within regression analyses to test whether the value for all years, or 3-year block was equal or whether there was at least one difference between year or three-year block. P-values ≤0.01 are highlighted in bold to indicate significance at the 1% level.

References

BARTON, K. L., WRIEDEN, W. L., GREGOR, A., ARMSTRONG, J. & SHERRIFF, A. 2010. Estimation of Food and Nutrient Intakes from Expenditure and Food Survey Data in Scottish 2001-2006, Aberdeen: Food Standards Agency in Scotland.
CHAN, W., BROWN, J., CHURCH, S. M. & BUSS, D. H. 1996. Meat products and dishes: Sixth supplement to the fifth edition of McCance and Widdowson's The Composition of Foods, Cambridge: Royal Society of Chemistry.
CHAN, W., BROWN, J., LEE, S. M. & BUSS, D. H. 1995. Meat, poultry and game: Fifth supplement to the fifth edition of McCance and Widdowson's The Composition of Foods, Cambridge: Royal Society of Chemistry.
DEPARTMENT FOR ENVIRONMENT FOOD & RURAL AFFAIRS (DEFRA) 2008. Family Food. A report on the 2007 Expenditure and Food Survey. London: Stationery Office.
HENDERSON, L., GREGORY, J. & SWAN, G. 2002. The National Diet and Nutrition Survey: adults aged 19-64 years. Volume 1: Types and quantities of foods consumed. London: TSO.
HOLLAND, B., UNWIN, I. D. & BUSS, D. H. 1992a. Fruit and nuts: First supplement to the fifth edition of McCance and Widdowson's The Composition of Foods, Cambridge: Royal Society of Chemistry.
HOLLAND, B., WELCH, A. A. & BUSS, D. H. 1992b. Vegetable dishes: Second supplement to the fifth edition of McCance and Widdowson's The Composition of Foods, Cambridge: Royal Society of Chemistry.
WASTE AND RESOURCE ACTION PROGRAMME SURVEY (WRAP). 2008. The Food We Waste. Oxon: WRAP.
WRAP 2009. Household Food and Drink Waste in the UK. Oxon: WRAP.
WRAP SCOTLAND 2009. The food we waste in Scotland. Stirling: WRAP.
WRIEDEN, W. L. & BARTON, K. L. 2011. The Scottish Diet: Estimations of energy density and expenditure, Aberdeen: Food Standards Agency in Scotland and the Scottish Government.
WRIEDEN, W. L., ARMSTRONG, J., ANDERSON, A. S., SHERRIFF, A. & BARTON, K. L. 2014. Choosing the best method to estimate the energy density of a population using food purchase data. Journal of Human Nutrition and Dietetics, 28, 126-134.
WRIEDEN, W. L., BARTON, K. L., ARMSTRONG, J. & MCNEIL, G. 2006. A review of food consumption and nutrient intakes from national surveys in Scotland: comparison to the Scottish Dietary Targets, Aberdeen: Food Standards Agency in Scotland.

Appendix 2: Advantages and Disadvantages of the LCFS

The EFS/LCFS and their predecessor, the NFS, are annual household budget surveys designed to collect information about household food and expenditure. Further details about the design of the EFS/NFS are discussed in an earlier report (Wrieden *et al.*, 2003). The EFS/LCFS provide a valuable source of information about the food purchases of the population, which can be translated into estimates of food consumption and nutrient intake (Wrieden *et al.*, 2006). The survey however is not designed to measure food consumption and nutrient intakes of specific individuals. The LCFS collects household food purchase data from every person in each household for a 14-day period. The length of time the food diaries are kept (14 days) is a major strength of this study, as for most foods and nutrients the balance of consumption/intake is over more than 7-10 days. Due to the nature of the data collected in household budget surveys it is not possible to produce median food consumption and nutrient intake figures. Therefore, the prevalence of individuals who are particularly high or low consumers of a food, food group or nutrient cannot be determined.

Advantages

- From 2001 to 2015 the LCFS included between 410 and 619 households (and between 921 and 1414 people) per year in mainland Scotland. Despite the sample size reducing dramatically from 2016 onwards (186, 162, and 188 for 2016, 2017, and 2018 respectively), it still remains the study with the largest Scottish sample on total diet (based on food purchases).
- The LCFS collects information over a period of 14 days on food and drink purchases and includes foods eaten within the household and those eaten out of the home.
- The LCFS records food acquisitions rather than consumption and is therefore possibly less susceptible to under-reporting and non-response bias than weighed intake dietary surveys (Chesher, 1997).
- The LCFS is one of the few publicly available sources of information on food purchased out of the home. This can be compared with consumption in the home.
- The LCFS can be used to assess all the Scottish Dietary Goals (except energy, trans fatty acids and salt), using assumptions on varieties and composition of food groups which were developed for the Barton *et al.* (2010) report.
- Data is collected continuously and published annually; it is possible to merge datasets over a number of years.

Disadvantages

- The information collected is based on food purchased rather than actually eaten, so specific wastage factors are incorporated for different food groups, based on recent research by WRAP (2008). Although this is an improvement on the previously used 10% estimation of waste for all foods, the figures are based on research carried out in England and do not include flat dwelling households (due to the use of communal bins) which may have differing household composition to non-flat dwelling households.

- Results obtained are an estimate of the consumption of a typical average household member so no information can be derived regarding the consumption by specific sub-groups e.g. children or consumers compared to non-consumers.
- Median and other distributional characteristics relating to consumption cannot be estimated.

References

BARTON, K. L., WRIEDEN, W. L., GREGOR, A., ARMSTRONG, J. & SHERRIFF, A. 2010. Estimation of Food and Nutrient Intakes from Expenditure and Food Survey Data in Scottish 2001-2006, Aberdeen: Food Standards Agency in Scotland.
CHESHER, A. 1997. Diet Revealed?: Semiparametric Estimation of Nutrient Intake-Age Relationships. Journal of the Royal Statistical Society. Series A (Statistics in Society), 160, 389-428.
WASTE AND RESOURCE ACTION PROGRAMME SURVEY (WRAP) 2008. The Food We Waste, Oxon: WRAP.
WRIEDEN, W. L., BARTON, K. L., ARMSTRONG, J. & MCNEIL, G. 2006. A review of food consumption and nutrient intakes from national surveys in Scotland: comparison to the Scottish Dietary Targets, Aberdeen: Food Standards Agency in Scotland.
WRIEDEN, W. L., PEACE, H., ARMSTRONG, J. & BARTON, K. L. 2003. Monitoring the Scottish Diet Action Plan Targets: Review of National dietary surveys and Scottish research studies, Aberdeen: Food Standards Agency in Scotland.

Appendix 3: Monitoring Scottish Dietary Goals and Additional Foods and Drinks Indicative of Diet Quality Coding Frame

This updated and simplified coding frame is based on that reported by Wrieden *et al*., (2006), which provides information on the disaggregation of foods where appropriate. Appendix 1 provides further detail on the coding frame. Factor relates to the conversion factor detailed in Appendix 1.

1. Dietary Goal: Average intake of a variety of fruit and vegetables to reach at least 5 portions per day (>400g per day)

Presented in results tables as:

1. Fruit and Vegetables including fruit (and vegetable) juice and beans and pulses (addition of 2 and 4 below)
2. Fruit including fruit (and vegetable) juice
3. Fruit (and vegetable) juice
4. Vegetables including beans and pulses

Household Fruit - including fruit (and vegetable) juice

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
19603	Vegetable juices e.g. tomato juice, carrot juice	1	0.1	0.1
21001	Fresh oranges	1	0.3382	0.2325
21401	Other fresh citrus fruits	1	0.0536	0.041
21701	Fresh apples	1	0.6627	0.2772
21801	Fresh pears	1	0.1442	0.1929
22101	Fresh stone fruit	1	0.2036	0.1797
22201	Fresh grapes	1	0.0833	0.0778
22701	Other fresh soft fruit	1	0.433	0.2521
22801	Fresh bananas	1	0.1545	0.082
22901	Fresh melon	1	0.2848	0.1797
23101	Other fresh fruit	1	0.1404	0.0938
23301	Tinned peaches, pears & pineapples	0.6	0.0806	0.0899
23601	All other tinned or bottled fruit	0.52	0.0806	0.0899
24001	Dried fruit	3.71	0.0806	0.0899
24101	Frozen strawberries, apple slices, peach halves, oranges and other frozen fruits	1	0.0806	0.0899
24801	Pure fruit juices	1	0.1	0.1

Household Fruit (and vegetable) juice

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
19603	Vegetable juices e.g. tomato juice, carrot juice	1	0.1	0.1
24801	Pure fruit juices	1	0.1	0.1

Eating Out Fruit - including fruit (and vegetable) juice

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
200101	All citrus fruit, fresh e.g. orange, grapefruit	1	0	0
200102	Banana, fresh	1	0	0
200103	Apples, fresh	1	0	0
200104	Pears, fresh	1	0	0
200105	Stone fruit, fresh e.g. apricot, plum, peach, cherry, avocado	1	0	0
200106	Grapes, fresh	1	0	0
200107	Soft fruit/berries, fresh e.g. strawberries, blackberries - no cream/ice cream	1	0	0
200108	Melon, fresh	1	0	0
200109	Pineapple, fresh	1	0	0
200110	Fresh fruit salad, without cream/ice cream	1	0	0
200111	Other fresh fruit (kiwi, passion) & 'fruit', type not specified	1	0	0
200112	Free school fruit	1	0	0
200201	Dried fruit e.g. sultanas, raisins	3.71	0	0
200301	Tinned, stewed/baked or processed fruit - without cream/ice cream	1	0	0
240301	Fruit filling e.g. peaches for pancakes	1	0	0
260204	PURE fruit juices	1	0	0
260205	Vegetable juices e.g. tomato juice, carrot juice	1	0	0
290205	Fruit and other pies/pastries	0.5	0	0

Eating Out Fruit (and vegetable) juice

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
260204	PURE fruit juices	1	0	0
260205	Vegetable juices e.g. tomato juice, carrot juice	1	0	0

Household Vegetables - including beans and pulses

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
16201	Cabbages, fresh	1	0.7014	0.4155
16301	Brussels sprouts, fresh	1	0.1701	0.0794
16401	Cauliflower, fresh	1	0.1449	0.1019
16701	Lettuce & leafy salads	1	0.5069	0.3519
16702	Prepared lettuce salads	1	0.6023	0.4633
16801	Peas, fresh	1	0.0917	0.0417
16901	Beans, fresh	1	0.5589	0.3071
17101	Other fresh green vegetables	1	0.2589	0.1589
17201	Carrots, fresh	1	0.3835	0.1681
17301	Turnips & swede, fresh	1	0.1231	0.0669
17401	Other root vegetable, fresh	1	0.225	0.1511
17501	Onions, leeks, shallots, fresh	1	0.2143	0.1408
17601	Cucumbers, fresh	1	0.3717	0.2357
17701	Mushrooms, fresh	1	0.1483	0.104
17801	Tomatoes, fresh	1	0.1582	0.0926
18301	Stewpack, stirfry pack, pack of mixed vegetables	1	0.3429	0.2301
18302	Stem vegetables	1	0.6075	0.453
18303	Marrow, courgettes, aubergine, pumpkin and other fresh vegetables	1	0.1691	0.1147
18304	Fresh herbs	1	0.1267	0.091
18401	Tomatoes, canned or bottled	1	0.1582	0.0926
18501	Peas, canned	1	0.0917	0.0417
18802	Baked beans in sauce	1	0.0828	0.0309
18803	Other canned beans & pulses	1	0.2589	0.1589
19101	Other canned vegetables	1	0.2589	0.1589
19201	Dried pulses other than air-dried	6.19	0.2589	0.1589
19501	Air-dried vegetables	14.39	0.3429	0.2301
19602	Tomato puree and vegetable purees	5.2	0.1267	0.091
20301	Peas, frozen	1	0.0917	0.0417
20401	Beans, frozen	1	0.5589	0.3071
20601	Ready meals & other vegetable products - frozen or not frozen	0.4	0.2563	0.29
20604	All vegetable takeaway products	0.4	0.2563	0.29
20801	Other frozen vegetables	1	0.2589	0.1589
29601	Pizzas - frozen and not frozen	0.16	0.2563	0.29
29602	Takeaway pizza	0.16	0.2563	0.29
31801	Soups - canned or cartons	0.3	0.2563	0.29
32001	Soups - from takeaway	0.3	0.2563	0.29
32201	Meals on wheels - items not specified	0.2	0.2563	0.29

Eating Out Vegetables - including beans and pulses

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
100103	Vegetable or fruit based curry	0.4	0	0
100104	Dhal & Dhal dishes	0.4	0	0
100106	Other Indian dishes	0.4	0	0
100108	Indian buffet or shared meal or unspecified Indian meal	0.2	0	0
100201	Chinese or Thai meat or fish based dishes excluding curry	0.2	0	0
100202	Chop suey and fu yung dishes	0.2	0	0
100203	Chinese or Thai vegetable based main course dishes	0.4	0	0
100204	Chinese or Thai curry	0.2	0	0
100206	Other Chinese or Thai dishes	0.2	0	0
100207	Chinese or Thai buffet or shared meal or unspecified Chinese or Thai meal	0.2	0	0
100301	All other ethnic meals	0.2	0	0
110601	Meat and vegetable stews, casseroles or hotpots	0.2	0	0
110602	Chicken or turkey stews, casseroles or hotpots	0.2	0	0
110603	Meat lasagne, cannelloni, moussaka and other meat-based oven baked dishes	0.2	0	0
130201	Pizza - cheese & tomato, vegetable; incl Pizza, type not specified	0.4	0	0
130202	Pizza - meat, fish or poultry	0.16	0	0
150101	Lettuce & cress	1	0	0
150102	Other green vegetables e.g. spinach, cabbage, sprouts	1	0	0
150201	Peppers - raw/cooked	1	0	0
150202	Courgettes, marrow, aubergine, pumpkin, plantain, cucumbers	1	0	0
150203	Peas & sweetcorn	1	0	0
150204	Baked Beans and other beans (not green beans) & pulses	1	0	0
150205	Tomato - fresh, raw	1	0	0
150206	Tomato - cooked or processed	1	0	0
150301	Carrots	1	0	0
150302	Onions - raw or cooked incl 'onions' type not specified	1	0	0
150303	Onions - fried	1	0	0
150304	Other root vegetables/ tubers e.g. turnip, parsnip, radish, beetroot	1	0	0
150401	Mushrooms - raw or cooked	1	0	0
150501	Mixed vegetables and 'veg' type not specified.	1	0	0
150502	Other vegetables e.g. artichoke, asparagus	1	0	0
150503	Vegetables in batter or breadcrumbs and deep fried veg e.g. onion rings	0.4	0	0
150504	Onion and other vegetable bhajis & pakora	0.4	0	0
150601	Veggie burger, bean burger, veggie sausage, nut roast	0.4	0	0

Eating Out Vegetables - including beans and pulses (continued)

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
150602	Vegetable lasagne, veg cannelloni, veg moussaka and other oven baked vegetable based dishes	0.4	0	0
150603	Stuffed vegetables (e.g. stuffed pepper) and vegetable based starter	0.4	0	0
150604	Vegetable based stews & casseroles and veg-based pies	0.4	0	0
160101	Mixed salad, main course - without dressing	1	0	0
160102	Mixed salad, side dish - without dressing; incl 'salad' type not specified	1	0	0
160103	Green salad - without dressing	1	0	0
160201	Vegetable/ fruit and nut salad - with dressing	0.4	0	0
160301	Meat salad e.g. beef, lamb salads	0.2	0	0
160302	Chicken or turkey salad	0.2	0	0
160303	Fish salad e.g. tuna, salmon salads	0.2	0	0
160401	Cheese salad including ploughman’s	0.2	0	0
160402	Egg salad	0.2	0	0
160501	Other salads e.g. Greek, Florida, Russian	0.2	0	0
160601	Salad buffet or buffet meal where items not specified	0.2	0	0
170105	Noodles with meat, vegetables etc.	0.2	0	0
180102	Vegetable-based soups	0.3	0	0
180104	Soups, other; incl soup not specified	0.3	0	0
230207	Vegetarian based sandwich on white bread or roll	0.4	0	0
230208	Vegetarian based sandwich on brown bread or roll	0.4	0	0
230209	Vegetarian based sandwich bread not specified	0.4	0	0
240102	Meat-based sauce e.g. Bolognese, chilli con carne	0.2	0	0
240104	Tomato-based sauce containing vegetables, incl ratatouille	0.4	0	0
240203	Coleslaw	0.4	0	0
240302	Vegetable filling	0.4	0	0
240701	Unspecified meal e.g. 'meal', 'school meal' or 'meal at work'	0.2	0	0

2. Dietary Goal: Oil rich fish consumption to increase to one portion per person (140g) per week

NB: Factors are multiplied by 7 in order that fish calculations can be carried out alongside those for other foods as the fish target is in grams per week and the other targets are in grams per day

Household Oil Rich Fish

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
10601	Herring & other blue fish, fresh or chilled	7	0.096	0.0418
10602	Herring & other blue fish, frozen	7	0.096	0.0418
10701	Salmon, fresh or chilled	7	0.096	0.0418
10702	Salmon, frozen	7	0.096	0.0418
10801	Blue fish, dried or salted or smoked	7	0.096	0.0418
11901	Tinned salmon	7	0.096	0.0418
12001	Other tinned or bottled fish	1.33	0.096	0.0418
12103	Ready meals & other fish products - frozen or not frozen	1.05	0.2563	0.29

Eating Out Oil Rich Fish

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
120201	Trout, tuna and salmon only - fresh - without sauce/dressing	7	0	0
120202	Other fatty fish - without sauce/dressing e.g. herring, mackerel, sardines	7	0	0
120401	Kippers and other smoked fish e.g. smoked salmon	7	0	0
120603	Fish based pie or other dish e.g. paella, kedgeree, tuna	1.05	0	0
160303	Fish salad e.g. tuna, salmon salads	0.7	0	0

3. Dietary Goal: Average intake of red and processed meat to be pegged at around 70g per person per day. Average intake of the very highest consumers of red and processed meat (90g per person per day) not to increase

Household Red and Processed Meat

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
5502	Bacon and ham joints, uncooked	0.69104	0.2041	0.133
5505	Bacon and ham rashers, uncooked	0.65825	0.2041	0.133
5801	Cooked ham & bacon	1	0.2041	0.133
3102	Beef: joints (including sides) on the bone	0.561	0.0815	0.0457
3103	Beef: joints (boned)	0.632697	0.0815	0.0457
3104	Beef steak (less expensive)	0.636751	0.0815	0.0457
3105	Beef steak (more expensive)	0.728463	0.0815	0.0457
3106	Beef, minced	0.82	0.0815	0.0457
3107	All other beef and veal	0.62	0.0815	0.0457
3601	Mutton	0.617767	0.0224	0.0262
3602	Lamb joints	0.589275	0.0224	0.0262
3603	Lamb chops	0.549128	0.0224	0.0262
3604	All other lamb	0.714897	0.0224	0.0262
4101	Pork joints	0.570298	0.2041	0.133
4102	Pork chops – uncooked	0.588	0.2041	0.133
4103	Pork fillets and steak	0.65	0.2041	0.133
4104	All other pork – uncooked	0.625934	0.2041	0.133
4603	Ox liver	0.91	0.0815	0.0457
4604	Lambs liver	0.78	0.0224	0.0262
4605	Pigs liver	0.88	0.2041	0.133
4607	All other liver	0.884907	0.0584	0.0401
5101	All offals other than liver	0.56119	0.0584	0.0401
6201	Corned beef/ corned meat (canned or sliced)	1	0.0815	0.0457
6601	Other cooked meat	0.954007	0.0584	0.0401
7102	Other canned meat and canned meat products	0.532811	0.0584	0.0401
7801	Other meat (rabbit, venison, etc) – uncooked	0.594	0.0584	0.0401
7901	Sausages (uncooked) - pork	0.78	0.0584	0.0401
8001	Sausages (uncooked) - beef	0.779	0.0584	0.0401
8302	Meat pies	0.271562	0.2563	0.29
8303	Sausage rolls	0.28	0.2563	0.29
8401	Meat pies, pasties and puddings	0.27445	0.2563	0.29
8501	Burgers	0.73	0.0584	0.0401
8901	COMPLETE meat-based ready meals	0.144783	0.2563	0.29
8902	Other convenience meat products	0.240481	0.2563	0.29
9301	Pâté	1	0.1324	0.0755
9302	Delicatessen type sausages: cooked or cured	1	0.0584	0.0401
9403	Meat pastes and spreads	1	0.1324	0.0755
9501	Takeaway meat pies & pasties	0.266316	0.2563	0.29
9502	Burger & bun eg hamburger	0.485	0.2563	0.29
9503	Kebabs	0.5	0.2563	0.29
9504	Sausages & saveloys	1	0.2563	0.29
9505	MEAT- based meals incl Indian & Chinese takeaways	0.208303	0.2563	0.29
9506	Miscellaneous meats	0.649653	0.2563	0.29

Eating Out Red and Processed Meat

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
100101	Meat or fish based curry with sauce	0.0928	0	0
100102	Meat or fish based curry without sauce	0.5	0	0
100201	Chinese or Thai meat or fish based dishes excluding curry	0.17	0	0
100202	Chop suey and fu yung dishes	0.09	0	0
110101	Steak - without sauce e.g. braised, sirloin	1	0	0
110102	Roast meat with sauce or gravy	0.64	0	0
110103	Pork chops with sauce or gravy	0.81	0	0
110104	Lamb chops with sauce or gravy	0.67	0	0
110105	Spare ribs	1	0	0
110106	Bacon	1	0	0
110107	Gammon or ham	1	0	0
110108	All offal including liver, kidney, tongue	1	0	0
110204	Game with sauce or gravy	0.71	0	0
110301	Small or single burgers	0.39	0	0
110302	Large or double burgers	0.58	0	0
110401	Kebabs - all types including chicken	0.5	0	0
110402	Plain sausages e.g. beef, pork	1	0	0
110403	Other sausages	1	0	0
110404	Hot dogs and sausage sandwiches	0.1769	0	0
110501	Meat pies (pastry topped) and pasties	0.16	0	0
110502	Meat pies (potato topped e.g. shepherd's pie)	0.1963	0	0
110503	Sausage roll (pastry)	0.28	0	0
110601	Meat and vegetable stews, casseroles or hotpots	0.0529	0	0
110603	Meat lasagne, cannelloni, moussaka and other meat-based oven baked dishes	0.2041	0	0
110701	All pates	0.5	0	0
110801	Other meat products or dishes	0.2592	0	0
130202	Pizza - meat, fish or poultry	0.0337	0	0
160301	Meat salad e.g. beef, lamb salads	0.314	0	0
170105	Noodles with meat, vegetables etc.	0.2	0	0
230101	Meat based sandwich on white bread or roll	0.242	0	0
230102	Meat based sandwich on brown bread or roll	0.242	0	0
230103	Meat based sandwich bread not specified	0.242	0	0
230107	Bacon and egg based sandwich on white bread or roll including Bacon and Egg McMuffin	0.25	0	0
230108	Bacon and egg based sandwich on brown bread or roll	0.25	0	0
230109	Bacon and egg based sandwich bread not specified	0.25	0	0
240102	Meat-based sauce e.g. bolognese, chilli con carne	0.3366	0	0

Additional Foods and Drinks Indicative of Diet Quality

Brown/Wholemeal and Total Bread (addition of white and brown/wholemeal)

Household White Bread

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
9502	Takeaway burger & bun	0.55	0.2563	0.29
25102	White bread, standard, unsliced	1	0.3335	0.2399
25202	White bread, standard, sliced	1	0.3335	0.2399
25701	White bread, premium, sliced and unsliced	1	0.3335	0.2399
25801	White bread, soft grain, sliced and unsliced	1	0.3335	0.2399
26302	Rolls - white, brown or wholemeal	0.78	0.3942	0.1718
26303	Malt bread and fruit loaves	1	0.0861	0.0241
26304	Vienna & French bread	1	0.3942	0.1718
26305	Starch reduced bread & rolls	1	0.3335	0.2399
26308	Other breads	1	0.3349	0.4585
26309	Sandwiches	0.3744	0.2563	0.29
26310	Sandwiches from takeaway	0.3744	0.2563	0.29
26311	Takeaway breads	1	0.3349	0.4585
26701	Buns, scones & teacakes	1	0.1239	0.1163
29601	Pizzas - frozen and not frozen	0.57	0.2563	0.29
29602	Takeaway pizza	0.57	0.2563	0.29

Eating Out White Bread

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
100107	Indian breads	1	0	0
110301	Small or single burgers	0.66	0	0
110302	Large or double burgers	0.39	0	0
110303	Chicken burger	0.46	0	0
110404	Hot dogs and sausage sandwiches	0.54	0	0
120602	Fish burgers (in bun)	0.49	0	0
130201	Pizza - cheese & tomato, vegetable; incl pizza, type not spec	0.57	0	0
130202	Pizza - meat, fish or poultry	0.57	0	0
220101	White bread, with or w/o butter/marg (toasted or untoasted)	1	0	0
220103	White, without butter/marg (or butter/marg not spec)	1	0	0
220105	Garlic bread	1	0	0
220106	Croissant	1	0	0
220107	Continental breads e.g. pitta, ciabatta, focaccia	1	0	0
220108	Muffins/ crumpets	1	0	0
220109	Fried bread, incl croutons	1	0	0
220110	Bread/ rolls/ toast etc, type not specified	0.78	0	0
230101	Meat-based, white bread/roll	0.52	0	0
230103	Meat-based, bread not specified	0.4056	0	0
230104	Chicken/turkey-based, white bread/roll	0.52	0	0
230106	Chicken/turkey-based, bread not specified	0.4056	0	0

230107	Bacon and egg, white bread/roll incl Bacon & Egg McMuffin	0.52	0	0
230109	Bacon and egg, bread not specified	0.4056	0	0
230110	Fish-based, white bread/roll	0.52	0	0
230112	Fish-based, bread not specified	0.4056	0	0
230201	Cheese-based, white bread/roll	0.52	0	0
230203	Cheese-based, bread not specified	0.4056	0	0
230204	Egg-based, white bread/roll incl Egg McMuffin	0.52	0	0
230206	Egg-based, bread not specified	0.4056	0	0
230207	Vegetarian-based, white bread/roll	0.52	0	0
230209	Vegetarian-based, bread not specified	0.4056	0	0
230210	Sweet-filled sandwich	0.4056	0	0
230211	Unspecified sandwiches or rolls	0.4056	0	0
290301	Waffles & pancakes	0.5	0	0
290401	Teacakes, scones, currant bun, iced bun	0.5	0	0

Household Brown/Wholemeal Bread

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
25901	Brown bread, sliced and unsliced	1	0.3335	0.2399
26001	Wholemeal & granary bread, sliced and unsliced	1	0.3335	0.2399
26302	Rolls - white, brown or wholemeal	0.22	0.3942	0.1718
26309	Sandwiches	0.1056	0.2563	0.29
26310	Sandwiches from takeaway	0.1056	0.2563	0.29

Eating Out Brown/Wholemeal Bread

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
220102	Brown or w/m bread, with or w/o butter/marg (inc toast)	1	0	0
220104	Brown/ wholemeal, without butter/margarine	1	0	0
220110	Bread/ rolls/ toast etc, type not specified	0.22	0	0
230102	Meat-based, brown bread/roll	0.52	0	0
230103	Meat-based, bread not specified	0.1144	0	0
230105	Chicken/turkey-based, brown bread/roll	0.52	0	0
230106	Chicken/turkey-based, bread not specified	0.1144	0	0
230108	Bacon and egg, brown bread/roll	0.52	0	0
230109	Bacon and egg, bread not specified	0.1144	0	0
230111	Fish-based, brown bread/roll	0.52	0	0
230112	Fish-based, bread not specified	0.1144	0	0
230202	Cheese-based, brown bread/roll	0.52	0	0
230203	Cheese-based, bread not specified	0.1144	0	0
230205	Egg-based, brown bread/roll	0.52	0	0
230206	Egg-based, bread not specified	0.1144	0	0
230208	Vegetarian-based, brown bread/roll	0.52	0	0
230209	Vegetarian-based, bread not specified	0.1144	0	0
230210	Sweet-filled sandwich	0.1144	0	0
230211	Unspecified sandwiches or rolls	0.1144	0	0

Breakfast Cereals

High Fibre and Total Breakfast Cereal (addition of high and low fibre cereals)

Household Wholegrain/High Fibre Breakfast Cereals

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
28101	Oatmeal and oat products	1	0.0275	0.0224
28202	Muesli	1	0.0275	0.0224
28203	High fibre breakfast cereals	1	0.0275	0.0224

Eating Out Wholegrain/High Fibre Breakfast Cereals

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
190101	Muesli and Oat Crunch Cereals	1	0	0
190102	Other high fibre breakfast cereals e.g. Allbran, Weetabix	1	0	0
190104	Hot breakfast cereals e.g. porridge, Ready Brek	1	0	0

Household Low Fibre or High NMES Breakfast Cereal

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
28204	Sweetened breakfast cereals	1	0.0275	0.0224

Eating Out Low Fibre or High NMES Breakfast Cereal

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
190103	Sweetened breakfast cereals e.g. Frosties, Sugar Puffs	1	0	0

Household Low fibre and Lower NMES Breakfast Cereal

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
28205	Other breakfast cereals	1	0.0275	0.0224

Eating Out Low Fibre and Lower NMES Breakfast Cereal

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
190105	Other breakfast cereals and type not specified e.g. Cornflakes, Rice Krispies, Special K	1	0	0

Cakes, Sweet Biscuits and Pastries

Cakes and Pastries; Sweet Biscuits; and Cakes, Sweet Biscuits and Pastries

Household Cakes and Pastries

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
27001	Cakes & pastries, not frozen	1	0.2802	0.1703
27002	Takeaway pastries	1	0.2802	0.1703
28601	Puddings	1	0.0638	0.0283
29402	Cakes & pastries - frozen	1	0.2802	0.1703

Eating Out Cakes and Pastries

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
290201	Doughnut	1	0	0
290202	Cream pastries e.g. chocolate éclairs, profiteroles	1	0	0
290203	Cream sponge/ gateau (not chocolate) e.g.Victoria sandwich	1	0	0
290204	Rich chocolate cake & chocolate gateau e.g. Death by Chocolate	1	0	0
290205	Fruit and other pies/pastries	1	0	0
290206	Fruit cake	1	0	0
290207	Other sponge cakes/desserts (not cream cakes)	1	0	0
290209	Meringue desserts incl Pavlova	1	0	0
290210	Cheesecake	1	0	0
290214	Other cakes and desserts incl not specified	1	0	0
290301	Waffles & pancakes	0.5	0	0
290401	Teacakes, scones, currant bun, iced bun	0.5	0	0

Household Sweet Biscuits

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
27402	Sweet biscuits (not chocolate) & cereal bars	1	0.0539	0.0438
27702	Chocolate biscuits	1	0.0539	0.0438

Eating Out Sweet Biscuits

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
300101	Fully-coated chocolate biscuits/ wafers	1	0	0
300102	Sweet biscuits incl half- coated chocolate biscuits	1	0	0
300103	Cereal bars and cereal based cakes	1	0	0

Ice Cream and Dairy Desserts

Household Ice Cream and Dairy Desserts

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
1603	Dairy desserts - not frozen	1	0.1	0.1
33203	Ice cream tub or block	1	0.0638	0.0283
33302	Ice lollies, sorbet, frozen mousse, frozen yoghurt	1	0.0638	0.0283
33303	Ice lollies, sorbet, frozen mousse, frozen yoghurt	1	0.0638	0.0283
33304	Takeaway ice cream, ice cream products, milkshakes	1	0.0638	0.0283

Eating Out Ice Cream and Dairy Desserts

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
290101	Ice cream in a cone, cornet or wafer and ice cream desserts	1	0	0
290103	Ice cream scoop or tub including ice cream served with dessert	1	0	0
290104	Iced lollies and sorbets	1	0	0
290211	Fool, trifle and mousse desserts	1	0	0

Sugar and Preserves

Household Sugar and Preserves

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
15001	Sugar	1	0.1267	0.091
15101	Jams & fruit curds	1	0.1267	0.091
15201	Marmalade	1	0.1267	0.091
15301	Syrup, treacle	1	0.1267	0.091
15401	Honey	1	0.1267	0.091
32303	Other spreads & dressings	1	0.1267	0.091
32901	Jelly squares or crystals	1	0.0638	0.0283

Eating Out Sugar and Preserves

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
240106	Sweet sauce e.g. syrup, treacle, chocolate sauce	1	0	0
240402	Jam, marmalade & honey	1	0	0
240405	Sugar (as an addition to tea, coffee etc)	1	0	0
290212	Jelly	1	0	0

Confectionery

Chocolate Confectionery, Sugar Confectionery and Total Confectionery

Household Chocolate Confectionery

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
35001	Chocolate bars - solid	1	0.0958	0.0575
35101	Chocolate bars - filled	1	0.0958	0.0575

Eating Out Chocolate Confectionery

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
280101	Chocolate bars & sweets – solid, unfilled incl 'chocolate', type not specified	1	0	0
280102	Chocolate-coated bars & sweets - filled e.g. Mars, Snickers, Minstrels	1	0	0
280103	Single chocolate (after dinner)	1	0	0

Household Sugar Confectionery

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
35301	Mints	1	0.0958	0.0575
35302	Boiled sweets	1	0.0958	0.0575
35401	Fudges, toffees, caramels	1	0.0958	0.0575
35501	Takeaway confectionery	1	0.0958	0.0575

Eating Out Sugar Confectionery

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
280105	Mints e.g. Polo, Extra Strong	1	0	0
280106	Boiled sweets, jellies e.g. fruit gums incl 'sweets', type not specified	1	0	0
280107	Toffee/fudge, uncoated eg Toffos, Choc Eclairs, caramels	1	0	0
280108	Pick n mix, nougat, liquorice and other sweets	1	0	0

Soft Drinks

Sugar Containing Soft Drinks, Sugar Free Soft Drinks, and Total Soft Drinks

Household Sugar Containing Soft Drinks

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
34001	Soft drinks, concentrated, not low calorie	1	0.1	0.1
34101	Soft drinks, not concentrated, not low calorie	1	0.1	0.1

Eating Out Sugar Containing Soft Drinks

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
260203	Soft drink (incl carbonates & still), not low calorie incl low calorie/ not low cal not specified	1	0	0
260206	Soft drink where pure juice or juice drink not specified	1	0	0

Household Sugar Free Soft Drinks

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
34301	Soft drinks, concentrated, low calorie	1	0.1	0.1
34401	Soft drinks, not concentrated, low calorie	1	0.1	0.1

Eating Out Sugar Free Soft Drinks

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
260202	Soft drink (incl carbonates & still), low calorie	1	0	0

Meat Products

Household Bacon and Ham

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
5502	Bacon and ham joints, uncooked	0.69104	0.2041	0.133
5505	Bacon and ham rashers, uncooked	0.65825	0.2041	0.133
5801	Cooked ham & bacon	1	0.2041	0.133

Eating Out Bacon and Ham

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
110106	Bacon	1	0	0
110107	Gammon or ham	1	0	0
230107	Bacon and egg based sandwich on white bread or roll including Bacon and Egg McMuffin	0.25	0	0
230108	Bacon and egg based sandwich on brown bread or roll	0.25	0	0
230109	Bacon and egg based sandwich bread not specified	0.25	0	0

Household Other Processed Red Meat Products

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
6201	Corned beef/ corned meat (canned or sliced)	1	0.0815	0.0457
6601	Other cooked meat	0.954007	0.0584	0.0401
7102	Other canned meat and canned meat products	0.532811	0.0584	0.0401
7901	Sausages (uncooked) - pork	0.78	0.0584	0.0401
8001	Sausages (uncooked) - beef	0.779	0.0584	0.0401
8302	Meat pies	0.271562	0.2563	0.29
8303	Sausage rolls	0.28	0.2563	0.29
8401	Meat pies, pasties and puddings	0.27445	0.2563	0.29
8501	Burgers	0.73	0.0584	0.0401
8902	Other convenience meat products	0.240481	0.2563	0.29
9301	Pâté	1	0.1324	0.0755
9302	Delicatessen type sausages: cooked or cured	1	0.0584	0.0401
9403	Meat pastes and spreads	1	0.1324	0.0755
9501	Takeaway meat pies & pasties	0.266316	0.2563	0.29
9502	Burger & bun e.g. hamburger	0.485	0.2563	0.29
9503	Kebabs	0.5	0.2563	0.29
9504	Sausages & saveloys	1	0.2563	0.29
9506	Miscellaneous meats	0.649653	0.2563	0.29

Eating Out Other Processed Red Meat Products

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
110301	Small or single burgers	0.39	0	0
110302	Large or double burgers	0.58	0	0
110401	Kebabs - all types including chicken	0.5	0	0
110402	Plain sausages e.g. beef, pork	1	0	0
110403	Other sausages	1	0	0
110404	Hot dogs and sausage sandwiches	0.1769	0	0
110501	Meat pies (pastry topped) and pasties	0.16	0	0
110502	Meat pies (potato topped e.g. shepherd's pie)	0.1963	0	0
110503	Sausage roll (pastry)	0.28	0	0
110701	All pates	0.5	0	0
110801	Other meat products or dishes	0.2592	0	0
130202	Pizza - meat, fish or poultry	0.0337	0	0
160301	Meat salad e.g. beef, lamb salads	0.314	0	0
230101	Meat based sandwich on white bread or roll	0.242	0	0
230102	Meat based sandwich on brown bread or roll	0.242	0	0
230103	Meat based sandwich bread not specified	0.242	0	0

Household Savoury Meat Pies

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
8302	Meat pies	1	0.2563	0.29
8303	Sausage rolls	1	0.2563	0.29
8401	Meat pies, pasties and puddings	1	0.2563	0.29
9501	Takeaway meat pies & pasties	1	0.2563	0.29

Eating Out Savoury Meat Pies

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
110501	Meat pies (pastry topped) and pasties	1	0	0
110503	Sausage roll (pastry)	1	0	0

Spreading Fats – Butter, Soft Margarine, Low Fat Spread and Total (addition of others)

Household Butter

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
13501	Butter	1	0.0386	0.0176

Household Soft Margarine

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
13801	Soft margarine	1	0.0386	0.0176

Household Low Fat Spread

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
14802	Reduced fat spreads	1	0.0386	0.0176
14802	Low fat spreads	1	0.0386	0.0176

Cooking Oil

Household Cooking Oil

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
14304	Olive oil	1	0.1267	0.091
14305	Other vegetable & salad oils	1	0.1267	0.091

Cream

Household Cream

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
1701	Cream	1	0.1222	0.096

Eating Out Cream

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
240403	Cream - single, double, sour etc.	1	0	0

Cheese

Household Cheese

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
2201	Hard cheese - Cheddar type	1	0.0883	0.0829
2202	Hard cheese - Other UK or foreign equivalent	1	0.0883	0.0829
2203	Hard cheese - Edam or other foreign	1	0.0883	0.0829
2205	Cottage cheese	1	0.0883	0.0829
2206	Soft natural cheese	1	0.0883	0.0829
2301	Processed cheese	1	0.0883	0.0829

Eating Out Cheese

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
130101	Cottage cheese including with pineapple	1	0	0
130102	Soft, continental or processed cheese e.g. brie	1	0	0
130103	Cheddar, blue or other hard cheese and unspecified	1	0	0

Milk

Household Whole Milk

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
402	UHT milk	1	0.1	0.1
403	Sterilised	1	0.1	0.1
404	Pasteurised/ homogenised	1	0.1	0.1

Household Semi-skimmed Milk

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
1503	Semi-skimmed milk	1	0.1	0.1

Household Skimmed Milk

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
1502	Fully skimmed milk	1	0.1	0.1

Household Total Milk

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
402	UHT milk	1	0.1	0.1
403	Sterilised	1	0.1	0.1
404	Pasteurised/ homogenised	1	0.1	0.1
501	School milk	1	0.1	0.1
601	Welfare milk	1	0.1	0.1
901	Condensed or evaporated milk	2.6	0.1	0.1
1102	Infant or baby milks - ready to drink	1	0.1	0.1
1103	Infant or baby milks - dried	1	0.1	0.1
1201	Instant dried milk	1	0.1	0.1
1502	Fully skimmed milk	1	0.1	0.1
1503	Semi-skimmed milk	1	0.1	0.1
1605	Dried milk products	1	0.1	0.1
1606	Milk drinks & other milks (replaced 200405 onwards)	1	0.1	0.1
1607	Milk drinks & other milks	1	0.1	0.1

Eating Out Total Milk

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
260301	Milk as a drink	1	0	0
260302	Milk on cereal	1	0	0
260303	Milkshake and flavoured milk	1	0	0
260304	Free school milk	1	0	0

White Fish

NB: Factors are multiplied by 7 in order that fish calculations can be carried out alongside those for other foods as the fish target is in grams per week and the other targets are in grams per day

Household White Fish

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
10201	White fish, fresh or chilled	7	0.096	0.0418
10202	White fish, frozen	7	0.096	0.0418
11401	White fish, dried or salted or smoked	7	0.096	0.0418
11702	Shellfish, fresh or chilled	7	0.2178	0.0621
11703	Shellfish, frozen	7	0.2178	0.0621
11801	Takeaway fish	3.85	0.096	0.0418
12001	Other tinned or bottled fish	5.67	0.096	0.0418
12103	Ready meals & other fish products - frozen or not frozen	2.45	0.2563	0.29
12304	Takeaway fish products	3.5	0.2563	0.29
12305	Takeaway fish based meals	3.5	0.2563	0.29

Eating Out White Fish

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
100101	Meat or fish based curry with sauce	1.75	0	0
100102	Meat or fish based curry without sauce	1.75	0	0
100201	Chinese or Thai meat or fish based dishes excluding curry	1.75	0	0
120101	White fish - grilled, steamed, baked or boiled - no sauce	7	0	0
120102	White fish - fried (incl in batter/breadcrumbs) - no sauce	3.85	0	0
120301	Shellfish - without sauce or dressing e.g. prawns, shrimps, oysters, crab	7	0	0
120501	Other fish products and unspecified 'fish' e.g. squid, sushi, crabsticks	7	0	0
120601	Fish, processed, in breadcrumbs (fish fingers, fish cakes, scampi) - without sauce/dressing	3.5	0	0
120602	Fish burgers [in bun]	1.575	0	0
120603	Fish based pie or other dish e.g. paella, kedgeree, tuna pasta bake	2.45	0	0
130202	Pizza - meat, fish or poultry	0.175	0	0
160303	Fish salad e.g. tuna, salmon salads	0.7	0	0
230110	Fish based sandwich on white bread or roll	2.31	0	0
230111	Fish based sandwich on brown bread or roll	2.31	0	0
230112	Fish based sandwich bread not specified	2.31	0	0
240103	Fish or seafood based sauce	3.43	0	0
240304	Fish-based filling e.g. tuna mayonnaise	4.55	0	0

Fresh Potatoes

Household Fresh Potatoes

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
15501	Potatoes	1	0.3718	0.2416
15502	Potatoes	1	0.3718	0.2416
15503	Potatoes	1	0.3718	0.2416
15504	Fresh potatoes not specified elsewhere	1	0.3718	0.2416
15505	Fresh new potatoes	1	0.3718	0.2416
15506	Fresh baking potatoes	1	0.3718	0.2416

Eating Out Fresh Potatoes

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
140103	Potatoes - boiled & type not specified	1	0	0
140104	Potatoes - mashed	1	0	0
140105	Potatoes - roast	1	0	0
140106	Sautéed potatoes/ potato croquettes/ hash browns	1	0	0
140107	Baked/ jacket potatoes - no filling	1	0	0
140108	Other potato dishes (e.g. wedges, potato salad) & not specified	1	0	0

Processed Potatoes

Household Processed Potatoes

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
19702	Chips - frozen or not frozen	1	0.3718	0.2416
19703	Takeaway chips	1	0.3718	0.2416
19801	Instant potato	1	0.3718	0.2416
19901	Canned potatoes	1	0.3718	0.2416
20101	Other potato products - frozen or not frozen	1	0.3718	0.2416

Eating Out Processed Potatoes

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
140101	Chips & French fries - from fast food outlet e.g. McDonalds	1	0	0
140102	Chips - served with meal e.g. from restaurant, chip shop	1	0	0

Nuts

Household Nuts

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
24502	Nuts & edible seeds	1	0.0228	0.043
24503	Peanut butter	1	0.0228	0.043

Eating Out Nuts

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
310101	Nuts, nut products and seeds	1	0	0

Savoury Snacks

Household Savoury Snacks

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
20002	Crisps & potato snacks	1	0.1239	0.0809
29909	Cereal snacks	1	0.0275	0.0224
29916	Takeaway crisps, savoury snacks, popcorn, popadums, prawn crackers	1	0.1239	0.0809

Eating Out Savoury Snacks

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
310102	Potato crisps or snacks including unspecified 'crisps', prawn crackers	1	0	0
310103	Corn snacks, based on maize	1	0	0
310104	Wheat-based savoury snack	1	0	0

Appendix 4: Energy Density Coding Frame

Food Code	Description	HH / EO	Food & Milk	Factor
402	UHT whole milk	HH	✓	1
403	Sterilised whole milk	HH	✓	1
404	Pasteurised or homogenised whole milk	HH	✓	1
501	School milk	HH	✓	1
601	Welfare milk	HH	✓	1
901	Condensed or evaporated milk	HH	✓	1
1102	Infant or baby milks - ready to drink	HH	✓	1
1103	Infant or baby milks - dried (reconstituted)	HH	✓	1
1201	Instant dried milk (reconstituted)	HH	✓	1
1301	Yoghurt	HH	✓	1
1302	Fromage frais	HH	✓	1
1502	Fully skimmed milk	HH	✓	1
1503	Semi-skimmed milk	HH	✓	1
1603	Dairy desserts - not frozen	HH	✓	1
1605	Dried milk products (reconstituted)	HH	✓	1
1606	Milk drinks & other milks	HH	✓	1
1607	Milk drinks & other milks	HH	✓	1
1608	Non-dairy milk substitutes	HH	✓	1
1701	Cream	HH	✓	1
2201	Hard cheese - Cheddar type	HH	✓	1
2202	Hard cheese - Other	HH	✓	1
2203	Hard cheese - Edam	HH	✓	1
2205	Cottage cheese	HH	✓	1
2206	Soft natural cheese	HH	✓	1
2301	Processed cheese	HH	✓	1
3102	Beef joints - on the bone	HH	✓	0.56
3103	Beef joints - boned	HH	✓	0.63
3104	Beef steak - less expensive	HH	✓	0.64
3105	Beef steak - more expensive	HH	✓	0.73
3106	Minced beef	HH	✓	0.82
3107	All other beef and veal	HH	✓	0.62
3601	Mutton	HH	✓	0.62
3602	Lamb joints	HH	✓	0.59
3603	Lamb chops	HH	✓	0.55
3604	All other lamb	HH	✓	0.71
4101	Pork joints	HH	✓	0.57
4102	Pork chops	HH	✓	0.59
4103	Pork fillets and steaks	HH	✓	0.65
4104	All other pork	HH	✓	0.63
4603	Ox liver	HH	✓	0.91
4604	Lambs liver	HH	✓	0.78
4605	Pigs liver	HH	✓	0.88
4607	All other liver	HH	✓	0.88
5101	All offal other than liver	HH	✓	0.56
5502	Bacon and ham joints, uncooked	HH	✓	0.69
5505	Bacon and ham rashers, uncooked	HH	✓	0.66
5801	Ham and bacon (cooked)	HH	✓	1
5903	Cooked chicken and turkey	HH	✓	1
5904	Takeaway chicken	HH	✓	1
6201	Corned beef - canned or sliced	HH	✓	1
6601	Other cooked meat	HH	✓	1
7102	Other canned meat and meat products	HH	✓	1
7401	Chicken - whole or part	HH	✓	0.54
7703	Turkey - whole or part	HH	✓	0.55
7704	Poultry other than chicken or turkey	HH	✓	0.46
7801	Other fresh, chilled or frozen meat	HH	✓	0.59
7901	Sausages, uncooked - pork	HH	✓	0.78
8001	Sausages, uncooked - beef etc.	HH	✓	0.78
8302	Meat pies - ready to eat	HH	✓	1
8303	Sausage rolls - ready to eat	HH	✓	1
8401	Meat pies, pasties and puddings	HH	✓	1
8501	Burgers - frozen or not frozen	HH	✓	0.73
8901	Complete meat-based ready meals	HH	✓	1

8902	Other convenience meat products	HH	✓	1
9301	Pate	HH	✓	1
9302	Delicatessen type sausages	HH	✓	1
9403	Meat pastes and spreads	HH	✓	1
9501	Takeaway meat pies and pasties	HH	✓	1
9502	Takeaway burger and bun	HH	✓	1
9503	Takeaway kebabs	HH	✓	1
9504	Takeaway sausages and saveloys	HH	✓	1
9505	Takeaway meat based meals	HH	✓	1
9506	Takeaway miscellaneous meats	HH	✓	1
10201	White fish, fresh or chilled	HH	✓	0.94
10202	White fish, frozen	HH	✓	0.94
10601	Herrings and other blue fish, fresh/chilled	HH	✓	0.89
10602	Herrings and other blue fish, frozen	HH	✓	0.89
10701	Salmon, fresh or chilled	HH	✓	0.94
10702	Salmon, frozen	HH	✓	0.94
10801	Blue fish, dried or salted or smoked	HH	✓	0.71
11401	White fish, dried or salted or smoked	HH	✓	0.97
11702	Shellfish, fresh or chilled	HH	✓	1
11703	Shellfish, frozen	HH	✓	1
11801	Takeaway fish	HH	✓	1
11901	Tinned salmon	HH	✓	1
12001	Other tinned or bottled fish	HH	✓	1
12103	Ready meals and other fish products	HH	✓	1
12304	Takeaway fish products	HH	✓	1
12305	Takeaway fish based meals	HH	✓	1
12901	Eggs	HH	✓	50
13501	Butter	HH	✓	1
13801	Soft margarine	HH	✓	1
13802	Other margarine	HH	✓	1
13901	Lard, cooking fat	HH	✓	1
14304	Olive Oil	HH	✓	1
14305	Other vegetable and salad oils	HH	✓	1
14802	Reduced fat spreads	HH	✓	1
14803	Low fat spreads	HH	✓	1
14805	Suet and dripping	HH	✓	1
14807	Imitation cream	HH	✓	1
15001	Sugar	HH	✓	1
15101	Jams and fruit curds	HH	✓	1
15201	Marmalade	HH	✓	1
15301	Syrup, treacle	HH	✓	1
15401	Honey	HH	✓	1
15501	Potatoes	HH	✓	1
15502	Potatoes	HH	✓	1
15503	Potatoes	HH	✓	1
15504	Fresh potatoes not specified elsewhere	HH	✓	1
15505	Fresh new potatoes	HH	✓	1
15506	Fresh baking potatoes	HH	✓	1
16201	Fresh cabbages	HH	✓	1
16301	Fresh Brussels sprouts	HH	✓	1
16401	Fresh cauliflower	HH	✓	1
16701	Lettuce and leafy salads	HH	✓	1
16702	Prepared lettuce salads	HH	✓	1
16801	Fresh peas	HH	✓	1
16901	Fresh beans	HH	✓	1
17101	Other fresh green vegetables	HH	✓	1
17201	Fresh carrots	HH	✓	1
17301	Fresh turnips and swede	HH	✓	1
17401	Other fresh root vegetables	HH	✓	1
17501	Fresh onions, leeks and shallots	HH	✓	1
17601	Fresh cucumbers	HH	✓	1
17701	Fresh mushrooms	HH	✓	1
17801	Fresh tomatoes	HH	✓	1
18301	Fresh vegetable stewpack, stirfry pack etc.	HH	✓	1
18302	Fresh stem vegetables	HH	✓	1
18303	Fresh marrow, courgettes, aubergine, pumpkin and other veg	HH	✓	1
18304	Fresh herbs	HH	✓	1

18401	Tomatoes, canned or bottled	HH	✓	1
18501	Peas, canned	HH	✓	1
18802	Baked beans in sauce	HH	✓	1
18803	Other canned beans and pulses	HH	✓	1
19101	Other canned vegetables	HH	✓	1
19201	Dried pulses, other than air-dried	HH	✓	6.19
19501	Air-dried vegetables	HH	✓	14.39
19602	Tomato puree and vegetable purees	HH	✓	1
19603	Vegetable juices e.g. tomato, carrot	HH	×	1
19702	Chips - frozen or not frozen	HH	✓	1
19703	Takeaway chips	HH	✓	1
19801	Instant potato	HH	✓	1
19901	Canned potatoes	HH	✓	1
20002	Crisps and potato snacks	HH	✓	1
20101	Other potato products	HH	✓	1
20301	Peas, frozen	HH	✓	1
20401	Beans, frozen	HH	✓	1
20601	Ready meals & other vegetable products	HH	✓	1
20604	All vegetable takeaway products	HH	✓	1
20801	Other frozen vegetables	HH	✓	1
21001	Fresh oranges	HH	✓	1
21401	Other fresh citrus fruits	HH	✓	1
21701	Fresh apples	HH	✓	1
21801	Fresh pears	HH	✓	1
22101	Fresh stone fruit	HH	✓	1
22201	Fresh grapes	HH	✓	1
22701	Other fresh soft fruit	HH	✓	1
22801	Fresh bananas	HH	✓	1
22901	Fresh melons	HH	✓	1
23101	Other fresh fruit	HH	✓	1
23301	Tinned peaches, pears and pineapples	HH	✓	1
23601	All other tinned or bottled fruit	HH	✓	1
24001	Dried fruit	HH	✓	1
24101	Frozen strawberries, apples, peach halves, oranges & other fruits	HH	✓	1
24502	Nuts & edible seeds	HH	✓	1
24503	Peanut butter	HH	✓	1
24801	Pure fruit juices	HH	×	1
25102	White bread, standard, unsliced	HH	✓	1
25202	White bread, standard, sliced	HH	✓	1
25701	White bread, premium, sliced and unsliced	HH	✓	1
25801	White bread, soft grain, sliced and unsliced	HH	✓	1
25901	Brown bread, sliced and unsliced	HH	✓	1
26001	Wholemeal and granary bread	HH	✓	1
26302	Rolls - white, brown or wholemeal	HH	✓	1
26303	Malt bread and fruit loaves	HH	✓	1
26304	Vienna and French bread	HH	✓	1
26305	Starch reduced bread and rolls	HH	✓	1
26308	Other breads	HH	✓	1
26309	Sandwiches	HH	✓	1
26310	Sandwiches from takeaway	HH	✓	1
26311	Takeaway breads	HH	✓	1
26401	Flour	HH	✓	1
26701	Buns, scones and teacakes	HH	✓	1
27001	Cakes and pastries, not frozen	HH	✓	1
27002	Takeaway pastries	HH	✓	1
27101	Crispbread	HH	✓	1
27402	Sweet biscuits (not choc) and cereal bars	HH	✓	1
27403	Cream crackers & other unsweetened biscuits	HH	✓	1
27702	Chocolate biscuits	HH	✓	1
28101	Oatmeal and oat products	HH	✓	1
28202	Muesli	HH	✓	1
28203	High fibre breakfast cereals	HH	✓	1
28204	Sweetened breakfast cereals	HH	✓	1
28205	Other breakfast cereals	HH	✓	1
28502	Canned or fresh carton custard	HH	✓	1
28503	All canned milk puddings	HH	✓	1
28601	Puddings	HH	✓	1

28702	Dried rice	HH	✓	2.77
28703	Cooked rice	HH	✓	1
28704	Takeaway rice	HH	✓	1
29001	Invalid, slimming and sports foods	HH	✓	1
29101	Infant cereal foods	HH	✓	1
29402	Cakes and pastries - frozen	HH	✓	1
29501	Canned pasta	HH	✓	1
29502	Dried and fresh pasta	HH	✓	2.27
29503	Takeaway pasta and noodles	HH	✓	1
29601	Pizzas - frozen and not frozen	HH	✓	1
29602	Takeaway pizza	HH	✓	1
29907	Cake, pudding and dessert mixes	HH	✓	8.50
29909	Cereal snacks	HH	✓	1
29915	Quiches and flans - frozen and not frozen	HH	✓	1
29916	T/A crisps, savoury snacks, popcorn, popadums, prawn crackers	HH	✓	1
29919	Other cereal foods - frozen and not frozen	HH	✓	1
30101	Other cereals	HH	✓	1
30401	Tea	HH	×	83
30701	Coffee beans and ground coffee	HH	×	52
30801	Instant coffee	HH	×	173
30901	Coffee essences	HH	×	20.8
31001	Tea and coffee from takeaway	HH	×	1
31201	Cocoa and chocolate drinks	HH	✓	1
31301	Malt drinks and chocolate versions of malted drinks	HH	✓	1
31401	Mineral or spring waters	HH	×	1
31501	Baby foods	HH	✓	1
31801	Soups - canned or cartons	HH	✓	1
31901	Soups - dehydrated or powdered	HH	✓	9.40
32001	Soups - from takeaway	HH	✓	1
32101	Other takeaway food brought home	HH	×	
32201	Meals on wheels - items not specified	HH	✓	1
32302	Salad dressings	HH	✓	1
32303	Other spreads and dressings	HH	✓	1
32702	Pickles	HH	✓	1
32703	Sauces	HH	✓	1
32704	Takeaway sauces and mayonnaise	HH	✓	1
32801	Stock cubes and meat and yeast extracts	HH	✓	1
32901	Jelly squares or crystals	HH	✓	1
33203	Ice cream tub or block	HH	✓	1
33302	Ice cream cornets, choc-ices, lollies with ice cream	HH	✓	1
33303	Ice lollies, sorbet, frozen mousse, frozen yoghurt	HH	✓	1
33304	Takeaway ice cream, ice cream products, milkshakes	HH	✓	1
33401	Salt	HH	×	
33501	Artificial sweeteners	HH	×	
33602	Vinegar	HH	×	
33603	Spices and dried herbs	HH	×	
33604	Bisto, gravy granules, stuffing mix, baking powder, yeast	HH	×	
33605	Wine and beer making kits	HH	×	
33606	Fruit teas, instant tea, herbal tea, rosehip tea	HH	×	
33607	Payment for food, type not specified	HH	×	
33901	Soya and novel protein foods	HH	✓	1
34001	Soft drinks, concentrated, not low calorie (reconstituted)	HH	×	1
34101	Soft drinks, not concentrated, not low calorie (reconstituted)	HH	×	1
34301	Soft drinks, concentrated, low calorie	HH	×	1
34401	Soft drinks, not concentrated, low calorie	HH	×	1
35001	Chocolate bars - solid	HH	✓	1
35101	Chocolate bars - filled	HH	✓	1
35202	Chewing gum	HH	✓	1
35301	Mints	HH	✓	1
35302	Boiled sweets	HH	✓	1
35401	Fudges, toffees, caramels	HH	✓	1
35501	Takeaway confectionery	HH	✓	1
38102	Beers	HH	×	1
38202	Lagers and continental beers	HH	×	1
38302	Ciders and perry	HH	×	1
38402	Champagne, sparkling wines & wine with mixer	HH	×	1
38403	Table wine	HH	×	1

38501	Spirits with mixer	HH	×	1
38601	Fortified wines	HH	×	1
38701	Spirits	HH	×	1
38801	Liqueurs and cocktails	HH	×	1
38901	Alcopops	HH	×	1
100101	Meat or fish based curry with sauce	EO	✓	1
100102	Meat or fish based curry without sauce	EO	✓	1
100103	Vegetable or fruit based curry	EO	✓	1
100104	Dhal and dhal dishes	EO	✓	1
100105	Samosas	EO	✓	1
100106	Other Indian dishes	EO	✓	1
100107	Indian breads	EO	✓	1
100108	Indian buffet or shared meal or unspecified Indian meal	EO	✓	1
100201	Chinese or Thai meat or fish based dishes excluding curry	EO	✓	1
100202	Chop suey and fu yung dishes	EO	✓	1
100203	Chinese or Thai vegetable based main course dishes ex. curry	EO	✓	1
100204	Chinese or Thai curry	EO	✓	1
100205	Spring rolls	EO	✓	1
100206	Other Chinese or Thai dishes	EO	✓	1
100207	Chinese or Thai buffet or shared meal or unspecified meal	EO	✓	1
100301	All other ethnic meals	EO	✓	1
110101	Steak - without sauce e.g. braised, sirloin	EO	✓	1
110102	Roast meat with sauce or gravy	EO	✓	1
110103	Pork chops with sauce or gravy	EO	✓	1
110104	Lamb chops with sauce or gravy	EO	✓	1
110105	Spare ribs	EO	✓	1
110106	Bacon	EO	✓	1
110107	Gammon or ham	EO	✓	1
110108	All offal including liver, kidney, tongue	EO	✓	1
110201	Chicken or turkey with sauce or gravy	EO	✓	1
110202	Chicken or turkey in breadcrumbs or batter	EO	✓	1
110203	Duck with sauce or gravy	EO	✓	1
110204	Game with sauce or gravy	EO	✓	1
110301	Small or single burgers	EO	✓	1
110302	Large or double burgers	EO	✓	1
110303	Chicken burger	EO	✓	1
110401	Kebabs - all types including chicken	EO	✓	1
110402	Plain sausages e.g. beef, pork	EO	✓	1
110403	Other sausages	EO	✓	1
110404	Hot dogs and sausage sandwiches	EO	✓	1
110501	Meat pies (pastry topped) and pasties	EO	✓	1
110502	Meat pies (potato topped e.g. shepherd's pie)	EO	✓	1
110503	Sausage roll (pastry)	EO	✓	1
110601	Meat and vegetable stews, casseroles or hotpots	EO	✓	1
110602	Chicken or turkey stews, casseroles or hotpots	EO	✓	1
110603	Lasagne, cannelloni, moussaka & other meat-based oven baked dishes	EO	✓	1
110701	All pates	EO	✓	1
110801	Other meat products or dishes	EO	✓	1
120101	White fish - grilled, steamed, baked or boiled - without sauce	EO	✓	1
120102	White fish - fried (incl in batter/breadcrumbs) - without sauce	EO	✓	1
120201	Trout, tuna and salmon only - fresh - without sauce or dressing	EO	✓	1
120202	Other fatty fish – w/o sauce or dressing e.g. herring, mackerel, sardines	EO	✓	1
120301	Shellfish w/o sauce or dressing e.g. prawns, shrimps, oysters, crab	EO	✓	1
120401	Kippers and other smoked fish e.g. salmon	EO	✓	1
120501	Other fish products and unspecified 'fish' e.g. squid, sushi, crabsticks	EO	✓	1
120601	Fish processed in breadcrumbs (fish fingers, fish cakes, scampi)	EO	✓	1
120602	Fish burgers (in bun)	EO	✓	1
120603	Fish based pie or other dish e.g. paella, kedgeree, tuna pasta bake	EO	✓	1
130101	Cottage cheese including with pineapple	EO	✓	1
130102	Soft, continental or proc cheese e.g. brie	EO	✓	1
130103	Cheddar, blue or other hard cheese and unspecified 'cheese'	EO	✓	1
130104	Quiche and cheese pies or pasties	EO	✓	1
130105	Other cheese dishes e.g. Welsh rarebit, cheese and biscuits	EO	✓	1
130201	Pizza - cheese and tomato, vegetable or unspecified 'pizza'	EO	✓	1
130202	Pizza - meat, fish or poultry	EO	✓	1
130301	Eggs - boiled or poached	EO	✓	1
130302	Eggs - scrambled, fried, omelettes or unspecified 'egg'	EO	✓	1

130303	Other egg dishes e.g. egg mayonnaise	EO	✓	1
140101	Chips and French fries - from fast food outlet e.g. McDonalds	EO	✓	1
140102	Chips - served with meal e.g. from restaurant or chip shop	EO	✓	1
140103	Potatoes - boiled or unspecified 'potato'	EO	✓	1
140104	Potatoes - mashed	EO	✓	1
140105	Potatoes - roast	EO	✓	1
140106	Sautéed potatoes, potato croquettes, hash browns etc.	EO	✓	1
140107	Baked or jacket potatoes - without filling	EO	✓	1
140108	Other potato dishes (e.g. wedges, potato salad) including unspecified	EO	✓	1
150101	Lettuce and cress	EO	✓	1
150102	Other green vegetables e.g. spinach, cabbage, sprouts	EO	✓	1
150201	Peppers - raw or cooked	EO	✓	1
150202	Courgettes, marrow, aubergine, pumpkin, plantain, cucumbers	EO	✓	1
150203	Peas and sweetcorn	EO	✓	1
150204	Baked beans and other beans (not green beans) and pulses	EO	✓	1
150205	Tomato - fresh or raw	EO	✓	1
150206	Tomato - cooked or processed	EO	✓	1
150301	Carrots	EO	✓	1
150302	Onions - raw, cooked or unspecified 'onions'	EO	✓	1
150303	Onions - fried	EO	✓	1
150304	Other root vegetables or tubers e.g. turnip, parsnip, radish, beetroot	EO	✓	1
150401	Mushrooms - raw or cooked	EO	✓	1
150501	Mixed vegetables or unspecified 'vegetable'	EO	✓	1
150502	Other vegetables e.g. artichoke, asparagus	EO	✓	1
150503	Veg in batter or breadcrumbs and deep fried vegetables e.g. onion rings	EO	✓	1
150504	Onion and other vegetable bhajis and pakora	EO	✓	1
150601	Veggie burger, bean burger, veggie sausage, nut roast	EO	✓	1
150602	Veg lasagne, cannelloni, moussaka & other oven baked veg dishes	EO	✓	1
150603	Stuffed vegetables (e.g. stuffed pepper) and vegetable based starter	EO	✓	1
150604	Vegetable based stews and casseroles and vegetable based pies	EO	✓	1
160101	Mixed salad, main course - without dressing	EO	✓	1
160102	Mixed salad, side dish - without dressing - including unspecified 'salad'	EO	✓	1
160103	Green salad - without dressing	EO	✓	1
160201	Vegetable or fruit and nut salad - with dressing	EO	✓	1
160202	Pasta, rice, mixed bean or cereal-based salads - with dressing	EO	✓	1
160301	Meat salad e.g. beef, lamb salads	EO	✓	1
160302	Chicken or turkey salad	EO	✓	1
160303	Fish salad e.g. tuna, salmon salads	EO	✓	1
160401	Cheese salad including ploughmans	EO	✓	1
160402	Egg salad	EO	✓	1
160501	Other salads e.g. Greek, Florida, Russian	EO	✓	1
160601	Salad buffet or buffet meal items not spec	EO	✓	1
170101	Fried rice and risotto	EO	✓	1
170102	All cooked rice excluding fried rice e.g. boiled, pilau, savoury	EO	✓	1
170103	Pasta - not filled and plain noodles (inc. pot noodle) – w/o sauce	EO	✓	1
170104	Pasta - filled e.g. ravioli, tortellini - w/o sauce	EO	✓	1
170105	Noodles with meat, vegetables etc.	EO	✓	1
180101	Meat & fish soups	EO	✓	1
180102	Vegetable based soups	EO	✓	1
180103	Chinese soups, consommé	EO	✓	1
180104	Other soups including unspecified 'soup'	EO	✓	1
190101	Muesli and oat crunch cereals	EO	✓	1
190102	Other high fibre breakfast cereals e.g. Allbran, Weetabix	EO	✓	1
190103	Sweetened breakfast cereals e.g. Frosties, Sugar Puffs	EO	✓	1
190104	Hot breakfast cereals e.g. porridge, Ready Brek	EO	✓	1
190105	Other break cereals / unspecified e.g. Cornflakes, Rice Krispies, Special K	EO	✓	1
200101	All citrus fruit, fresh e.g. orange, grapefruit	EO	✓	1
200102	Banana, fresh	EO	✓	1
200103	Apples, fresh	EO	✓	1
200104	Pears, fresh	EO	✓	1
200105	Stone fruit, fresh e.g. apricot, plum, peach, cherry, avocado	EO	✓	1
200106	Grapes, fresh	EO	✓	1
200107	Soft fruit or berries, fresh e.g. strawberries – w/o cream or ice cream	EO	✓	1
200108	Melon, fresh	EO	✓	1
200109	Pineapple, fresh	EO	✓	1
200110	Fresh fruit salad	EO	✓	1
200111	Other fresh fruit (kiwi, passion) and unspec	EO	✓	1

200112	Free school fruit	EO	✓	1
200201	Dried fruit e.g. sultanas, raisins	EO	✓	1
200301	Tinned, stewed, baked or processed fruit w/o cream or ice cream	EO	✓	1
210101	Yoghurt and fromage frais	EO	✓	1
220101	White bread, with or w/o butter or margarine (toasted or untoasted)	EO	✓	1
220102	Brown/w'meal bread, with or w/o butter or marg (toasted/untoasted)	EO	✓	1
220103	White rolls, baguettes etc. w/o butter/ margarine (or not spec.)	EO	✓	1
220104	Brown or w'meal rolls, baguettes w/o butter/marg (or not spec.)	EO	✓	1
220105	Garlic bread	EO	✓	1
220106	Croissant	EO	✓	1
220107	Continental breads e.g. pitta, ciabatta, focaccio	EO	✓	1
220108	Muffins, crumpets	EO	✓	1
220109	Fried bread, including croutons	EO	✓	1
220110	Other bread, rolls, toast, unspec 'bread' etc.	EO	✓	1
230101	Meat based sandwich on white bread/roll	EO	✓	1
230102	Meat based sandwich on brown bread/roll	EO	✓	1
230103	Meat based sandwich bread not specified	EO	✓	1
230104	Chicken/turkey s'wich on white bread/roll	EO	✓	1
230105	Chicken/ turkey s'wich on brown bread/ roll	EO	✓	1
230106	Chicken/ turkey s'wich bread not specified	EO	✓	1
230107	Bacon & egg based sandwich on white bread/roll inc McMuffin	EO	✓	1
230108	Bacon & egg sandwich - brown bread or roll	EO	✓	1
230109	Bacon & egg sandwich bread not specified	EO	✓	1
230110	Fish based sandwich on white bread or roll	EO	✓	1
230111	Fish based sandwich on brown bread or roll	EO	✓	1
230112	Fish based sandwich bread not specified	EO	✓	1
230201	Cheese sandwich on white bread or roll	EO	✓	1
230202	Cheese sandwich on brown bread or roll	EO	✓	1
230203	Cheese based sandwich bread not specified	EO	✓	1
230204	Egg based sandwich on white bread or roll inc. Egg McMuffin	EO	✓	1
230205	Egg based sandwich on brown bread or roll	EO	✓	1
230206	Egg based sandwich bread not specified	EO	✓	1
230207	Vegetarian sandwich on white bread or roll	EO	✓	1
230208	Vegetarian sandwich on brown bread or roll	EO	✓	1
230209	Vegetarian sandwich bread not specified	EO	✓	1
230210	Sweet-filled sandwich	EO	✓	1
230211	Unspecified sandwiches or rolls	EO	✓	1
240101	Cheese or cream based sauce e.g. carbonara, cauliflower cheese	EO	✓	1
240102	Meat-based sauce e.g. bolognese, chilli	EO	✓	1
240103	Fish or seafood based sauce	EO	✓	1
240104	Tomato based sauce cont veg inc ratatouille	EO	✓	1
240105	Other savoury sauce or unspecified 'sauce'	EO	✓	1
240106	Sweet sauce e.g. syrup, treacle, chocolate	EO	✓	1
240107	Fruit or vegetable based condiments	EO	✓	1
240108	Other condiments or sauces	EO	✓	1
240201	Salad dressings and dips	EO	✓	1
240202	Mayonnaise	EO	✓	1
240203	Coleslaw	EO	✓	1
240301	Fruit filling e.g. peaches for pancakes	EO	✓	1
240302	Vegetable filling	EO	✓	1
240303	Cheese filling inc cheddar / cottage cheese	EO	✓	1
240304	Fish based filling e.g. tuna mayonnaise	EO	✓	1
240401	Butter and margarine	EO	✓	1
240402	Jam, marmalade and honey	EO	✓	1
240403	Cream - single, double, sour etc.	EO	✓	1
240404	Custard	EO	✓	1
240405	Sugar (as an addition to tea, coffee etc.)	EO	✓	1
240501	Commercial baby food in a jar or can	EO	✓	1
240601	Yorkshire puddings and dumplings	EO	✓	1
240701	Unspec meal e.g. school meal / meal at work	EO	✓	1
250101	Coffee, black including espresso	EO	×	1
250102	Coffee, white including cappuccino, latte	EO	×	1
250103	Coffee, black or white not specified	EO	×	1
250104	Tea, white	EO	×	1
250105	Tea, black	EO	×	1
250106	Hot chocolate or cocoa, with milk or water	EO	✓	1
260201	Mineral water	EO	×	1

Appendix 4: Energy Density Coding Frame

260202	Soft drink (incl carbonates and still) - low calorie	EO	×	1
260203	Soft drink (incl carbonates & still) - not low calorie /calories unspecified	EO	×	1
260204	Pure fruit juices	EO	×	1
260205	Vegetable juices e.g. tomato, carrot juice	EO	×	1
260206	Soft drink - pure juice or juice drink not spec	EO	×	1
260301	Milk as a drink	EO	✓	1
260302	Milk on cereal	EO	✓	1
260303	Milkshake and flavoured milk	EO	✓	1
260304	Free school milk	EO	✓	1
270101	Spirits	EO	×	1
270102	Liqueurs	EO	×	1
270103	Cocktails	EO	×	1
270104	Spirits or liqueurs with mixer e.g. gin & tonic, Bacardi & coke	EO	×	1
270201	Wine (not sparkling) including unspec 'wine'	EO	×	1
270202	Sparkling wines (e.g. Champagne) and wine with mixer (e.g. Bucks Fizz)	EO	×	1
270203	Fortified wine e.g. sherry, port, vermouth	EO	×	1
270204	Cider or perry - half pint or bottle	EO	×	1
270205	Cider or perry - pint / can / size not spec	EO	×	1
270206	Alcoholic soft drinks (alcopops), and ready-mixed bottled drinks	EO	×	1
270301	Bitter - half pint or bottle	EO	×	1
270302	Bitter - pint or can or size not specified	EO	×	1
270303	Lager or other beers - half pint or bottle	EO	×	1
270304	Lager or other beers - pint/can/size not spec	EO	×	1
270401	Round of drinks, alcohol specified	EO	×	1
280101	Solid, unfilled chocolate bars and sweets & unspecified chocolate	EO	✓	1
280102	Filled chocolate-coated bars and sweets e.g. Mars, Snickers, Minstrels	EO	✓	1
280103	Single chocolate (after dinner)	EO	✓	1
280104	Chewing gum and bubble gum	EO	✓	1
280105	Mints e.g. Polo, Extra Strong	EO	✓	1
280106	Boiled sweets, jellies and unspecified 'sweets' e.g. fruit gums	EO	✓	1
280107	Uncoated toffee or fudge e.g. Toffos, chocolate eclairs, caramels	EO	✓	1
280108	Pick 'n' mix, nougat, liquorice & other sweets	EO	✓	1
290101	Ice cream in a cone, cornet or wafer and ice cream desserts	EO	✓	1
290103	Ice cream scoop or tub including ice cream served with dessert	EO	✓	1
290104	Iced lollies and sorbets	EO	✓	1
290201	Doughnut	EO	✓	1
290202	Cream pastries e.g. choc eclairs, profiteroles	EO	✓	1
290203	Cream sponge or gateau (not chocolate)	EO	✓	1
290204	Rich chocolate cake or chocolate gateau	EO	✓	1
290205	Fruit and other pies or pastries	EO	✓	1
290206	Fruit cake	EO	✓	1
290207	Other sponge cakes or desserts (not cream)	EO	✓	1
290208	Custard desserts or sweet soufflé	EO	✓	1
290209	Meringue desserts including pavlova	EO	✓	1
290210	Cheesecake	EO	✓	1
290211	Fool, trifle and mousse desserts	EO	✓	1
290212	Jelly	EO	✓	1
290213	Milk and rice puddings inc tapioca, semolina	EO	✓	1
290214	Other cakes and desserts	EO	✓	1
290301	Waffles and pancakes	EO	✓	1
290401	Teacakes, scones, currant buns, iced buns	EO	✓	1
300101	Fully-coated chocolate biscuits or wafers	EO	✓	1
300102	Sweet biscuits including half-coated choc	EO	✓	1
300103	Cereal bars and cereal based cakes	EO	✓	1
300104	Savoury biscuits	EO	✓	1
310101	Nuts, nut products and seeds	EO	✓	1
310102	Potato crisps or savoury snacks	EO	✓	1
310103	Cornsnacks, based on maize	EO	✓	1
310104	Wheat based savoury snack	EO	✓	1
310201	Popcorn	EO	✓	1
310301	Other savoury snacks (inc hors d'oeuvres)	EO	✓	1

HH = Household; EO = Eating Out

Key
Food - no factor required
Food - cooked edible weight factor
Food - dried weight factor & eggs

Appendix 4: Energy Density Coding Frame

No nutritional information
Milk
Other energy containing NA drinks
No / low energy drinks
Alcohol

Appendix 5: Defra Food Codes with Recommended Estimates of Edible Food Waste

The following figures for estimated waste are from the Waste and Resource Action Programme Survey (WRAP) (2008). The incorporation of these figures in the estimation of food consumption and nutrient intakes from the EFS were discussed in the Annex of the 2007 Family Food report (Department for Environment Food & Rural Affairs (Defra), 2008) and were mapped to the EFS food codes for this purpose by Defra (personal communication).

Defra Code	Description	Single Adult Waste	Multiple Adult Waste
402	UHT whole milk	0.1	0.1
403	Sterilised whole milk	0.1	0.1
404	Pasteurised or homogenised whole milk	0.1	0.1
501	School Milk	0.1	0.1
601	Welfare milk	0.1	0.1
901	Condensed or evaporated milk	0.1	0.1
1102	Infant or baby milks - ready to drink	0.1	0.1
1103	Infant or baby milks - dried	0.1	0.1
1201	Instant dried milk	0.1	0.1
1301	Yoghurt	0.1146	0.0802
1302	Fromage frais	0.1	0.1
1502	Fully skimmed milk	0.1	0.1
1503	Semi-skimmed milk	0.1	0.1
1603	Dairy desserts - not frozen	0.1	0.1
1605	Dried milk products	0.1	0.1
1606	Milk drinks & other milks (replaced 200405 onwards)	0.1	0.1
1607	Milk drinks & other milks	0.1	0.1
1608	Non-dairy milk substitutes	0.1	0.1
1701	Cream	0.1222	0.096
2201	Hard cheese - Cheddar type	0.0883	0.0829
2202	Hard cheese - Other UK or foreign equivalent	0.0883	0.0829
2203	Hard cheese - Edam or other foreign	0.0883	0.0829
2205	Cottage cheese	0.0883	0.0829
2206	Soft natural cheese	0.0883	0.0829
2301	Processed cheese	0.0883	0.0829
3102	Beef joints - on the bone	0.0815	0.0457
3103	Beef joints - boned	0.0815	0.0457
3104	Beef steak - less expensive	0.0815	0.0457
3105	Beef steak - more expensive	0.0815	0.0457
3106	Minced beef	0.0815	0.0457
3107	All other beef and veal	0.0815	0.0457
3601	Mutton	0.0224	0.0262
3602	Lamb joints	0.0224	0.0262
3603	Lamb chops	0.0224	0.0262
3604	All other lamb	0.0224	0.0262
4101	Pork joints	0.2041	0.133
4102	Pork chops	0.2041	0.133
4103	Pork fillets and steaks	0.2041	0.133
4104	All other pork	0.2041	0.133
4603	Ox liver	0.0815	0.0457
4604	Lambs liver	0.0224	0.0262
4605	Pigs liver	0.2041	0.133
4607	All other liver	0.0584	0.0401
5101	All offal other than liver	0.0584	0.0401
5502	Bacon and ham joints, uncooked	0.2041	0.133
5505	Bacon and ham rashers, uncooked	0.2041	0.133
5801	Ham and bacon	0.2041	0.133
5903	Cooked chicken and turkey	0.1855	0.0837
5904	Takeaway chicken	0.1855	0.0837

6201	Corned beef - canned or sliced	0.0815	0.0457
6601	Other cooked meat	0.0584	0.0401
7102	Other canned meat and canned meat products	0.0584	0.0401
7401	Chicken - whole or part	0.1855	0.0837
7703	Turkey - whole or part	0.1855	0.0837
7704	Poultry other than chicken or turkey	0.1855	0.0837
7801	Other fresh, chilled or frozen meat	0.0584	0.0401
7901	Sausages, uncooked - pork	0.0584	0.0401
8001	Sausages, uncooked - beef etc.	0.0584	0.0401
8302	Meat pies - ready to eat	0.2563	0.29
8303	Sausage rolls - ready to eat	0.2563	0.29
8401	Meat pies, pasties and puddings - frozen or not frozen	0.2563	0.29
8501	Burgers - frozen or not frozen	0.0584	0.0401
8901	Complete meat-based ready meals - frozen or not frozen	0.2563	0.29
8902	Other convenience meat products - frozen or not frozen	0.2563	0.29
9301	Pate	0.1324	0.0755
9302	Delicatessen type sausages	0.0584	0.0401
9403	Meat pastes and spreads	0.1324	0.0755
9501	Takeaway meat pies and pasties	0.2563	0.29
9502	Takeaway burger and bun	0.2563	0.29
9503	Takeaway kebabs	0.2563	0.29
9504	Takeaway sausages and saveloys	0.2563	0.29
9505	Takeaway meat based meals	0.2563	0.29
9506	Takeaway miscellaneous meats	0.2563	0.29
10201	White fish, fresh or chilled	0.096	0.0418
10202	White fish, frozen	0.096	0.0418
10601	Herrings and other blue fish, fresh or chilled	0.096	0.0418
10602	Herrings and other blue fish, frozen	0.096	0.0418
10701	Salmon, fresh or chilled	0.096	0.0418
10702	Salmon, frozen	0.096	0.0418
10801	Blue fish, dried or salted or smoked	0.096	0.0418
11401	White fish, dried or salted or smoked	0.096	0.0418
11702	Shellfish, fresh or chilled	0.2178	0.0621
11703	Shellfish, frozen	0.2178	0.0621
11801	Takeaway fish	0.096	0.0418
11901	Tinned salmon	0.096	0.0418
12001	Other tinned or bottled fish	0.096	0.0418
12103	Ready meals and other fish products - frozen or not frozen	0.2563	0.29
12304	Takeaway fish products	0.2563	0.29
12305	Takeaway fish based meals	0.2563	0.29
12901	Eggs	0.073	0.0463
13501	Butter	0.0386	0.0176
13801	Soft margarine	0.0386	0.0176
13802	Other margarine	0.0386	0.0176
13901	Lard, cooking fat	0.1267	0.091
14304	Olive Oil	0.1267	0.091
14305	Other vegetable and salad oils	0.1267	0.091
14802	Reduced fat spreads	0.0386	0.0176
14803	Low fat spreads	0.0386	0.0176
14805	Suet and dripping	0.0584	0.0401
14807	Imitation cream	0.1	0.1
15001	Sugar	0.1267	0.091
15101	Jams and fruit curds	0.1267	0.091
15201	Marmalade	0.1267	0.091
15301	Syrup, treacle	0.1267	0.091
15401	Honey	0.1267	0.091
15501	Potatoes - bought Jan-Aug, previous year’s crop	0.3718	0.2416
15502	Potatoes - bought Jan-Aug, this year’s crop	0.3718	0.2416
15503	Potatoes - bought Sep-Dec, current crop or new imported	0.3718	0.2416
15504	Fresh potatoes not specified elsewhere	0.3718	0.2416
15505	Fresh new potatoes	0.3718	0.2416

15506	Fresh baking potatoes	0.3718	0.2416
16201	Fresh cabbages	0.7014	0.4155
16301	Fresh brussels sprouts	0.1701	0.0794
16401	Fresh cauliflower	0.1449	0.1019
16701	Lettuce and leafy salads	0.5069	0.3519
16702	Prepared lettuce salads	0.6023	0.4633
16801	Fresh peas	0.0917	0.0417
16901	Fresh beans	0.5589	0.3071
17101	Other fresh green vegetables	0.2589	0.1589
17201	Fresh carrots	0.3835	0.1681
17301	Fresh turnips and swede	0.1231	0.0669
17401	Other fresh root vegetables	0.225	0.1511
17501	Fresh onions, leeks and shallots	0.2143	0.1408
17601	Fresh cucumbers	0.3717	0.2357
17701	Fresh mushrooms	0.1483	0.104
17801	Fresh tomatoes	0.1582	0.0926
18301	Fresh vegetable stew pack, stir-fry pack etc.	0.3429	0.2301
18302	Fresh stem vegetables	0.6075	0.453
18303	Fresh marrow, courgettes, aubergine, pumpkin and other vegetables	0.1691	0.1147
18304	Fresh herbs	0.1267	0.091
18401	Tomatoes, canned or bottled	0.1582	0.0926
18501	Peas, canned	0.0917	0.0417
18802	Baked beans in sauce	0.0828	0.0309
18803	Other canned beans and pulses	0.2589	0.1589
19101	Other canned vegetables	0.2589	0.1589
19201	Dried pulses, other than air-dried	0.2589	0.1589
19501	Air-dried vegetables	0.3429	0.2301
19602	Tomato puree and vegetable purees	0.1267	0.091
19603	Vegetable juices e.g. tomato juice, carrot juice	0.1	0.1
19702	Chips - frozen or not frozen	0.3718	0.2416
19703	Takeaway chips	0.3718	0.2416
19801	Instant potato	0.3718	0.2416
19901	Canned potatoes	0.3718	0.2416
20002	Crisps and potato snacks	0.1239	0.0809
20101	Other potato products - frozen or not frozen	0.3718	0.2416
20301	Peas, frozen	0.0917	0.0417
20401	Beans, frozen	0.5589	0.3071
20601	Ready meals and other vegetable products - frozen or not frozen	0.2563	0.29
20604	All vegetable takeaway products	0.2563	0.29
20801	Other frozen vegetables	0.2589	0.1589
21001	Fresh oranges	0.3382	0.2325
21401	Other fresh citrus fruits	0.0536	0.041
21701	Fresh apples	0.6627	0.2772
21801	Fresh pears	0.1442	0.1929
22101	Fresh stone fruit	0.2036	0.1797
22201	Fresh grapes	0.0833	0.0778
22701	Other fresh soft fruit	0.433	0.2521
22801	Fresh bananas	0.1545	0.082
22901	Fresh melons	0.2848	0.1797
23101	Other fresh fruit	0.1404	0.0938
23301	Tinned peaches, pears and pineapples	0.0806	0.0899
23601	All other tinned or bottled fruit	0.0806	0.0899
24001	Dried fruit	0.0806	0.0899
24101	Frozen strawberries, apple slices, peach halves, oranges and other frozen fruits	0.0806	0.0899
24502	Nuts & edible seeds	0.0228	0.043
24503	Peanut butter	0.0228	0.043
24801	Pure fruit juices	0.1	0.1
25102	White bread, standard, unsliced	0.3335	0.2399
25202	White bread, standard, sliced	0.3335	0.2399
25701	White bread, premium, sliced and unsliced	0.3335	0.2399

25801	White bread, soft grain, sliced and unsliced	0.3335	0.2399
25901	Brown bread, sliced and unsliced	0.3335	0.2399
26001	Wholemeal and granary bread, sliced and unsliced	0.3335	0.2399
26302	Rolls - white, brown or wholemeal	0.3942	0.1718
26303	Malt bread and fruit loaves	0.0861	0.0241
26304	Vienna and French bread	0.3942	0.1718
26305	Starch reduced bread and rolls	0.3335	0.2399
26308	Other breads	0.3349	0.4585
26309	Sandwiches	0.2563	0.29
26310	Sandwiches from takeaway	0.2563	0.29
26311	Takeaway breads	0.3349	0.4585
26401	Flour	0.0677	0.0641
26701	Buns, scones and teacakes	0.1239	0.1163
27001	Cakes and pastries, not frozen	0.2802	0.1703
27002	Takeaway pastries	0.2802	0.1703
27101	Crisp bread	0.0539	0.0438
27402	Sweet biscuits (not chocolate) and cereal bars	0.0539	0.0438
27403	Cream crackers and other unsweetened biscuits	0.0539	0.0438
27702	Chocolate biscuits	0.0539	0.0438
28101	Oatmeal and oat products	0.0275	0.0224
28202	Muesli	0.0275	0.0224
28203	High fibre breakfast cereals	0.0275	0.0224
28204	Sweetened breakfast cereals	0.0275	0.0224
28205	Other breakfast cereals	0.0275	0.0224
28502	Canned or fresh carton custard	0.0638	0.0283
28503	All canned milk puddings	0.0638	0.0283
28601	Puddings	0.0638	0.0283
28702	Dried rice	0.2335	0.1402
28703	Cooked rice	0.2335	0.1402
28704	Takeaway rice	0.2335	0.1402
29001	Invalid foods, slimming foods and sports foods	0.0448	0.0656
29101	Infant cereal foods	0.1	0.1
29402	Cakes and pastries - frozen	0.2802	0.1703
29501	Canned pasta	0.2563	0.29
29502	Dried and fresh pasta	0.1848	0.1595
29503	Takeaway pasta and noodles	0.2563	0.29
29601	Pizzas - frozen and not frozen	0.2563	0.29
29602	Takeaway pizza	0.2563	0.29
29907	Cake, pudding and dessert mixes	0.298	0.4353
29909	Cereal snacks	0.0275	0.0224
29915	Quiches and flans - frozen and not frozen	0.2563	0.29
29916	Takeaway crisps, savoury snacks, popcorn, poppadums, prawn crackers	0.1239	0.0809
29919	Other cereal foods - frozen and not frozen	0.0275	0.0224
30101	Other cereals	0	0
30401	Tea	0.1	0.1
30701	Coffee beans and ground coffee	0.1	0.1
30801	Instant coffee	0.1	0.1
30901	Coffee essences	0.1	0.1
31001	Tea and coffee from takeaway	0.1	0.1
31201	Cocoa and chocolate drinks	0.0448	0.0656
31301	Malt drinks and chocolate versions of malted drinks	0.0448	0.0656
31401	Mineral or spring waters	0.1	0.1
31501	Baby foods	0.1	0.1
31801	Soups - canned or cartons	0.2563	0.29
31901	Soups - dehydrated or powdered	0.0448	0.0656
32001	Soups - from takeaway	0.2563	0.29
32101	Other takeaway food brought home	0.2563	0.29
32201	Meals on wheels - items not specified	0.2563	0.29

32302	Salad dressings	0.1267	0.091
32303	Other spreads and dressings	0.1267	0.091
32702	Pickles	0.1267	0.091
32703	Sauces	0.1267	0.091
32704	Takeaway sauces and mayonnaise	0.1267	0.091
32801	Stock cubes and meat and yeast extracts	0.298	0.4353
32901	Jelly squares or crystals	0.0638	0.0283
33203	Ice cream tub or block	0.0638	0.0283
33302	Ice cream cornets, choc-ices, lollies with ice cream	0.0638	0.0283
33303	Ice lollies, sorbet, frozen mousse, frozen yoghurt	0.0638	0.0283
33304	Takeaway ice cream, ice cream products, milkshakes	0.0638	0.0283
33401	Salt	0.1267	0.091
33501	Artificial sweeteners	0.1267	0.091
33602	Vinegar	0.1267	0.091
33603	Spices and dried herbs	0.1267	0.091
33604	Bisto, gravy granules, stuffing mix, baking powder, yeast	0.298	0.4353
33605	Wine and beer making kits	0.1	0.1
33606	Fruit teas, instant tea, herbal tea, rosehip tea	0.1	0.1
33607	Payment for food, type not specified	0.1	0.1
33901	Soya and novel protein foods	0.2589	0.1589
34001	Soft drinks, concentrated, not low calorie	0.1	0.1
34101	Soft drinks, not concentrated, not low calorie	0.1	0.1
34301	Soft drinks, concentrated, low calorie	0.1	0.1
34401	Soft drinks, not concentrated, low calorie	0.1	0.1
35001	Chocolate bars - solid	0.0958	0.0575
35101	Chocolate bars - filled	0.0958	0.0575
35202	Chewing gum	0.1239	0.0809
35301	Mints	0.0958	0.0575
35302	Boiled sweets	0.0958	0.0575
35401	Fudges, toffees, caramels	0.0958	0.0575
35501	Takeaway confectionery	0.0958	0.0575
38102	Beers	0.1	0.1
38202	Lagers and continental beers	0.1	0.1
38302	Ciders and perry	0.1	0.1
38402	Champagne, sparkling wines and wine with mixer	0.1	0.1
38403	Table wine	0.1	0.1
38501	Spirits with mixer	0.1	0.1
38601	Fortified wines	0.1	0.1
38701	Spirits	0.1	0.1
38801	Liqueurs and cocktails	0.1	0.1
38901	Alcopops	0.1	0.1
100101	Meat or fish based curry with sauce	0	0
100102	Meat or fish based curry without sauce	0	0
100103	Vegetable or fruit based curry	0	0
100104	Dhal and dhal dishes	0	0
100105	Samosas	0	0
100106	Other Indian dishes	0	0
100107	Indian breads	0	0
100108	Indian buffet or shared meal or unspecified Indian meal	0	0
100201	Chinese or Thai meat or fish based dishes excluding curry	0	0
100202	Chop suey and fu yung dishes	0	0
100203	Chinese or Thai vegetable based main course dishes excluding curry	0	0
100204	Chinese or Thai curry	0	0
100205	Spring rolls	0	0
100206	Other Chinese or Thai dishes	0	0
100207	Chinese or Thai buffet or shared meal or unspecified Chinese or Thai meal	0	0
100301	All other ethnic meals	0	0
110101	Steak - without sauce e.g. braised, sirloin	0	0

110102	Roast meat with sauce or gravy	0	0
110103	Pork chops with sauce or gravy	0	0
110104	Lamb chops with sauce or gravy	0	0
110105	Spare ribs	0	0
110106	Bacon	0	0
110107	Gammon or ham	0	0
110108	All offal including liver, kidney, tongue	0	0
110201	Chicken or turkey with sauce or gravy	0	0
110202	Chicken or turkey in breadcrumbs or batter	0	0
110203	Duck with sauce or gravy	0	0
110204	Game with sauce or gravy	0	0
110301	Small or single burgers	0	0
110302	Large or double burgers	0	0
110303	Chicken burger	0	0
110401	Kebabs - all types including chicken	0	0
110402	Plain sausages e.g. beef, pork	0	0
110403	Other sausages	0	0
110404	Hot dogs and sausage sandwiches	0	0
110501	Meat pies (pastry topped) and pasties	0	0
110502	Meat pies (potato topped e.g. shepherd's pie)	0	0
110503	Sausage roll (pastry)	0	0
110601	Meat and vegetable stews, casseroles or hotpots	0	0
110602	Chicken or turkey stews, casseroles or hotpots	0	0
110603	Meat lasagne, cannelloni, moussaka and other meat-based oven baked dishes	0	0
110701	All pates	0	0
110801	Other meat products or dishes	0	0
120101	White fish - grilled, steamed, baked or boiled - without sauce	0	0
120102	White fish - fried (incl. in batter/breadcrumbs) - without sauce	0	0
120201	Trout, tuna and salmon only - fresh - without sauce or dressing	0	0
120202	Other fatty fish - without sauce or dressing e.g. herring, mackerel, sardines	0	0
120301	Shellfish - without sauce or dressing e.g. prawns, shrimps, oysters, crab	0	0
120401	Kippers and other smoked fish e.g. smoked salmon	0	0
120501	Other fish products and unspecified 'fish' e.g. squid, sushi, crabsticks	0	0
120601	Fish, processed, in breadcrumbs (fish fingers, fish cakes, scampi) - without sauce or dressing	0	0
120602	Fish burgers (in bun)	0	0
120603	Fish based pie or other dish e.g. paella, kedgeree, tuna pasta bake	0	0
130101	Cottage cheese including with pineapple	0	0
130102	Soft, continental or processed cheese e.g. brie	0	0
130103	Cheddar, blue or other hard cheese and unspecified 'cheese'	0	0
130104	Quiche and cheese pies or pasties	0	0
130105	Other cheese dishes e.g. Welsh rarebit, cheese and biscuits	0	0
130201	Pizza - cheese and tomato, vegetable or unspecified 'pizza'	0	0
130202	Pizza - meat, fish or poultry	0	0
130301	Eggs - boiled or poached	0	0
130302	Eggs - scrambled, fried, omelettes or unspecified 'egg'	0	0
130303	Other egg dishes e.g. egg mayonnaise	0	0
140101	Chips and French fries - from fast food outlet e.g. McDonalds	0	0
140102	Chips - served with meal e.g. from restaurant or chip shop	0	0
140103	Potatoes - boiled or unspecified 'potato'	0	0
140104	Potatoes - mashed	0	0
140105	Potatoes - roast	0	0
140106	Sautéed potatoes, potato croquettes, hash browns etc.	0	0
140107	Baked or jacket potatoes - without filling	0	0
140108	Other potato dishes (e.g. wedges, potato salad) including unspecified 'potato dish'	0	0

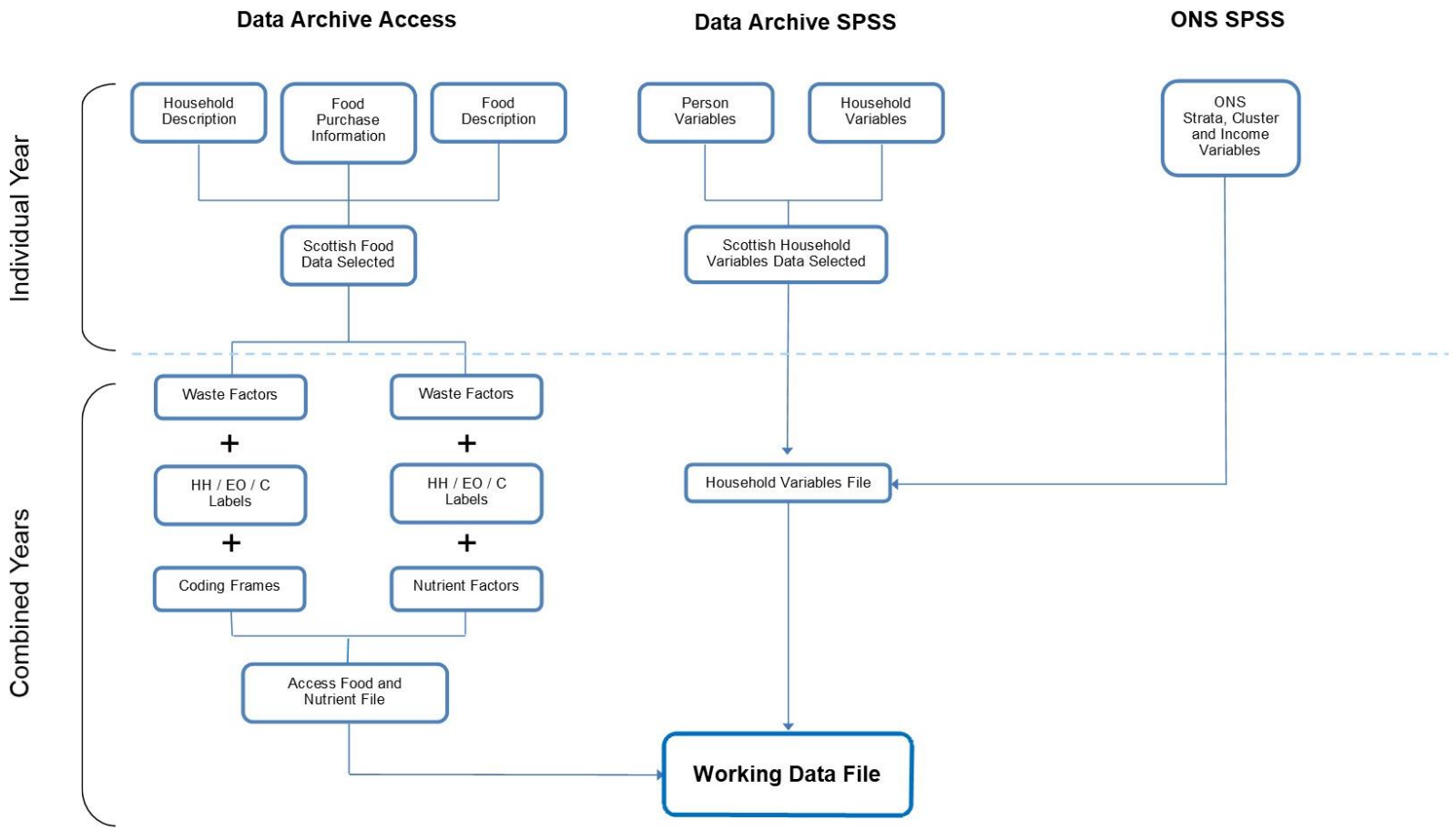
150101	Lettuce and cress	0	0
150102	Other green vegetables e.g. spinach, cabbage, sprouts	0	0
150201	Peppers - raw or cooked	0	0
150202	Courgettes, marrow, aubergine, pumpkin, plantain, cucumbers	0	0
150203	Peas and sweetcorn	0	0
150204	Baked beans and other beans (not green beans) and pulses	0	0
150205	Tomato - fresh or raw	0	0
150206	Tomato - cooked or processed	0	0
150301	Carrots	0	0
150302	Onions - raw, cooked or unspecified 'onions'	0	0
150303	Onions - fried	0	0
150304	Other root vegetables or tubers e.g. turnip, parsnip, radish, beetroot	0	0
150401	Mushrooms - raw or cooked	0	0
150501	Mixed vegetables or unspecified 'vegetable'	0	0
150502	Other vegetables e.g. artichoke, asparagus	0	0
150503	Vegetables in batter or breadcrumbs and deep fried vegetables e.g. onion rings	0	0
150504	Onion and other vegetable bhajis and pakora	0	0
150601	Veggie burger, bean burger, veggie sausage, nut roast	0	0
150602	Vegetable lasagne, vegetable cannelloni, vegetable moussaka and other oven baked vegetable based dishes	0	0
150603	Stuffed vegetables (e.g. stuffed pepper) and vegetable based starter	0	0
150604	Vegetable based stews and casseroles and vegetable based pies	0	0
160101	Mixed salad, main course - without dressing	0	0
160102	Mixed salad, side dish - without dressing - including unspecified 'salad'	0	0
160103	Green salad - without dressing	0	0
160201	Vegetable or fruit and nut salad - with dressing	0	0
160202	Pasta, rice, mixed bean or cereal-based salads - with dressing	0	0
160301	Meat salad e.g. beef, lamb salads	0	0
160302	Chicken or turkey salad	0	0
160303	Fish salad e.g. tuna, salmon salads	0	0
160401	Cheese salad including ploughman’s	0	0
160402	Egg salad	0	0
160501	Other salads e.g. Greek, Florida, Russian	0	0
160601	Salad buffet or buffet meal where items not specified	0	0
170101	Fried rice and risotto	0	0
170102	All cooked rice excluding fried rice e.g. boiled, pilau, savoury	0	0
170103	Pasta - not filled and plain noodles (including pot noodle) - without sauce	0	0
170104	Pasta - filled e.g. ravioli, tortellini - without sauce	0	0
170105	Noodles with meat, vegetables etc.	0	0
180101	Meat & fish soups	0	0
180102	Vegetable based soups	0	0
180103	Chinese soups, consommé (meat, fish or veg)	0	0
180104	Other soups including unspecified 'soup'	0	0
190101	Muesli and oat crunch cereals	0	0
190102	Other high fibre breakfast cereals e.g. Allbran, Weetabix	0	0
190103	Sweetened breakfast cereals e.g. Frosties, Sugar Puffs	0	0
190104	Hot breakfast cereals e.g. porridge, Ready Brek	0	0
190105	Other breakfast cereals and unspecified 'cereal' e.g. Cornflakes, Rice Krispies, Special K	0	0
200101	All citrus fruit, fresh e.g. orange, grapefruit	0	0
200102	Banana, fresh	0	0
200103	Apples, fresh	0	0
200104	Pears, fresh	0	0
200105	Stone fruit, fresh e.g. apricot, plum, peach, cherry, avocado	0	0
200106	Grapes, fresh	0	0
200107	Soft fruit or berries, fresh e.g. strawberries, blackberries - without cream or ice cream	0	0

200108	Melon, fresh	0	0
200109	Pineapple, fresh	0	0
200110	Fresh fruit salad - without cream or ice cream	0	0
200111	Other fresh fruit (kiwi, passion) and unspecified 'fruit'	0	0
200112	Free school fruit	0	0
200201	Dried fruit e.g. sultanas, raisins	0	0
200301	Tinned, stewed, baked or processed fruit - without cream or ice cream	0	0
210101	Yoghurt and fromage frais	0	0
220101	White bread, with or without butter or margarine (toasted or untoasted)	0	0
220102	Brown or wholemeal bread, with or without butter or margarine (toasted or untoasted)	0	0
220103	White rolls, baguettes etc. without butter or margarine (or butter or margarine not specified)	0	0
220104	Brown or wholemeal rolls, baguettes etc. without butter or margarine (or butter or margarine not specified)	0	0
220105	Garlic bread	0	0
220106	Croissant	0	0
220107	Continental breads e.g. pitta, ciabatta, focaccia	0	0
220108	Muffins, crumpets	0	0
220109	Fried bread, including croutons	0	0
220110	Other bread, rolls, toast, unspecified 'bread' etc.	0	0
230101	Meat based sandwich on white bread or roll	0	0
230102	Meat based sandwich on brown bread or roll	0	0
230103	Meat based sandwich bread not specified	0	0
230104	Chicken or turkey based sandwich on white bread or roll	0	0
230105	Chicken or turkey based sandwich on brown bread or roll	0	0
230106	Chicken or turkey based sandwich bread not specified	0	0
230107	Bacon and egg based sandwich on white bread or roll including Bacon and Egg McMuffin	0	0
230108	Bacon and egg based sandwich on brown bread or roll	0	0
230109	Bacon and egg based sandwich bread not specified	0	0
230110	Fish based sandwich on white bread or roll	0	0
230111	Fish based sandwich on brown bread or roll	0	0
230112	Fish based sandwich bread not specified	0	0
230201	Cheese based sandwich on white bread or roll	0	0
230202	Cheese based sandwich on brown bread or roll	0	0
230203	Cheese based sandwich bread not specified	0	0
230204	Egg based sandwich on white bread or roll including Egg McMuffin	0	0
230205	Egg based sandwich on brown bread or roll	0	0
230206	Egg based sandwich bread not specified	0	0
230207	Vegetarian based sandwich on white bread or roll	0	0
230208	Vegetarian based sandwich on brown bread or roll	0	0
230209	Vegetarian based sandwich bread not specified	0	0
230210	Sweet-filled sandwich	0	0
230211	Unspecified sandwiches or rolls	0	0
240101	Cheese or cream based sauce e.g. carbonara, cauliflower cheese	0	0
240102	Meat-based sauce e.g. Bolognese, chilli con carne	0	0
240103	Fish or seafood based sauce	0	0
240104	Tomato based sauce containing vegetables including ratatouille	0	0
240105	Other savoury sauce or unspecified 'sauce'	0	0
240106	Sweet sauce e.g. syrup, treacle, chocolate sauce	0	0
240107	Fruit or vegetable based condiments	0	0
240108	Other condiments or sauces	0	0
240201	Salad dressings and dips	0	0
240202	Mayonnaise	0	0
240203	Coleslaw	0	0
240301	Fruit filling e.g. peaches for pancakes	0	0
240302	Vegetable filling	0	0

240303	Cheese filling including cheddar cheese, cottage cheese	0	0
240304	Fish based filling e.g. tuna mayonnaise	0	0
240401	Butter and margarine	0	0
240402	Jam, marmalade and honey	0	0
240403	Cream - single, double, sour etc.	0	0
240404	Custard	0	0
240405	Sugar (as an addition to tea, coffee etc.)	0	0
240501	Commercial baby food in a jar or can	0	0
240601	Yorkshire puddings and dumplings	0	0
240701	Unspecified meal e.g. 'meal', 'school meal' or 'meal at work'	0	0
250101	Coffee, black including espresso	0	0
250102	Coffee, white including cappuccino, latte	0	0
250103	Coffee, black or white not specified	0	0
250104	Tea, white (including black or white not specified)	0	0
250105	Tea, black including Chinese tea, herbal tea, fruit tea	0	0
250106	Hot chocolate or cocoa, with milk or water	0	0
260201	Mineral water	0	0
260202	Soft drink (incl. carbonates and still) - low calorie	0	0
260203	Soft drink (incl. carbonates & still) - not low calorie (including drinks where calorie content unspecified)	0	0
260204	Pure fruit juices	0	0
260205	Vegetable juices e.g. tomato juice, carrot juice	0	0
260206	Soft drink where pure juice or juice drink not specified	0	0
260301	Milk as a drink	0	0
260302	Milk on cereal	0	0
260303	Milkshake and flavoured milk	0	0
260304	Free school milk	0	0
270101	Spirits	0	0
270102	Liqueurs	0	0
270103	Cocktails	0	0
270104	Spirits or liqueurs with mixer e.g. gin & tonic, Bacardi & coke	0	0
270201	Wine (not sparkling) including unspecified 'wine'	0	0
270202	Sparkling wines (e.g. Champagne) and wine with mixer (e.g. Bucks Fizz)	0	0
270203	Fortified wine e.g. sherry, port, vermouth	0	0
270204	Cider or perry - half pint or bottle	0	0
270205	Cider or perry - pint or can or size not specified	0	0
270206	Alcoholic soft drinks (alcopops), and ready-mixed bottled drinks	0	0
270301	Bitter - half pint or bottle	0	0
270302	Bitter - pint or can or size not specified	0	0
270303	Lager or other beers including unspecified 'beer' - half pint or bottle	0	0
270304	Lager or other beers including unspecified 'beer' - pint or can or size not specified	0	0
270401	Round of drinks, alcohol not otherwise specified	0	0
280101	Solid, unfilled chocolate bars and sweets and unspecified 'chocolate'	0	0
280102	Filled chocolate-coated bars and sweets e.g. Mars, Snickers, Minstrels	0	0
280103	Single chocolate (after dinner)	0	0
280104	Chewing gum and bubble gum	0	0
280105	Mints e.g. Polo, Extra Strong	0	0
280106	Boiled sweets, jellies and unspecified 'sweets' e.g. fruit gums	0	0
280107	Uncoated toffee or fudge, uncoated e.g. Toffos, chocolate éclairs, caramels	0	0
280108	Pick 'n' mix, nougat, liquorice and other sweets	0	0
290101	Ice cream in a cone, cornet or wafer and ice cream desserts	0	0
290103	Ice cream scoop or tub including ice cream served with dessert	0	0
290104	Iced lollies and sorbets	0	0
290201	Doughnut	0	0
290202	Cream pastries e.g. chocolate éclairs, profiteroles	0	0
290203	Cream sponge or gateau (not chocolate) e.g. Victoria sandwich	0	0

290204	Rich chocolate cake or chocolate gateau e.g. Death by Chocolate	0	0
290205	Fruit and other pies or pastries	0	0
290206	Fruit cake	0	0
290207	Other sponge cakes or desserts (not cream cakes)	0	0
290208	Custard desserts or sweet soufflé	0	0
290209	Meringue desserts including pavlova	0	0
290210	Cheesecake	0	0
290211	Fool, trifle and mousse desserts	0	0
290212	Jelly	0	0
290213	Milk and rice puddings including tapioca, semolina	0	0
290214	Other cakes and desserts, unspecified 'cake' or 'dessert'	0	0
290301	Waffles and pancakes	0	0
290401	Teacakes, scones, currant buns, iced buns	0	0
300101	Fully-coated chocolate biscuits or wafers	0	0
300102	Sweet biscuits including half-coated chocolate biscuits	0	0
300103	Cereal bars and cereal based cakes	0	0
300104	Savoury biscuits	0	0
310101	Nuts, nut products and seeds	0	0
310102	Potato crisps or snacks including unspecified 'crisps', prawn crackers	0	0
310103	Corn snacks, based on maize	0	0
310104	Wheat based savoury snack	0	0
310201	Popcorn	0	0
310301	Other savoury snacks (including hors d'oeuvres)	0	0

Appendix 6: Flowchart of Data Handling Process for Monitoring Work*



**Variables detailed at ONS SPSS stage are not required for every analysis*

HH = Household; EO = Eating Out; C = Combined; ONS = Office for National Statistics

Appendix 7: Food Groupings Used for Contributing Foods Analysis[1]

Food Grouping Code	Food Grouping Description	Weight[2]	Secondary Food Grouping Code	Secondary Food Grouping Description	Weight[2]
48	Semi-skimmed Milk	114	62	Total Milk	199
49	Skimmed Milk	16.9			
67	Whole Milk	47.5			
28	Milk Drinks	1.2			
69	Yoghurt and Fromage Frais	26.6			
11	Cream	3.0			
23	Low Fat Cheese	0.3	60	Total Cheese	16.6
27	Medium Fat Cheese	6.4			
19	Full Fat Cheese	10.0			
3	Block Margarine	0.2			
9	Cooking Fat	0.3			
10	Cooking Oil	3.3			
6	Butter	4.7	52	Total Spreading Fats	13.6
50	Soft Margarine	4.9			
43	Reduced and Low Fat Spread	4.0			
15	Eggs	1.2			
17	Fruit	97.4	61	Total Fruit and Vegetables	243
18	Fruit (and veg) juice	34.1			
66	Vegetables	111			
51	Soup	14.1			
37	Potatoes	38.4			
40	Processed Potatoes	28.6			
65	Unprocessed Red Meat	22.8			
2	Bacon and Ham	12.5	63	Total Processed Red Meat	60.2
5	Burgers and Kebabs	7.0			
26	Meat Filled Pastry	8.8			
45	Sausages	13.4			
33	Other processed meat	18.5			
38	Poultry	30.5			
41	Processed Poultry	1.6			
64	Unprocessed Fish	9.2			
39	Processed Fish	3.7			
30	Non Meat Savoury Pastry	0.9			
34	Pasta, Rice and Noodles	22.9			
36	Pizza	12.2			
16	Flour	4.2			
24	Low fibre and lower NMES Breakfast Cereal	3.2	59	Total Breakfast Cereal	19.8
25	Low fibre or high NMES Breakfast Cereal	4.0			
68	Wholegrain/ high fibre Breakfast Cereal	12.6			
4	Bread and Rolls	53.1			
32	Other Baked Goods	13.5			
7	Cakes, Pastries and Puddings	16.2			

Appendix 7: Food Groupings Used for Contributing Foods Analysis

29	Milk Puddings	3.0			
20	Ice Cream and Dairy Desserts	34.8			
22	Jelly, Ice Lollies and Sorbets	0.8			
21	Jam, marmalade, honey and sweet spreads	5.6			
53	Sugar	6.7			
8	Chocolate Confectionery	15.1	70	Total Confectionery	22.4
54	Sugar Confectionery	7.3			
57	Sweet Biscuits	20.4			
46	Savoury Biscuits	3.3			
47	Savoury Sauces and Dressings	22.3			
42	Ready Meals	23.4			
58	Takeaway Main Meal Component	4.7			
13	Eating Out Main Meal Component	5.8			
14	Eating Out Side Dish	0.3			
44	Sandwiches	11.1			
12	Crisps and Savoury Snacks	12.8			
31	Nuts	2.9			
35	Peanut Butter	1.0			
55	Sugar Containing Soft Drinks	138			
56	Sugar Free Soft Drinks	158			
1	Alcoholic Drinks	123			
-8	Unclassified Foods	25.4			
-9	Foods of Little Nutritional Value	85.7			
Total		1550			

[1]Appendix 8 provides detail on the breakdown of each of these food groupings by food code; [2]Average weight in grams, per food group, per person, per day - 2013-2015 data combined.

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

Food Code	Description	Food Grouping Code	Food Grouping Description	Factor
30401	Tea	-9	Foods of Little Nutritional Value	1
30701	Coffee beans and ground coffee	-9	Foods of Little Nutritional Value	1
30801	Instant coffee	-9	Foods of Little Nutritional Value	1
30901	Coffee essences	-9	Foods of Little Nutritional Value	1
31001	Tea and coffee from takeaway	-9	Foods of Little Nutritional Value	1
31401	Mineral or spring waters	-9	Foods of Little Nutritional Value	1
33401	Salt	-9	Foods of Little Nutritional Value	1
250101	Coffee, black including espresso	-9	Foods of Little Nutritional Value	1
250102	Coffee, white including cappuccino, latte	-9	Foods of Little Nutritional Value	1
250103	Coffee, black or white not specified	-9	Foods of Little Nutritional Value	1
250104	Tea, white (including black or white not specified)	-9	Foods of Little Nutritional Value	1
250105	Tea, black including Chinese tea, herbal tea, fruit tea	-9	Foods of Little Nutritional Value	1
260201	Mineral water	-9	Foods of Little Nutritional Value	1
14807	Imitation cream	-8	Unclassified Foods	1
29001	Invalid foods, slimming foods and sports foods	-8	Unclassified Foods	1
29101	Infant cereal foods	-8	Unclassified Foods	1
29919	Other cereal foods - frozen and not frozen	-8	Unclassified Foods	1
30101	Other cereals	-8	Unclassified Foods	1
31501	Baby foods	-8	Unclassified Foods	1
32201	Meals on wheels - items not specified	-8	Unclassified Foods	1
32801	Stock cubes and meat and yeast extracts	-8	Unclassified Foods	1
33901	Soya and novel protein foods	-8	Unclassified Foods	1
35202	Chewing gum	-8	Unclassified Foods	1
240501	Commercial baby food in a jar or can	-8	Unclassified Foods	1
240601	Yorkshire puddings and dumplings	-8	Unclassified Foods	1
240701	Unspecified meal e.g. 'meal', 'school meal' or 'meal at work'	-8	Unclassified Foods	1
280104	Chewing gum and bubble gum	-8	Unclassified Foods	1
310201	Popcorn	-8	Unclassified Foods	1
310301	Other savoury snacks (including hors d'oeuvres)	-8	Unclassified Foods	1
38102	Beers	1	Alcoholic Drinks	1
38202	Lagers and continental beers	1	Alcoholic Drinks	1
38302	Ciders and perry	1	Alcoholic Drinks	1
38402	Champagne, sparkling wines and wine with mixer	1	Alcoholic Drinks	1
38403	Table wine	1	Alcoholic Drinks	1
38501	Spirits with mixer	1	Alcoholic Drinks	0.15
38601	Fortified wines	1	Alcoholic Drinks	1
38701	Spirits	1	Alcoholic Drinks	1
38801	Liqueurs and cocktails	1	Alcoholic Drinks	1
38901	Alcopops	1	Alcoholic Drinks	0.15
270101	Spirits	1	Alcoholic Drinks	1
270102	Liqueurs	1	Alcoholic Drinks	1
270103	Cocktails	1	Alcoholic Drinks	1
270104	Spirits or liqueurs with mixer e.g. gin & tonic, Bacardi & coke	1	Alcoholic Drinks	0.15

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

270201	Wine (not sparkling) including unspecified 'wine'	1	Alcoholic Drinks	1
270202	Sparkling wines (e.g. Champagne) and wine with mixer (e.g. Bucks Fizz)	1	Alcoholic Drinks	1
270203	Fortified wine e.g. sherry, port, vermouth	1	Alcoholic Drinks	1
270204	Cider or perry - half pint or bottle	1	Alcoholic Drinks	1
270205	Cider or perry - pint or can or size not specified	1	Alcoholic Drinks	1
270206	Alcoholic soft drinks (alcopops), and ready-mixed bottled drinks	1	Alcoholic Drinks	0.15
270301	Bitter - half pint or bottle	1	Alcoholic Drinks	1
270302	Bitter - pint or can or size not specified	1	Alcoholic Drinks	1
270303	Lager or other beers including unspecified 'beer' - half pint or bottle	1	Alcoholic Drinks	1
270304	Lager or other beers including unspecified 'beer' - pint can or size not specified	1	Alcoholic Drinks	1
270401	Round of drinks, alcohol not otherwise specified	1	Alcoholic Drinks	1
5502	Bacon and ham joints, uncooked	2	Bacon and Ham	1
5505	Bacon and ham rashers, uncooked	2	Bacon and Ham	1
5801	Ham and bacon	2	Bacon and Ham	1
110106	Bacon	2	Bacon and Ham	1
110107	Gammon or ham	2	Bacon and Ham	1
13802	Other margarine	3	Block Margarine	1
25102	White bread, standard, unsliced	4	Bread and Rolls	1
25202	White bread, standard, sliced	4	Bread and Rolls	1
25701	White bread, premium, sliced and unsliced	4	Bread and Rolls	1
25801	White bread, soft grain, sliced and unsliced	4	Bread and Rolls	1
25901	Brown bread, sliced and unsliced	4	Bread and Rolls	1
26001	Wholemeal and granary bread, sliced and unsliced	4	Bread and Rolls	1
26302	Rolls - white, brown or wholemeal	4	Bread and Rolls	1
26304	Vienna and French bread	4	Bread and Rolls	1
26305	Starch reduced bread and rolls	4	Bread and Rolls	1
220101	White bread, with or without butter or margarine (toasted or untoasted)	4	Bread and Rolls	1
220102	Brown or wholemeal bread, with or without butter or margarine (toasted or untoasted)	4	Bread and Rolls	1
220103	White rolls, baguettes etc. without butter or margarine (or butter or margarine not specified)	4	Bread and Rolls	1
220104	Brown or wholemeal rolls, baguettes etc. without butter or margarine (or butter or margarine not specified)	4	Bread and Rolls	1
220108	Muffins, crumpets	4	Bread and Rolls	1
220110	Other bread, rolls, toast, unspecified 'bread' etc.	4	Bread and Rolls	1
8501	Burgers - frozen or not frozen	5	Burgers and Kebabs	1
9502	Takeaway burger and bun	5	Burgers and Kebabs	1
9503	Takeaway kebabs	5	Burgers and Kebabs	1
110301	Small or single burgers	5	Burgers and Kebabs	1
110302	Large or double burgers	5	Burgers and Kebabs	1
110401	Kebabs - all types including chicken	5	Burgers and Kebabs	1
13501	Butter	6	Butter	1
27001	Cakes and pastries, not frozen	7	Cakes, Pastries and Puddings	1
27002	Takeaway pastries	7	Cakes, Pastries and Puddings	1
28601	Puddings	7	Cakes, Pastries and Puddings	1
29402	Cakes and pastries - frozen	7	Cakes, Pastries and Puddings	1
29907	Cake, pudding and dessert mixes	7	Cakes, Pastries and Puddings	1
290201	Doughnut	7	Cakes, Pastries and Puddings	1
290202	Cream pastries e.g. chocolate éclairs, profiteroles	7	Cakes, Pastries and Puddings	1

290203	Cream sponge or gateau (not chocolate) e.g. Victoria sandwich	7	Cakes, Pastries and Puddings	1
290204	Rich chocolate cake or chocolate gateau e.g. Death by Chocolate	7	Cakes, Pastries and Puddings	1
290205	Fruit and other pies or pastries	7	Cakes, Pastries and Puddings	1
290206	Fruit cake	7	Cakes, Pastries and Puddings	1
290207	Other sponge cakes or desserts (not cream cakes)	7	Cakes, Pastries and Puddings	1
290209	Meringue desserts including pavlova	7	Cakes, Pastries and Puddings	1
290210	Cheesecake	7	Cakes, Pastries and Puddings	1
290214	Other cakes and desserts, unspecified 'cake' or 'dessert'	7	Cakes, Pastries and Puddings	1
35001	Chocolate bars - solid	8	Chocolate Confectionery	1
35101	Chocolate bars - filled	8	Chocolate Confectionery	1
280101	Solid, unfilled chocolate bars and sweets and unspecified 'chocolate'	8	Chocolate Confectionery	1
280102	Filled chocolate-coated bars and sweets e.g. Mars, Snickers, Minstrels	8	Chocolate Confectionery	1
280103	Single chocolate (after dinner)	8	Chocolate Confectionery	1
13901	Lard, cooking fat	9	Cooking Fat	1
14805	Suet and dripping	9	Cooking Fat	1
14304	Olive Oil	10	Cooking Oil	1
14305	Other vegetable and salad oils	10	Cooking Oil	1
1701	Cream	11	Cream	1
240403	Cream - single, double, sour etc.	11	Cream	1
20002	Crisps and potato snacks	12	Crisps and Savoury Snacks	1
29909	Cereal snacks	12	Crisps and Savoury Snacks	1
29916	Takeaway crisps, savoury snacks, popcorn, poppadums, prawn crackers	12	Crisps and Savoury Snacks	1
310102	Potato crisps or snacks including unspecified 'crisps', prawn crackers	12	Crisps and Savoury Snacks	1
310103	Cornsnacks, based on maize	12	Crisps and Savoury Snacks	1
310104	Wheat based savoury snack	12	Crisps and Savoury Snacks	1
100101	Meat or fish based curry with sauce	13	Eating Out Main Meal Component	1
100102	Meat or fish based curry without sauce	13	Eating Out Main Meal Component	1
100103	Vegetable or fruit based curry	13	Eating Out Main Meal Component	1
100104	Dhal and dhal dishes	13	Eating Out Main Meal Component	1
100108	Indian buffet or shared meal or unspecified Indian meal	13	Eating Out Main Meal Component	1
100201	Chinese or Thai meat or fish based dishes excluding curry	13	Eating Out Main Meal Component	1
100202	Chop suey and fu yung dishes	13	Eating Out Main Meal Component	1
100203	Chinese or Thai vegetable based main course dishes excluding curry	13	Eating Out Main Meal Component	1
100204	Chinese or Thai curry	13	Eating Out Main Meal Component	1
100207	Chinese or Thai buffet or shared meal or unspecified Chinese or Thai meal	13	Eating Out Main Meal Component	1
100301	All other ethnic meals	13	Eating Out Main Meal Component	1
110502	Meat pies (potato topped e.g. shepherd's pie)	13	Eating Out Main Meal Component	1
110601	Meat and vegetable stews, casseroles or hotpots	13	Eating Out Main Meal Component	1
110602	Chicken or turkey stews, casseroles or hotpots	13	Eating Out Main Meal Component	1
110603	Meat lasagne, cannelloni, moussaka and other meat-based oven baked dishes	13	Eating Out Main Meal Component	1
120603	Fish based pie or other dish e.g. paella, kedgeree, tuna pasta bake	13	Eating Out Main Meal Component	1
150601	Veggie burger, bean burger, veggie sausage, nut roast	13	Eating Out Main Meal Component	1
150602	Vegetable lasagne, vegetable cannelloni, vegetable moussaka and other oven baked vegetable based dishes	13	Eating Out Main Meal Component	1
150604	Vegetable based stews and casseroles and vegetable based pies	13	Eating Out Main Meal Component	1
160301	Meat salad e.g. beef, lamb salads	13	Eating Out Main Meal Component	1
160302	Chicken or turkey salad	13	Eating Out Main Meal Component	1
160303	Fish salad e.g. tuna, salmon salads	13	Eating Out Main Meal Component	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

160401	Cheese salad including ploughmans	13	Eating Out Main Meal Component	1
160402	Egg salad	13	Eating Out Main Meal Component	1
160601	Salad buffet or buffet meal where items not specified	13	Eating Out Main Meal Component	1
170105	Noodles with meat, vegetables etc.	13	Eating Out Main Meal Component	1
100105	Samosas	14	Eating Out Side Dish	1
100106	Other Indian dishes	14	Eating Out Side Dish	1
100205	Spring rolls	14	Eating Out Side Dish	1
100206	Other Chinese or Thai dishes	14	Eating Out Side Dish	1
130303	Other egg dishes e.g. egg mayonnaise	14	Eating Out Side Dish	1
150503	Vegetables in batter or breadcrumbs and deep fried vegetables e.g. onion rings	14	Eating Out Side Dish	1
150504	Onion and other vegetable bhajis and pakora	14	Eating Out Side Dish	1
150603	Stuffed vegetables (e.g. stuffed pepper) and vegetable based starter	14	Eating Out Side Dish	1
160201	Vegetable or fruit and nut salad - with dressing	14	Eating Out Side Dish	1
160501	Other salads e.g. Greek, Florida, Russian	14	Eating Out Side Dish	1
12901	Eggs	15	Eggs	1
130301	Eggs - boiled or poached	15	Eggs	1
130302	Eggs - scrambled, fried, omelettes or unspecified 'egg'	15	Eggs	1
26401	Flour	16	Flour	1
21001	Fresh oranges	17	Fruit	1
21401	Other fresh citrus fruits	17	Fruit	1
21701	Fresh apples	17	Fruit	1
21801	Fresh pears	17	Fruit	1
22101	Fresh stone fruit	17	Fruit	1
22201	Fresh grapes	17	Fruit	1
22701	Other fresh soft fruit	17	Fruit	1
22801	Fresh bananas	17	Fruit	1
22901	Fresh melons	17	Fruit	1
23101	Other fresh fruit	17	Fruit	1
23301	Tinned peaches, pears and pineapples	17	Fruit	1
23601	All other tinned or bottled fruit	17	Fruit	1
24001	Dried fruit	17	Fruit	1
24101	Frozen strawberries, apple slices, peach halves, oranges and other frozen fruits	17	Fruit	1
200101	All citrus fruit, fresh e.g. orange, grapefruit	17	Fruit	1
200102	Banana, fresh	17	Fruit	1
200103	Apples, fresh	17	Fruit	1
200104	Pears, fresh	17	Fruit	1
200105	Stone fruit, fresh e.g. apricot, plum, peach, cherry, avocado	17	Fruit	1
200106	Grapes, fresh	17	Fruit	1
200107	Soft fruit or berries, fresh e.g. strawberries, blackberries - without cream or ice cream	17	Fruit	1
200108	Melon, fresh	17	Fruit	1
200109	Pineapple, fresh	17	Fruit	1
200110	Fresh fruit salad - without cream or ice cream	17	Fruit	1
200111	Other fresh fruit (kiwi, passion) and unspecified 'fruit'	17	Fruit	1
200112	Free school fruit	17	Fruit	1
200201	Dried fruit e.g. sultanas, raisins	17	Fruit	1
200301	Tinned, stewed, baked or processed fruit - without cream or ice cream	17	Fruit	1
240301	Fruit filling e.g. peaches for pancakes	17	Fruit	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

19603	Vegetable juices e.g. tomato juice, carrot juice	18	Fruit (and veg) juice	1
24801	Pure fruit juices	18	Fruit (and veg) juice	1
260204	Pure fruit juices	18	Fruit (and veg) juice	1
260205	Vegetable juices e.g. tomato juice, carrot juice	18	Fruit (and veg) juice	1
2201	Hard cheese - Cheddar type	19	Full Fat Cheese	1
2202	Hard cheese - Other UK or foreign equivalent	19	Full Fat Cheese	1
130103	Cheddar, blue or other hard cheese and unspecified 'cheese'	19	Full Fat Cheese	1
1603	Dairy desserts - not frozen	20	Ice Cream and Dairy Desserts	1
33203	Ice cream tub or block	20	Ice Cream and Dairy Desserts	1
33302	Ice cream cornets, choc-ices, lollies with ice cream	20	Ice Cream and Dairy Desserts	1
33303	Ice lollies, sorbet, frozen mousse, frozen yoghurt	20	Ice Cream and Dairy Desserts	1
33304	Takeaway ice cream, ice cream products, milkshakes	20	Ice Cream and Dairy Desserts	1
290101	Ice cream in a cone, cornet or wafer and ice cream desserts	20	Ice Cream and Dairy Desserts	1
290103	Ice cream scoop or tub including ice cream served with dessert	20	Ice Cream and Dairy Desserts	1
290211	Fool, trifle and mousse desserts	20	Ice Cream and Dairy Desserts	1
15101	Jams and fruit curds	21	Jam, marmalade, honey and sweet spreads	1
15201	Marmalade	21	Jam, marmalade, honey and sweet spreads	1
15301	Syrup, treacle	21	Jam, marmalade, honey and sweet spreads	1
15401	Honey	21	Jam, marmalade, honey and sweet spreads	1
32303	Other spreads and dressings	21	Jam, marmalade, honey and sweet spreads	1
240106	Sweet sauce e.g. syrup, treacle, chocolate sauce	21	Jam, marmalade, honey and sweet spreads	1
240107	Fruit or vegetable based condiments	21	Jam, marmalade, honey and sweet spreads	1
240402	Jam, marmalade and honey	21	Jam, marmalade, honey and sweet spreads	1
32901	Jelly squares or crystals	22	Jelly, Ice Lollies and Sorbets	1
290104	Iced lollies and sorbets	22	Jelly, Ice Lollies and Sorbets	1
290212	Jelly	22	Jelly, Ice Lollies and Sorbets	1
2205	Cottage cheese	23	Low Fat Cheese	1
130101	Cottage cheese including with pineapple	23	Low Fat Cheese	1
28205	Other breakfast cereals	24	Low fibre and lower NMES Breakfast Cereal	1
28204	Sweetened breakfast cereals	25	Low fibre or high NMES Breakfast Cereal	1
190103	Sweetened breakfast cereals e.g. Frosties, Sugar Puffs	25	Low fibre or high NMES Breakfast Cereal	1
190105	Other breakfast cereals and unspecified 'cereal' e.g. Cornflakes, Rice Krispies, Special K	25	Low fibre or high NMES Breakfast Cereal	1
8302	Meat pies - ready to eat	26	Meat Filled Pastry	1
8303	Sausage rolls - ready to eat	26	Meat Filled Pastry	1
8401	Meat pies, pasties and puddings - frozen or not frozen	26	Meat Filled Pastry	1
9501	Takeaway meat pies and pasties	26	Meat Filled Pastry	1
110501	Meat pies (pastry topped) and pasties	26	Meat Filled Pastry	1
110503	Sausage roll (pastry)	26	Meat Filled Pastry	1
2203	Hard cheese - Edam or other foreign	27	Medium Fat Cheese	1
2206	Soft natural cheese	27	Medium Fat Cheese	1
2301	Processed cheese	27	Medium Fat Cheese	1
130102	Soft, continental or processed cheese e.g. brie	27	Medium Fat Cheese	1
31201	Cocoa and chocolate drinks	28	Milk Drinks	1
31301	Malt drinks and chocolate versions of malted drinks	28	Milk Drinks	1
250106	Hot chocolate or cocoa, with milk or water	28	Milk Drinks	1
28502	Canned or fresh carton custard	29	Milk Puddings	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

28503	All canned milk puddings	29	Milk Puddings	1
240404	Custard	29	Milk Puddings	1
290208	Custard desserts or sweet soufflé	29	Milk Puddings	1
290213	Milk and rice puddings including tapioca, semolina	29	Milk Puddings	1
29915	Quiches and flans - frozen and not frozen	30	Non Meat Savoury Pastry	1
130104	Quiche and cheese pies or pasties	30	Non Meat Savoury Pastry	1
24502	Nuts & edible seeds	31	Nuts	1
310101	Nuts, nut products and seeds	31	Nuts	1
26303	Malt bread and fruit loaves	32	Other Baked Goods	1
26308	Other breads	32	Other Baked Goods	1
26311	Takeaway breads	32	Other Baked Goods	1
26701	Buns, scones and teacakes	32	Other Baked Goods	1
100107	Indian breads	32	Other Baked Goods	1
220105	Garlic bread	32	Other Baked Goods	1
220106	Croissant	32	Other Baked Goods	1
220107	Continental breads e.g. pitta, ciabatta, focaccia	32	Other Baked Goods	1
220109	Fried bread, including croutons	32	Other Baked Goods	1
290301	Waffles and pancakes	32	Other Baked Goods	1
290401	Teacakes, scones, currant buns, iced buns	32	Other Baked Goods	1
6201	Corned beef - canned or sliced	33	Other processed meat	1
6601	Other cooked meat	33	Other processed meat	1
7102	Other canned meat and canned meat products	33	Other processed meat	1
8902	Other convenience meat products - frozen or not frozen	33	Other processed meat	1
9301	Pate	33	Other processed meat	1
9403	Meat pastes and spreads	33	Other processed meat	1
9506	Takeaway miscellaneous meats	33	Other processed meat	1
110701	All pates	33	Other processed meat	1
110801	Other meat products or dishes	33	Other processed meat	1
28702	Dried rice	34	Pasta, Rice and Noodles	1
28703	Cooked rice	34	Pasta, Rice and Noodles	1
28704	Takeaway rice	34	Pasta, Rice and Noodles	1
29501	Canned pasta	34	Pasta, Rice and Noodles	1
29502	Dried and fresh pasta	34	Pasta, Rice and Noodles	1
29503	Takeaway pasta and noodles	34	Pasta, Rice and Noodles	1
160202	Pasta, rice, mixed bean or cereal-based salads - with dressing	34	Pasta, Rice and Noodles	1
170101	Fried rice and risotto	34	Pasta, Rice and Noodles	1
170102	All cooked rice excluding fried rice e.g. boiled, pilau, savoury	34	Pasta, Rice and Noodles	1
170103	Pasta - not filled and plain noodles (including pot noodle) - without sauce	34	Pasta, Rice and Noodles	1
170104	Pasta - filled e.g. ravioli, tortellini - without sauce	34	Pasta, Rice and Noodles	1
24503	Peanut butter	35	Peanut Butter	1
29601	Pizzas - frozen and not frozen	36	Pizza	1
29602	Takeaway pizza	36	Pizza	1
130201	Pizza - cheese and tomato, vegetable or unspecified 'pizza'	36	Pizza	1
130202	Pizza - meat, fish or poultry	36	Pizza	1
15501	Potatoes - bought Jan-Aug, previous year's crop	37	Potatoes	1
15502	Potatoes - bought Jan-Aug, this year's crop	37	Potatoes	1
15503	Potatoes - bought Sep-Dec, current crop or new imported	37	Potatoes	1
15504	Fresh potatoes not specified elsewhere	37	Potatoes	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

15505	Fresh new potatoes	37	Potatoes	1
15506	Fresh baking potatoes	37	Potatoes	1
19901	Canned potatoes	37	Potatoes	1
140103	Potatoes - boiled or unspecified 'potato'	37	Potatoes	1
140104	Potatoes - mashed	37	Potatoes	1
140105	Potatoes - roast	37	Potatoes	1
140106	Sautéed potatoes, potato croquettes, hash browns etc.	37	Potatoes	1
140107	Baked or jacket potatoes - without filling	37	Potatoes	1
140108	Other potato dishes (e.g. wedges, potato salad) including unspecified 'potato dish'	37	Potatoes	1
5903	Cooked chicken and turkey	38	Poultry	1
7401	Chicken - whole or part	38	Poultry	1
7703	Turkey - whole or part	38	Poultry	1
7704	Poultry other than chicken or turkey	38	Poultry	1
110201	Chicken or turkey with sauce or gravy	38	Poultry	1
110202	Chicken or turkey in breadcrumbs or batter	38	Poultry	1
110203	Duck with sauce or gravy	38	Poultry	1
11801	Takeaway fish	39	Processed Fish	1
12001	Other tinned or bottled fish	39	Processed Fish	1
12304	Takeaway fish products	39	Processed Fish	1
120601	Fish, processed, in breadcrumbs (fish fingers, fish cakes, scampi) - without sauce or dressing	39	Processed Fish	1
120602	Fish burgers (in bun)	39	Processed Fish	1
240304	Fish based filling e.g. tuna mayonnaise	39	Processed Fish	1
19702	Chips - frozen or not frozen	40	Processed Potatoes	1
19703	Takeaway chips	40	Processed Potatoes	1
19801	Instant potato	40	Processed Potatoes	1
20101	Other potato products - frozen or not frozen	40	Processed Potatoes	1
140101	Chips and French fries - from fast food outlet e.g. McDonalds	40	Processed Potatoes	1
140102	Chips - served with meal e.g. from restaurant or chip shop	40	Processed Potatoes	1
5904	Takeaway chicken	41	Processed Poultry	1
110303	Chicken burger	41	Processed Poultry	1
8901	Complete meat-based ready meals - frozen or not frozen	42	Ready Meals	1
12103	Ready meals and other fish products - frozen or not frozen	42	Ready Meals	1
20601	Ready meals and other vegetable products - frozen or not frozen	42	Ready Meals	1
14802	Reduced fat spreads	43	Reduced and Low Fat Spread	1
14803	Low fat spreads	43	Reduced and Low Fat Spread	1
26309	Sandwiches	44	Sandwiches	1
26310	Sandwiches from takeaway	44	Sandwiches	1
230101	Meat based sandwich on white bread or roll	44	Sandwiches	1
230102	Meat based sandwich on brown bread or roll	44	Sandwiches	1
230103	Meat based sandwich bread not specified	44	Sandwiches	1
230104	Chicken or turkey based sandwich on white bread or roll	44	Sandwiches	1
230105	Chicken or turkey based sandwich on brown bread or roll	44	Sandwiches	1
230106	Chicken or turkey based sandwich bread not specified	44	Sandwiches	1
230107	Bacon and egg based sandwich on white bread or roll including Bacon and Egg McMuffin	44	Sandwiches	1
230108	Bacon and egg based sandwich on brown bread or roll	44	Sandwiches	1

230109	Bacon and egg based sandwich bread not specified	44	Sandwiches	1
230110	Fish based sandwich on white bread or roll	44	Sandwiches	1
230111	Fish based sandwich on brown bread or roll	44	Sandwiches	1
230112	Fish based sandwich bread not specified	44	Sandwiches	1
230201	Cheese based sandwich on white bread or roll	44	Sandwiches	1
230202	Cheese based sandwich on brown bread or roll	44	Sandwiches	1
230203	Cheese based sandwich bread not specified	44	Sandwiches	1
230204	Egg based sandwich on white bread or roll including Egg McMuffin	44	Sandwiches	1
230205	Egg based sandwich on brown bread or roll	44	Sandwiches	1
230206	Egg based sandwich bread not specified	44	Sandwiches	1
230207	Vegetarian based sandwich on white bread or roll	44	Sandwiches	1
230208	Vegetarian based sandwich on brown bread or roll	44	Sandwiches	1
230209	Vegetarian based sandwich bread not specified	44	Sandwiches	1
230210	Sweet-filled sandwich	44	Sandwiches	1
230211	Unspecified sandwiches or rolls	44	Sandwiches	1
7901	Sausages, uncooked - pork	45	Sausages	1
8001	Sausages, uncooked - beef etc.	45	Sausages	1
9302	Delicatessen type sausages	45	Sausages	1
9504	Takeaway sausages and saveloys	45	Sausages	1
110402	Plain sausages e.g. beef, pork	45	Sausages	1
110403	Other sausages	45	Sausages	1
110404	Hot dogs and sausage sandwiches	45	Sausages	1
27101	Crispbread	46	Savoury Biscuits	1
27403	Cream crackers and other unsweetened biscuits	46	Savoury Biscuits	1
300104	Savoury biscuits	46	Savoury Biscuits	1
32302	Salad dressings	47	Savoury Sauces and Dressings	1
32702	Pickles	47	Savoury Sauces and Dressings	1
32703	Sauces	47	Savoury Sauces and Dressings	1
32704	Takeaway sauces and mayonnaise	47	Savoury Sauces and Dressings	1
240101	Cheese or cream based sauce e.g. carbonara, cauliflower cheese	47	Savoury Sauces and Dressings	1
240102	Meat-based sauce e.g. bolognese, chilli con carne	47	Savoury Sauces and Dressings	1
240103	Fish or seafood based sauce	47	Savoury Sauces and Dressings	1
240104	Tomato based sauce containing vegetables including ratatouille	47	Savoury Sauces and Dressings	1
240105	Other savoury sauce or unspecified 'sauce'	47	Savoury Sauces and Dressings	1
240108	Other condiments or sauces	47	Savoury Sauces and Dressings	1
240201	Salad dressings and dips	47	Savoury Sauces and Dressings	1
240202	Mayonnaise	47	Savoury Sauces and Dressings	1
240203	Coleslaw	47	Savoury Sauces and Dressings	1
1503	Semi-skimmed milk	48	Semi-skimmed Milk	1
1502	Fully skimmed milk	49	Skimmed Milk	1
13801	Soft margarine	50	Soft Margarine	1
31801	Soups - canned or cartons	51	Soup	1
31901	Soups - dehydrated or powdered	51	Soup	1
32001	Soups - from takeaway	51	Soup	1
180101	Meat & fish soups	51	Soup	1
180102	Vegetable based soups	51	Soup	1
180103	Chinese soups, consommé (meat, fish or veg)	51	Soup	1
180104	Other soups including unspecified 'soup'	51	Soup	1

13501	Butter	52	Total Spreading Fats	1
13801	Soft margarine	52	Total Spreading Fats	1
14802	Reduced fat spreads	52	Total Spreading Fats	1
14803	Low fat spreads	52	Total Spreading Fats	1
240401	Butter and margarine	52	Spreading Fats	1
15001	Sugar	53	Sugar	1
240405	Sugar (as an addition to tea, coffee etc.)	53	Sugar	1
35301	Mints	54	Sugar Confectionery	1
35302	Boiled sweets	54	Sugar Confectionery	1
35401	Fudges, toffees, caramels	54	Sugar Confectionery	1
35501	Takeaway confectionery	54	Sugar Confectionery	1
280105	Mints e.g. Polo, Extra Strong	54	Sugar Confectionery	1
280106	Boiled sweets, jellies and unspecified 'sweets' e.g. fruit gums	54	Sugar Confectionery	1
280107	Uncoated toffee or fudge, uncoated e.g. Toffos, chocolate eclairs, caramels	54	Sugar Confectionery	1
280108	Pick 'n' mix, nougat, liquorice and other sweets	54	Sugar Confectionery	1
34001	Soft drinks, concentrated, not low calorie	55	Sugar Containing Soft Drinks	1
34101	Soft drinks, not concentrated, not low calorie	55	Sugar Containing Soft Drinks	1
38501	Spirits with mixer	55	Sugar Containing Soft Drinks	0.85
38901	Alcopops	55	Sugar Containing Soft Drinks	0.85
260203	Soft drink (incl carbonates & still) - not low calorie (including drinks where calorie content unspecified)	55	Sugar Containing Soft Drinks	1
260206	Soft drink where pure juice or juice drink not specified	55	Sugar Containing Soft Drinks	1
270104	Spirits or liqueurs with mixer e.g. gin & tonic, Bacardi & coke	55	Sugar Containing Soft Drinks	0.85
270206	Alcoholic soft drinks (alcopops), and ready-mixed bottled drinks	55	Sugar Containing Soft Drinks	0.85
34301	Soft drinks, concentrated, low calorie	56	Sugar Free Soft Drinks	1
34401	Soft drinks, not concentrated, low calorie	56	Sugar Free Soft Drinks	1
260202	Soft drink (incl carbonates and still) - low calorie	56	Sugar Free Soft Drinks	1
27402	Sweet biscuits (not chocolate) and cereal bars	57	Sweet Biscuits	1
27702	Chocolate biscuits	57	Sweet Biscuits	1
300101	Fully-coated chocolate biscuits or wafers	57	Sweet Biscuits	1
300102	Sweet biscuits including half-coated chocolate biscuits	57	Sweet Biscuits	1
300103	Cereal bars and cereal based cakes	57	Sweet Biscuits	1
9505	Takeaway meat based meals	58	Takeaway Main Meal Component	1
12305	Takeaway fish based meals	58	Takeaway Main Meal Component	1
20604	All vegetable takeaway products	58	Takeaway Main Meal Component	1
28101	Oatmeal and oat products	59	Total Breakfast Cereal	1
28202	Muesli	59	Total Breakfast Cereal	1
28203	High fibre breakfast cereals	59	Total Breakfast Cereal	1
28204	Sweetened breakfast cereals	59	Total Breakfast Cereal	1
28205	Other breakfast cereals	59	Total Breakfast Cereal	1
190101	Muesli and oat crunch cereals	59	Total Breakfast Cereal	1
190102	Other high fibre breakfast cereals e.g. Allbran, Weetabix	59	Total Breakfast Cereal	1
190103	Sweetened breakfast cereals e.g. Frosties, Sugar Puffs	59	Total Breakfast Cereal	1
190104	Hot breakfast cereals e.g. porridge, Ready Brek	59	Total Breakfast Cereal	1
190105	Other breakfast cereals and unspecified 'cereal' e.g. Cornflakes, Rice Krispies, Special K	59	Total Breakfast Cereal	1
2201	Hard cheese - Cheddar type	60	Total Cheese	1

2202	Hard cheese - Other UK or foreign equivalent	60	Total Cheese	1
2203	Hard cheese - Edam or other foreign	60	Total Cheese	1
2205	Cottage cheese	60	Total Cheese	1
2206	Soft natural cheese	60	Total Cheese	1
2301	Processed cheese	60	Total Cheese	1
130101	Cottage cheese including with pineapple	60	Total Cheese	2
130105	Other cheese dishes e.g. Welsh rarebit, cheese and biscuits	60	Total Cheese	1
240303	Cheese filling including cheddar cheese, cottage cheese	60	Total Cheese	1
16201	Fresh cabbages	61	Total Fruit and Vegetables	1
16301	Fresh Brussels sprouts	61	Total Fruit and Vegetables	1
16401	Fresh cauliflower	61	Total Fruit and Vegetables	1
16701	Lettuce and leafy salads	61	Total Fruit and Vegetables	1
16702	Prepared lettuce salads	61	Total Fruit and Vegetables	1
16801	Fresh peas	61	Total Fruit and Vegetables	1
16901	Fresh beans	61	Total Fruit and Vegetables	1
17101	Other fresh green vegetables	61	Total Fruit and Vegetables	1
17201	Fresh carrots	61	Total Fruit and Vegetables	1
17301	Fresh turnips and swede	61	Total Fruit and Vegetables	1
17401	Other fresh root vegetables	61	Total Fruit and Vegetables	1
17501	Fresh onions, leeks and shallots	61	Total Fruit and Vegetables	1
17601	Fresh cucumbers	61	Total Fruit and Vegetables	1
17701	Fresh mushrooms	61	Total Fruit and Vegetables	1
17801	Fresh tomatoes	61	Total Fruit and Vegetables	1
18301	Fresh vegetable stewpack, stirfry pack etc.	61	Total Fruit and Vegetables	1
18302	Fresh stem vegetables	61	Total Fruit and Vegetables	1
18303	Fresh marrow, courgettes, aubergine, pumpkin and other vegetables	61	Total Fruit and Vegetables	1
18304	Fresh herbs	61	Total Fruit and Vegetables	1
18401	Tomatoes, canned or bottled	61	Total Fruit and Vegetables	1
18501	Peas, canned	61	Total Fruit and Vegetables	1
18802	Baked beans in sauce	61	Total Fruit and Vegetables	1
18803	Other canned beans and pulses	61	Total Fruit and Vegetables	1
19101	Other canned vegetables	61	Total Fruit and Vegetables	1
19201	Dried pulses, other than air-dried	61	Total Fruit and Vegetables	1
19501	Air-dried vegetables	61	Total Fruit and Vegetables	1
19602	Tomato puree and vegetable purees	61	Total Fruit and Vegetables	1
19603	Vegetable juices e.g. tomato juice, carrot juice	61	Total Fruit and Vegetables	1
20301	Peas, frozen	61	Total Fruit and Vegetables	1
20401	Beans, frozen	61	Total Fruit and Vegetables	1
20801	Other frozen vegetables	61	Total Fruit and Vegetables	1
21001	Fresh oranges	61	Total Fruit and Vegetables	1
21401	Other fresh citrus fruits	61	Total Fruit and Vegetables	1
21701	Fresh apples	61	Total Fruit and Vegetables	1
21801	Fresh pears	61	Total Fruit and Vegetables	1
22101	Fresh stone fruit	61	Total Fruit and Vegetables	1
22201	Fresh grapes	61	Total Fruit and Vegetables	1
22701	Other fresh soft fruit	61	Total Fruit and Vegetables	1
22801	Fresh bananas	61	Total Fruit and Vegetables	1
22901	Fresh melons	61	Total Fruit and Vegetables	1

23101	Other fresh fruit	61	Total Fruit and Vegetables	1
23301	Tinned peaches, pears and pineapples	61	Total Fruit and Vegetables	1
23601	All other tinned or bottled fruit	61	Total Fruit and Vegetables	1
24001	Dried fruit	61	Total Fruit and Vegetables	1
24101	Frozen strawberries, apple slices, peach halves, oranges and other frozen fruits	61	Total Fruit and Vegetables	1
24801	Pure fruit juices	61	Total Fruit and Vegetables	1
150101	Lettuce and cress	61	Total Fruit and Vegetables	1
150102	Other green vegetables e.g. spinach, cabbage, sprouts	61	Total Fruit and Vegetables	1
150201	Peppers - raw or cooked	61	Total Fruit and Vegetables	1
150202	Courgettes, marrow, aubergine, pumpkin, plantain, cucumbers	61	Total Fruit and Vegetables	1
150203	Peas and sweetcorn	61	Total Fruit and Vegetables	1
150204	Baked beans and other beans (not green beans) and pulses	61	Total Fruit and Vegetables	1
150205	Tomato - fresh or raw	61	Total Fruit and Vegetables	1
150206	Tomato - cooked or processed	61	Total Fruit and Vegetables	1
150301	Carrots	61	Total Fruit and Vegetables	1
150302	Onions - raw, cooked or unspecified 'onions'	61	Total Fruit and Vegetables	1
150303	Onions - fried	61	Total Fruit and Vegetables	1
150304	Other root vegetables or tubers e.g. turnip, parsnip, radish, beetroot	61	Total Fruit and Vegetables	1
150401	Mushrooms - raw or cooked	61	Total Fruit and Vegetables	1
150501	Mixed vegetables or unspecified 'vegetable'	61	Total Fruit and Vegetables	1
150502	Other vegetables e.g. artichoke, asparagus	61	Total Fruit and Vegetables	1
160101	Mixed salad, main course - without dressing	61	Total Fruit and Vegetables	1
160102	Mixed salad, side dish - without dressing - including unspecified 'salad'	61	Total Fruit and Vegetables	1
160103	Green salad - without dressing	61	Total Fruit and Vegetables	1
200101	All citrus fruit, fresh e.g. orange, grapefruit	61	Total Fruit and Vegetables	1
200102	Banana, fresh	61	Total Fruit and Vegetables	1
200103	Apples, fresh	61	Total Fruit and Vegetables	1
200104	Pears, fresh	61	Total Fruit and Vegetables	1
200105	Stone fruit, fresh e.g. apricot, plum, peach, cherry, avocado	61	Total Fruit and Vegetables	1
200106	Grapes, fresh	61	Total Fruit and Vegetables	1
200107	Soft fruit or berries, fresh e.g. strawberries, blackberries - without cream or ice cream	61	Total Fruit and Vegetables	1
200108	Melon, fresh	61	Total Fruit and Vegetables	1
200109	Pineapple, fresh	61	Total Fruit and Vegetables	1
200110	Fresh fruit salad - without cream or ice cream	61	Total Fruit and Vegetables	1
200111	Other fresh fruit (kiwi, passion) and unspecified 'fruit'	61	Total Fruit and Vegetables	1
200112	Free school fruit	61	Total Fruit and Vegetables	1
200201	Dried fruit e.g. sultanas, raisins	61	Total Fruit and Vegetables	1
200301	Tinned, stewed, baked or processed fruit - without cream or ice cream	61	Total Fruit and Vegetables	1
240301	Fruit filling e.g. peaches for pancakes	61	Total Fruit and Vegetables	1
240302	Vegetable filling	61	Total Fruit and Vegetables	1
260204	Pure fruit juices	61	Total Fruit and Vegetables	1
260205	Vegetable juices e.g. tomato juice, carrot juice	61	Total Fruit and Vegetables	1
402	UHT whole milk	62	Total Milk	1
403	Sterilised whole milk	62	Total Milk	1
404	Pasteurised or homogenised whole milk	62	Total Milk	1
601	Welfare milk	62	Total Milk	1
901	Condensed or evaporated milk	62	Total Milk	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

1102	Infant or baby milks - ready to drink	62	Total Milk	1
1103	Infant or baby milks - dried	62	Total Milk	1
1201	Instant dried milk	62	Total Milk	1
1502	Fully skimmed milk	62	Total Milk	1
1503	Semi-skimmed milk	62	Total Milk	1
1605	Dried milk products	62	Total Milk	1
1606	Milk drinks & other milks (replaced 200405 onwards)	62	Total Milk	1
1607	Milk drinks & other milks	62	Total Milk	1
1608	Non-dairy milk substitutes	62	Total Milk	1
260301	Milk as a drink	62	Total Milk	1
260302	Milk on cereal	62	Total Milk	1
260303	Milkshake and flavoured milk	62	Total Milk	1
260304	Free school milk	62	Total Milk	1
5502	Bacon and ham joints, uncooked	63	Total Processed Red Meat	1
5505	Bacon and ham rashers, uncooked	63	Total Processed Red Meat	1
5801	Ham and bacon	63	Total Processed Red Meat	1
6201	Corned beef - canned or sliced	63	Total Processed Red Meat	1
6601	Other cooked meat	63	Total Processed Red Meat	1
7102	Other canned meat and canned meat products	63	Total Processed Red Meat	1
7901	Sausages, uncooked - pork	63	Total Processed Red Meat	1
8001	Sausages, uncooked - beef etc.	63	Total Processed Red Meat	1
8302	Meat pies - ready to eat	63	Total Processed Red Meat	1
8303	Sausage rolls - ready to eat	63	Total Processed Red Meat	1
8401	Meat pies, pasties and puddings - frozen or not frozen	63	Total Processed Red Meat	1
8501	Burgers - frozen or not frozen	63	Total Processed Red Meat	1
8902	Other convenience meat products - frozen or not frozen	63	Total Processed Red Meat	1
9301	Pate	63	Total Processed Red Meat	1
9302	Delicatessen type sausages	63	Total Processed Red Meat	1
9403	Meat pastes and spreads	63	Total Processed Red Meat	1
9501	Takeaway meat pies and pasties	63	Total Processed Red Meat	1
9502	Takeaway burger and bun	63	Total Processed Red Meat	1
9503	Takeaway kebabs	63	Total Processed Red Meat	1
9504	Takeaway sausages and saveloys	63	Total Processed Red Meat	1
9506	Takeaway miscellaneous meats	63	Total Processed Red Meat	1
110106	Bacon	63	Total Processed Red Meat	1
110107	Gammon or ham	63	Total Processed Red Meat	1
110301	Small or single burgers	63	Total Processed Red Meat	1
110302	Large or double burgers	63	Total Processed Red Meat	1
110401	Kebabs - all types including chicken	63	Total Processed Red Meat	1
110402	Plain sausages e.g. beef, pork	63	Total Processed Red Meat	1
110403	Other sausages	63	Total Processed Red Meat	1
110404	Hot dogs and sausage sandwiches	63	Total Processed Red Meat	1
110501	Meat pies (pastry topped) and pasties	63	Total Processed Red Meat	1
110503	Sausage roll (pastry)	63	Total Processed Red Meat	1
110701	All pates	63	Total Processed Red Meat	1
110801	Other meat products or dishes	63	Total Processed Red Meat	1
10201	White fish, fresh or chilled	64	Unprocessed Fish	1
10202	White fish, frozen	64	Unprocessed Fish	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

10601	Herrings and other blue fish, fresh or chilled	64	Unprocessed Fish	1
10602	Herrings and other blue fish, frozen	64	Unprocessed Fish	1
10701	Salmon, fresh or chilled	64	Unprocessed Fish	1
10702	Salmon, frozen	64	Unprocessed Fish	1
10801	Blue fish, dried or salted or smoked	64	Unprocessed Fish	1
11401	White fish, dried or salted or smoked	64	Unprocessed Fish	1
11702	Shellfish, fresh or chilled	64	Unprocessed Fish	1
11703	Shellfish, frozen	64	Unprocessed Fish	1
11901	Tinned salmon	64	Unprocessed Fish	1
120101	White fish - grilled, steamed, baked or boiled - without sauce	64	Unprocessed Fish	1
120102	White fish - fried (incl in batter/breadcrumbs) - without sauce	64	Unprocessed Fish	1
120201	Trout, tuna and salmon only - fresh - without sauce or dressing	64	Unprocessed Fish	1
120202	Other fatty fish - without sauce or dressing e.g. herring, mackerel, sardines	64	Unprocessed Fish	1
120301	Shellfish - without sauce or dressing e.g. prawns, shrimps, oysters, crab	64	Unprocessed Fish	1
120401	Kippers and other smoked fish e.g. smoked salmon	64	Unprocessed Fish	1
120501	Other fish products and unspecified 'fish' e.g. squid, sushi, crabsticks	64	Unprocessed Fish	1
3102	Beef joints - on the bone	65	Unprocessed Red Meat	1
3103	Beef joints - boned	65	Unprocessed Red Meat	1
3104	Beef steak - less expensive	65	Unprocessed Red Meat	1
3105	Beef steak - more expensive	65	Unprocessed Red Meat	1
3106	Minced beef	65	Unprocessed Red Meat	1
3107	All other beef and veal	65	Unprocessed Red Meat	1
3601	Mutton	65	Unprocessed Red Meat	1
3602	Lamb joints	65	Unprocessed Red Meat	1
3603	Lamb chops	65	Unprocessed Red Meat	1
3604	All other lamb	65	Unprocessed Red Meat	1
4101	Pork joints	65	Unprocessed Red Meat	1
4102	Pork chops	65	Unprocessed Red Meat	1
4103	Pork fillets and steaks	65	Unprocessed Red Meat	1
4104	All other pork	65	Unprocessed Red Meat	1
4603	Ox liver	65	Unprocessed Red Meat	1
4604	Lambs liver	65	Unprocessed Red Meat	1
4605	Pigs liver	65	Unprocessed Red Meat	1
4607	All other liver	65	Unprocessed Red Meat	1
5101	All offal other than liver	65	Unprocessed Red Meat	1
7801	Other fresh, chilled or frozen meat	65	Unprocessed Red Meat	1
110101	Steak - without sauce e.g. braised, sirloin	65	Unprocessed Red Meat	1
110102	Roast meat with sauce or gravy	65	Unprocessed Red Meat	1
110103	Pork chops with sauce or gravy	65	Unprocessed Red Meat	1
110104	Lamb chops with sauce or gravy	65	Unprocessed Red Meat	1
110105	Spare ribs	65	Unprocessed Red Meat	1
110108	All offal including liver, kidney, tongue	65	Unprocessed Red Meat	1
110204	Game with sauce or gravy	65	Unprocessed Red Meat	1
16201	Fresh cabbages	66	Vegetables	1
16301	Fresh Brussels sprouts	66	Vegetables	1
16401	Fresh cauliflower	66	Vegetables	1
16701	Lettuce and leafy salads	66	Vegetables	1
16702	Prepared lettuce salads	66	Vegetables	1

16801	Fresh peas	66	Vegetables	1
16901	Fresh beans	66	Vegetables	1
17101	Other fresh green vegetables	66	Vegetables	1
17201	Fresh carrots	66	Vegetables	1
17301	Fresh turnips and swede	66	Vegetables	1
17401	Other fresh root vegetables	66	Vegetables	1
17501	Fresh onions, leeks and shallots	66	Vegetables	1
17601	Fresh cucumbers	66	Vegetables	1
17701	Fresh mushrooms	66	Vegetables	1
17801	Fresh tomatoes	66	Vegetables	1
18301	Fresh vegetable stewpack, stirfry pack etc.	66	Vegetables	1
18302	Fresh stem vegetables	66	Vegetables	1
18303	Fresh marrow, courgettes, aubergine, pumpkin and other vegetables	66	Vegetables	1
18304	Fresh herbs	66	Vegetables	1
18401	Tomatoes, canned or bottled	66	Vegetables	1
18501	Peas, canned	66	Vegetables	1
18802	Baked beans in sauce	66	Vegetables	1
18803	Other canned beans and pulses	66	Vegetables	1
19101	Other canned vegetables	66	Vegetables	1
19201	Dried pulses, other than air-dried	66	Vegetables	1
19501	Air-dried vegetables	66	Vegetables	1
19602	Tomato puree and vegetable purees	66	Vegetables	1
20301	Peas, frozen	66	Vegetables	1
20401	Beans, frozen	66	Vegetables	1
20801	Other frozen vegetables	66	Vegetables	1
150101	Lettuce and cress	66	Vegetables	1
150102	Other green vegetables e.g. spinach, cabbage, sprouts	66	Vegetables	1
150201	Peppers - raw or cooked	66	Vegetables	1
150202	Courgettes, marrow, aubergine, pumpkin, plantain, cucumbers	66	Vegetables	1
150203	Peas and sweetcorn	66	Vegetables	1
150204	Baked beans and other beans (not green beans) and pulses	66	Vegetables	1
150205	Tomato - fresh or raw	66	Vegetables	1
150206	Tomato - cooked or processed	66	Vegetables	1
150301	Carrots	66	Vegetables	1
150302	Onions - raw, cooked or unspecified 'onions'	66	Vegetables	1
150303	Onions - fried	66	Vegetables	1
150304	Other root vegetables or tubers e.g. turnip, parsnip, radish, beetroot	66	Vegetables	1
150401	Mushrooms - raw or cooked	66	Vegetables	1
150501	Mixed vegetables or unspecified 'vegetable'	66	Vegetables	1
150502	Other vegetables e.g. artichoke, asparagus	66	Vegetables	1
160101	Mixed salad, main course - without dressing	66	Vegetables	1
160102	Mixed salad, side dish - without dressing - including unspecified 'salad'	66	Vegetables	1
160103	Green salad - without dressing	66	Vegetables	1
240302	Vegetable filling	66	Vegetables	1
402	UHT whole milk	67	Whole Milk	1
403	Sterilised whole milk	67	Whole Milk	1
404	Pasteurised or homogenised whole milk	67	Whole Milk	1
601	Welfare milk	67	Whole Milk	1

Appendix 8: Breakdown of Food Groupings by Food Code for Contributing Foods Analysis

28101	Oatmeal and oat products	68	Wholegrain/ HF Breakfast Cereal	1
28202	Muesli	68	Wholegrain/ HF Breakfast Cereal	1
28203	High fibre breakfast cereals	68	Wholegrain/ HF Breakfast Cereal	1
190101	Muesli and oat crunch cereals	68	Wholegrain/ HF Breakfast Cereal	1
190102	Other high fibre breakfast cereals e.g. Allbran, Weetabix	68	Wholegrain/ HF Breakfast Cereal	1
190104	Hot breakfast cereals e.g. porridge, Ready Brek	68	Wholegrain/ HF Breakfast Cereal	1
1301	Yoghurt	69	Yoghurt and Fromage Frais	1
1302	Fromage frais	69	Yoghurt and Fromage Frais	1
210101	Yoghurt and fromage frais	69	Yoghurt and Fromage Frais	1
35001	Chocolate bars - solid	70	Total Confectionery	1
35101	Chocolate bars - filled	70	Total Confectionery	1
35301	Mints	70	Total Confectionery	1
35302	Boiled sweets	70	Total Confectionery	1
35401	Fudges, toffees, caramels	70	Total Confectionery	1
35501	Takeaway confectionery	70	Total Confectionery	1
280101	Solid, unfilled chocolate bars and sweets and unspecified 'chocolate'	70	Total Confectionery	1
280102	Filled chocolate-coated bars and sweets e.g. Mars, Snickers, Minstrels	70	Total Confectionery	1
280103	Single chocolate (after dinner)	70	Total Confectionery	1
280105	Mints e.g. Polo, Extra Strong	70	Total Confectionery	1
280106	Boiled sweets, jellies and unspecified 'sweets' e.g. fruit gums	70	Total Confectionery	1
280107	Uncoated toffee or fudge, uncoated e.g. Toffos, chocolate éclairs, caramels	70	Total Confectionery	1
280108	Pick 'n' mix, nougat, liquorice and other sweets	70	Total Confectionery	1
27402	Sweet biscuits (not chocolate) and cereal bars	71	Total Confectionery and Sweet Biscuits	1
27702	Chocolate biscuits	71	Total Confectionery and Sweet Biscuits	1
35001	Chocolate bars - solid	71	Total Confectionery and Sweet Biscuits	1
35101	Chocolate bars - filled	71	Total Confectionery and Sweet Biscuits	1
35301	Mints	71	Total Confectionery and Sweet Biscuits	1
35302	Boiled sweets	71	Total Confectionery and Sweet Biscuits	1
35401	Fudges, toffees, caramels	71	Total Confectionery and Sweet Biscuits	1
35501	Takeaway confectionery	71	Total Confectionery and Sweet Biscuits	1
280101	Solid, unfilled chocolate bars and sweets and unspecified 'chocolate'	71	Total Confectionery and Sweet Biscuits	1
280102	Filled chocolate-coated bars and sweets e.g. Mars, Snickers, Minstrels	71	Total Confectionery and Sweet Biscuits	1
280103	Single chocolate (after dinner)	71	Total Confectionery and Sweet Biscuits	1
280105	Mints e.g. Polo, Extra Strong	71	Total Confectionery and Sweet Biscuits	1
280106	Boiled sweets, jellies and unspecified 'sweets' e.g. fruit gums	71	Total Confectionery and Sweet Biscuits	1
280107	Uncoated toffee or fudge, uncoated e.g. Toffos, chocolate eclairs, caramels	71	Total Confectionery and Sweet Biscuits	1
280108	Pick 'n' mix, nougat, liquorice and other sweets	71	Total Confectionery and Sweet Biscuits	1
300101	Fully-coated chocolate biscuits or wafers	71	Total Confectionery and Sweet Biscuits	1
300102	Sweet biscuits including half-coated chocolate biscuits	71	Total Confectionery and Sweet Biscuits	1
300103	Cereal bars and cereal based cakes	71	Total Confectionery and Sweet Biscuits	1

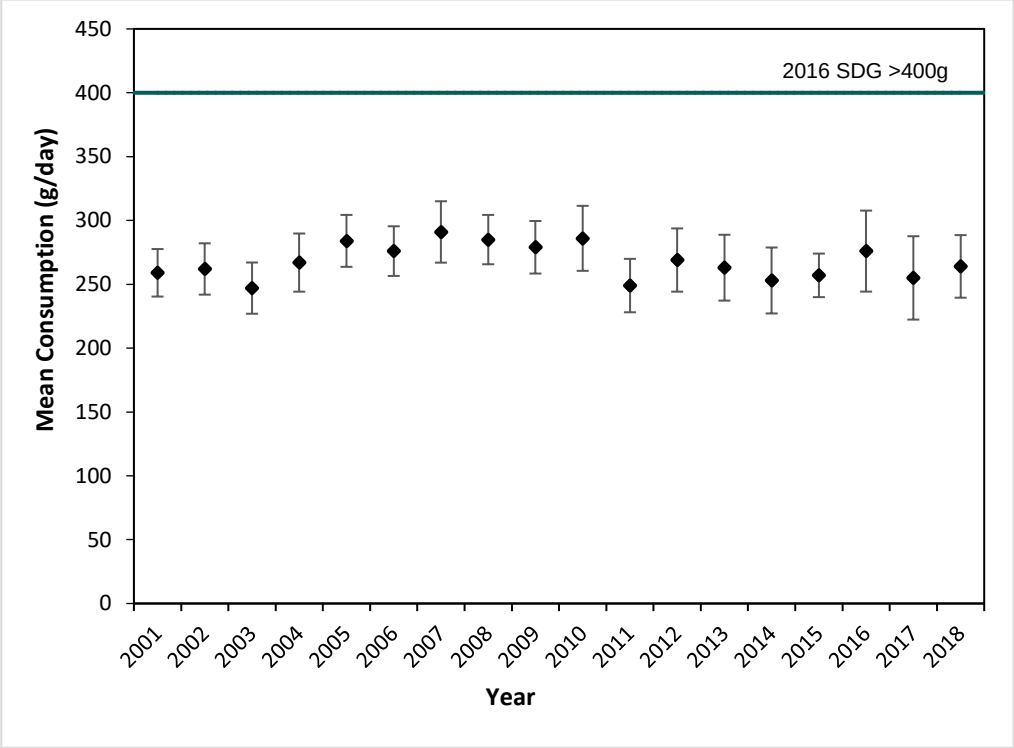
Appendix 9: Mean Food Consumption and Nutrient Intake Results by Year

Table 14: Mean Consumption[1] of 2016 Scottish Dietary Goal Foods by Year, 2001 to 2018 - EFS / LCFS data (g/person/day with the exception of fish: g/person/week)

Nutrient[2]	2016 Scottish Dietary Goal	2001 Mean 95% CI	2010 Mean 95% CI	2011 Mean 95% CI	2012 Mean 95% CI	2013 Mean 95% CI	2014 Mean 95% CI	2015 Mean 95% CI	2016 Mean 95% CI	2017 Mean 95% CI	2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Fruit and Vegetables[3,4]	>400g per day	259	286	249	269	263	253	257	276	255	264	*0.566*	*0.090*
		241, 278	260, 311	228, 270	244, 293	237, 289	228, 279	240, 274	244, 307	222, 288	239, 288		
Fruit[3]		133	150	132	140	134	130	124	141	132	128	*0.094*	***0.006***
		119, 146	133, 166	118, 145	120, 159	116, 151	115, 145	112, 137	119, 163	113, 151	115, 142		
Fruit (and vegetable) juice		44	48	40	45	43	35	32	37	38	28	***<0.001***	***<0.001***
		37, 52	39, 56	34, 47	31, 59	33, 53	29, 41	27, 37	28, 46	26, 50	21, 34		
Vegetables[4]		126	136	117	129	129	123	133	135	123	136	*0.299*	*0.525*
		118, 135	119, 153	108, 127	120, 139	116, 143	109, 137	126, 140	118, 151	104, 142	120, 151		
Oil Rich Fish	140g per week	27	26	35	28	27	28	34	33	31	36	*0.707*	*0.136*
		23, 31	22, 30	26, 43	23, 32	22, 31	21, 35	28, 39	19, 47	21, 40	25, 47		
Red and Processed Meat[5]	≤70g per day	65	60	62	61	56	55	56	56	54	56	***<0.001***	***0.002***
		60, 69	55, 65	55, 69	57, 66	51, 61	50, 61	52, 61	50, 63	46, 61	50, 61		
n Households		*619*	*464*	*495*	*477*	*410*	*433*	*423*	*186*	*162*	*188*		
n People		*1414*	*1030*	*1088*	*1063*	*930*	*974*	*921*	*414*	*334*	*383*		
n People Weighted[6]		*5015*	*5109*	*5117*	*5111*	*5233*	*5260*	*5186*	*5249*	*4982*	*5324*		

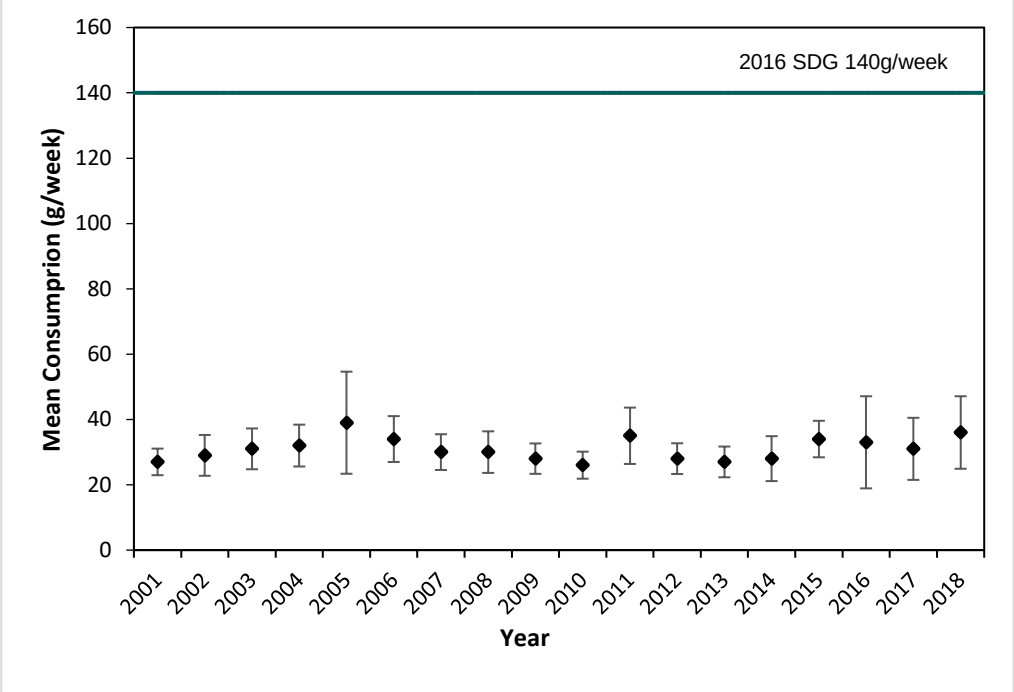
[1]Household and eating out consumption combined; [2]See appendices 1 & 3 for methodology; [3]Fruit includes fruit and vegetable juice; [4]Vegetables include beans and pulses; [5]Meat portion only (includes processed red meat products e.g. sausages, meat pies, burgers, and pate); [6]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Figure 11: Mean [95% CI] Fruit[1] and Vegetables[2] Consumption by Year 2001-2018 compared to the 2016 Scottish Dietary Goal (>400g/day)



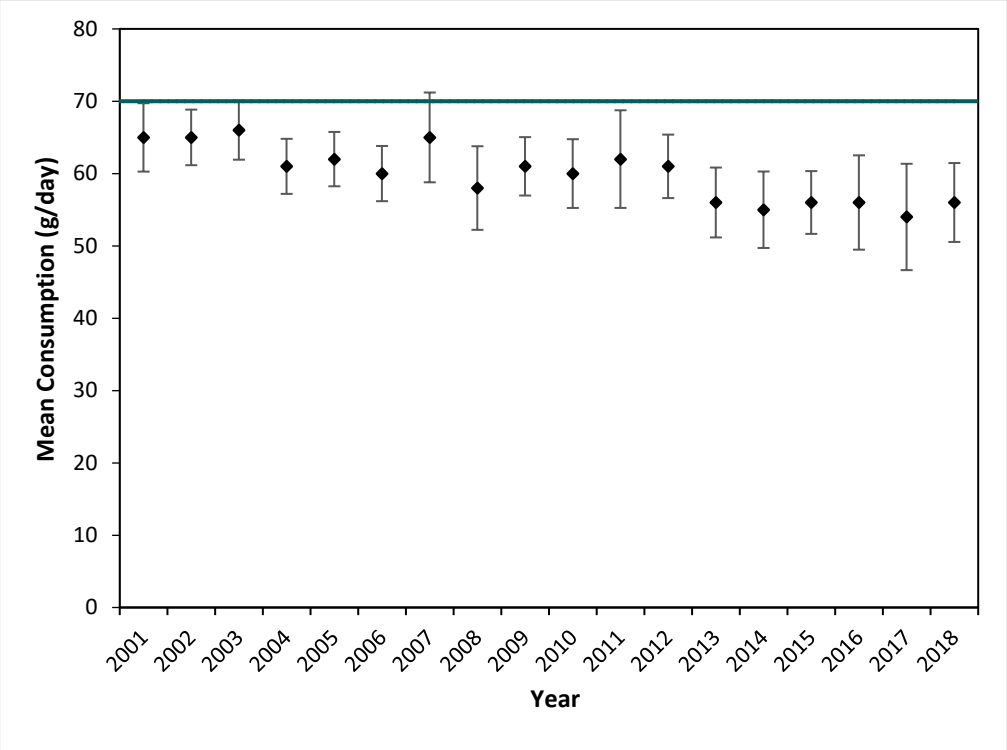
P (linear association) = 0.566; P (overall association) = 0.090; [1]Fruit includes fruit and vegetable juice; [2]Vegetables includes beans and pulses

Figure 12: Mean [95% CI] Oil Rich Fish Consumption by Year 2001-2018 compared to the 2016 Scottish Dietary Goal (140g/week)



P (linear association) = 0.707; P (overall association) = 0.136

Figure 13: Mean [95% CI] Red and Processed Meat* Consumption by Year 2001-2018 compared to the 2016 Scottish Dietary Goal (≤70g/day)



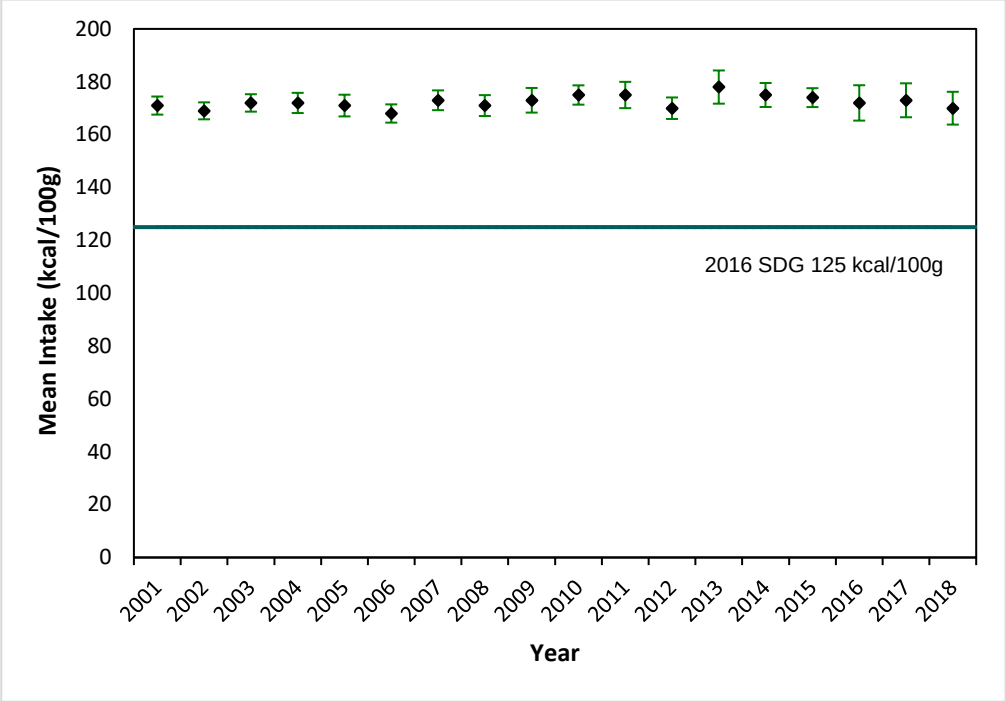
*P (linear association) <0.001; P (overall association) = 0.002; *Meat portion only*

Table 15: Mean Intake[1] of 2016 Scottish Dietary Goal Nutrients by Year, 2001 to 2018 - EFS / LCFS data (units/person/day)

Nutrient[2]	2016 Scottish Dietary Goal	2001 Mean 95% CI	2010 Mean 95% CI	2011 Mean 95% CI	2012 Mean 95% CI	2013 Mean 95% CI	2014 Mean 95% CI	2015 Mean 95% CI	2016 Mean 95% CI	2017 Mean 95% CI	2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Total Energy kcal		2143	2129	1921	1983	1978	1926	1951	1914	1820	1939	***<0.001***	***<0.001***
		2072, 2214	2018, 2239	1816, 2027	1897, 2069	1863, 2093	1824, 2028	1846, 2057	1797, 2031	1681, 1958	1827, 2052		
Total Energy MJ		9.0	8.9	8.0	8.3	8.3	8.1	8.2	8.0	7.6	8.1	***<0.001***	***<0.001***
		8.7, 9.3	8.4, 9.4	7.6, 8.5	7.9, 8.7	7.8, 8.8	7.6, 8.5	7.7, 8.6	7.5, 8.5	7.0, 8.2	7.6, 8.6		
Energy Density kcal/100g[3]	125kcal/100g	171	175	175	170	178	175	174	172	173	170	*0.148*	*0.211*
		168, 175	171, 178	170, 180	166, 174	171, 184	170, 179	170, 177	166, 179	167, 180	164, 177		
% Food Energy Fat	≤35%	38.8	38.7	39	39.4	39.6	39.5	38.9	39.4	39.1	40.5	***0.002***	*0.240*
		38.1, 39.6	37.8, 39.7	38.4, 39.7	38.5, 40.4	38.7, 40.4	38.5, 40.5	38.2, 39.7	38.4, 40.4	38.0, 40.2	39.5, 41.4		
% Food Energy Saturated Fat	≤11%	15.5	15.0	15.0	15.5	15.4	15.3	15.1	15.7	14.8	15.6	*0.103*	***0.008***
		15.2, 15.8	14.5, 15.5	14.7, 15.4	15.1, 15.9	14.9, 15.8	14.8, 15.8	14.7, 15.5	15.2, 16.1	14.3, 15.2	15.1, 16.1		
% Total Energy Free Sugars[4]	≤5%	14.9	14.7	13.5	13.9	14.0	13.6	13.8	13.9	13.9	12.3	***<0.001***	***<0.001***
		14.3, 15.4	14.0, 15.3	12.7, 14.3	13.2, 14.7	13.1, 14.9	13.0, 14.3	12.8, 14.8	13.0, 14.9	12.9, 14.8	11.6, 13.0		
Fibre[5]	30g/day	16.5	17.2	15.8	15.7	15.9	15.5	15.9	15.7	15.2	15.8	***0.005***	*0.299*
		15.9, 17.1	16.1, 18.3	14.9, 16.6	15.0, 16.5	14.9, 16.9	14.4, 16.6	15.1, 16.7	14.3, 17.0	13.8, 16.5	14.7, 17.0		
% Total Energy Carbohydrate		45.1	45.2	44.8	44.6	45.1	44.6	44.9	44.7	45.1	43.2	***0.007***	*0.190*
		44.3, 45.8	44.4, 46.0	44.1, 45.4	43.5, 45.7	44.2, 45.9	43.5, 45.7	43.9, 45.8	43.6, 45.7	43.8, 46.4	42.2, 44.2		
Food Energy kcal		2066	2056	1856	1913	1919	1859	1890	1850	1757	1876	***<0.001***	***<0.001***
		1998, 2134	1945, 2167	1752, 1959	1828, 1999	1807, 2030	1764, 1955	1785, 1995	1736, 1963	1626, 1888	1771, 1980		
Food Energy MJ		8.7	8.5	7.8	8.0	8.0	7.8	7.9	7.8	7.4	7.9	***<0.001***	***<0.001***
		8.4, 9.0	8.0, 8.9	7.4, 8.2	7.7, 8.4	7.6, 8.5	7.4, 8.2	7.5, 8.4	7.3, 8.2	6.8, 7.9	7.4, 8.3		
n Households		*619*	*464*	*495*	*477*	*410*	*433*	*423*	*186*	*162*	*188*		
n People		*1414*	*1030*	*1088*	*1063*	*930*	*974*	*921*	*414*	*334*	*383*		
n People Weighted[6]		*5015*	*5109*	*5117*	*5111*	*5233*	*5260*	*5186*	*5249*	*4982*	*5324*		

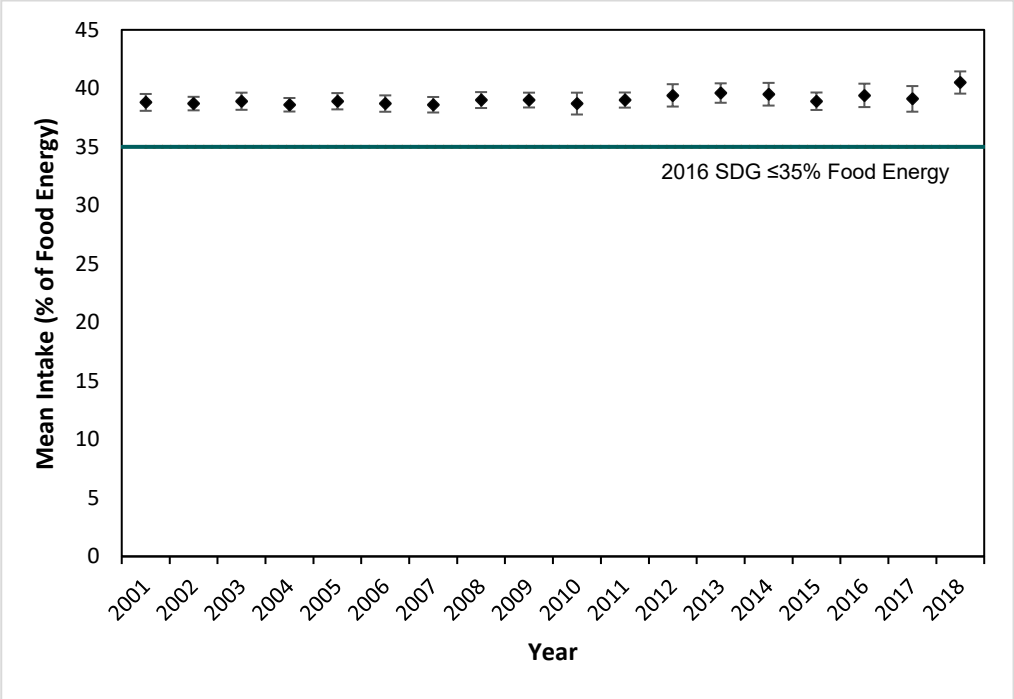
[1]Household and eating out intakes combined; [2]See appendices 1, 3 and 4 for methodology; [3]Calculated from food and milk; [4]Free sugars are sugars added to food or drink and those which are found naturally in honey, syrups, and fruit juices, NMES figures provided as a proxy for free sugars; [5]Fibre as measured by American Association of Analytical Chemists (AOAC) method, calculated from non-starch polysaccharide (NSP) as measured by Englyst method (AOAC fibre is estimated as NSP multiplied by 1.33); [6]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population.

Figure 14: Mean [95% CI] Energy Density (food and milk) by Year 2001 - 2018 compared to the 2016 Scottish Dietary Goal (125 kcal/100g)



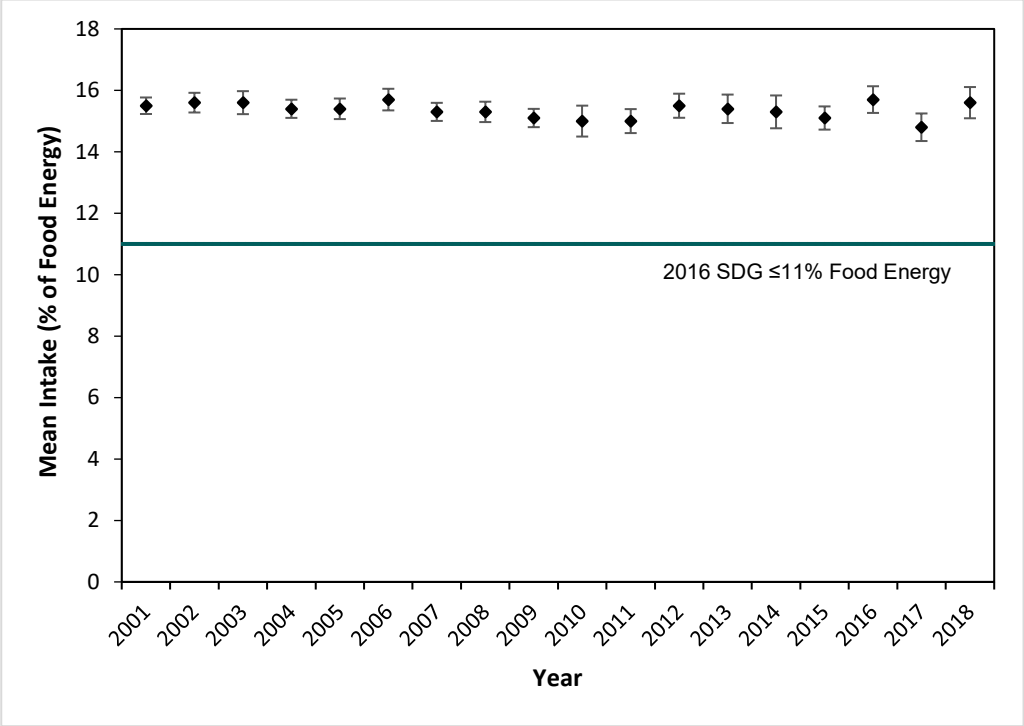
P (linear association) = 0.148; P (overall association) = 0.211

Figure 15: Mean [95% CI] Fat Intake by Year 2001 - 2018 compared to the 2016 Scottish Dietary Goal (≤35% food energy)



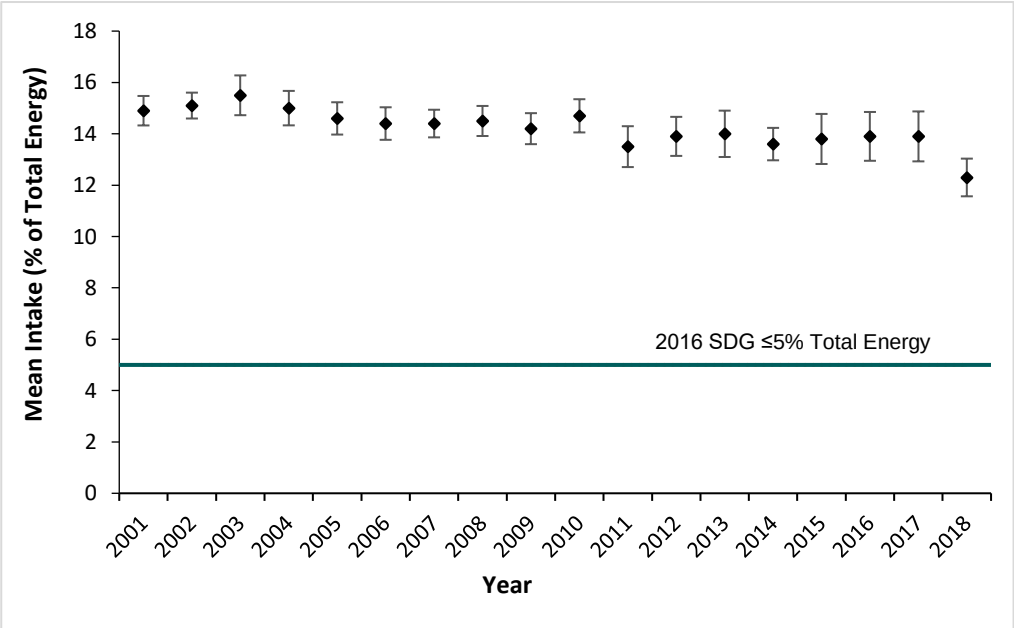
P (linear association) = 0.002; P (overall association) = 0.240

Figure 16: Mean [95% CI] Saturated Fat Intake by Year 2001 - 2018 compared to the 2016 Scottish Dietary Goal (≤11% food energy)



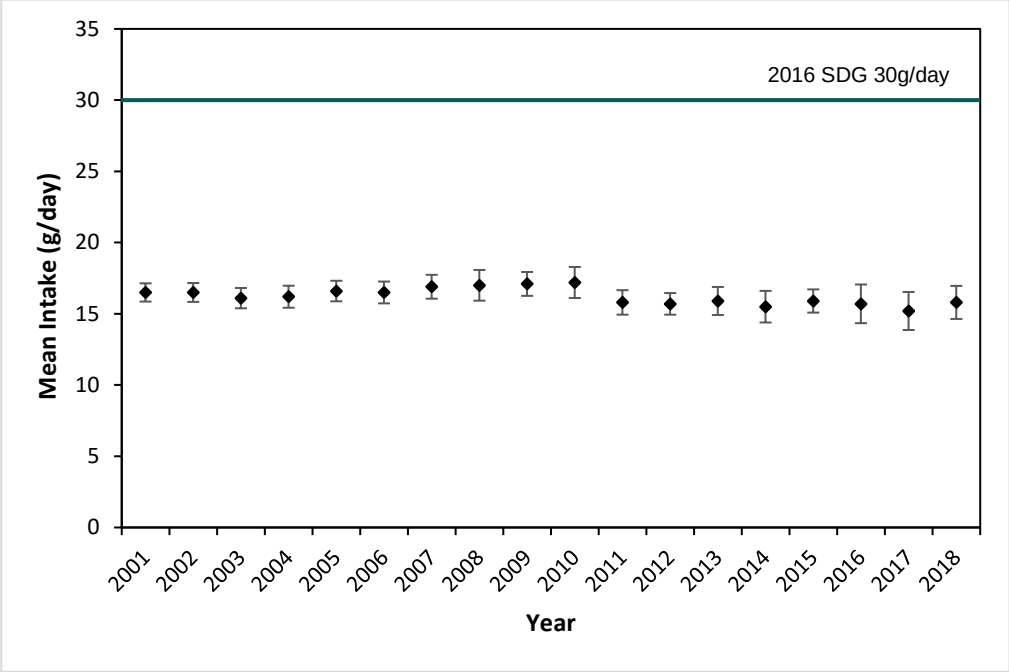
P (linear association) = 0.103; P (overall association) = 0.008

Figure 17: Mean [95% CI] Free Sugars* Intake by Year 2001 - 2018 compared to the 2016 Scottish Dietary Goal (≤5% Total Energy)



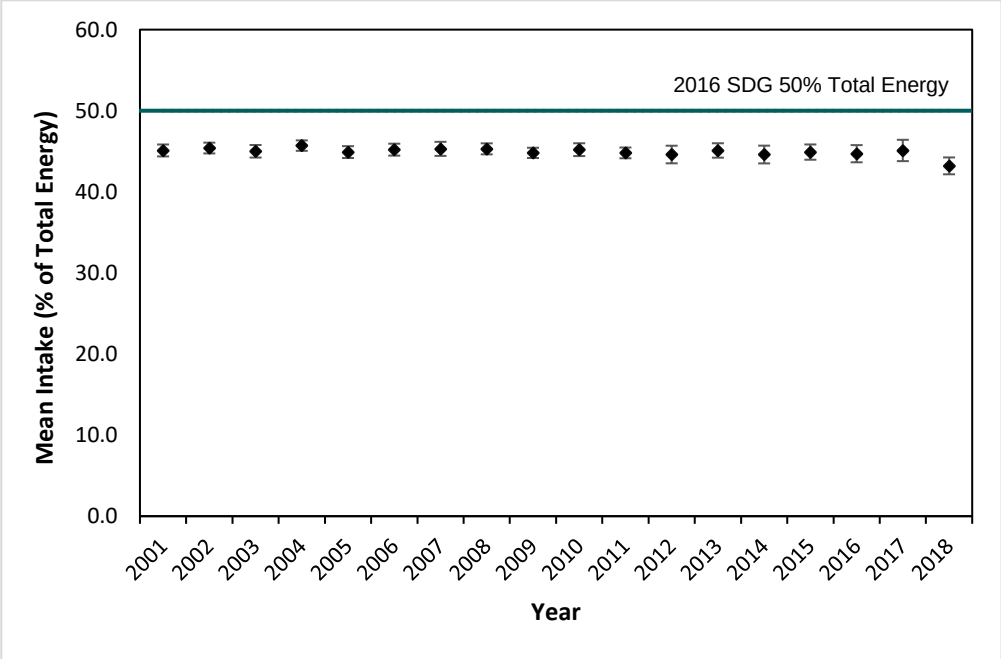
*P (linear association) < 0.001; P (overall association) < 0.001; *NMES figures provided as a proxy for free sugars*

Figure 18: Mean [95% CI] Fibre* Intake by Year 2001 - 2018 compared to the 2016 Scottish Dietary Goal (30g/day)



P (linear association) = 0.005; P (overall association) = 0.299

Figure 19: Mean [95% CI] Carbohydrates Intake by Year 2001 - 2018 compared to the 2016 Scottish Dietary Goal (50% Total Energy)



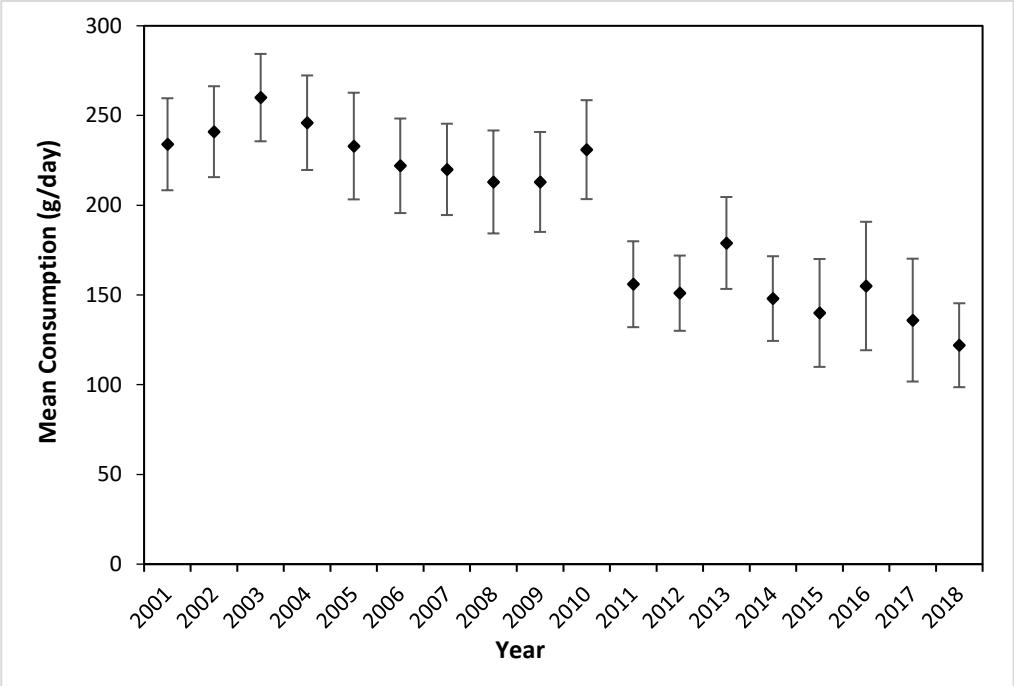
P (linear association) = 0.007; P (overall association) = 0.190

Table 16a: Mean Consumption[1] of Additional Foods and Drinks Indicative of Diet Quality by Year, 2001 to 2018 - EFS / LCF data (g/person/day)

Food[2]	2001 Mean 95% CI	2010 Mean 95% CI	2011 Mean 95% CI	2012 Mean 95% CI	2013 Mean 95% CI	2014 Mean 95% CI	2015 Mean 95% CI	2016 Mean 95% CI	2017 Mean 95% CI	2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Brown/Wholemeal Bread	18	23	23	20	21	20	15	18	16	19	*0.024*	***<0.001***
	16, 20	20, 26	19, 26	18, 21	18, 23	18, 22	13, 16	14, 22	13, 18	15, 23		
Total Bread	111	94	86	93	90	80	80	77	77	90	***<0.001***	***<0.001***
	106, 117	89, 99	80, 92	87, 99	84, 96	75, 85	75, 84	71, 84	69, 84	83, 97		
High fibre Breakfast Cereal	10	12	12	11	12	11	12	13	15	10	*0.144*	*0.353*
	8, 12	10, 14	10, 15	9, 13	10, 14	9, 14	11, 13	9, 16	10, 21	7, 13		
Total Breakfast Cereal	20	22	22	20	21	20	20	20	23	16	*0.994*	*0.479*
	17, 22	19, 25	19, 24	17, 22	19, 23	18, 23	18, 22	16, 25	16, 30	12, 20		
Cakes and Pastries	18	18	15	16	17	15	17	17	17	15	*0.093*	*0.189*
	16, 20	15, 20	14, 17	15, 18	15, 19	13, 18	15, 18	12, 21	12, 21	13, 17		
Sweet Biscuits	22	22	19	21	21	23	20	22	19	20	*0.117*	*0.079*
	20, 23	19, 24	18, 21	18, 23	18, 24	20, 26	19, 22	19, 26	15, 23	16, 23		
Cakes, Sweet Biscuits and Pastries	40	40	35	37	38	39	37	39	36	35	*0.042*	*0.129*
	37, 43	36, 43	32, 37	34, 40	35, 41	34, 44	35, 39	33, 45	30, 42	30, 40		
Ice Cream and Dairy Desserts	31	30	29	33	33	31	35	37	33	34	*0.507*	*0.987*
	27, 35	25, 35	24, 34	28, 37	26, 40	26, 36	29, 40	29, 45	24, 43	25, 43		
Sugar and Preserves	19	18	16	17	16	15	16	15	13	11	***<0.001***	***0.001***
	17, 22	15, 21	13, 19	14, 21	14, 18	12, 18	13, 19	12, 19	10, 16	8.3, 13		
Chocolate Confectionery	14	14	13	14	14	14	13	16	14	14	*0.767*	*0.744*
	12, 16	12, 17	12, 15	12, 16	12, 16	12, 16	11, 14	13, 20	12, 17	12, 17		
Sugar Confectionery	7.6	7.1	6.7	7.0	7.5	7.7	7.9	6.5	7.4	8.0	*0.807*	*0.643*
	6.5, 8.7	6.1, 8.2	5.7, 7.7	6.0, 8.0	6.0, 9.1	6.6, 8.8	6.5, 9.3	5.0, 7.9	5.6, 9.3	5.5, 11.0		
Total Confectionery	21	21	20	21	21	22	21	23	22	22	*0.936*	*0.933*
	19, 24	18, 25	18, 22	19, 24	18, 24	20, 24	18, 23	19, 27	18, 26	18, 27		
Sugar-Containing Soft Drinks	234	231	156	151	179	148	140	155	136	122	***<0.001***	***<0.001***
	208, 260	203, 258	132, 180	130, 172	153, 205	124, 172	110, 170	119, 191	102, 170	99, 146		
Sugar Free Soft Drinks	98	120	98	137	143	121	134	175	157	142	***<0.001***	***<0.001***
	83, 113	92, 149	78, 118	110, 163	117, 170	97, 146	112, 156	128, 222	103, 211	102, 181		
Total Soft Drinks	332	351	254	288	322	269	274	331	293	264	***<0.001***	***<0.001***
	305, 359	317, 386	221, 287	255, 320	280, 365	246, 293	242, 305	284, 378	237, 349	227, 301		
n Households	*619*	*464*	*495*	*477*	*410*	*433*	*423*	*186*	*162*	*188*		
n People	*1414*	*1030*	*1088*	*1063*	*930*	*974*	*921*	*414*	*334*	*383*		
n People Weighted[3]	*5015*	*5109*	*5117*	*5111*	*5233*	*5260*	*5186*	*5249*	*4982*	*5324*		

[1]Household and eating out consumption combined; [2]See appendices 1 & 3 for methodology; [3]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Figure 20: Mean [95% CI] Sugar Containing Soft Drink Consumption by Year 2001 - 2018



P (linear association) <0.001; P (overall association) <0.001

Table 16b: Mean Consumption[1] of Additional Foods and Drinks Indicative of Diet Quality by Year, 2001 to 2018 - EFS/ LCF data (g/person/day)

Food[2]	2001 Mean 95% CI	2010 Mean 95% CI	2011 Mean 95% CI	2012 Mean 95% CI	2013 Mean 95% CI	2014 Mean 95% CI	2015 Mean 95% CI	2016 Mean 95% CI	2017 Mean 95% CI	2018 Mean 95% CI	*P-value for Linear Association*	*P-value for Overall Association*
Bacon and Ham	12	12	13	12	12	11	10	11	10	10	***0.006***	*0.092*
	11, 14	11, 13	12, 15	11, 14	10, 14	9, 12	9, 12	9, 13	8, 12	8, 12		
Other Processed Red Meat Products[3,4]	29	27	25	28	26	25	26	26	25	26	***0.003***	*0.027*
	26, 32	24, 29	23, 27	25, 30	24, 29	23, 28	23, 28	22, 30	22, 29	23, 29		
Savoury Meat Pies	11.0	10.0	9.3	10.0	8.7	8.5	9.0	8.8	8.7	8.8	***0.001***	*0.093*
	9.4, 12.0	8.3, 11.0	7.8, 11.0	8.8, 12.0	7.3, 10.0	7.0, 10.0	7.8, 10.0	7.4, 10.0	6.7, 11.0	6.7, 11.0		
Butter	6.1	7.3	7.0	7.4	8.6	7.0	7.4	6.2	3.9	3.8	*0.341*	***<0.001***
	5.2, 7.1	6.4, 8.2	5.4, 8.7	6.1, 8.7	6.9, 10.3	5.5, 8.4	6.4, 8.5	4.9, 7.5	2.6, 5.2	2.1, 5.6		
Soft Margarine	1.2	2.4	1.5	2.4	2.3	1.6	1.2	3.5	4.3	6.7	***<0.001***	***<0.001***
	0.7, 1.6	1.6, 3.2	0.8, 2.2	1.6, 3.1	1.6, 3.1	1.0, 2.3	0.6, 1.9	2.2, 4.9	2.5, 6.1	5.0, 8.5		
Low Fat Spread	10.0	6.0	6.2	6.3	5.9	4.8	4.4	4.2	3.8	3.9	***<0.001***	***<0.001***
	8.4, 11	4.7, 7.3	5.2, 7.2	4.5, 8.1	4.9, 7.0	3.7, 5.9	3.4, 5.3	2.3, 6.1	2.3, 5.2	2.9, 4.9		
Total Spreading Fats	17	16	15	16	17	13	13	14	12	14	***<0.001***	***<0.001***
	16, 18	14, 18	13, 16	14, 18	15, 19	12, 15	12, 14	11, 17	10, 14	12, 17		
Cooking Oil	6.0	6.6	5.9	6.4	6.2	6.2	6.4	2.6	3.1	4.2	***0.010***	***<0.001***
	4.4, 7.5	4.6, 8.6	4.6, 7.3	4.2, 8.6	4.4, 8.0	4.5, 7.8	4.4, 8.3	1.5, 3.7	1.5, 4.8	2.5, 5.9		
Cream	2.3	3.3	3.3	3.4	3.1	4.0	3.6	2.5	3.4	3.1	*0.018*	*0.066*
	1.9, 2.8	2.5, 4.1	2.6, 4.1	2.6, 4.1	2.3, 3.9	3.1, 5.0	2.8, 4.4	1.7, 3.4	2.2, 4.6	2.1, 4.1		
Cheese	14	16	14	14	15	13	15	17	16	17	*0.036*	*0.053*
	13, 16	15, 18	13, 16	12, 15	13, 17	12, 15	14, 17	14, 19	13, 19	14, 19		
Whole Milk	92	45	45	45	44	37	32	50	27	64	***<0.001***	***<0.001***
	76, 107	37, 53	31, 59	37, 54	33, 56	29, 46	26, 37	35, 66	13, 41	43, 85		
Semi-skimmed Milk	126	139	123	143	127	136	132	111	106	124	*0.352*	*0.196*
	111, 140	124, 153	104, 141	127, 159	112, 142	121, 151	119, 146	93, 130	86, 127	105, 144		
Skimmed Milk	15	14	19	12	15	9	12	13	25	13	*0.444*	*0.052*
	9, 21	8, 19	9, 29	8, 17	7, 23	5, 12	9, 14	4, 22	11, 39	6, 20		
Total Milk	250	218	205	217	202	193	196	194	173	220	***<0.001***	***<0.001***
	235, 266	201, 235	185, 226	200, 233	179, 226	178, 209	181, 211	177, 211	150, 195	197, 243		
White Fish	94	91	82	70	75	71	79	69	63	71	***<0.001***	***<0.001***
	85, 104	76, 106	64, 101	62, 79	65, 86	60, 82	71, 86	56, 83	49, 77	57, 85		
Fresh Potatoes	66	49	43	47	39	39	42	36	38	40	***<0.001***	***<0.001***
	58, 74	43, 56	37, 48	41, 52	34, 44	34, 45	37, 46	31, 40	31, 45	33, 48		
Processed Potatoes	33	29	27	32	29	28	30	30	29	28	*0.243*	*0.122*
	30, 36	25, 32	24, 30	27, 37	26, 33	26, 31	27, 33	25, 35	22, 35	23, 34		
Nuts	2.2	3.1	2.6	3.1	4.1	3.6	4.3	3.7	4.9	3.1	***<0.001***	***<0.001***
	1.4, 2.9	2.0, 4.2	2.0, 3.3	2.4, 3.8	3.1, 5.1	2.7, 4.5	3.6, 4.9	2.6, 4.8	2.9, 6.8	2.1, 4.0		
Savoury Snacks	15	14	11	12	14	14	13	11	14	13	*0.101*	***0.001***
	13, 16	12, 15	10, 13	11, 13	12, 16	12, 15	11, 14	10, 13	12, 16	11, 15		
n Households	*619*	*464*	*495*	*477*	*410*	*433*	*423*	*186*	*162*	*188*		
n People	*1414*	*1030*	*1088*	*1063*	*930*	*974*	*921*	*414*	*334*	*383*		
n People Weighted[5]	*5015*	*5109*	*5117*	*5111*	*5233*	*5260*	*5186*	*5249*	*4982*	*5324*		

[1]Household and eating out consumption combined; [2]See appendices 1 & 3 for methodology; [3]Meat portion only; [4]Other processed red meat products includes the meat portion of sausages, meat pies, corned beef, burgers, and pate and is a component of red and processed meat; [5]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population