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ESTIMATION OF FOOD AND NUTRIENT INTAKES FROM EXPENDITURE AND FOOD SURVEY DATA IN SCOTLAND

2001-2006

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This work was carried out using 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, SIMD data were obtained from Scottish Neighbourhood Statistics and URC data were obtained from the Scottish Government.

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EXECUTIVE SUMMARY

Introduction

There has been a longstanding recognition of the need to tackle poor diet and obesity in Scotland, which led to the publication of the Scottish Diet Action Plan and the Scottish Dietary Targets (SDTs) in *Eating for Health: A Diet Action Plan for Scotland* in 1996 (The Scottish Office, 1996). These targets, which include a mixture of food and nutrient based targets, were originally set for achievement by 2005, but the period of achievement has been extended to 2010 stating that there should be a *"measurable incremental impact in Scotland each year to 2010"* (Scottish Executive, 2003; 2004a).

More recently the Scottish Government's overall strategy relating to diet, physical activity and obesity was set out in the 2008 publication *Healthy Eating, Active Living: An action plan to improve diet, increase physical activity and tackle obesity (2008-2011)*. The strategy contains a commitment to the underlying principles of the original Diet Action Plan while suggesting a need to consider developing a more pragmatic set of longer term dietary goals to replace the existing ones that expire in 2010.

A report commissioned by the Food Standards Agency in Scotland (Wrieden *et al.*, 2006) to monitor progress towards the SDTs showed that little improvement had been made in the Scottish Diet over the period 1996 to 2004. In addition clear inequalities were apparent in food consumption, with those living in areas of low deprivation and very rural areas having higher intakes of fruit and vegetables and oil rich fish than those living in areas of high deprivation and urban areas. These areas also had intakes of fruit and vegetables and oil rich fish nearer to the SDTs.

Objective

The purpose of this work was to continue to monitor progress towards the SDTs and update the 2006 report published by Wrieden *et al*. Secondary analysis of Scottish household food and eating out data in the Expenditure and Food Survey (EFS) was carried out for additional years (2004-2006), and previous results for 2001-2003 were updated, using refined and updated methods of analysis. Results were compared with the SDTs and other foods targeted for change in *The Scottish Diet* report (The Scottish Office, 1993). Differences in food consumption and nutrient intake by socioeconomic group and area of residence were explored. In addition to this, further secondary analysis has been carried out to quantify red and processed meat intakes in Scotland over the period 2001 to 2006, details of the methodology for quantifying red meat intakes and the results are presented in a separate report which was published simultaneously (Barton *et al*., 2010).

The revised, updated and improved estimates of food consumption and nutrient intake for the Scottish population supersedes those for 2001-2003 published in the report by Wrieden *et al*. in 2006.
The revision of previous results was required to:

1. Account for free food (e.g. from school meals, meals on wheels etc.). The Department for Environment, Food and Rural Affairs (Defra) have adjusted the EFS data since the results published by Wrieden *et al.* (2006) and have backdated these changes to 2001 (Defra, 2006).

2. Adjust for waste using new factors, following the publication of the 2008 Waste and Resource Action Programme (WRAP) report (WRAP, 2008; Defra, 2008).
3. Include factors to account for the EFS sampling methodology.
4. Make use of a refined coding frame to allocate specific proportions of foods to appropriate food groupings.

Methods

The EFS is an annual household budget survey designed to collect information about household food and expenditure. The survey collects household food purchase and eating out data from every person over seven years of age in each household over a 14 day period. Although it is not designed to measure intakes of specific individuals, valuable data on average population intakes appropriate for population level goals for specific food groups and nutrients can be produced using the appropriate methodology.

EFS data for each year, in its raw form, was obtained form the UK Data Archive. Data on sampling methodology, Scottish Index of Multiple Deprivation (SIMD), domains of SIMD, Urban Rural Classification (URC) and Gross Normal Weekly Income (GNWI) was obtained from the UK Office of National Statistics (ONS). Data on SIMD and domains of SIMD were provided as quintiles and data on URC in three categories (urban, accessible small towns/ rural, and remote).

Household food purchase data from the UK EFS were re-analysed to estimate food and nutrient consumption in Scotland over the period 2001 to 2006 and by SIMD, and the URC for the combined periods of 2001 to 2003 and 2004 to 2006. Adjustments were made to allocate the correct proportion of each food to the appropriate food group and for waste. 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.

In addition, the population means analysed according to URC group have been adjusted to account for possible confounders such as SIMD, equivalised income, household size, household composition, % of gross normal weekly income spent on food, total food energy and the age of the household reference person.

Key Findings

- It was demonstrated that although some statistically significant progress has been made between 2001 and 2006 towards achieving the food based SDTs for fruit and vegetables, brown/wholemeal bread and oil rich fish, the incremental increases were very small (e.g. around 3g per person per day each year for fruit consumption).

- There was no progress towards the nutrient based targets between 2001 and 2006; no changes in the percentage of food energy obtained from fat, saturated fat and non milk extrinsic sugars were observed and all remained considerably higher than the SDTs.

- Analysis by the SIMD suggested that those in the most deprived quintile consumed significantly less fruit and vegetables than those in the least deprived quintile (for both the 2001 to 2003 and 2004 to 2006 time periods) with intakes of 196 g/day and 304 g/day respectively for the period of 2004 to 2006. Consumption of brown/wholemeal bread, breakfast cereals (all types and wholegrain/high fibre only), white fish and oil-rich fish were also significantly higher in the least deprived compared to the most deprived quintile of SIMD for both time periods.

Food/nutrient changes in relation to the Scottish Dietary Targets from 2001 to 2006

Target Food / Nutrient	Scottish Dietary Target	1996[1]	2001	2006	Change Between 2001 and 2006	Highest Consumption by SIMD[2]
Fruit and Vegetables	More than 400g per day	249g	239g	256g	↑	Least Deprived
Bread (all types)	154g per day	133g	101g	93.5g	↓	Most Deprived
Brown/Wholemeal Bread	More than 77g per day	26.5g	16.2 g	21.0g	↑	Least Deprived
Breakfast Cereals (all types)	34g per day	18.2g	19.5g	19.2g	No Change	Least Deprived
Oil Rich Fish	88g per week	35.1g	28.2g	37.1g	↑	Least Deprived
White Fish	No decrease (figures per week)	107g	92.9g	92.7g	No Change	Least Deprived
Fat	≤35% food energy	39.6%	39.2%	39.1%	No Change	No Difference
Saturated Fat	≤11% of food energy	15.6%	15.7%	15.9%	No Change	No Difference
NMES	Adults - No ↑[3] Children - <10%	13.6%	15.6%	15.2%	No Change	Most Deprived
Total Complex Carbohydrates	155g per day	143g	138g	133g	No Change	No Difference

[1]Figures for 1996 were taken from Wrieden *et al.*, 2006 and were calculated using a different methodology, which included different waste figures.

[2]SIMD = Social Index of Multiple Deprivation, for combined years 2004 - 2006

[3]DRV for Adults 11% Food Energy (Department of Health, 1991)

- There was no difference between SIMD quintiles in the consumption of total complex carbohydrates and the percentage of energy from fat and saturated fat. However, the percentage of energy from NMES was significantly lower (14.4% of food energy) in the least deprived quintile compared with the most deprived quintile (16.4%).

- Analysis by the URC suggested that fruit and vegetable intake was highest in remote areas compared with urban areas. This difference was inconsistent over time and much reduced after adjustment for deprivation.

Conclusion

The results of this report provide evidence that if current trends continue the SDTs will not be met by 2010. The results reported here suggest very small improvements in fruit and vegetable consumption, oil rich fish and brown/wholemeal bread consumption. It is of particular concern that foods targeted for increased consumption are significantly lower in the most deprived groups of the population. However, there is no evidence to suggest that the gap between the most and least deprived is growing with the same very small improvements being seen across all quintiles of SIMD. Differences between the most and least deprived will be further explored once a further 3 years of data has been analysed in order to assess any changes in the gradient of difference over time and draw conclusions on health significance. Differences in food intake between urban and rural areas remains unclear and additional analysis of a further three years of data is required before specific conclusions can be drawn on the effects of rurality on diet in Scotland

A robust standardised methodology has been designed to calculate food and nutrient intakes on a population basis, which can be used to continue to monitor the Scottish diet in the future. As in the previous report clear inequalities continue to be apparent in food consumption for the period 2004 - 2006 between the least and most deprived and those living in areas of low deprivation and in very rural areas having an intake of fruit and vegetables nearer to the SDTs.

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LIST OF ABBREVIATIONS USED

COMA	Committee on Medical Aspects of Food Policy
Defra	Department of the Environment, Food and Rural Affairs
DRV	Dietary Reference Value
EFS	Expenditure and Food Survey
FES	Family Expenditure Survey
FSA	Food Standards Agency
g	gram
GNWI	Gross Normal Weekly Income
HEPS	Health Education Population Survey
HH	Household
HRP	Household Reference Person
IQR	Inter Quartile Range
kcal	kilocalorie
kJ	kilojoule
LIDNS	Low Income Diet and Nutrition Survey
MJ	Megajoule = 1000 kJ
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
SDAP	Scottish Diet Action Plan
SDT	Scottish Dietary Target
SHS	Scottish Health Survey
SES	Socio-economic Status
SIMD	Scottish Index of Multiple Deprivation
UK	United Kingdom
URC	Urban Rural Classification
WRAP	Waste and Resource Action Programme
95% CI	95% Confidence Interval
>	greater than
<	less than
%	percent / percentage

EXPLANATORY NOTE 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.
Gross Normal Weekly Income (GNWI)	Gross normal weekly income current before the deduction of income tax, national insurance contributions and other deductions at source.
Household Reference Person (HRP)	The HRP is the person who owns the household accommodation, or is legally responsible for the rent of the accommodation, or has the household accommodation by virtue of their employment or personal relationship to the owner who is not a member of the household. If more than one person meets these criteria the HRP will be the one with the higher income. If the incomes are the same then the eldest is chosen.
Equivalised Income	Adjusts actual income by household size and composition. It was calculated by dividing the gross normal weekly household income by the McClements score for the household.
McClements Score	The McClements scoring system was used to allocate each household member with a score depending on their position in the household and their age. These scores were added together to produce an overall household McClements score. This was then used in the derivation of the equivalised income variable for the household. Household members were allocated scores as follows: First adult (HRP) 0.61 Spouse/partner of HRP 0.39 Other second adult 0.46 Third adult 0.42 Subsequent adults 0.36 Dependent aged 0-1 0.09 Dependent aged 2-4 0.18 Dependent aged 5-7 0.21 Dependent aged 8-10 0.23 Dependent aged 11-12 0.25 Dependent aged 13-15 0.27 Dependent aged 16+ 0.36 (Corbett *et al.,* 2009)
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 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 should equal the median. The interquartile range (IQR) 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 NMES) to be placed relative to the target. Due to the nature of the EFS data it is not possible to produce reliable medians.
Non-Milk Extrinsic Sugars (NMES)	Sugars, excluding those in milk and milk products, that are not incorporated into the cellular structure of foods, e.g. table sugar, sugars in added sugar in cakes, sweets, soft drinks, honey.
Percentage Food Energy (% Food Energy)	The percentage of food energy intake derived from a macronutrient i.e. fat, carbohydrate or protein.
Percent gross normal weekly income spent on food (%GNWI spent on food)	The percentage of GNWI which is spent on food.
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.
Scottish Index of Multiple Deprivation (SIMD)	The Scottish Index of Multiple Deprivation (SIMD) 2004 identifies the most deprived areas across Scotland. It is based on 31 indicators in six individual domains of Current Income, Employment, Housing, Health, Education, Skills & Training, and Geographic Access to Services & Telecommunications. SIMD 2004 is presented at data zone level, enabling small pockets of deprivation to be identified. The data zones are ranked from most deprived (1) to least deprived (6505) on the overall SIMD 2004 and on each of the individual domains. The 6505 data areas are ranked according to level of deprivation; these are then usually split into deciles with 1 being most deprived and 10 being most affluent. In this report the deciles have been combined to give quintiles. Thus Quintile 1 combines the most deprived deciles 1 and 2.
Sodium	Sodium chloride is the chemical name for salt. 100mmol of sodium, is equivalent to the SDAP and FSA target of 6g of salt based on SACN advice.
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.
Urban Rural Classification	This Scottish Government classification distinguishes between urban, rural and remote areas within Scotland and includes the categories given in the table below. For the purposes of this report the 8 fold classification has been collapsed to give three groups: 1 = Urban (1 & 2) 2 = Accessible small towns and accessible rural (accessible small towns/ rural)(3 & 6) 3 = Remote small towns, remote rural and very remote rural (remote) (4,5, 7& 8)

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 2006 = 2006, which refers to Jan 2006 to Dec 2006 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 2005/2006 and the 2006 results
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

Scottish Executive Urban Rural Classification 2003-2004	
1 Large Urban Areas	Settlements of over 125,000 people.
2 Other Urban Areas	Settlements of 10,000 to 125,000 people.
3 Accessible Small Towns	Settlements of between 3,000 and 10,000 people and within 30 minutes drive of a settlement of 10,000 or more.
4 Remote Small Towns	Settlements of between 3,000 and 10,000 people and with a drive time of between 30 and 60 minutes to a settlement of 10,000 or more.
5 Very Remote Small Towns	Settlements of between 3,000 and 10,000 people and with a drive time of over 60 minutes to a settlement of 10,000 or more.
6 Accessible Rural	Settlements of less than 3,000 people and within 30 minutes drive of a settlement of 10,000 or more.
7 Remote Rural	Settlements of less than 3,000 people and with a drive time of between 30 and 60 minutes to a settlement of 10,000 or more.
8 Very Remote Rural	Settlements of less than 3,000 people and with a drive time of over 60 minutes to a settlement of 10,000 or more.

Source: Scottish Government, 2009 http://www.scotland.gov.uk/library5/rural/seurc-02.asp

1. BACKGROUND

1.1 Introduction

There has been a longstanding recognition of the need to tackle poor diet and obesity in Scotland which led to the publication of the Scottish Diet Action Plan and the Scottish Dietary Targets (SDTs) in *Eating for Health: A Diet Action Plan for Scotland* in 1996 (Scottish Executive). These targets, which include a mixture of food and nutrient based targets, were originally set for achievement by 2005. The Scottish Executive (2003; 2004a) extended the period for achievement of the SDTs to 2010 stating that there should be a *"measureable incremental impact in Scotland each year to 2010"*.

Despite the slow progress towards the targets and the failure to eliminate the inequalities in dietary patterns (Lang *et al.*, 2006), the recent action plan to improve diet, increase physical activity and tackle obesity by the Scottish Government (2008a) has re-iterated the need to make progress towards the SDTs stating that, *"the underlying principles and goals established in the Scottish Diet Action Plan remain valid…."* but that they were *"currently considering a more pragmatic approach to adopting a set of longer term dietary goals which we will use to underpin our diet policy initiatives."*

The SDTs were set for fruit and vegetables, bread, breakfast cereals, fats (including saturated fatty acids (saturated fat)), salt, sugar, total complex carbohydrates and fish (see Table 1).

Table 1: Scottish Diet Action Plan - Dietary Targets

Food Targets	
Fruit & Vegetables	Average intake to double to more than 400g per day
Bread	Intake to increase by 45% from present daily intake of 106g, mainly using wholemeal and brown breads
Breakfast Cereals	Average intake to double from the present intake of 17g per day
Fish	White fish consumption to be maintained at current levels Oil rich fish consumption to double from 44g to 88 g per week
Total Complex Carbohydrates	Increase average non-sugar carbohydrates intake by 25% from 124g per day, through increased consumption of fruits and vegetables, bread, breakfast cereals, rice and pasta and through an increase of 25% in potato consumption
Nutrient Targets	
Fat	Average intake of total fat to reduce from 40.7% to no more than 35% of food energy Average intake of saturated fatty acids to reduce from 16.6% to no more than 11% of food energy
Salt	Average intake to reduce from 163mmol per day to 100mmol (2.3g sodium, 6g sodium chloride) per day
Sugar	Average intake of NMES in adults not to increase Average intake of NMES in children to reduce by half i.e. to less than 10% of total energy
Total Complex Carbohydrates	Increase average non-sugar carbohydrates intake by 25% from 124g per day, through increased consumption of fruits and vegetables, bread, breakfast cereals, rice and pasta and through an increase of 25% in potato consumption

Source: The Scottish Office, 1996

The report of a Working Group on Monitoring Scottish Dietary Targets (FSA, 2004) concluded that no one survey had the ability to monitor all the SDTs. Whilst the report concluded that *"the Expenditure and Food Survey should be used to monitor progress towards the Scottish Dietary Targets in 2005 and beyond"* it also acknowledged that new surveys were required to determine NMES intake in children and sodium intake in the Scottish population, which have since been carried out (Sheehy *et al.*, 2008; McNeill *et al.*, 2009; NatCen & UCL, 2007).

The Expenditure and Food Survey (EFS) is a continuous survey of households in the United Kingdom commissioned jointly by the Office for National Statistics (ONS) and the Department for Environment and Rural Affairs (Defra). However, the EFS data requires considerable secondary analysis to group the foods relevant to the SDTs and calculate statistically meaningful figures. Due to the nature of household food purchase data, the EFS cannot be used to give information on median intakes or classify consumption by age or gender (further advantages and disadvantages of the EFS are discussed in Appendix 1). 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 and groups classified by socio-economic factors such as deprivation (using the Scottish Index of Multiple Deprivation (SIMD)) (Scottish Government, 2009a) or socio-demographic factors such as urban or rural residence (using the Urban Rural Classification (URC)) (Scottish Executive, 2004a). Further exploration of the effect of location on food consumption is also required to find out how other factors such as income and education compensate for the impact of location.

A previous report on *The Scottish Diet* (The Scottish Office, 1993) identified additional recommendations (to those in the SDAP) for reducing other specific food group indicators. These foods and drinks are indicative of overall diet quality and include **cakes, biscuits and pastries**; **processed meat and sausages**; **bacon and ham**; **butter; saturated fat margarines and spreads** (replace with low saturated fat equivalents); **whole milk** (replace with semi-skimmed except for infants and 1-2 year olds), **sugar and preserves**; **confectionery, soft drinks,** and **savoury snacks** (see Table 2). It is useful to estimate consumption of these foods, together with red and processed meat as defined by COMA (Department of Health, 1998) and SACN (2009) and takeaway foods because these food group indicators are some of the major contributors to total fat, saturated fat and sugar intake. Monitoring their consumption will contribute to our understanding, enabling the provision of appropriate food advice to the consumer.

Table 2: Additional dietary recommendations included in the 1993 Scottish Diet report indicative of diet quality

Food Targets	
Cakes and Pastries	Cakes, biscuits and pastry intake to reduce by half
Meat	No further increase in lean meat consumption Processed meat and sausage intake to reduce by half Bacon and ham intake to reduce by 20%
Fats	Butter intake to reduce by two thirds Replacement of saturated fat margarines and spreads with low saturated fat equivalents
Milk	Whole milk replaced by semi-skimmed except for infants and 1-2 year olds
Sugar	Intake of sugar and preserves reduced by half
Confectionery, soft drinks, savoury snacks	Intake cut by one-third for adults and by one-half for children and adolescents

Source: The Scottish Office, 1993

In 2006, a report was commissioned by the Food Standards Agency in Scotland (Wrieden *et al*, 2006) to establish methods to monitor progress towards the dietary targets and examine differences in food and nutrient intake by socioeconomic group and area of residence. Data from national dietary (in particular the National Food Survey (NFS) and the Expenditure and Food Survey (EFS)) and health surveys were used to carry this out. The work used data from the EFS 2001-2004 to examine the relationship of food consumption to the SIMD (Scottish Government, 2009a) and the URC (Scottish Executive, 2004b). The report showed that little improvement had been made in the Scottish Diet over the period 1996 to 2004. In addition, clear inequalities were apparent in food consumption, with those living in areas of low deprivation and very rural areas having higher intakes of fruit and vegetables and oil rich fish, nearer to the SDTs, than those in living in areas of high deprivation and urban areas.

1.2 Purpose

This work is an ongoing process to monitor the impact of policy initiatives and secular trends in food and nutrient intake in Scotland. The purpose of this work was to carry out secondary analysis of Scottish household food and eating out data in the EFS for additional years (2004-2006) and update previous results for 2001-2003 using refined and updated methods of analysis. In addition to this, further secondary analysis has been carried out to quantify red and processed meat intakes in Scotland over the period 2001 to 2006, details of the methodology for quantifying red meat intakes and the results are presented in a separate report which was published simultaneously (Barton *et al*., 2010).

The revision of previous results was required to:

1. Account for free food (e.g. from school meals, meals on wheels etc.). Defra have adjusted the EFS data since the results published by Wrieden *et al.* (2006) and have backdated these changes to 2001 (Defra, 2006).
2. Adjust for waste using new factors, following the publication of the 2008 WRAP report (WRAP, 2008; Defra, 2008).

3. Include factors to account for the EFS sampling methodology.
4. Make use of a refined coding frame to allocate specific proportions of foods to appropriate food groupings.

Results were compared with the SDTs and earlier targets for other foods in *The Scottish Diet* report (The Scottish Office, 1993). Differences in food consumption and nutrient intake by socioeconomic group and area of residence were explored.

The revised, updated and improved estimates of food consumption and nutrient intake for the Scottish population supersedes those for 2001-2003 published in the report by Wrieden *et al*. in 2006.

2. METHODOLOGY USED TO DERIVE FOOD CONSUMPTION AND NUTRIENT INTAKES RELATIVE TO THE SCOTTISH DIETARY TARGETS

2.1 Overview

EFS data for each year, in its raw form, was obtained form the UK Data Archive, University of Essex. Population average intakes of foods and nutrients relating to the SDTs and other foods and drinks indicative of diet quality, have been calculated taking into account accepted definitions of foods (see Appendix 2 for more information). Further details on methodology, to those provided here, can be found in Appendix 3.

2.2 Coding Frame

A detailed coding frame (Appendix 4) based on that reported by Wrieden *et al.* (2006) was compiled for both household and eaten out food purchases. It is based on food codes (and sub-codes) allocated by Defra to household or eaten out food purchases. The coding frame lists groupings of foods (and codes) which form part of each dietary target (or food group of interest) and gives details of conversion factors applied to the food weights. For details see Appendix 3.

2.2.1 Categorisation of Foods

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

2.2.2 Conversion Factor

The conversion factors were applied to food purchases to estimate the actual amount of each food that was consumed. A conversion factor was calculated (for each food code, for household and eating out purchases); for the proportion of fruit, vegetable, bread, meat etc in a composite food; for the proportion of food in food grouping (where it bridges more than one food grouping); raw to cooked weight (where appropriate); proportion of inedible waste; and estimate of edible waste. Data for these conversion factors were taken from the 1st, 2nd, 5th and 6th supplements 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 this data was not available from the above sources, information was sought from manufacturers' label data or market share data supplied by the Food Standards Agency. Some changes to the original coding frame given in appendix 2 of the Wrieden et al. report (2006) were made, including some additions to allow comparison to targets and recommendations set by other expert groups. For details see Appendices 3 and 4.

2.2.3 Edible Waste

Estimates of waste for the UK population have been published in the recent report by WRAP (2008). Defra have mapped waste figures, based on those in the WRAP report, to each of the food codes used in the EFS. 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 only account for edible waste. Inedible waste (i.e. bone) was taken into account when calculating the conversion factor for each food code. For details see Appendix 4.

2.3 Data Handling

Appendix 5 provides a flowchart which illustrates the data handling process for data from each year, which were then merged in SPSS to obtain one working data file. Data on sampling strata and clusters, SIMD, domains of SIMD, URC and raw Gross Normal Weekly Income (GNWI) were obtained from the UK ONS. Data on SIMD and domains of SIMD were provided as quintiles and URC in 3 categories. Data on SIMD and URC by postcode were initially obtained from Scottish Neighbourhood Statistics and the Scottish government respectively and sent to ONS to link to anonymised case ID's.

In brief, the raw EFS 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 and waste factors to be applied to the calculations. Household consumption minus 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.

For nutrients: household consumption data minus 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. Household, eaten 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.

2.4 Analysis of Data

The food consumption and nutrient intake data were exported to SPSS and merged with the additional variables file as described in Appendix 3. Due to the multi-staged stratified sampling procedure of the EFS, data were analysed using Descriptive Statistics and General Linear Models within the Complex Samples module of SPSS, version 15 (SPSS Inc., Chicago, IL, USA) and weighted according to the Scottish population.

This methodology was compared against the method using Microsoft Access that was used for the previous report by Wrieden *et al.* (2006) (prior to the inclusion of strata and cluster variables in the analysis, an improvement only recently made available) and identical results for mean values were obtained, although, as expected the 95% confidence intervals were wider than under the assumption of simple random sampling.

The data were weighted so that estimates obtained for mean food consumption and nutrient intake more accurately reflected that of the Scottish population and household composition. The weights were provided by Defra.

Linear associations between food consumption/nutrient intake and year or SIMD quintile were assessed by linear regression within the general linear modelling section of the complex samples methodology module of SPSS. Overall associations between food consumption/nutrient intake and URC group were assessed by an adjusted Wald test. The adjusted Wald test was used in the general linear modelling section of the complex samples methodology module of SPSS and tests whether the value for all URC categories are equal in a single test and produces a single P-value.

Analysis by URC was carried out firstly unadjusted, secondly adjusted by SIMD quintile and thirdly adjusted by multivariables. The multivariable model used in the URC analysis further adjusted for SIMD quintile, equivalised income, household (HH) composition, HH size, %GNWI spent on food, energy intake (kcal) and the age of the household reference person (HRP) as these variables were all found to have an impact on food and nutrient intake. The decision as to which variables to include in the model was taken after analysis was carried out by each variable independently. This work also included the analysis by quintiles of individual domains of SIMD (namely education, employment, health and housing) but it was felt that as these are given different weightings in the overall SIMD score that it was better to use the overall SIMD score in the multivariable model rather than include all the individual domains.

2.5 Presentation of Results

Until 2006, the EFS was conducted on a financial year basis i.e. from April of one year to March of the next. 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 2005/2006 and the 2006 results. For ease of understanding, dates have been presented in the text as single years e.g. 2001/2002 has been presented as 2001 which refers to the period of April 2001 to March 2002 - see explanatory notes for further information.

Food consumption and nutrient intakes (means) relating to the SDTs (Table 1) and other dietary targets (Table 2) are presented from 2001 through to 2006. Food consumption and nutrient intakes for Scotland are also presented for the combined data from the EFS 2001 to 2003 and 2004 to 2006 by quintiles of the SIMD distribution and the URC in 3 groups (1.Urban; 2.Accessible small towns/ rural and 3.Remote).

The results presented for 2001 to 2003 differ from those presented in the 2006 Wrieden *et al.* report due to changes in the methodology as previously discussed.

Results are presented as population means with 95% confidence intervals (95% CI) in grams per day for foods and drinks with the exception of fish in grams per week. Nutrient intakes are presented as a

percentage of food energy for fat, saturated fat and NMES and as population mean daily intake in grams per day for complex carbohydrate. The results provided are for household and eaten out purchases combined. Results on household and eaten out food consumption and nutrient intake by year are provided separately in Appendix 6. P-values are provided for linear association for analysis by year and SIMD group and for overall association for analysis by URC.

Results of URC analysis are also presented with parameter estimates (with confidence intervals of the parameter estimates) which show the difference in food consumption per day (eg daily fruit intake in grams per day) between the reference category (in this instance the urban group) and the other two groups. If the parameter estiamte is negative, it means that the food consumed by that group is less than the reference category, and if positive, it means that the food consumed is more than the reference category.

3. RESULTS

3.1 Food Consumption Relating to the Scottish Dietary Targets

There were few consistent changes in consumption of the foods targeted by the Scottish Diet Action Plan and none of the SDTs were met by 2006.

3.1.1 Food Consumption Relating to the Scottish Dietary Targets by Year

Fruit and Vegetables

Table 3 and Figure 1a shows that there was a small but significant increase in mean consumption of fruit and vegetables in the population from 2001 to 2006 (P-value of linear association = 0.023). Mean daily consumption for all fruit and vegetables (including fruit and vegetable juices and baked beans) was 239g in 2001 and 256g in 2006, which equates to just over three portions per day and is considerably lower than the target of 400g or five portions per day. The small increase in total fruit and vegetables is due to an increase in fruit consumption with no significant change to vegetable consumption over the period (Figure 1b). It should be noted that the inclusion of fruit juice increases the consumption figures by the equivalent of half a portion per day, however the proportion of fruit to fruit juice remained similar over the time period.

Bread

Total daily bread consumption gradually decreased over the period 2001 to 2006 (from 101g to 93g), such that the mean consumption in 2006 was significantly lower than that of 2001 (P-value of linear association = 0.010), (Table 3, Figure 2a). This was accounted for by a steady decrease in white bread which was only partially counteracted by an increase in brown/wholemeal bread consumption from 16g/day in 2001 to 21g/day in 2006 (P-value of linear association = <0.001), just over one tenth of an average slice.

Breakfast Cereals

Total breakfast cereal consumption remained constant at around 19g per day (Table 3, Figure 3a).

Fish

Oil rich fish consumption increased gradually from 28g/week in 2001 to 37g/week in 2006 (P-value of linear association = 0.015), (Table 3, Figure 4a).

White fish consumption appeared to decrease between 2001 and 2005 but increased in 2006 with no overall change between 2001 and 2006 with mean consumption at around 93g/week.

Total Complex Carbohydrates (Potatoes)

Fresh potato consumption appeared to decrease, but the change was not statistically significant with intakes in 2006 of around 51g/day (Table 3).

3.1.2 Food Consumption Relating to the Scottish Dietary Targets by SIMD Quintile

Tables 4 and 5 and Figure 1c show a clear gradient in fruit and vegetable consumption by SIMD quintile. In the most deprived quintile (Quintile 1), mean daily consumption was 172g compared with 292g in the least deprived quintile (Quintile 5) for 2001 to 2003, and 196g compared with 304g for 2004 to 2006. This positive linear trend was highly significant, P<0.001.

Consumption of brown/wholemeal bread, breakfast cereals (all types and wholegrain/high fibre) oil-rich fish and white fish were highest in the least deprived quintile (Quintile 5), (Tables 4 and 5, Figures 2b, 3b and 4b) for both 2001 to 2003 and 2004 to 2006. Total bread and fresh potato consumption were highest in the most deprived quintile (Quintile 1) for the period 2001 to 2003 but for 2004 to 2006 (Tables 4 and 5, Figure 2b) there was no difference in fresh potato consumption by deprivation quintiles for this period.

Table 3: **Consumption of Scottish Diet Action Plan 1996 Target Foods by Year - 2001 to 2006**

Expenditure and Food Survey data (g/person/day with the exception of fish g/person/week)

Food	Scottish Dietary Target	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
Fruit and Vegetables[2, 3]	400g per day	239 222 - 257	243 224 - 261	228 209 - 246	246 225 - 267	262 244 - 281	256 238 - 274	***0.023***
Fruit[2]		123 111 - 136	127 113 - 141	119 106 - 132	130 117 - 143	142 129 - 155	138 127 - 150	***0.009***
Vegetables[3]		116 108 - 124	115 108 - 123	109 100 - 117	116 107 - 126	120 113 - 128	118 107 - 128	*0.386*
Total Bread	154g per day	101 96.2 - 106	99.1 95.0 - 103	92.8 87.0 - 98.7	91.9 87.1 - 96.7	91.8 86.7 - 96.9	93.5 88.2 - 98.8	***0.010***
Brown/Wholemeal Bread		16.2 14.4 - 17.9	16.8 14.6 - 19.1	15.0 13.1 - 16.8	19.9 17.7 - 22.1	19.9 17.4 - 22.3	21.0 18.6 - 23.4	***<0.001***
Total Breakfast Cereal	34g per day	19.5 17.3 - 21.7	19.5 17.2 - 21.9	19.1 16.4 - 21.8	20.7 18.4 - 23.0	19.3 17.1 - 21.4	19.2 17.1 - 21.3	*0.936*
High Fibre Breakfast Cereal		10.0 8.4 - 11.6	10.4 8.7 - 12.2	10.3 8.4 - 12.1	11.1 9.2 - 13.0	11.1 9.6 - 12.6	11.1 9.3 - 12.8	*0.209*
Oil Rich Fish	88g per week	28.2 23.8 - 32.6	30.6 23.8 - 37.4	31.9 25.6 - 38.2	33.3 26.7 - 39.9	41.2 24.5 - 57.9	37.1 29.0 - 45.1	***0.015***
White Fish	No decrease[4]	92.9 83.6 - 102	89.3 80.2 - 98.5	88.8 78.7 - 98.9	83.0 74.2 - 91.8	82.8 72.2 - 93.3	92.7 82.6 - 103	*0.515*
Fresh Potatoes[5]		56.5 49.7 - 63.2	50.3 44.9 - 55.6	48.5 43.8 - 53.1	46.5 41.4 - 51.6	49.2 44.8 - 53.6	51.4 44.8 - 58.0	*0.316*
n Households *n People* *n People Weighted*[6]		*619* *1414* *5015*	*585* *1342* *4967*	*546* *1266* *4952*	*590* *1329* *4948*	*566* *1285* *4939*	*577* *1365* *4906*	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results

[2]Fruit includes fruit and vegetable juice; [3]Vegetables include baked beans; [4]NFS figure reported by Wrieden *et al.* (2006) for 1996 was 107g per week; [5]Part of complex carbohydrate target

[6]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 4: Consumption of Scottish Diet Action Plan 1996 Target Foods by SIMD Quintile - 2001 to 2003 Combined

Expenditure and Food Survey data (g/person/day with the exception of fish g/person/week)

Food	Scottish Dietary Target	SIMD Quintile 1* Mean 95% CI	SIMD Quintile 2 Mean 95% CI	SIMD Quintile 3 Mean 95% CI	SIMD Quintile 4 Mean 95% CI	SIMD Quintile 5* Mean 95% CI	*P-value for Linear Association*
Fruit and Vegetables[1, 2]	400g per day	172 157 - 188	206 192 - 220	252 231 - 273	266 244 - 288	292 268 - 316	***<0.001***
Fruit[1]		78.7 68.0 - 89.5	97.5 88.5 - 106	133 119 - 147	147 131 - 163	163 145 - 181	***<0.001***
Vegetables[2]		93.5 85.4 - 102	109 100 - 117	119 108 - 130	118.9 109 - 128	129 120 - 138	***<0.001***
Total Bread	154g per day	106 99.1 - 113	99.1 92.8 - 106	99.3 92.8 - 106	92.7 87.8 - 97.6	91.1 86.0 - 96.2	***<0.001***
Brown/Wholemeal Bread		11.5 9.5 - 13.5	13.9 11.9 - 15.9	15.6 13.6 - 17.6	18.9 16.1 - 21.7	20.3 17.8 - 22.8	***<0.001***
Total Breakfast Cereal	34g per day	15.4 13.1 - 17.7	16.4 14.0 - 18.8	19.4 17.2 - 21.6	22.9 20.5 - 25.3	23.1 20.0 - 26.1	***<0.001***
High Fibre Breakfast Cereal		6.7 5.1 - 8.3	8.6 6.7 - 10.6	9.2 7.5 - 11.0	12.7 10.5 - 14.9	14.3 11.5 - 17.0	***<0.001***
Oil Rich Fish	88g per week	20.1 14.9 - 25.4	26.4 17.3 - 35.5	31.3 24.1 - 38.6	32.6 23.6 - 41.6	41.8 32.6 - 51.0	***<0.001***
White Fish	No decrease[3]	79.2 66.3 - 92.1	85.1 74.8 - 95.3	92.9 82.1 - 104	98.0 85.8 - 110	97.0 84.4 - 110	***0.013***
Fresh Potatoes[4]		52.5 46.5 - 58.5	53.7 48.0 - 59.5	57.3 49.7 - 64.8	53.9 48.0 - 59.8	40.4 36.7 - 44.0	***0.008***
n Households		*366*	*383*	*351*	*352*	*298*	
n People		*810*	*838*	*793*	*841*	*740*	
n People Weighted[5]		*3044*	*3075*	*2913*	*3140*	*2764*	

Household and eating out intakes combined

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]Fruit includes fruit and vegetable juice; [2]Vegetables include baked beans; [3]NFS figure reported by Wrieden *et al.* (2006) for 1996 was 107g per week; [4]Part of complex carbohydrate target

[5]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 5: **Consumption of Scottish Diet Action Plan 1996 Target Foods by SIMD Quintile - 2004 to 2006 Combined**

Expenditure and Food Survey data (g/person/day with the exception of fish g/person/week)

Food	**Scottish Dietary Target**	**SIMD Quintile 1*** Mean 95% CI	**SIMD Quintile 2** Mean 95% CI	**SIMD Quintile 3** Mean 95% CI	**SIMD Quintile 4** Mean 95% CI	**SIMD Quintile 5*** Mean 95% CI	***P-value for Linear Association***
Fruit and Vegetables[1, 2]	400g per day	196 175 - 217	228 207 - 249	244 221 - 267	286 263 - 309	304 285 - 323	***<0.001***
Fruit[1]		95.9 81.7 - 110	120 106 - 133	129 116.5 - 142	160 145 - 176	168 154 - 183	***<0.001***
Vegetables[2]		99.9 90.4 - 109	108 98.1 - 118.5	115 103 - 127	125 113 - 137.5	136 123 - 149	***<0.001***
Total Bread	154g per day	93.0 86.7 - 99.4	99.3 91.8 - 107	92.7 84.3 - 101	93.1 86.3 - 99.9	86.1 80.7 - 91.5	***0.040***
Brown/Wholemeal Bread		16.4 13.4 - 19.4	17.6 15.2 - 19.9	22.2 18.4 - 26	22.2 19.1 - 25.2	22.4 19.7 - 25.0	***<0.001***
Total Breakfast Cereal	34g per day	14.7 12.4 - 16.9	17.0 14.3 - 19.7	17.3 14.9 - 19.8	22.6 19.4 - 25.9	25.2 22.1 - 28.3	***<0.001***
High Fibre Breakfast Cereal		7.4 5.8 - 9.1	8.4 6.3 - 10.6	9.6 8.0 - 11.3	13.7 11.1 - 16.2	15.0 12.7 - 17.3	***<0.001***
Oil Rich Fish	88g per week	25.5 15.4 - 35.5	31.5 23.0 - 40.1	28.3 20.0 - 36.7	47.7 20.1 - 75.4	49.2 41.2 - 57.3	***<0.001***
White Fish	No decrease[3]	71.4 63.4 - 79.3	78.1 61.0 - 95.2	87.1 72.3 - 102	91.3 77.8 - 105	98.1 86.5 - 110	***<0.001***
Fresh Potatoes[4]		47.9 41.5 - 54.3	50.9 42.8 - 58.9	47.9 39.9 - 56.0	46.5 39.0 - 54.1	50.7 44.4 - 56.9	*0.825*
n Households		*336*	*346*	*345*	*310*	*394*	
n People		*744*	*761*	*755*	*703*	*1012*	
n People Weighted[5]		*2740*	*2776*	*2855*	*2668*	*3738*	

Household and eating out intakes combined

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

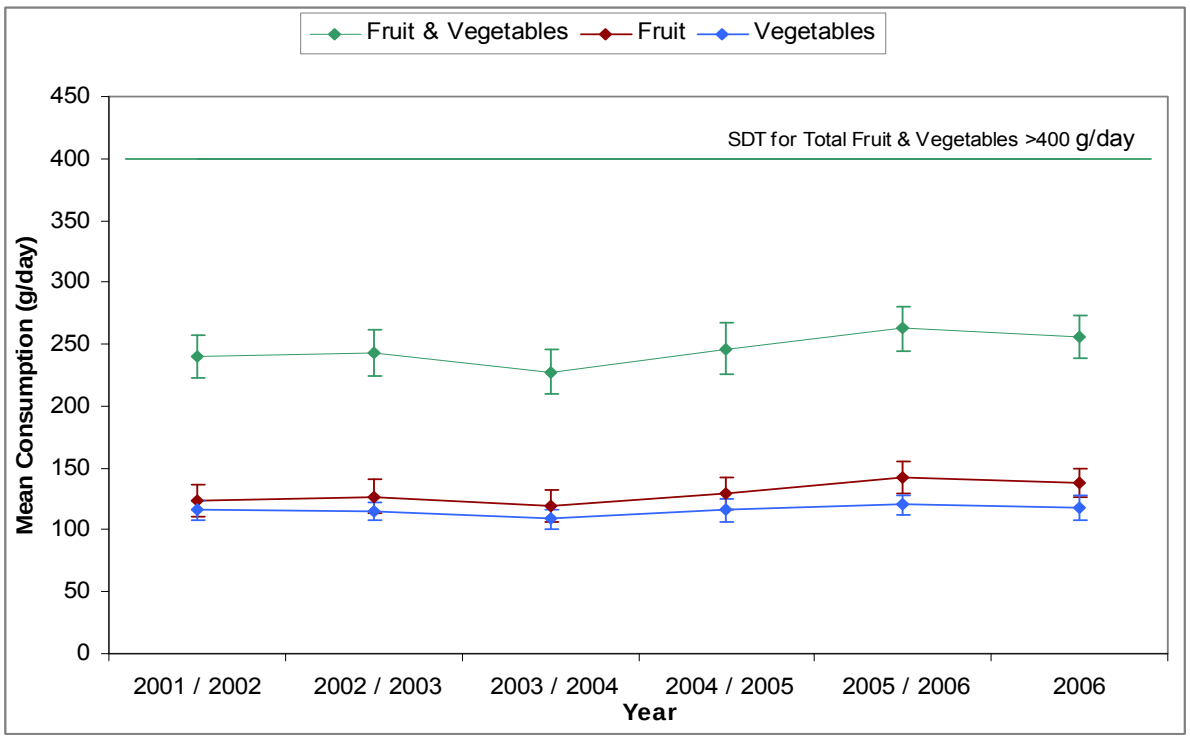
From 2006 the EFS moved from a financial year to a calendar year basis. As a consequence of this the January to March 2006 data are duplicated in the 2005/2006 and the 2006 results

[1]Fruit includes fruit and vegetable juice; [2]Vegetables include baked beans; [3]NFS figure reported by Wrieden *et al.* (2006) for 1996 was 107g per week; [4]Part of complex carbohydrate target

[5]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Figure 1: Mean (with 95% CI) fruit and vegetable consumption

Figure 1a: Total consumption and comparison of fruit and vegetables by year 2001 - 2006 compared with SDT (>400g/day)



Fruit = Fruit including fruit (and vegetable) juice; Vegetables = Vegetables including baked beans

Figure 1b: Total fruit and vegetable consumption by SIMD quintile compared with SDT (>400g/day)

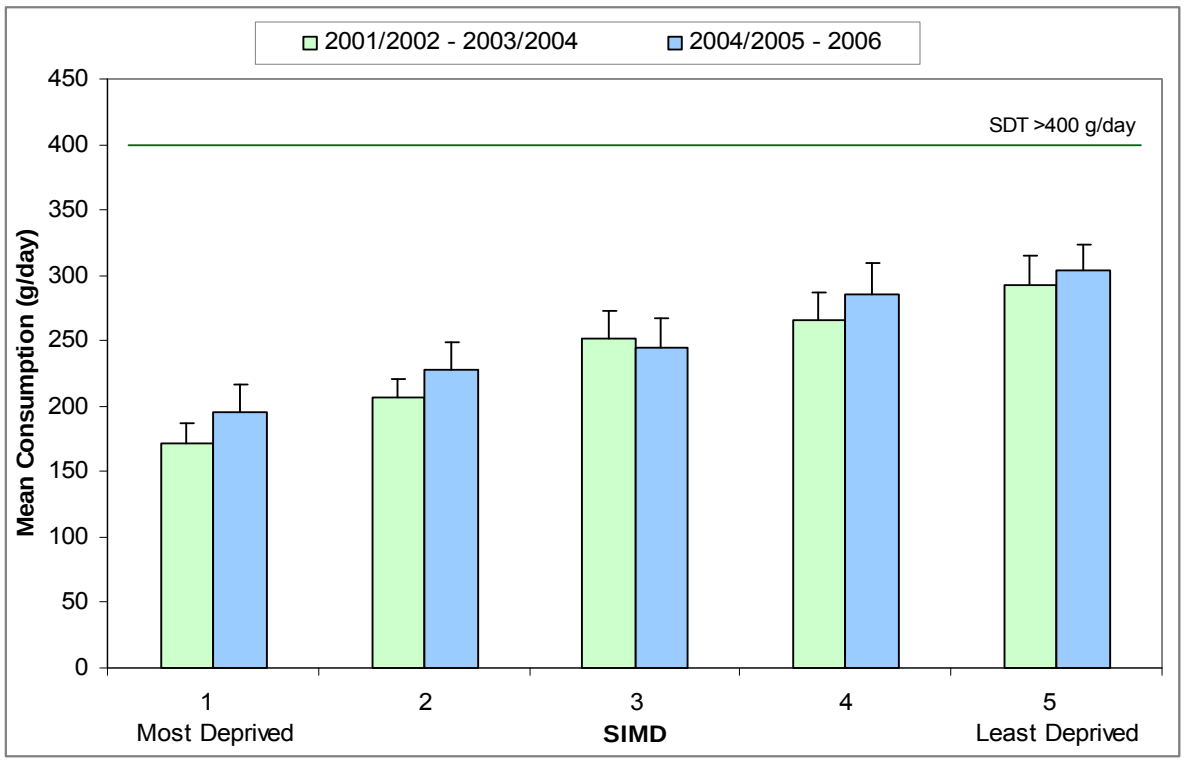


Figure 2: Mean (with 95% CI) bread consumption compared with SDT (154g/day)

Figure 2a: By Year 2001 - 2006

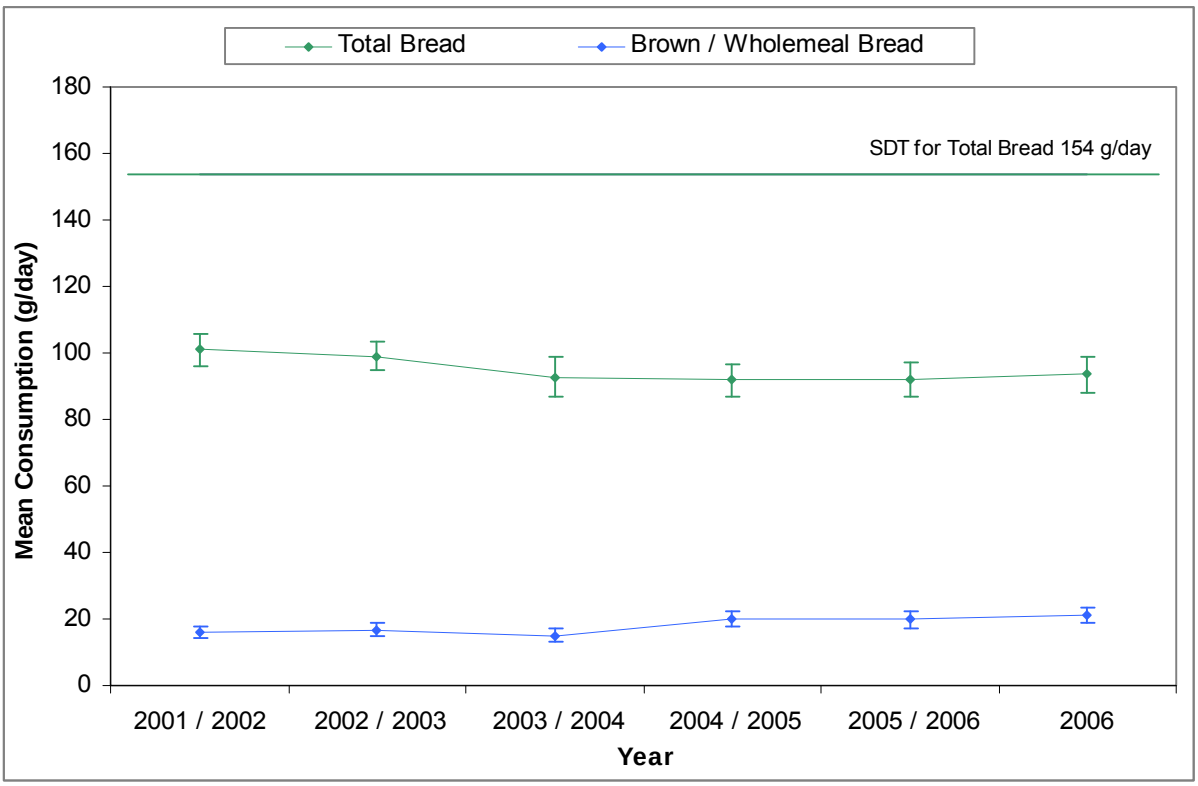


Figure 2b: By SIMD Quintile

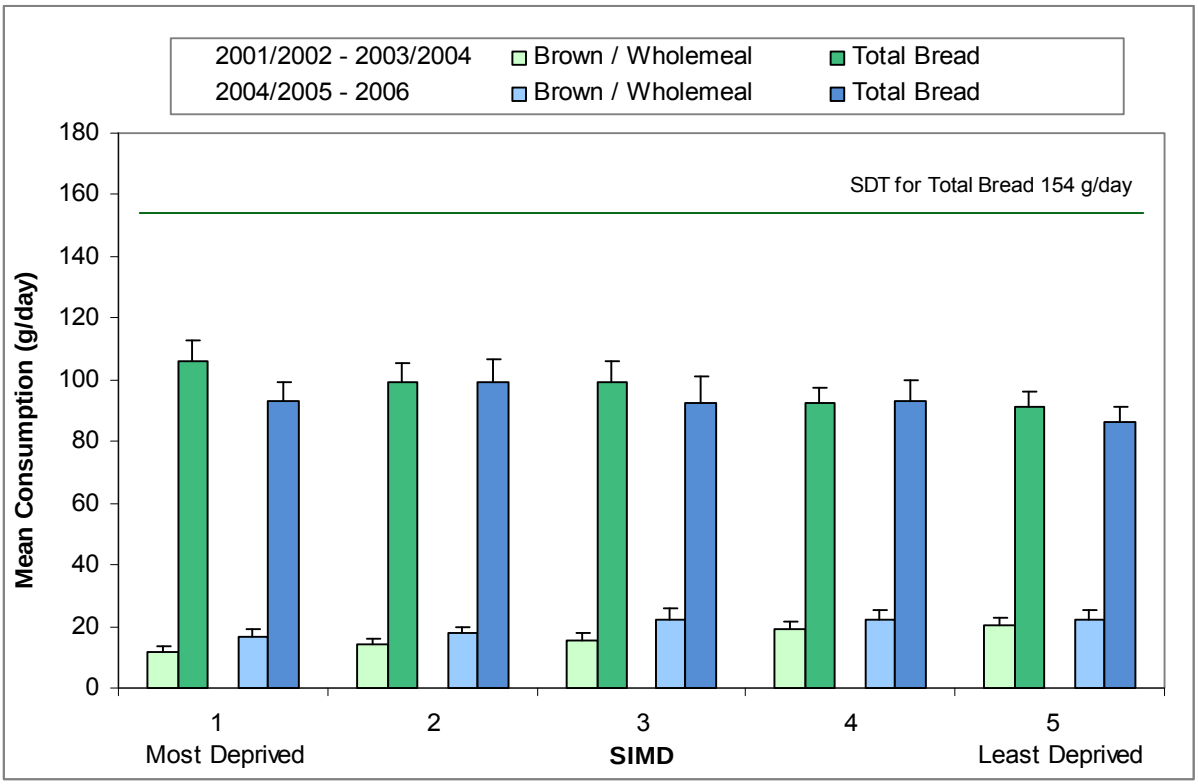


Figure 3: Mean (with 95% CI) breakfast cereal consumption compared with SDT (34g/day)

Figure 3a: By Year 2001 - 2006

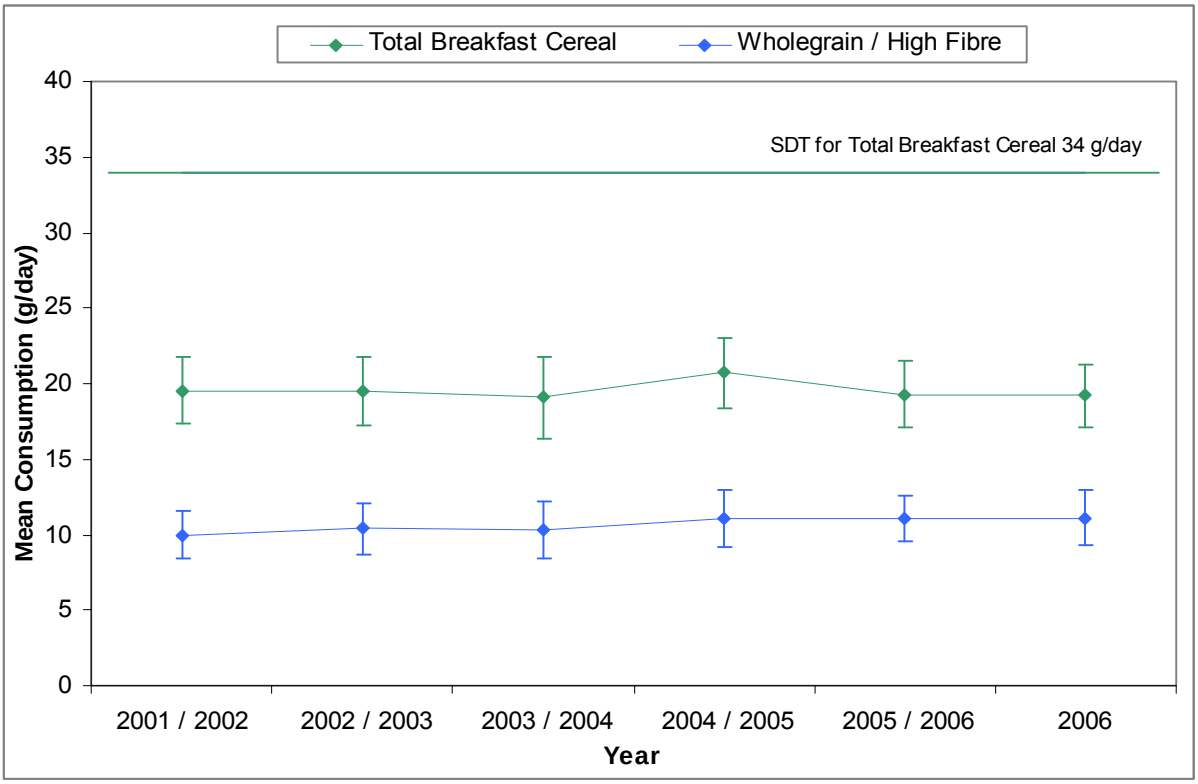


Figure 3b: By SIMD Quintile

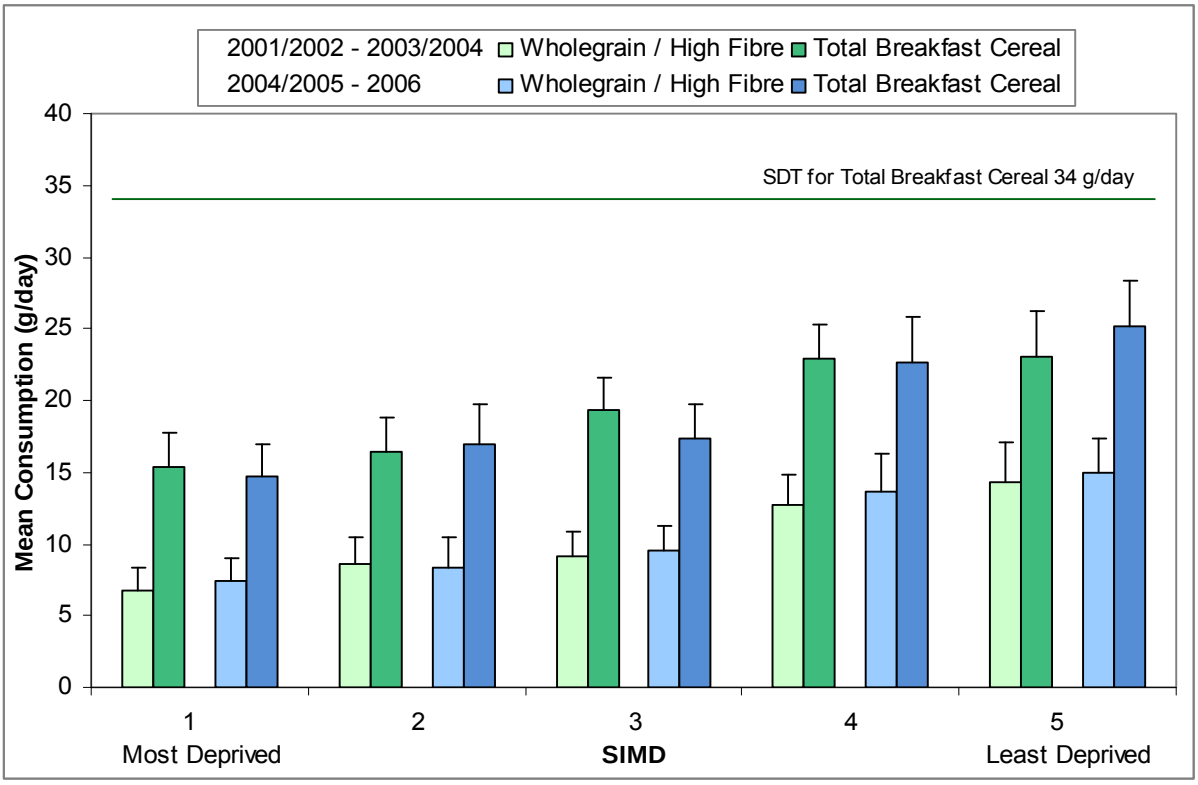


Figure 4: Mean (with 95% CI) oil rich fish consumption compared with SDT (88g/day)

Figure 4a: By Year 2001 - 2006

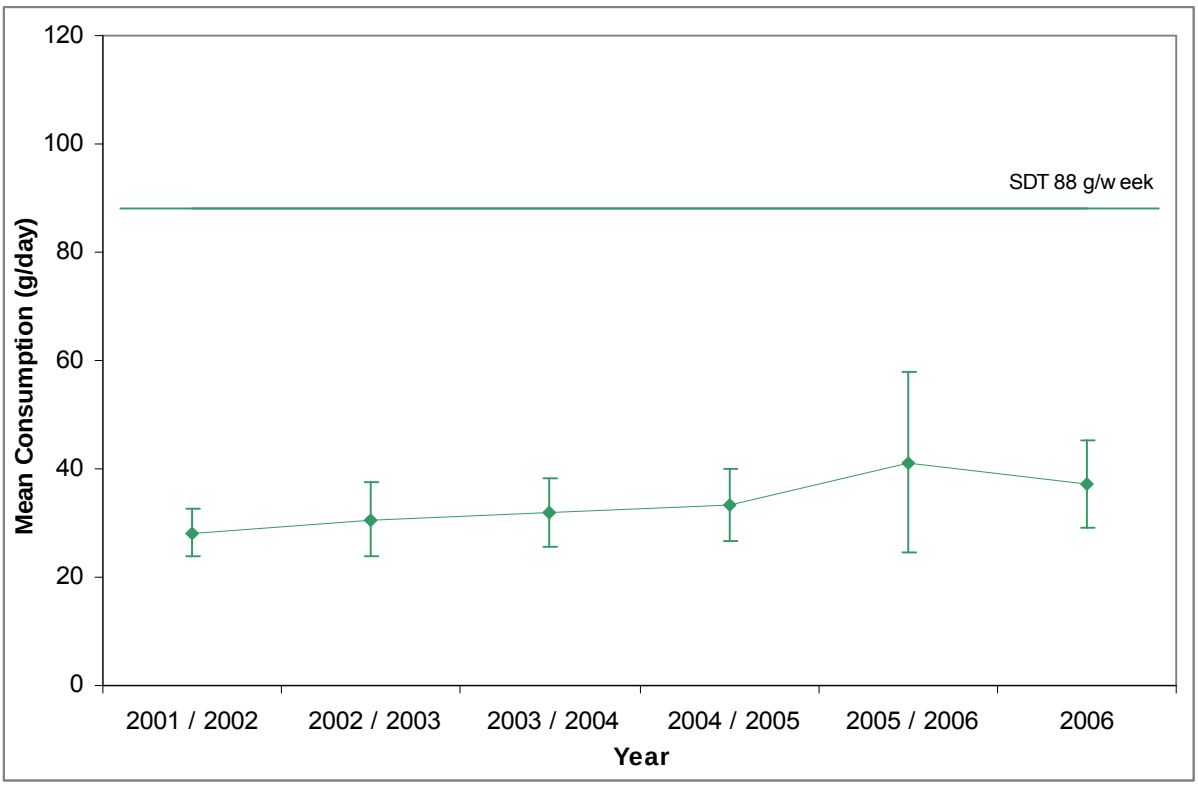
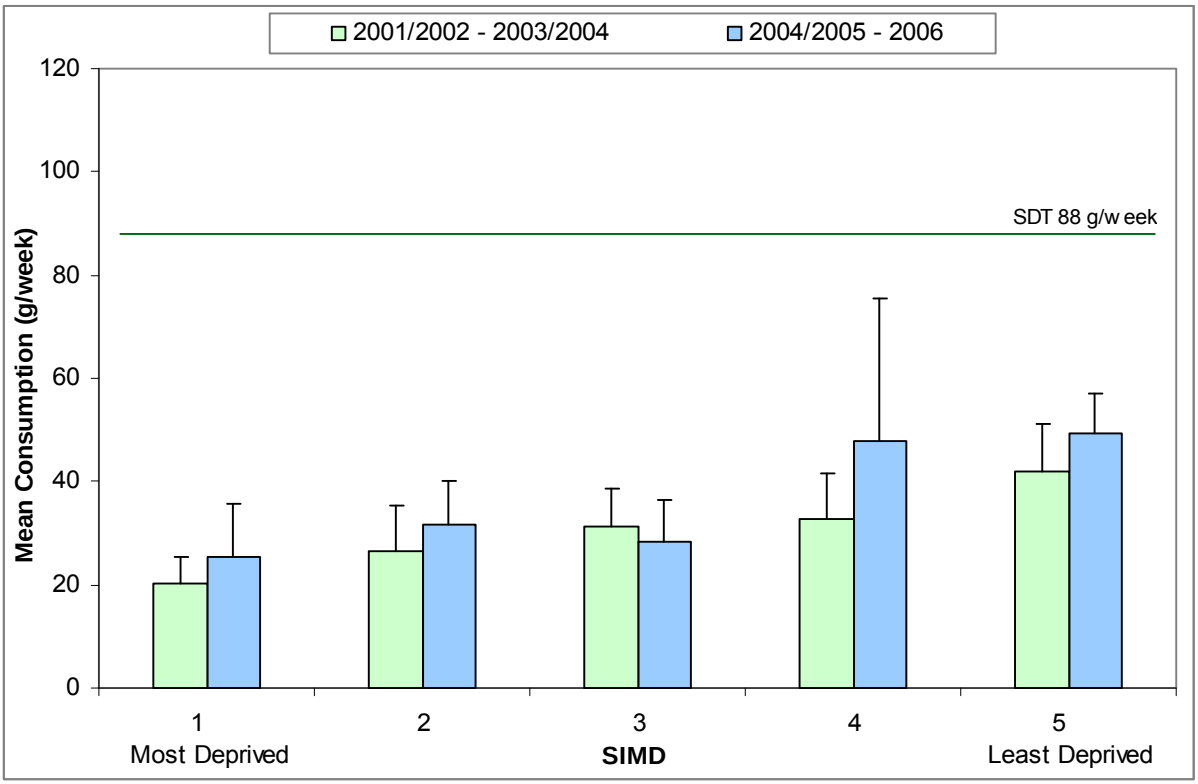


Figure 4b: By SIMD Quintile



3.2 Nutrient Intake Relating to the Scottish Dietary Targets and FSA Targets

Overall no significant changes were found in the percentage of energy from total fat, saturated fat or NMES, or in intakes of complex carbohydrates by year.

In 2006, the percentage of food energy from total fat remained above the SDT of no more than 35% at around 39% and the percentage of food energy from saturated fat remained at 16% compared with the SDT of no more than 11%. No changes were found in total fat or saturated fat as a % of energy over the period of 2001 to 2006 (Table 6, Figures 5a and 6a).

The percentage of food energy contributed by NMES rose slightly from 2001 to 2003 (from 15.6 to 16.2%) but then fell again to 15.2% in 2006 (Table 6, Figure 7a). Intakes remain higher than the SDT for children (less then 10% of total energy) and the DRV for adults (less than 11% of food energy). The overall fall in % energy from NMES of 0.4% was not significant.

Complex carbohydrate (the sum of the non-sugar carbohydrates i.e. starch plus non starch polysaccharides (NSP)) has decreased slightly between 2001 and 2006 (from 138 g/day to 133 g/day) but this decrease was not significant (Table 6, Figure 8a).

Tables 7 and 8 and Figures 5b, 6b, 8b and show that there were no differences in the percentage of food energy from total fat and saturated fat, and intake of complex carbohydrate by SIMD quintile.
Tables 7 and 8 and Figure 7b shows that NMES was significantly lower in the least deprived quintile (Quintile 5) at approximately 14% of food energy, compared with approximately 16% of food energy in the most deprived quintile (Quintile 1).

Table 6: **Intake of Scottish Diet Action Plan 1996 Target Nutrients by Year - 2001 to 2006**

Expenditure and Food Survey data (units/person/day)

	Scottish Dietary Target	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
% Food Energy - Fat	≤35%	39.2 38.5 - 39.9	39.0 38.4 - 39.6	39.3 38.6 - 40.0	38.9 38.4 - 39.5	39.2 38.5 - 39.9	39.1 38.4 - 39.8	*0.917*
% Food Energy - Saturated Fat	≤11%	15.7 15.4 - 16.0	15.8 15.4 - 16.1	15.8 15.4 - 16.2	15.6 15.3 - 15.9	15.6 15.2 - 15.9	15.9 15.5 - 16.2	*0.903*
% Food Energy - NMES	Adults - No ↑[2] Children - <10%	15.6 15.0 - 16.3	15.8 15.3 - 16.3	16.2 15.5 - 17.0	15.7 15.0 - 16.4	15.4 14.8 - 16.0	15.2 14.5 - 15.9	*0.201*
Complex CHO g	155g per day	138 134 - 143	138 133 - 143	133 128 - 138	132 127 - 137	133 126 - 140	133 127 - 139	*0.081*
Food Energy - MJ		8.4 8.1 - 8.7	8.3 8.1 - 8.6	8.3 8.0 - 8.7	8.1 7.8 - 8.5	8.1 7.8 - 8.5	8.0 7.8 - 8.3	***0.017***
Food Energy - kcal		2002 1937 - 2067	1984 1922 - 2047	1981 1902 - 2060	1936 1861 - 2011	1937 1857 - 2017	1913 1848 - 1979	***0.017***
n Households		*619*	*585*	*546*	*590*	*566*	*577*	
n People		*1414*	*1342*	*1266*	*1329*	*1285*	*1365*	
n People Weighted[3]		*5015*	*4967*	*4952*	*4948*	*4939*	*4906*	

Household and eating out intakes combined

[1]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 2005/2006 and the 2006 results

[2]DRV for Adults 11% Food Energy (Department of Health, 1991)

[3]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 7: **Intake of Scottish Diet Action Plan 1996 Target Nutrients by SIMD - 2001 to 2003 Combined**

Expenditure and Food Survey data (units/person/day)

	Scottish Dietary Target	**SIMD Quintile 1*** Mean 95% CI	**SIMD Quintile 2** Mean 95% CI	**SIMD Quintile 3** Mean 95% CI	**SIMD Quintile 4** Mean 95% CI	**SIMD Quintile 5*** Mean 95% CI	***P-value for Linear Association***
% Food Energy - Fat	≤35%	39.4 38.7 - 40.0	39.0 38.2 - 39.8	39.3 38.4 - 40.2	38.8 37.9 - 39.8	39.4 38.4 - 40.4	*0.814*
% Food Energy - Saturated Fat	≤11%	15.6 15.4 - 15.9	15.7 15.3 - 16.1	16.0 15.6 - 16.4	15.6 15.2 - 16.0	15.8 15.3 - 16.3	*0.273*
% Food Energy - NMES	Adults - No ↑[1] Children - <10%	16.6 15.7 - 17.5	16.3 15.6 - 17.1	16.1 15.0 - 17.2	15.7 14.9 - 16.6	14.3 13.5 - 15.1	***0.003***
Complex CHO g	155g per day	136 129 - 143	136 130 - 141	138 132 - 144	134 128 - 141	139 134 - 145	*0.609*
Food Energy - MJ		8.4 7.9 - 8.9	8.3 8.0 - 8.6	8.6 8.2 - 9.0	8.2 7.8 - 8.5	8.3 8.0 - 8.7	*0.538*
Food Energy - kcal		1997 1885 - 2109	1976 1898 - 2053	2043 1955 - 2131	1948 1865 - 2031	1986 1908 - 2064	*0.735*
n Households		*366*	*383*	*351*	*352*	*298*	
n People		*810*	*838*	*793*	*841*	*740*	
n People Weighted[2]		*3044*	*3075*	*2913*	*3140*	*2764*	

Household and eating out intakes combined

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]DRV for Adults 11% Food Energy (Department of Health, 1991)

[2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 8: **Intake of Scottish Diet Action Plan 1996 Target Nutrients by SIMD - 2004 to 2006 Combined**

Expenditure and Food Survey data (units/person/day)

	Scottish Dietary Target	SIMD Quintile 1*	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5*	*P-value for Linear Association*
		Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	
% Food Energy - Fat	≤35%	39.2 38.3 - 40.1	39.4 38.5 - 40.2	39.0 37.9 - 40.1	38.9 38.1 - 39.8	38.9 38.2 - 39.5	*0.364*
% Food Energy - Saturated Fat	≤11%	15.4 15.0 - 15.8	15.8 15.4 - 16.2	15.6 15.0 - 16.2	15.9 15.6 - 16.3	15.6 15.1 - 16.1	*0.513*
% Food Energy - NMES	Adults - No ↑[1] Children - <10%	16.4 15.2 - 17.6	15.3 14.7 - 16.0	15.9 15.1 - 16.7	15.3 14.5 - 16.1	14.4 13.7 - 15.1	***0.007***
Complex CHO g	155g per day	129 122 - 136	132 124 - 139	133 121 - 145	136 129 - 143	134 127 - 141	*0.194*
Food Energy - MJ		8.1 7.7 - 8.5	8.0 7.6 - 8.4	8.1 7.6 - 8.5	8.4 8.0 - 8.8	8.0 7.7 - 8.3	*0.872*
Food Energy - kcal		1929 1828 - 2030	1906 1813 - 1998	1919 1809 - 2030	2000 1898 - 2103	1904 1825 - 1982	*0.604*
n Households		*336*	*346*	*345*	*310*	*394*	
n People		*744*	*761*	*755*	*703*	*1012*	
n People Weighted[2]		*2740*	*2776*	*2855*	*2668*	*3738*	

Household and eating out intakes combined

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 2005/2006 and the 2006 results

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]DRV for Adults 11% Food Energy (Department of Health, 1991)

[2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Figure 5: Mean (with 95% CI) total fat intake (% food energy) compared with SDT (<35% food energy)

Figure 5a: By Year 2001 - 2006

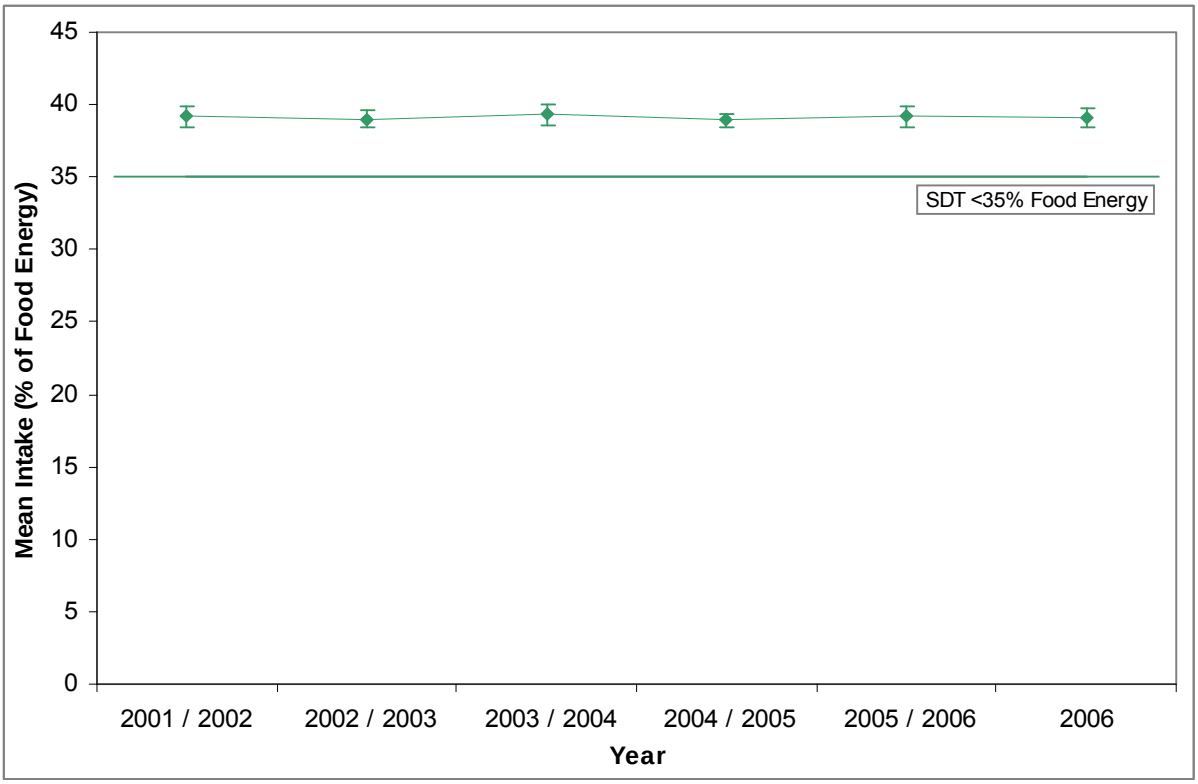


Figure 5b: By SIMD Quintile

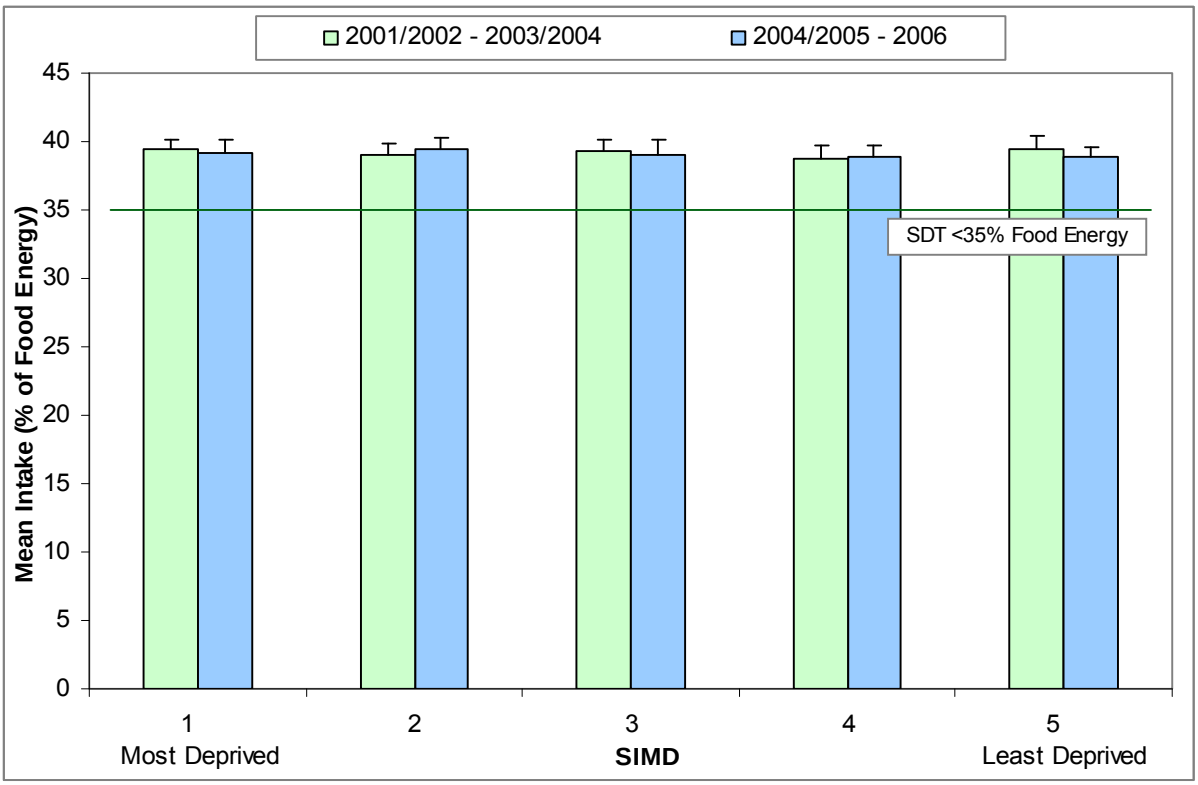


Figure 6: Mean (with 95% CI) saturated fat intake (% food energy) compared with SDT (<11% food energy)

Figure 6a: By Year 2001 - 2006

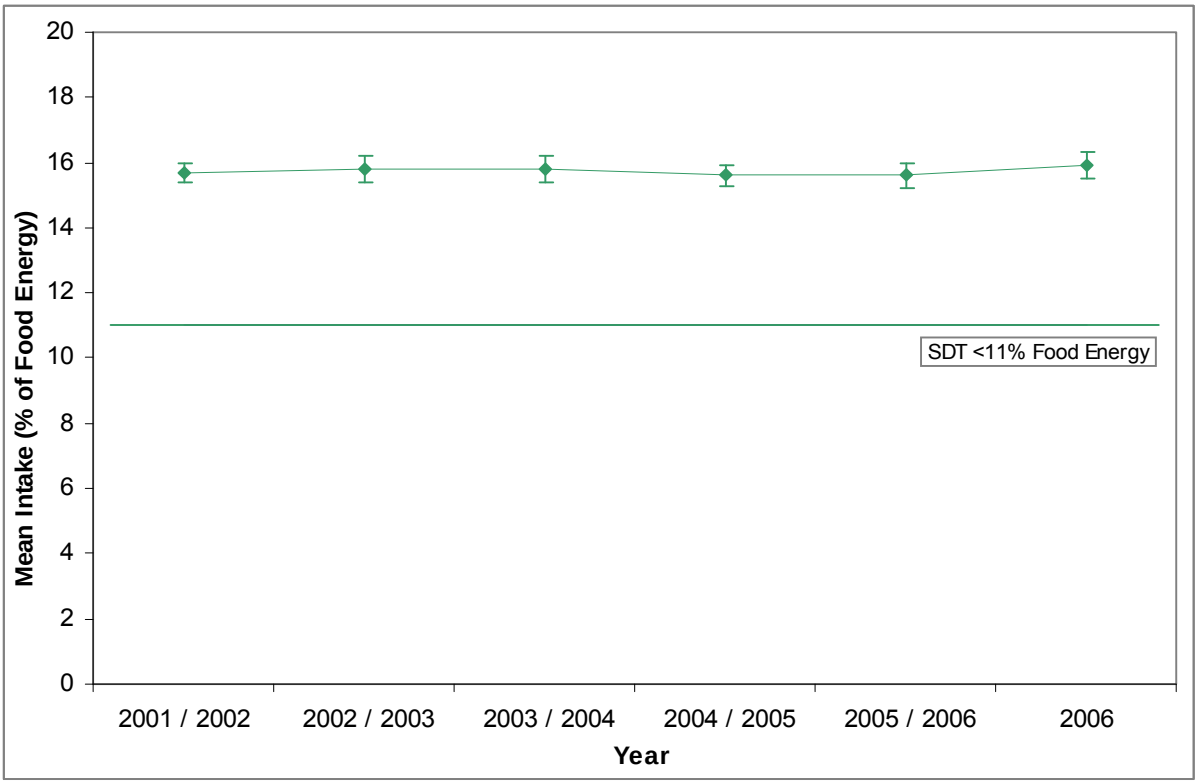


Figure 6b: By SIMD Quintile

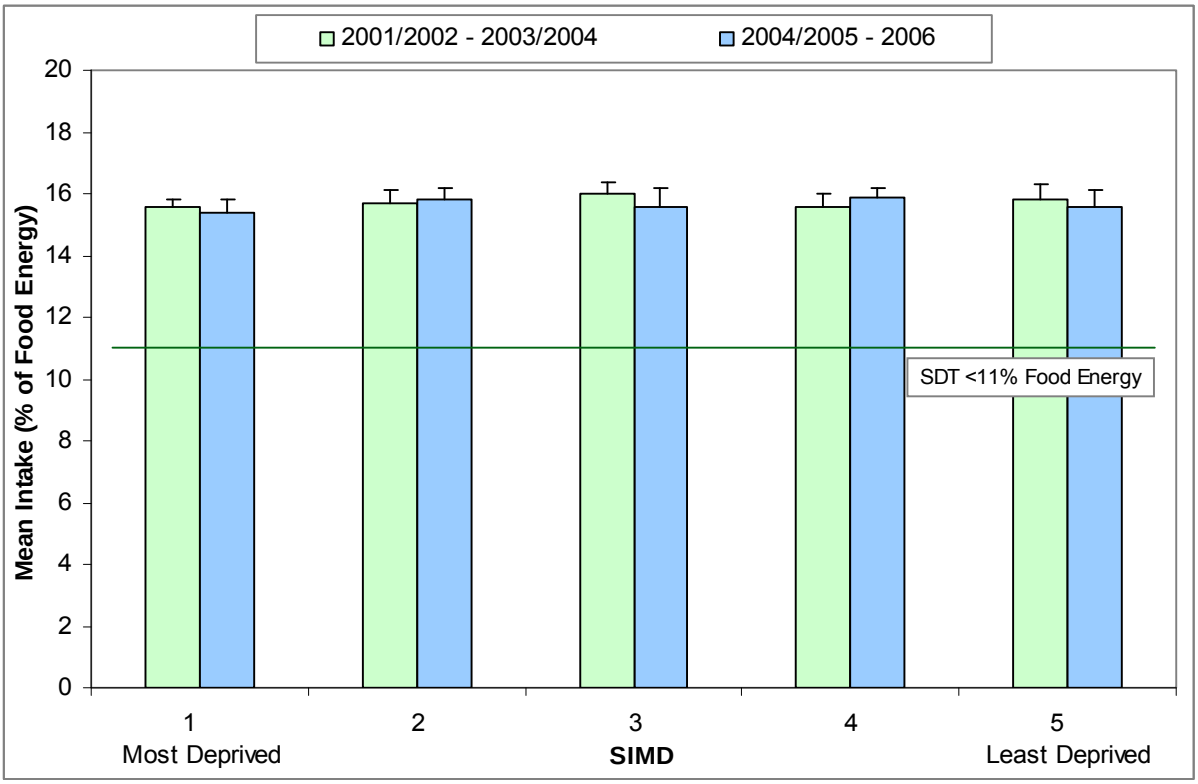


Figure 7: Mean (with 95% CI) NMES intake (% food energy) compared with DRV (<11% food energy)

Figure 7a: By Year 2001 - 2006

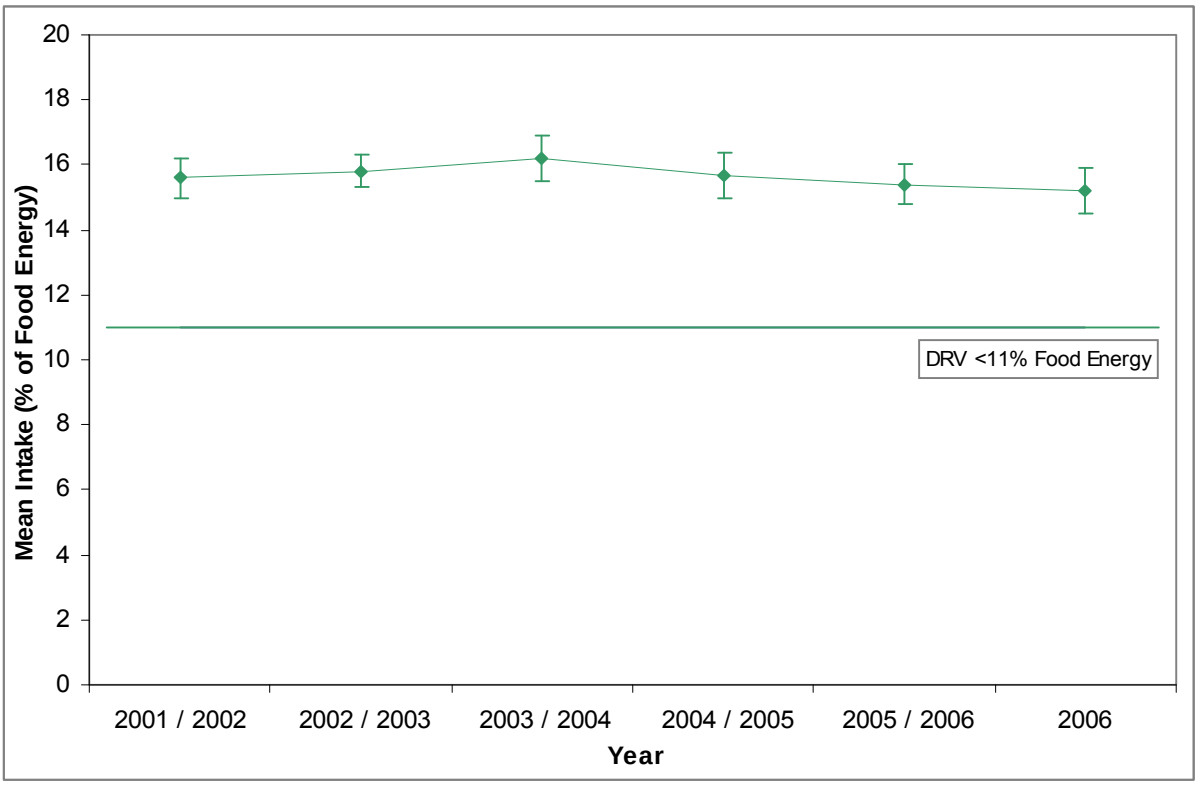


Figure 7b: By SIMD Quintile

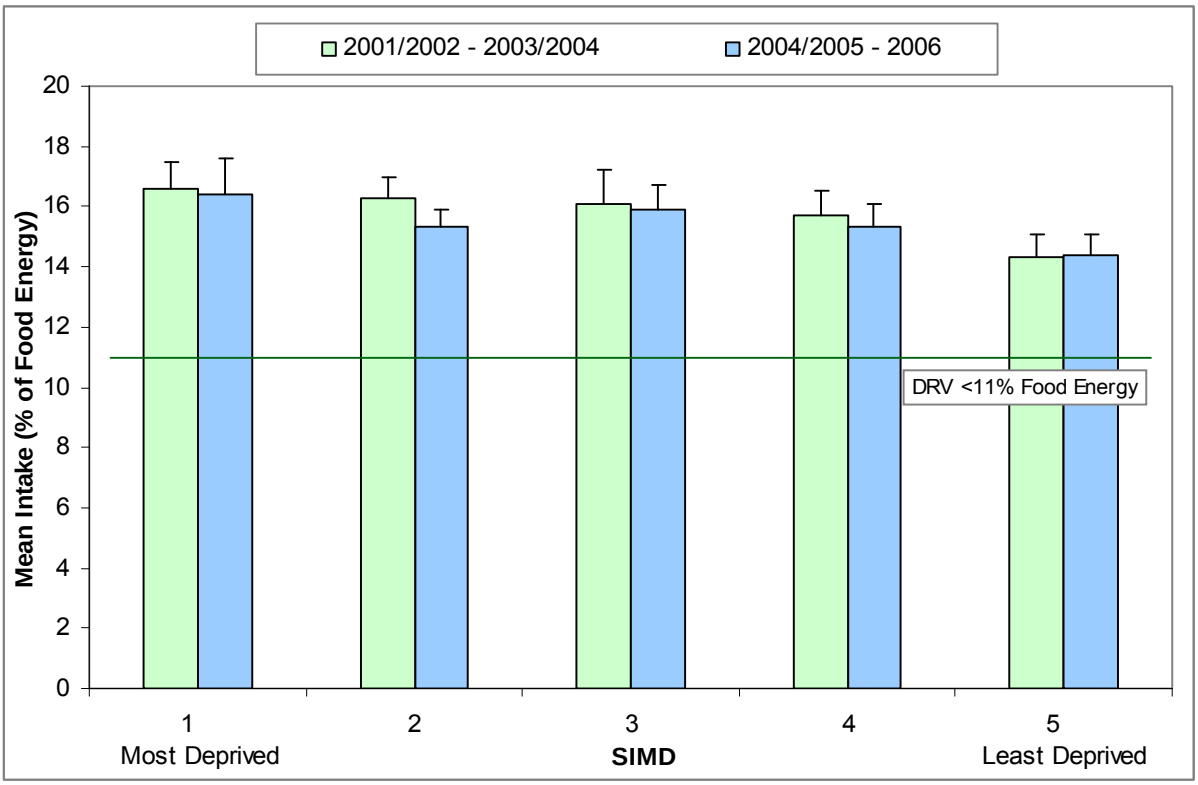


Figure 8: Mean (with 95% CI) complex carbohydrate intake compared with SDT (>155g/day)

Figure 8a: By Year 2001 - 2006

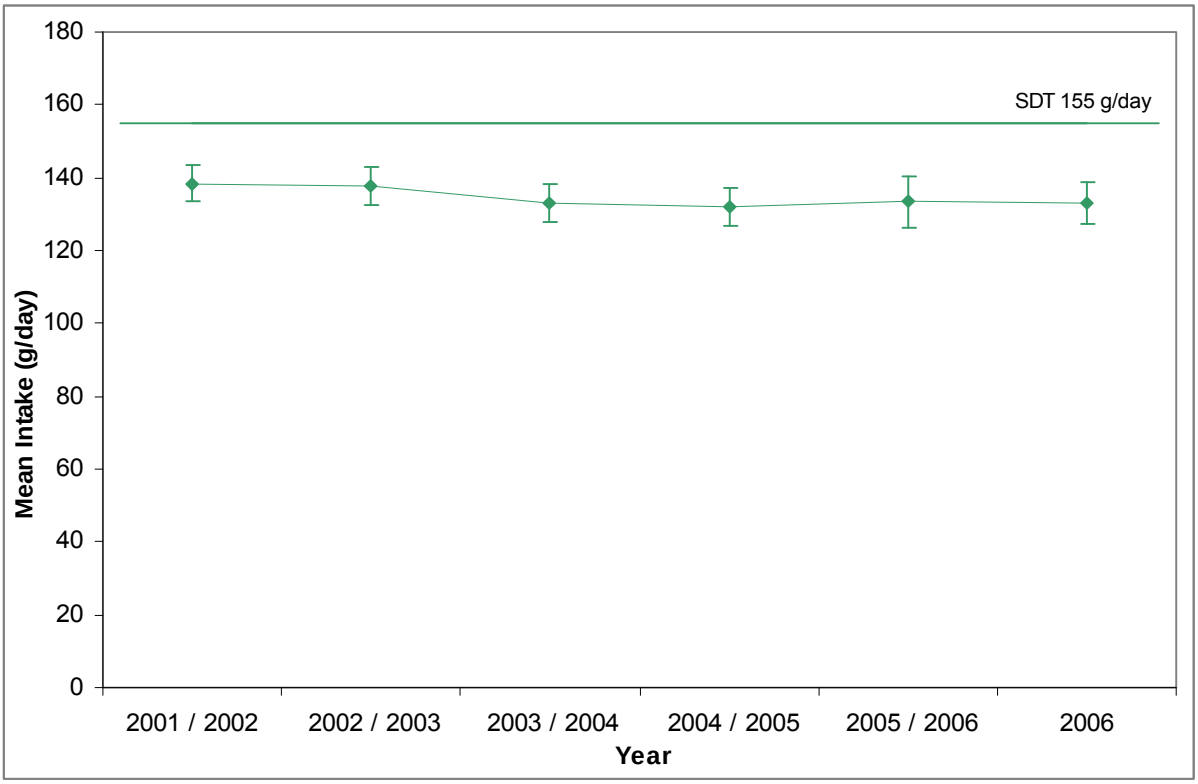
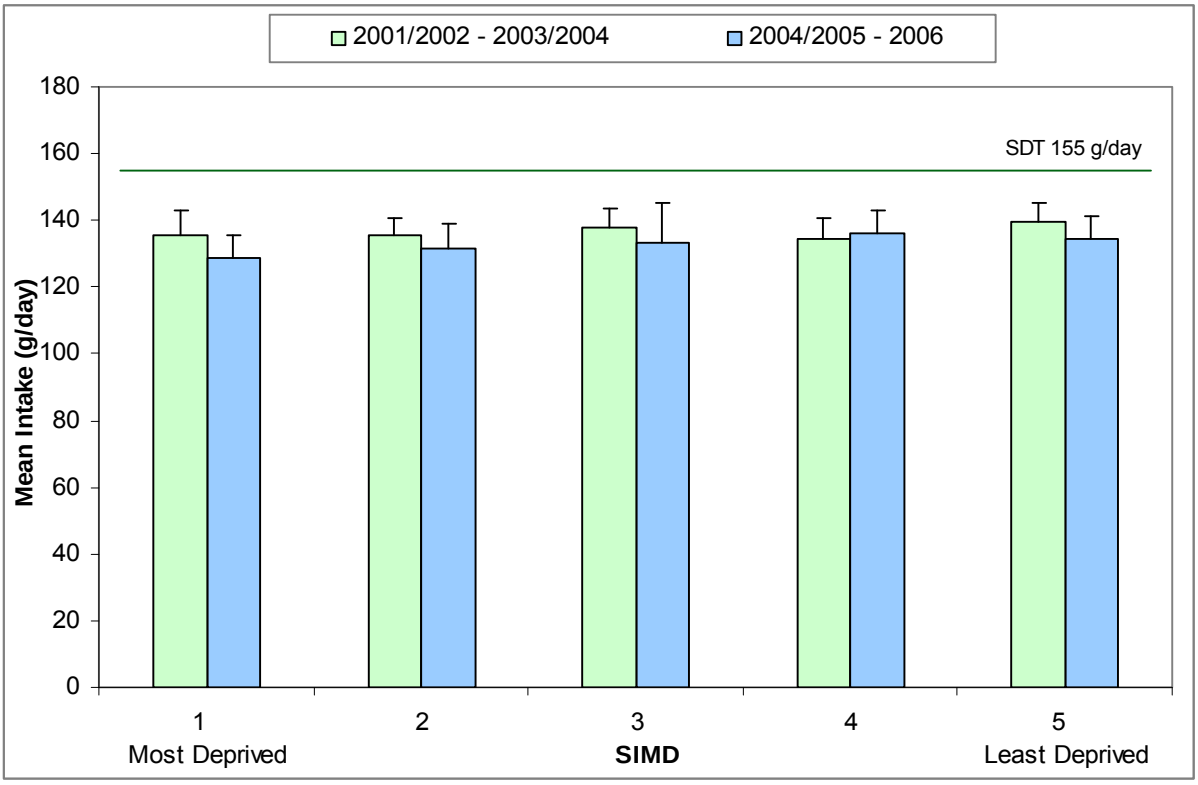


Figure 8b: By SIMD Quintile



3.3 Consumption of Additional Foods and Drinks Indicative of Diet Quality

Foods contributing NMES (Tables 9, 11, and 12; Figures 9a and 9b)

Mean consumption of cakes, sweet biscuits and pastries have remained fairly constant with intakes in 2006 of about 39g/day. The initial upward, followed by downward trend in sugar & preserves, confectionery and sugar containing soft drinks mirrored that for the NMES (i.e. increased slightly from 2001 to 2003 but then fell again towards 2006).

Sugar containing soft drink consumption was consistently significantly higher in the most deprived quintile of SIMD (Quintile 1) for both 2001 to 2003 and 2004 to 2006. Mean daily consumption for the period 2004 to 2006 was 298g in the most deprived quintile (Quintile 1) and 184g in the least deprived quintile (Quintile 5) which equates to a difference of approximately one third of a standard can. Conversely, consumption of sugar free soft drinks was highest in the least deprived quintile for both time periods. There were no other consistent significant differences in the consumption of foods/drinks contributing to NMES intake with SIMD over the two time periods.

Foods Contributing Fat (Table 10, 13 and 14)

Mean daily consumption of processed meat, pies and sausages appear to have decreased between 2001 (29g) and 2006 (25g) (P-value for linear association = 0.051). Bacon and ham intakes have remained constant over the same time period. Total daily milk consumption has decreased from 250g in 2001 to 233g in 2006 (P-value of linear association = 0.016). This has been caused by a decrease in whole milk from 92g/day to 71g/day (P-value of linear association = <0.001). Intakes of semi-skimmed and skimmed milk have remained fairly constant with daily intakes in 2006 of 127g and 14g respectively. Daily processed potato (e.g. chips) and savoury snack consumption has decreased slightly over the period from 30g in 2001 to 25g in 2006 and from 14g in 2001 to 12g in 2006 respectively (P-values for linear association = 0.002 and 0.001 respectively). Takeaway food consumption has remained fairly constant at around 20g/day.

Consumption of processed meat, pies and sausages, red meat and processed meat; whole milk; processed potatoes and takeaway foods were consistently significantly highest in the most deprived quintile of SIMD (Quintile 1) for both time periods (see Tables 13 and 14). Mean consumption of whole milk was more than double for the most deprived compared to the least deprived quintile.

Table 9: **Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by Year - 2001 to 2006**

Expenditure and Food Survey data (g/person/day)

Food	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
Cakes and Pastries	16.5 14.7 - 18.4	15.5 13.8 - 17.2	15.4 13.6 - 17.2	16.2 14.3 - 18.0	15.1 13.8 - 16.4	16.6 14.9 - 18.3	*0.979*
Sweet Biscuits	21.5 19.9 - 23.2	23.1 20.9 - 25.3	22.0 19.9 - 24.0	21.2 19.2 - 23.1	19.4 17.3 - 21.5	22.2 19.8 - 24.6	*0.345*
Cakes, Sweet Biscuits and Pastries	38.1 35.3 - 40.8	38.6 35.3 - 41.9	37.4 34.0 - 40.7	37.3 34.2 - 40.4	34.6 31.9 - 37.2	38.8 35.5 - 42.1	*0.546*
Sugar and Preserves	18.8 16.4 - 21.3	16.5 14.4 - 18.6	19.2 15.9 - 22.5	17.5 15.6 - 19.4	15.0 13.0 - 17.0	16.8 14.0 - 19.7	*0.148*
Chocolate Confectionery	13.2 11.3 - 15.1	14.5 12.7 - 16.3	15.4 13.5 - 17.3	14.2 12.2 - 16.2	13.3 11.6 - 15.0	13.4 11.7 - 15.1	*0.613*
Sugar Confectionery	7.4 6.4 - 8.5	7.6 6.4 - 8.9	7.7 6.7 - 8.6	6.9 6.0 - 7.9	6.6 5.4 - 7.8	6.4 5.2 - 7.5	*0.055*
Total Confectionery	20.6 18.1 - 23.0	22.1 19.7 - 24.5	23.1 20.7 - 25.4	21.1 18.9 - 23.4	19.9 17.7 - 22.1	19.7 17.4 - 22.1	*0.220*
Sugar Containing Soft Drinks	234 208 - 260	241 215 - 266	260 235 - 284	245 219 - 272	233 204 - 263	222 196 - 248	*0.358*
Sugar Free Soft Drinks	98.2 83.0 - 113	108 89.2 - 126	106 86.3 - 126	85.0 72.4 - 97.6	84.9 67.4 - 102	112 91.3 - 132	*0.791*
Total Soft Drinks	332 305 - 359	348 315 - 382	366 337 - 395	331 299 - 362	318 280 - 356	334 299 - 369	*0.427*
n Households *n People* *n People Weighted*[2]	*619* *1414* *5015*	*585* *1342* *4967*	*546* *1266* *4952*	*590* *1329* *4948*	*566* *1285* *4939*	*577* *1365* *4906*	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results

[2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 10: **Consumption of Additional Foods and Drinks Indicative of Diet Quality (not sweet) by Year - 2001 to 2006**

Expenditure and Food Survey data (g/person/day)

Food	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
Total Red Meat[2]	63.0 58.5 - 67.6	63.1 59.3 - 66.8	64.7 60.8 - 68.6	59.7 56.0 - 63.5	60.7 57.0 - 64.4	58.7 55.0 - 62.5	*0.066*
Bacon and Ham	11.6 10.4 - 12.8	11.0 9.8 - 12.1	11.6 10.4 - 12.9	10.7 9.7 - 11.6	11.1 10.1 - 12.0	11.1 10.0 - 12.3	*0.606*
Other Red Meat Products[2]	28.7 26.0 - 31.4	28.4 26.3 - 30.5	30.7 28.7 - 32.7	27.0 24.7 - 29.3	28.4 26.1 - 30.8	25.4 23.1 - 27.6	*0.051*
Butter	6.0 5.1 - 7.0	5.6 4.8 - 6.4	5.5 4.2 - 6.7	6.0 5.0 - 6.9	6.7 5.5 - 7.9	7.2 5.9 - 8.4	*0.092*
Whole Milk	91.6 75.8 - 107	85.2 72.9 - 97.5	89.7 74.1 - 105	68.1 56.2 - 79.9	59.2 47.1 - 71.2	71.4 57.0 - 85.8	***<0.001***
Semi-skimmed Milk	126 111 - 140	125 113 - 138	125 112 - 137	124 110 - 138	136 122 - 150	127 113 - 141	*0.527*
Skimmed Milk	14.8 8.9 - 20.8	12.5 8.6 - 16.5	9.2 6.0 - 12.5	13.4 8.7 - 18.2	14.1 9.1 - 19.1	14.4 10.6 - 18.1	*0.768*
Total Milk	250 235 - 266	249 235 - 264	245 227 - 263	227 210 - 243	225 211 - 239	233 217 - 248	***0.016***
Processed Potatoes	29.9 27.0 - 32.8	29.5 26.9 - 32.2	28.4 25.8 - 31.1	25.0 22.8 - 27.2	24.6 21.7 - 27.6	25.2 22.7 - 27.6	***0.002***
Savoury Snacks	14.3 13.0 - 15.6	14.1 12.8 - 15.3	14.2 13.1 - 15.3	11.7 10.5 - 12.9	12.1 10.8 - 13.5	12.0 11.0 - 13.1	***0.001***
Takeaway Foods	19.3 16.7 - 21.9	22.9 20.2 - 25.7	20.3 17.8 - 22.9	19.3 16.3 - 22.2	20.0 16.9 - 23.1	20.5 17.7 - 23.2	*0.751*
n Households *n People* *n People Weighted*[3]	*619* *1414* *5015*	*585* *1342* *4967*	*546* *1266* *4952*	*590* *1329* *4948*	*566* *1285* *4939*	*577* *1365* *4906*	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results

[2]Meat portion only – see appendices 3 & 4 for methodology; [3]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 11: **Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by SIMD - 2001 to 2003 Combined**

Expenditure and Food Survey data (g/person/day)

Food	SIMD Quintile 1*	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5*	*P-value for Linear Association*
	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	
Cakes and Pastries	14.9 12.9 - 16.8	15.5 13.1 - 17.9	15.7 13.8 - 17.7	16.9 14.6 - 19.1	16.1 13.6 - 18.7	*0.317*
Sweet Biscuits	19.9 18.2 - 21.7	21.6 19.1 - 24.1	24.4 21.8 - 27.0	23.9 21.6 - 26.2	21.1 17.9 - 24.4	*0.248*
Cakes, Sweet Biscuits and Pastries	34.8 31.9 - 37.8	37.1 33.0 - 41.2	40.1 36.2 - 44.0	40.7 36.9 - 44.6	37.3 32.3 - 42.2	*0.187*
Sugar and Preserves	18.2 14.9 - 21.4	20.1 16.8 - 23.3	20.9 15.6 - 26.1	17.2 14.4 - 19.9	14.4 11.6 - 17.2	***0.038***
Chocolate Confectionery	13.9 11.5 - 16.3	13.5 11.6 - 15.5	15.0 12.8 - 17.2	14.5 12.0 - 17.1	14.9 12.4 - 17.3	*0.449*
Sugar Confectionery	8.2 6.9 - 9.5	6.6 5.6 - 7.5	9.0 7.3 - 10.7	7.6 6.2 - 8.9	6.5 5.5 - 7.5	*0.239*
Total Confectionery	22.1 18.8 - 25.3	20.1 17.6 - 22.6	24.0 21.0 - 27.0	22.1 19.1 - 25.2	21.4 18.3 - 24.4	*0.882*
Sugar Containing Soft Drinks	307 268 - 347	254 227 - 281	239 207 - 270	221 190 - 251	199 170 - 228	***<0.001***
Sugar Free Soft Drinks	85.4 70.2 - 101	99.4 77.8 - 121	108 89.1 - 127	116 93.9 - 138	112 91.2 - 133	***0.021***
Total Soft Drinks	392 355 - 430	353 322 - 385	346 309 - 384	337 299 - 374	312 276 - 347	***0.004***
n Households	*366*	*383*	*351*	*352*	*298*	
n People	*810*	*838*	*793*	*841*	*740*	
n People Weighted[1]	*3044*	*3075*	*2913*	*3140*	*2764*	

Household and eating out intakes combined

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 2005/2006 and the 2006 results

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 12: Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by SIMD - 2004 to 2006 Combined

Expenditure and Food Survey data (g/person/day)

Food	SIMD Quintile 1*	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5*	*P-value for Linear Association*
	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	
Cakes and Pastries	14.9 11.9 - 17.8	16.7 14.3 - 19.2	14.7 12.8 - 16.6	17.6 15.2 - 20.0	16.0 14.2 - 17.8	*0.461*
Sweet Biscuits	21.5 18.4 - 24.5	20.0 16.8 - 23.2	21.8 18.4 - 25.2	21.9 19.2 - 24.6	19.9 17.7 - 22.1	*0.686*
Cakes, Sweet Biscuits and Pastries	36.3 31.5 - 41.2	36.8 32.4 - 41.1	36.5 32.1 - 41.0	39.5 35.7 - 43.3	35.9 32.6 - 39.2	*0.889*
Sugar and Preserves	19.1 14.0 - 24.2	14.9 12.3 - 17.4	16.3 13.2 - 19.3	18.8 15.0 - 22.5	14.2 11.5 - 16.9	*0.308*
Chocolate Confectionery	12.9 11.0 - 14.9	13.5 11.6 - 15.4	13.9 11.2 - 16.7	14.9 11.8 - 18.0	13.1 10.9 - 15.3	*0.720*
Sugar Confectionery	6.8 5.6 - 7.9	7.0 5.4 - 8.6	6.9 5.2 - 8.6	7.0 5.0 - 9.0	5.8 4.8 - 6.9	*0.293*
Total Confectionery	19.7 16.9 - 22.5	20.5 18.0 - 23.0	20.8 17.0 - 24.6	21.8 17.7 - 26.0	18.9 16.1 - 21.8	*0.837*
Sugar Containing Soft Drinks	298 242 - 354	237 213 - 261	244 210 - 277	224 195 - 253	184 160 - 208	***<0.001***
Sugar Free Soft Drinks	109 80.5 - 137	90.2 70.0 - 110	119 89.7 - 148	84.1 64.6 - 104	73.9 61.8 - 86.0	***0.019***
Total Soft Drinks	407 341 - 472	327 292 - 363	362 313 - 412	308 267 - 349	258 231 - 286	***<0.001***
n Households	*336*	*346*	*345*	*310*	*394*	
n People	*744*	*761*	*755*	*703*	*1012*	
n People Weighted[1]	*2740*	*2776*	*2855*	*2668*	*3738*	

Household and eating out intakes combined

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 2005/2006 and the 2006 results

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 13: Consumption of Additional Foods and Drinks Indicative of Diet Quality (not sweet) by SIMD - 2001 to 2003 Combined

Expenditure and Food Survey data (g/person/day)

Food	SIMD Quintile 1* Mean 95% CI	SIMD Quintile 2 Mean 95% CI	SIMD Quintile 3 Mean 95% CI	SIMD Quintile 4 Mean 95% CI	SIMD Quintile 5* Mean 95% CI	*P-value for Linear Association*
Total Red Meat[1]	69.0 64.3 - 73.7	63.9 59.6 - 68.3	67.3 61.8 - 72.8	58.8 54.0 - 63.5	58.9 54.2 - 63.6	***<0.001***
Bacon and Ham	11.4 10.1 - 12.7	11.9 10.5 - 13.3	11.8 10.2 - 13.3	10.4 9.0 - 11.7	11.4 9.7 - 13.1	*0.529*
Other Red Meat Products[1]	36.3 33.5 - 39.2	30.8 28.4 - 33.2	28.5 25.6 - 31.4	25.5 23.1 - 28	24.9 22.4 - 27.4	***<0.001***
Butter	4.6 3.6 - 5.6	5.5 4.3 - 6.7	6.9 5.1 - 8.8	5.8 4.4 - 7.2	5.7 4.7 - 6.8	*0.115*
Whole Milk	123 101 - 146	99.3 82.1 - 116	92.9 73.4 - 113	64.9 50.4 - 79.4	62.2 44.6 - 79.9	***<0.001***
Semi-skimmed Milk	120 101 - 138	122 106.5 - 137.5	118 104 - 132	128 111 - 145	139 123 - 155	*0.128*
Skimmed Milk	10.3 4.8 - 15.7	8.8 5.4 - 12.2	14.8 6.2 - 23.5	12.2 6.4 - 18.0	15.3 9.1 - 21.5	*0.138*
Total Milk	276 256 - 296	255 232 - 278	245 224 - 266.5	226 205 - 248	238 213 - 263	***0.007***
Processed Potatoes	34.4 31.4 - 37.4	31.4 28.4 - 34.4	28.7 25.4 - 32.1	26.0 23.3 - 28.7	25.6 22.7 - 28.4	***<0.001***
Savoury Snacks	15.2 13.7 - 16.8	14.2 12.7 - 15.7	13.3 11.8 - 14.8	14.2 12.8 - 15.6	14.0 12.6 - 15.3	*0.289*
Takeaway Foods	25.6 21.5 - 29.7	23.4 19.8 - 26.9	17.6 14.7 - 20.5	17.0 13.4 - 20.6	20.7 16.9 - 24.5	***0.002***
n Households *n People* *n People Weighted*[2]	*366* *810* *3044*	*383* *838* *3075*	*351* *793* *2913*	*352* *841* *3140*	*298* *740* *2764*	

Household and eating out intakes combined

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]Meat portion only – see appendices 3 & 4 for methodology; [2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Table 14: Consumption of Additional Foods and Drinks Indicative of Diet Quality (not sweet) by SIMD - 2004 to 2006 Combined

Expenditure and Food Survey data (g/person/day)

Food	SIMD Quintile 1*	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5*	*P-value for Linear Association*
	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	Mean 95% CI	
Total Red Meat[1]	65.4 59.6 - 71.1	63.5 56.5 - 70.5	58.7 53.6 - 63.8	59.0 53.9 - 64.2	53.9 49.8 - 58.0	***0.002***
Bacon and Ham	11.2 9.2 - 13.1	9.8 8.6 - 11.1	11.2 10.0 - 12.5	12.8 11.5 - 14.0	10.2 8.7 - 11.6	*0.916*
Other Red Meat Products[1]	32.3 29.0 - 35.7	31.1 27.2 - 35.0	26.7 24.2 - 29.2	24.7 22.0 - 27.4	21.5 19.5 - 23.5	***<0.001***
Butter	4.5 3.2 - 5.9	6.9 5.7 - 8.1	7.7 5.9 - 9.4	7.2 5.9 - 8.6	6.7 4.9 - 8.4	*0.122*
Whole Milk	93.4 74.9 - 112	78.7 64.4 - 93.0	63.9 44.8 - 82.9	64.3 52.4 - 76.2	39.5 25.7 - 53.2	***<0.001***
Semi-skimmed Milk	124 102 - 146	109 92.0 - 126	137 115 - 159	128 112 - 144	142 124 - 159	*0.066*
Skimmed Milk	10.4 5.6 - 15.1	14.1 8.3 - 19.9	9.6 2.9 - 16.3	10.1 5.5 - 14.6	22.6 18.0 - 27.3	***0.004***
Total Milk	254 232 - 275	219 200 - 238	224 202 - 247	226 209 - 243	220 194 - 245	*0.138*
Processed Potatoes	32.2 29.2 - 35.3	27.7 24.9 - 30.5	24.3 20.5 - 28	24.1 20.9 - 27.3	18.8 16.5 - 21.1	***<0.001***
Savoury Snacks	12.6 10.5 - 14.6	12.5 11.0 - 14.1	11.9 9.8 - 14.0	12.1 10.3 - 13.9	11.0 9.9 - 12.2	*0.170*
Takeaway Foods	24.6 20.1 - 29.0	23.4 19.5 - 27.3	19.4 15.9 - 22.9	17.6 13.8 - 21.5	16.0 13.1 - 19.0	***<0.001***
n Households	*336*	*346*	*345*	*310*	*394*	
n People	*744*	*761*	*755*	*703*	*1012*	
n People Weighted[2]	*2740*	*2776*	*2855*	*2668*	*3738*	

Household and eating out intakes combined

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 2005/2006 and the 2006 results

***Scottish Index of Multiple Deprivation (SIMD) Quintiles: 1=Most Deprived; 5=Least Deprived**

[1]Meat portion only – see appendices 3 & 4 for methodology; [2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Figure 9: Mean (with 95% CI) sugar containing soft drink consumption

Figure 9a: By Year 2001 - 2006

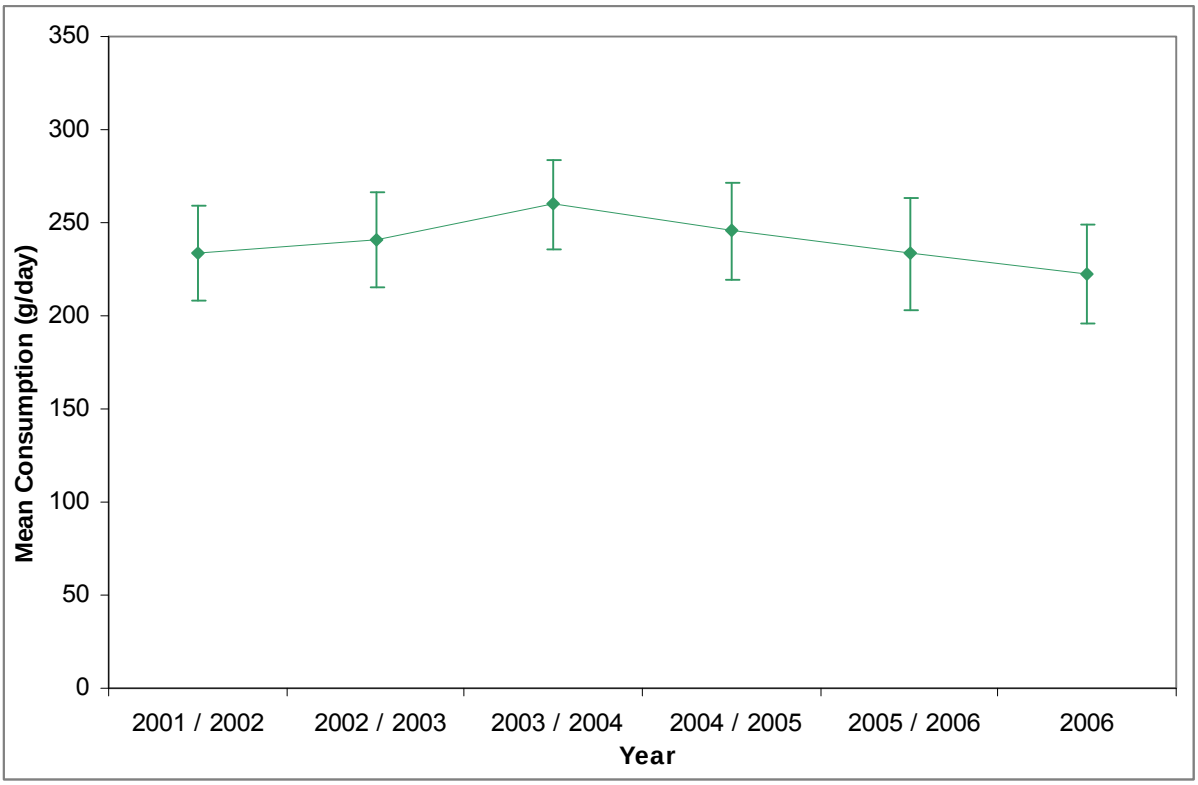
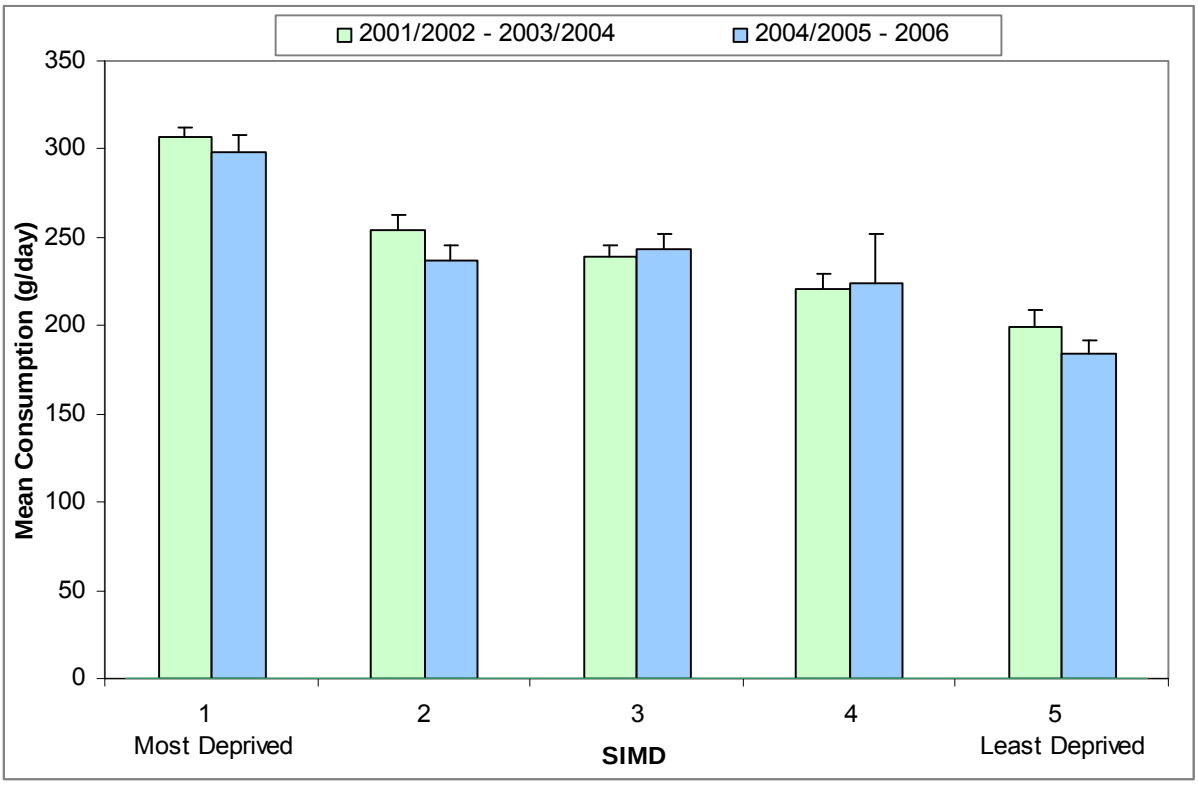


Figure 9b: By SIMD Quintile



3.4 Analysis by Urban Rural Classification (URC)

3.4.1 Food Consumption Relating to the Scottish Dietary Targets by URC Group

Fruit and Vegetables

Tables 15 and 16 and Figure 10a show that unadjusted mean daily fruit and vegetable consumption was highest in the remote group of the URC. Mean daily consumption in the remote group was 294g compared with 225g in the urban group for 2001 to 2003 and 289g compared with 248g for 2004 to 2006. These results are statistically significant for unadjusted data, P=0.006 and P=0.037 respectively. After adjustment for SIMD and in the fully adjusted model, the effect size between urban and rural areas, during both time periods, attenuated (from 68.2g to 27.2g for 2001 to 2003; and from 40.8g to 31.9g for the period 2004 to 2006). Therefore, over both time periods those living in rural areas were consuming approximately 30g more fruit and vegetables per day than those in urban areas, and this was independent of SIMD and a number of individual household level socio-economic status (SES) indicators.

Other foods in relation to the SDTs

In 2001 to 2003 higher mean consumption for all foods, in relation to the SDTs, was seen for the remote areas compared with more urban areas (Table 15), (all statistically significant with the exception of total bread when unadjusted for deprivation). As with fruit and vegetables, on adjustment for SIMD and the individual household level SES variables there is a degree of attenuation. However, after adjustment by both SIMD and the multivariable model a significant difference is still found for vegetables, brown/wholemeal bread, oil rich fish and fresh potatoes. Differences seen between remote areas in 2001 to 2003 appeared to be reducing in 2004 to 2006 (Table 16, Figures 10b, 10c and 10d) and there were no statistically significant differences between the areas.

3.4.2 Nutrient Intake Relating to the Scottish Dietary Targets by URC Group

Tables 17 and 18 and Figures 10e, 10f, 10g and 10h show that there were no differences in the percentage of food energy from total fat, saturated fat and NMES, and intake of complex carbohydrate by URC group.

3.4.3 Consumption of Additional Foods and Drinks Indicative of Diet Quality by URC Group

Foods contributing NMES (Tables 19, and 20; Figure10i)

Sugar containing soft drinks were the only food/drink contributing to NMES which showed consistent significant differences by URC, with consumption in urban areas (246g/day) being significantly higher than that of remote areas (168g/day) for 2004 to 2006. These significant differences remained, after adjustment for SIMD or individual household level SES variables.

Foods Contributing Fat (Table 20 and 21)

Consumption of processed meat, pies and sausages, processed potatoes and takeaway foods were consistently significantly highest in urban areas for both time periods.

Table 15: **Consumption of Scottish Diet Action Plan 1996 Target Foods by URC Group - 2001 to 2003 Combined**

Expenditure and Food Survey data (g/person/day with the exception of fish g/person/week)

Food				Unadjusted URC			URC Adjusted by SIMD Quintile			Multivariable Model[1]		
	URC	Mean	95% CI	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*
Fruit and Vegetables[2, 3]	1	225	210 - 241	0.0[4]			0.0[4]			0.0[4]		
	2	252	231 - 272	26.3	0.0, 52.6	***0.006***	11.1	-13.4, 35.5	***0.026***	6.5	-10.7, 23.7	*0.256*
	3	294	251 - 336	68.2	23.9, 113		57.3	16.5, 98.1		27.2	-7.0, 61.3	
Fruit[2]	1	118	107 - 129	0.0[4]			0.0[4]			0.0[4]		
	2	128	112 - 144	9.7	-9.5, 28.8	***0.044***	-2.3	-19.2, 14.5	*0.072*	-4.6	-17.4, 8.3	*0.375*
	3	159	129 - 190	41.1	9.1, 73.1		32.5	2.5, 62.5		14.4	-13.7, 42.6	
Vegetables[3]	1	107	101 - 113	0.0[4]			0.0[4]			0.0[4]		
	2	124	116 - 132	16.7	6.5, 26.9	***<0.001***	13.4	2.8, 24.0	***0.006***	11.1	2.5, 19.6	***0.014***
	3	134	116 - 153	27.1	7.7, 46.5		24.8	5.4, 44.2		12.7	-1.8, 27.2	
Total Bread	1	98.0	94.6 - 101	0.0[4]			0.0[4]			0.0[4]		
	2	96.3	90.0 - 103	-1.7	-8.3, 4.9	*0.733*	0.6	-6.1, 7.2	*0.748*	-1.1	-6.0, 3.9	*0.802*
	3	101	91.2 - 110	2.8	-7.2, 12.9		4.3	-6.8, 15.4		-2.6	-11.4, 6.2	
Brown/Wholemeal Bread	1	14.5	13.2 - 15.9	0.0[4]			0.0[4]			0.0[4]		
	2	18.8	16.2 - 21.5	4.3	1.2, 7.4	***0.006***	3.4	0.4, 6.3	***0.013***	3.0	0.4, 5.6	***0.030***
	3	19.3	15.9 - 22.6	4.8	1.1, 8.4		4.6	1.0, 8.1		2.8	-0.4, 6.0	
Total Breakfast Cereal	1	18.2	16.6 - 19.8	0.0[4]			0.0[4]			0.0[4]		
	2	20.9	18.4 - 23.4	2.7	-0.1, 5.5	***0.041***	1.6	-0.9, 4.2	*0.059*	1.4	-1.2, 4.0	*0.162*
	3	25.4	19.2 - 31.6	7.2	1.0, 13.4		6.8	1.1, 12.5		5.3	-0.3, 10.9	
High Fibre Breakfast Cereal	1	9.2	7.9 - 10.5	0.0[4]			0.0[4]			0.0[4]		
	2	11.9	10.1 - 13.6	2.6	0.6, 4.6	***0.021***	1.9	0.1, 3.8	***0.039***	1.8	0.0, 3.6	*0.111*
	3	14.1	9.3 - 18.8	4.9	0.0, 9.7		5.0	0.2, 9.7		3.7	-1.4, 8.8	
Oil Rich Fish	1	30.3	25.2 - 35.4	0.0[4]			0.0[4]			0.0[4]		
	2	26.9	21.4 - 32.5	-3.3	-10.9, 4.3	***0.007***	-5.5	-13.1, 2.2	***0.002***	-6.4	-13.9, 1.0	***0.047***
	3	43.7	34.0 - 53.5	13.5	3.0, 23.9		12.5	2.4, 22.5		5.4	-5.5, 16.2	
White Fish	1	86.6	80.3 - 92.9	0.0[4]			0.0[4]			0.0[4]		
	2	93.4	82.5 - 104	6.8	-5.3, 18.9	***0.032***	4.2	-7.9, 16.2	*0.061*	3.7	-6.3, 13.8	*0.351*
	3	118	93.7 - 141	30.9	6.2, 55.7		29.3	4.8, 53.7		14.3	-8.4, 36.9	
Fresh Potatoes[5]	1	48.1	44.8 - 51.3	0.0[4]			0.0[4]			0.0[4]		
	2	58.8	51.7 - 66.0	10.8	3.1, 18.5	***0.001***	10.6	3.2, 18.0	***0.004***	7.9	1.4, 14.4	***0.045***
	3	60.9	52.8 - 68.9	12.8	4.5, 21.1		10.6	2.1, 19.2		4.4	-4.3, 13.1	

Household and eating out consumption combined; Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote

Sample Size: URC 1 = 1181 Households (HH), 2698 People (P), 10010 People Weighted (PW); URC 2 = 445 HH, 1064 P, 3997 PW; and URC 3 = 124 HH, 260 People, 928 PW

[1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Fruit includes fruit and vegetable juice; [3]Vegetables include baked beans; [4]Reference Category; [5]Part of complex carbohydrate target

Table 16: **Consumption of Scottish Diet Action Plan 1996 Target Foods by URC Group - 2004 to 2006 Combined**

Expenditure and Food Survey data (g/person/day with the exception of fish g/person/week)

Food		Unadjusted URC					URC Adjusted by SIMD Quintile			Multivariable Model[1]		
	URC	Mean	95% CI	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*
Fruit and Vegetables[2, 3]	1	248	234 - 262	0.0[4]			0.0[4]			0.0[4]		
	2	261	234 - 288	13.2	-15.9, 42.4	***0.037***	-0.7	-31.1, 29.7	*0.347*	2.3	-22.3, 26.8	*0.050*
	3	289	260 - 317	40.8	8.9, 72.7		25.2	-8.9, 59.3		31.9	6.6, 57.1	
Fruit[2]	1	133	123 - 142	0.0[4]			0.0[4]			0.0[4]		
	2	146	127 - 165	12.7	-6.9, 32.4	*0.253*	2.6	-17.1, 22.3	*0.954*	3.6	-12.8, 20.0	*0.798*
	3	147	127 - 167	14.5	-8.0, 37.1		2.5	-20.7, 25.7		5.7	-14.3, 25.7	
Vegetables[3]	1	115	109 - 121	0.0[4]			0.0[4]			0.0[4]		
	2	116	103 - 128	0.5	-13.4, 14.3	*0.083*	-3.3	-18.3, 11.8	*0.205*	-1.4	-14.5, 11.8	*0.101*
	3	141	119 - 163	26.2	3.4, 49.1		22.7	-3.1, 48.5		26.2	1.9, 50.4	
Total Bread	1	92.4	88.5 - 96.3	0.0[4]			0.0[4]			0.0[4]		
	2	92.1	85.5 - 98.7	-0.3	-7.1, 6.6	*0.973*	0.3	-6.5, 7.2	*0.919*	0.7	-5.4, 6.9	*0.841*
	3	93.2	86.4 - 99.9	0.8	-6.9, 8.5		1.7	-6.7, 10.1		2.1	-5.0, 9.3	
Brown/Wholemeal Bread	1	19.4	17.6 - 21.2	0.0[4]			0.0[4]			0.0[4]		
	2	20.6	17.6 - 23.6	1.2	-2.2, 4.7	*0.055*	0.3	-3.2, 3.8	*0.155*	1.3	-2.1, 4.7	*0.151*
	3	25.6	20.9 - 30.3	6.3	1.2, 11.3		4.8	-0.2, 9.8		5.0	0.0, 10.1	
Total Breakfast Cereal	1	19.0	17.5 - 20.5	0.0[4]			0.0[4]			0.0[4]		
	2	22.7	19.8 - 25.7	3.7	0.4, 7.0	*0.087*	2.5	-0.4, 5.4	*0.236*	2.6	-0.1, 5.3	*0.162*
	3	19.3	12.7 - 25.9	0.3	-6.4, 7.1		-0.9	-6.8, 5.0		-1.4	-7.3, 4.5	
High Fibre Breakfast Cereal	1	10.6	9.4 - 11.7	0.0[4]			0.0[4]			0.0[4]		
	2	12.5	10.2 - 14.7	1.9	-0.7, 4.4	*0.316*	0.9	-1.6, 3.3	*0.770*	1.3	-0.9, 3.5	*0.499*
	3	12.0	6.8 - 17.1	1.4	-3.9, 6.7		0.2	-4.6, 5.1		0.2	-4.5, 5.0	
Oil Rich Fish	1	33.3	28.2 - 38.4	0.0[4]			0.0[4]			0.0[4]		
	2	35.0	25.4 - 44.6	1.7	-9.1, 12.5	*0.386*	-0.4	-11.0, 10.3	*0.361*	0.8	-9.9, 11.5	*0.281*
	3	65.5	20.2 - 111	32.2	-13.9, 78.3		31.2	-11.8, 74.2		31.7	-7.4, 70.8	
White Fish	1	84.2	77.8 - 90.6	0.0[4]			0.0[4]			0.0[4]		
	2	90.6	73.0 - 108	6.5	-11.3, 24.2	*0.718*	3.0	-16.1, 22.0	*0.953*	5.0	-12.2, 22.2	*0.843*
	3	90.2	71.8 - 109	6.0	-13.6, 25.7		1.7	-18.5, 21.8		3.9	-15.1, 22.8	
Fresh Potatoes[5]	1	46.5	42.9 - 50.1	0.0[4]			0.0[4]			0.0[4]		
	2	53.0	41.2 - 64.9	6.5	-5.8, 18.8	*0.143*	7.4	-5.7, 20.5	*0.088*	8.3	-4.2, 20.9	*0.078*
	3	57.2	45.9 - 68.5	10.6	-1.4, 22.6		12.8	0.6, 25.0		11.0	0.3, 21.8	

Household and eating out consumption combined; Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote. 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 2005/2006 and the 2006 results. Sample Size: URC 1 = 1249 Households (HH), 2797 People (P), 10405 People Weighted (PW); URC 2 = 300 HH, 743 P, 2724 PW; and URC 3 = 182 HH, 435 P, 1646 PW.

[1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Fruit includes fruit and vegetable juice; [3]Vegetables include baked beans; [4]Reference Category; [5]Part of complex carbohydrate target

Table 17: Intake of Scottish Diet Action Plan 1996 Target Nutrients by URC - 2001 to 2003 Combined

Expenditure and Food Survey data (units/person/day)

Nutrient	URC	Mean	95% CI	Unadjusted URC Parameter Estimates	95% CI	*P value*	URC Adjusted by SIMD Quintile Parameter Estimates	95% CI	*P value*	Multivariable Model[1] Parameter Estimates	95% CI	*P value*
% Food Energy - Fat	1	39.0	38.6 - 39.4	0.0[2]			0.0[2]			0.0[2]		
	2	39.7	39.0 - 40.5	0.7	-0.2, 1.6	*0.271*	0.9	0.0, 1.8	*0.163*	0.8	-0.1, 1.7	*0.238*
	3	38.9	37.5 - 40.3	-0.1	-1.4, 1.3		0.1	-1.2, 1.4		0.2	-1.2, 1.6	
% Food Energy - Saturated Fat	1	15.7	15.5 - 15.9	0.0[2]			0.0[2]			0.0[2]		
	2	15.9	15.5 - 16.3	0.2	-0.2, 0.7	*0.617*	0.2	-0.2, 0.7	*0.632*	0.2	-0.2, 0.6	*0.660*
	3	15.7	14.9 - 16.5	0.0	-0.7, 0.8		0.0	-0.8, 0.8		-0.1	-0.9, 0.7	
% Food Energy - NMES	1	16.0	15.5 - 16.5	0.0[2]			0.0[2]			0.0[2]		
	2	15.5	14.8 - 16.1	-0.5	-1.3, 0.3	*0.438*	-0.4	-1.3, 0.4	*0.609*	-0.6	-1.4, 0.3	*0.417*
	3	16.3	13.7 - 18.9	0.3	-2.2, 2.9		0.3	-2.2, 2.7		0.2	-2.1, 2.5	
Complex CHO g	1	136	132 - 139	0.0[2]			0.0[2]			0.0[2]		
	2	137	132 - 142	1.2	-4.5, 6.9	*0.464*	1.8	-4.0, 7.5	*0.395*	-1.0	-4.7, 2.6	*0.788*
	3	143	132 - 154	7.5	-4.5, 19.5		8.3	-4.0, 20.6		0.9	-4.9, 6.7	
Food Energy - MJ	1	8.3	8.1 - 8.5	0.0[2]			0.0[2]					
	2	8.4	8.1 - 8.7	0.1	-0.2, 0.5	*0.220*	0.2	-0.2, 0.6	*0.380*			
	3	8.8	8.2 - 9.4	0.5	-0.1, 1.1		0.5	-0.1, 1.2				
Food Energy - kcal	1	1973	1921 - 2024	0.0[2]			0.0[2]					
	2	2005	1935 - 2075	31.9	-55.3, 119	*0.219*	41.7	-50.4, 134	*0.250*			
	3	2097	1963 - 2232	124	-18.6, 267		127	-29.6, 284				

Household and eating out consumption combined. Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote

Sample Size: URC 1 = 1181 Households (HH), 2698 People (P), 10010 People Weighted (PW); URC 2 = 445 HH, 1064 P, 3997 PW; and URC 3 = 124 HH, 260 P, 928 PW

[1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Reference Category

Table 18: Intake of Scottish Diet Action Plan 1996 Target Nutrients by URC - 2004 to 2006 Combined

Expenditure and Food Survey data (units/person/day)

Nutrient				Unadjusted URC			URC Adjusted by SIMD Quintile			Multivariable Model[1]		
	URC	Mean	95% CI	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*
	1	39.0	38.5 - 39.5	0.0[2]			0.0[2]			0.0[2]		
% Food Energy - Fat	2	39.0	38.1 - 39.9	0.0	-0.9, 1.0	*0.284*	0.1	-0.8, 1.1	*0.211*	0.0	-0.9, 0.9	*0.310*
	3	39.8	38.8 - 40.8	0.9	-0.3, 2.0		1.0	-0.1, 2.2		0.9	-0.3, 2.1	
	1	15.5	15.3 - 15.7	0.0[2]			0.0[2]			0.0[2]		
% Food Energy - Saturated Fat	2	15.8	15.3 - 16.2	0.3	-0.3, 0.8	***0.026***	0.2	-0.3, 0.8	***0.049***	0.2	-0.3, 0.7	*0.062*
	3	16.6	15.9 - 17.3	1.1	0.3, 1.8		1.1	0.2, 1.9		1.0	0.2, 1.8	
	1	15.6	15.1 - 16.2	0.0[2]			0.0[2]			0.0[2]		
% Food Energy - NMES	2	14.9	14.1 - 15.7	-0.7	-1.7, 0.2	*0.174*	-0.6	-1.5, 0.4	*0.216*	-0.7	-1.6, 0.2	*0.073*
	3	14.8	14.2 - 15.5	-0.8	-1.7, 0.1		-0.8	-1.7, 0.1		-1.1	-2.1, -0.2	
	1	132	128 - 136	0.0[2]			0.0[2]			0.0[2]		
Complex CHO g	2	136	128 - 144	3.9	-4.8, 12.6	*0.663*	2.9	-6.1, 11.9	*0.815*	1.7	-4.2, 7.7	*0.794*
	3	133	119 - 148	1.3	-13.8, 16.5		-0.1	-15.5, 15.3		-0.4	-7.8, 7.0	
	1	8.1	7.9 - 8.3	0.0[2]			0.0[2]					
Food Energy - MJ	2	8.2	7.8 - 8.6	0.1	-0.3, 0.5	*0.760*	0.1	-0.3, 0.5	*0.888*			
	3	8.2	7.6 - 8.8	0.1	-0.5, 0.8		0.1	-0.6, 0.7				
	1	1920	1870 - 1969	0.0[2]			0.0[2]					
Food Energy - kcal	2	1950	1850 - 2050	30.0	-70.2, 130	*0.758*	22.4	-76.8, 122	*0.886*			
	3	1953	1809 - 2098	33.5	-126, 193		16.0	-146, 178				

Household and eating out consumption combined. Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote

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 2005/2006 and the 2006 results

Sample Size: URC 1 = 1249 Households (HH), 2797 People (P), 10405 People Weighted (PW); URC 2 = 300 HH, 743 P, 2724 PW; and URC 3 = 182 HH, 435 P, 1646 PW

[1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Reference Category

Table 19: Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by URC - 2001 to 2003 Combined

Expenditure and Food Survey data (g/person/day)

Food			Unadjusted URC				URC Adjusted by SIMD Quintile			Multivariable Model[1]		
	URC	Mean	95% CI	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*
Cakes and Pastries	1	16.2	14.8 - 17.7	0.0[2]			0.0[2]			0.0[2]		
	2	14.4	12.7 - 16.1	-1.8	-4.0, 0.4	*0.058*	-2.3	-4.5, -0.1	***0.030***	-2.7	-4.7, -0.7	***0.035***
	3	17.3	14.4 - 20.2	1.1	-2.1, 4.3		0.6	-2.6, 3.8		-1.9	-5.4, 1.5	
Sweet Biscuits	1	21.5	20.3 - 22.7	0.0[2]			0.0[2]			0.0[2]		
	2	22.6	20.1 - 25.1	1.1	-1.7, 3.9	***0.008***	0.3	-2.8, 3.3	*0.050*	-0.5	-3.2, 2.1	*0.174*
	3	28.0	24.3 - 31.8	6.5	2.5, 10.5		5.2	1.0, 9.4		3.2	-0.6, 7.1	
Cakes, Sweet Biscuits and Pastries	1	37.7	35.6 - 39.9	0.0[2]			0.0[2]			0.0[2]		
	2	37.0	33.5 - 40.5	-0.7	-4.8, 3.4	***0.033***	-2.0	-6.3, 2.3	*0.052*	-3.2	-6.7, 0.3	*0.128*
	3	45.3	39.3 - 51.4	7.6	1.2, 14.0		5.8	-0.5, 12.2		1.3	-4.7, 7.3	
Sugar and Preserves	1	16.8	15.0 - 18.5	0.0[2]			0.0[2]			0.0[2]		
	2	19.3	17.1 - 21.5	2.5	-0.1, 5.1	***0.040***	2.8	0.0, 5.6	***0.040***	1.7	-0.8, 4.3	*0.142*
	3	28.5	14.8 - 42.2	11.8	-1.7, 25.2		11.3	-1.8, 24.4		9.0	-3.1, 21.1	
Chocolate Confectionery	1	14.6	13.3 - 15.9	0.0[2]			0.0[2]			0.0[2]		
	2	14.4	11.8 - 17.0	-0.2	-3.1, 2.8	***0.023***	-0.5	-3.5, 2.6	***0.021***	-0.7	-3.5, 2.2	***0.003***
	3	11.5	9.7 - 13.3	-3.1	-5.3, -0.9		-3.5	-6.0, -1.0		-4.3	-6.8, -1.8	
Sugar Confectionery	1	7.5	6.7 - 8.2	0.0[2]			0.0[2]			0.0[2]		
	2	7.8	6.6 - 9.1	0.3	-1.2, 1.9	*0.902*	0.3	-1.3, 1.9	*0.911*	0.2	-1.2, 1.6	*0.733*
	3	7.6	5.2 - 10.0	0.1	-2.3, 2.6		-0.2	-2.9, 2.4		-0.8	-3.2, 1.5	
Total Confectionery	1	22.1	20.3 - 23.8	0.0[2]			0.0[2]			0.0[2]		
	2	22.2	19.0 - 25.4	0.2	-3.7, 4.0	*0.244*	-0.2	-4.2, 3.9	*0.175*	-0.5	-4.0, 3.0	***0.002***
	3	19.1	15.9 - 22.3	-2.9	-6.5, 0.6		-3.7	-7.7, 0.3		-5.1	-7.9, -2.3	
Sugar Containing Soft Drinks	1	258	237 - 279	0.0[2]			0.0[2]			0.0[2]		
	2	221	192 - 250	-37.1	-73.4, -0.9	***0.032***	-24.7	-59.9, 10.4	*0.120*	-22.6	-55.9, 10.8	*0.072*
	3	204	156 - 252	-54.2	-104, -3.9		-45.6	-95.9, 4.8		-43.4	-84.2, -2.5	
Sugar Free Soft Drinks	1	103	91.3 - 114	0.0[2]			0.0[2]			0.0[2]		
	2	115	97.3 - 133	12.9	-9.0, 34.7	***0.003***	6.6	-15.5, 28.7	***0.002***	11.3	-10.3, 32.9	***<0.001***
	3	71.6	51.0 - 92.2	-30.9	-56.4, -5.5		-38	-65.5, -10.5		-44.3	-72.5, -16.1	
Total Soft Drinks	1	361	338 - 383	0.0[2]			0.0[2]			0.0[2]		
	2	336	303 - 369	-24.3	-65.4, 16.8	***0.002***	-18.1	-60.0, 23.8	***0.003***	-11.3	-50.8, 28.2	***<0.001***
	3	275	233 - 318	-85.1	-132, -38.4		-83.6	-130, -36.6		-87.7	-127, -47.9	

Household and eating out consumption combined. Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote
Sample Size: URC 1 = 1181 Households (HH), 2698 People (P), 10010 People Weighted (PW); URC 2 = 445 HH, 1064 P, 3997 PW; and URC 3 = 124 HH, 260 P, 928 PW
[1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Reference Category

Table 20: **Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by URC - 2004 to 2006 Combined**

Expenditure and Food Survey data (g/person/day)

Food			Unadjusted URC				URC Adjusted by SIMD Quintile			Multivariable Model[1]		
	URC	Mean	95% CI	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*	Parameter Estimates	95% CI	*P value*
Cakes and Pastries	1	15.7	14.2 - 17.1	0.0[2]			0.0[2]			0.0[2]		
	2	16.6	14.9 - 18.3	1.0	-1.4, 3.4	*0.642*	0.8	-1.7, 3.2	*0.750*	0.7	-1.6, 3.0	*0.844*
	3	16.9	13.8 - 19.9	1.2	-2.1, 4.5		1.1	-2.5, 4.8		0.5	-2.9, 3.9	
Sweet Biscuits	1	20.6	19.0 - 22.1	0.0[2]			0.0[2]			0.0[2]		
	2	21.5	18.5 - 24.6	0.9	-2.4, 4.3	*0.614*	0.9	-2.4, 4.2	*0.668*	0.6	-2.4, 3.5	*0.935*
	3	22.4	16.7 - 28.2	1.9	-4.1, 7.9		1.5	-4.5, 7.5		-0.2	-5.6, 5.1	
Cakes, Sweet Biscuits and Pastries	1	36.2	33.8 - 38.6	0.0[2]			0.0[2]			0.0[2]		
	2	38.1	34.3 - 41.9	1.9	-2.6, 6.4	*0.463*	1.7	-2.7, 6.0	*0.520*	1.2	-2.7, 5.2	*0.820*
	3	39.3	31.9 - 46.7	3.1	-4.7, 10.9		2.6	-5.2, 10.5		0.2	-6.6, 7.1	
Sugar and Preserves	1	16.2	14.3 - 18.2	0.0[2]			0.0[2]			0.0[2]		
	2	14.8	11.8 - 17.7	-1.5	-4.8, 1.8	*0.108*	-1.3	-4.3, 1.7	*0.145*	-0.9	-3.8, 2.0	*0.202*
	3	20.6	16.5 - 24.8	4.4	-0.2, 9.0		4.2	-0.5, 8.9		3.1	-1.0, 7.2	
Chocolate Confectionery	1	19.8	18.2 - 21.4	0.0[2]			0.0[2]			0.0[2]		
	2	20.1	17.3 - 22.9	0.3	-2.8, 3.4	*0.471*	0.1	-3.0, 3.3	*0.548*	-1.1	-3.8, 1.6	*0.540*
	3	23.3	17.9 - 28.8	3.5	-2.2, 9.2		3.2	-2.7, 9.0		1.7	-3.6, 7.0	
Sugar Confectionery	1	13.1	11.9 - 14.3	0.0[2]			0.0[2]			0.0[2]		
	2	14.1	11.8 - 16.4	1.0	-1.6, 3.5	*0.348*	0.8	-1.8, 3.4	*0.470*	0.0	-2.3, 2.2	*0.614*
	3	16.0	12.2 - 19.7	2.8	-1.1, 6.8		2.5	-1.6, 6.6		1.8	-1.9, 5.4	
Total Confectionery	1	6.7	5.9 - 7.5	0.0[2]			0.0[2]			0.0[2]		
	2	6.0	4.7 - 7.4	-0.7	-2.2, 0.9	*0.535*	-0.6	-2.2, 0.9	*0.569*	-1.1	-2.6, 0.5	*0.385*
	3	7.4	5.0 - 9.7	0.7	-1.7, 3.1		0.6	-1.9, 3.2		-0.1	-2.5, 2.4	
Sugar Containing Soft Drinks	1	246	223 - 268	0.0[2]			0.0[2]			0.0[2]		
	2	228	201 - 256	-17.3	-52.4, 17.9	***<0.001***	-8.2	-40.0, 23.5	***<0.001***	-20.6	-54.0, 12.8	***<0.001***
	3	168	145 - 192	-77.2	-110, -44.7		-73.2	-110, -36.6		-76.4	-111, -42.2	
Sugar Free Soft Drinks	1	92.8	80.4 - 105	0.0[2]			0.0[2]			0.0[2]		
	2	110	83.3 - 136	16.8	-13.0, 46.6	*0.226*	18.8	-8.8, 46.5	*0.140*	14.5	-9.6, 38.6	*0.200*
	3	75.3	46.2 - 104	-17.5	-49.5, 14.6		-19.4	-54.7, 15.8		-14.6	-48.3, 19.2	
Total Soft Drinks	1	338	309 - 367	0.0[2]			0.0[2]			0.0[2]		
	2	338	298 - 378	-0.5	-50.2, 49.3	***<0.001***	10.6	-30.8, 52.0	***0.002***	-6.1	-45.1, 32.9	***<0.001***
	3	244	203 - 284	-94.7	-145, -44.7		-92.6	-149, -36.0		-91.0	-140, -42.3	

Household and eating out consumption combined. Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote
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 2005/2006 and the 2006 results
Sample Size: URC 1 = 1181 Households (HH), 2698 People (P), 10010 People Weighted (PW); URC 2 = 445 HH, 1064 P, 3997 PW; and URC 3 = 124 HH, 260 P, 928 PW. [1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age. [2]Reference Category

Table 21: Consumption of Additional Foods and Drinks Indicative of Diet Quality (not sweet) by URC - 2001 to 2003 Combined

Expenditure and Food Survey data (g/person/day)

Food	URC	Mean	95% CI	Unadjusted URC Parameter Estimates	95% CI	*P value*	URC Adjusted by SIMD Quintile Parameter Estimates	95% CI	*P value*	Multivariable Model[1] Parameter Estimates	95% CI	*P value*
Total Red Meat[2]	1	63.4	60.7 - 66.2	0.0[3]			0.0[3]			0.0[3]		
	2	64.4	59.5 - 69.2	0.9	-4.8, 6.7	*0.811*	2.5	-3.5, 8.5	*0.620*	0.7	-3.6, 5.0	*0.060*
	3	61.9	56 - 67.8	-1.5	-7.8, 4.7		-1.1	-8.3, 6.1		-7.8	-14.4, -1.1	
Bacon and Ham	1	11.2	10.3 - 12	0.0[3]			0.0[3]			0.0[3]		
	2	11.8	10.5 - 13.1	0.6	-0.8, 2.1	*0.594*	0.9	-0.7, 2.4	*0.471*	0.3	-1.0, 1.7	*0.848*
	3	11.9	9.5 - 14.4	0.8	-1.8, 3.3		0.9	-1.9, 3.7		-0.4	-3.1, 2.4	
Other Red Meat Products[2]	1	30.0	28.3 - 31.7	0.0[3]			0.0[3]			0.0[3]		
	2	28.8	26.4 - 31.1	-1.2	-3.9, 1.5	***0.017***	0.7	-2.0, 3.3	*0.090*	0.2	-2.2, 2.7	***0.001***
	3	23.9	19.9 - 27.8	-6.1	-10.3, -2.0		-4.6	-8.9, -0.2		-6.8	-10.3, -3.3	
Butter	1	5.4	4.7 - 6.1	0.0[3]			0.0[3]			0.0[3]		
	2	6.4	4.9 - 7.9	1.0	-0.6, 2.7	*0.305*	0.8	-0.8, 2.3	*0.567*	0.3	-1.0, 1.7	*0.869*
	3	6.5	3.7 - 9.4	1.2	-1.7, 4.1		0.6	-2.4, 3.7		-0.3	-3.4, 2.7	
Whole Milk	1	91.5	80.4 - 102	0.0[3]			0.0[3]			0.0[3]		
	2	77.2	61.3 - 93.1	-14.3	-33.2, 4.5	*0.175*	-4.3	-23.5, 14.9	*0.335*	-4.1	-21.2, 13.0	*0.304*
	3	110	74.8 - 145	18.6	-18.5, 55.7		25.7	-12.1, 63.5		28.1	-11.1, 67.4	
Semi-skimmed Milk	1	126	116 - 136	0.0[3]			0.0[3]			0.0[3]		
	2	130	115 - 144	3.7	-13.5, 20.9	***0.004***	2.9	-14.6, 20.4	***0.012***	-1.9	-19.6, 15.9	***<0.001***
	3	102	89.4 - 114	-23.8	-39.8, -7.9		-22.2	-38.8, -5.5		-34.4	-51.0, -17.8	
Skimmed Milk	1	11.0	8.5 - 13.5	0.0[3]			0.0[3]			0.0[3]		
	2	15.5	7.5 - 23.5	4.5	-3.9, 12.9	*0.554*	4.2	-4.1, 12.5	*0.597*	4.1	-3.4, 11.5	*0.449*
	3	10.9	6.8 - 15.1	-0.1	-5.1, 5.0		-0.3	-6.2, 5.6		-2.4	-8.9, 4.1	
Total Milk	1	250	237 - 264	0.0[3]			0.0[3]			0.0[3]		
	2	244	227 - 261	-6.5	-28.8, 15.7	*0.763*	2.9	-21.7, 27.6	*0.972*	0.1	-23.5, 23.7	*0.879*
	3	242	203 - 281	-8.5	-48.1, 31.2		0.9	-39.7, 41.5		-10.5	-51.5, 30.5	
Processed Potatoes	1	31.6	29.6 - 33.5	0.0[3]			0.0[3]			0.0[3]		
	2	25.4	22.6 - 28.1	-6.2	-9.4, -2.9	***<0.001***	-5.2	-8.6, -1.8	***<0.001***	-4.5	-8.1, -1.0	***0.001***
	3	21.6	16.0 - 27.1	-10.0	-15.7, -4.3		-9.6	-15.5, -3.8		-9.9	-15.9, -3.9	
Savoury Snacks	1	14.6	13.8 - 15.4	0.0[3]			0.0[3]			0.0[3]		
	2	13.6	12.2 - 14.9	-1.0	-2.7, 0.6	*0.227*	-0.9	-2.6, 0.8	*0.343*	-0.8	-2.3, 0.7	*0.460*
	3	12.4	9.3 - 15.6	-2.2	-5.4, 1.0		-1.9	-5.0, 1.2		-1.2	-3.8, 1.5	
Takeaway Foods	1	22.6	20.8 - 24.5	0.0[3]			0.0[3]			0.0[3]		
	2	18.2	15.1 - 21.3	-4.4	-7.9, -0.9	***<0.001***	-2.9	-6.4, 0.6	***0.010***	-2.3	-5.9, 1.4	***0.005***
	3	13.0	9.0 - 17.1	-9.6	-14.1, -5.1		-7.7	-12.7, -2.6		-7.3	-11.6, -3.0	

Household and eating out consumption combined. Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote. Sample Size: URC 1 = 1181 Households (HH), 2698 People (P), 10010 People Weighted (PW); URC 2 = 445 HH, 1064 P, 3997 PW; and URC 3 = 124 HH, 260 P, 928 PW. [1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Meat portion only – see appendices 3 & 4 for methodology; [3]Reference Category

Table 22: Consumption of Additional Foods and Drinks Indicative of Diet Quality (not sweet) by URC - 2004 to 2006 Combined

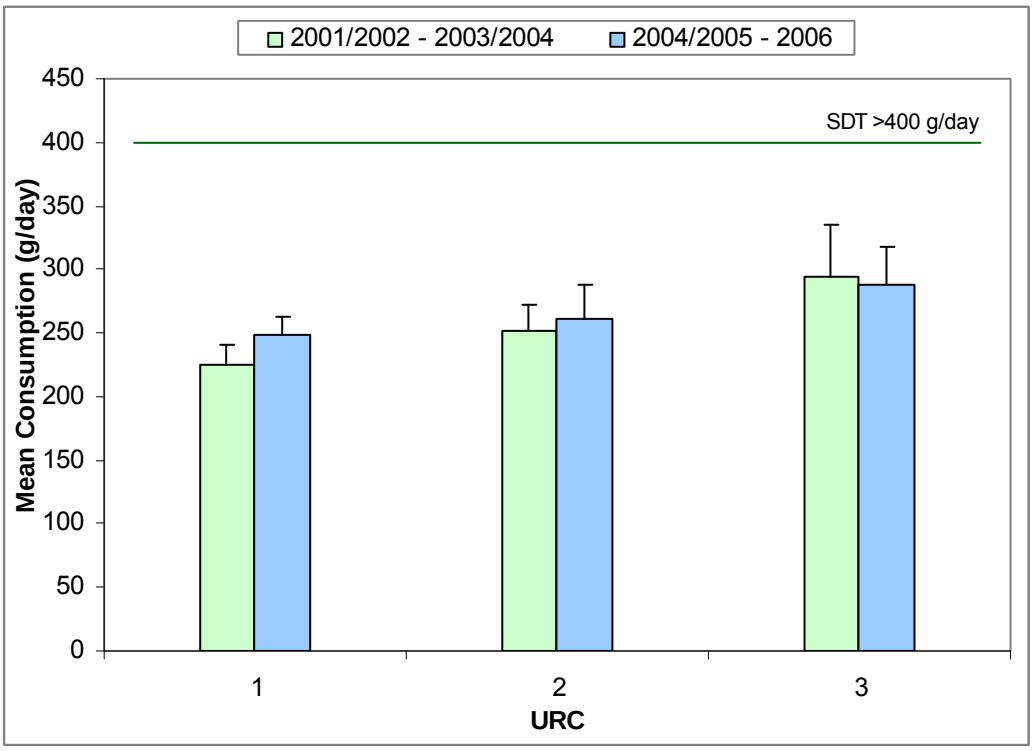
Expenditure and Food Survey data (g/person/day)

Food	URC	Mean	95% CI	Unadjusted URC Parameter Estimates	95% CI	*P value*	URC Adjusted by SIMD Quintile Parameter Estimates	95% CI	*P value*	Multivariable Model[1] Parameter Estimates	95% CI	*P value*
Total Red Meat[2]	1	59.7	56.4 - 62.9	0.0[3]			0.0[3]			0.0[3]		
	2	61.6	56.4 - 66.8	1.9	-3.6, 7.5	*0.260*	3.3	-2.6, 9.3	***0.247***	3.0	-2.1, 8.1	*0.097*
	3	56.7	51.3 - 62.0	-3.0	-9.0, 3.0		-1.3	-7.7, 5.2		-2.2	-7.0, 2.7	
Bacon and Ham	1	10.3	9.5 - 11.0	0.0[3]			0.0[3]			0.0[3]		
	2	11.7	10.2 - 13.2	1.4	-0.1, 3.0	***0.015***	1.3	-0.4, 3.1	*0.070*	1.4	-0.2, 3.0	***0.030***
	3	13.9	11.7 - 16.1	3.6	1.2, 6.0		3.2	0.5, 6.0		3.3	0.9, 5.8	
Other Red Meat Products[2]	1	27.7	25.9 - 29.6	0.0[3]			0.0[3]			0.0[3]		
	2	27.2	24.6 - 29.9	-0.5	-3.4, 2.3	***0.001***	0.8	-2.0, 3.6	*0.001*	0.3	-2.2, 2.9	***0.035***
	3	20.9	17.4 - 24.5	-6.8	-10.6, -3.0		-5.2	-8.9, -1.5		-5.7	-10.3, -1.1	
Butter	1	6.1	5.4 - 6.9	0.0[3]			0.0[3]			0.0[3]		
	2	7.0	5.2 - 8.9	0.9	-1.1, 2.9	*0.218*	0.5	-1.4, 2.5	*0.396*	0.6	-1.1, 2.4	*0.389*
	3	8.8	5.7 - 11.9	2.7	-0.4, 5.8		2.2	-1.0, 5.4		2.0	-1.0, 5.1	
Whole Milk	1	67.1	58.0 - 76.2	0.0[3]			0.0[3]			0.0[3]		
	2	56.2	40.2 - 72.2	-10.9	-28.3, 6.5	*0.320*	-4.6	-20.4, 11.2	*0.412*	-5.2	-21.6, 11.1	*0.530*
	3	75.7	44.7 - 107	8.6	-23.5, 40.7		15.8	-14.6, 46.2		12.7	-18.7, 44.1	
Semi-skimmed Milk	1	129	117 - 140	0.0[3]			0.0[3]			0.0[3]		
	2	132	114 - 149	2.6	-18.0, 23.3	*0.899*	-0.2	-21.3, 21.0	*0.803*	1.0	-17.7, 19.7	*0.678*
	3	126	99.5 - 152	-3.4	-33.0, 26.3		-8.9	-38.8, 21.1		-10.8	-41.2, 19.6	
Skimmed Milk	1	13.9	10.9 - 17.0	0.0[3]			0.0[3]			0.0[3]		
	2	12.7	6.9 - 18.5	-1.2	-7.6, 5.1	*0.873*	-1.1	-6.9, 4.7	*0.759*	-0.7	-6.7, 5.4	*0.798*
	3	16.2	4.2 - 28.1	2.2	-10.1, 14.5		4.0	-8.8, 16.7		4.0	-8.7, 16.7	
Total Milk	1	229	216 - 241	0.0[3]			0.0[3]			0.0[3]		
	2	220	198 - 242	-8.8	-33.7, 16.1	*0.621*	-4.4	-28.4, 19.6	*0.655*	-4.1	-26.1, 18.0	*0.831*
	3	237	209 - 264	8.1	-22.5, 38.8		12.3	-19.9, 44.4		7.0	-25.3, 39.4	
Processed Potatoes	1	26.0	23.9 - 28.0	0.0[3]			0.0[3]			0.0[3]		
	2	25.8	21.9 - 29.8	-0.2	-4.4, 4.1	***<0.001***	1.2	-2.6, 5.0	***<0.001***	0.6	-3.0, 4.2	***<0.001***
	3	17.1	14.4 - 19.7	-8.9	-12.1, -5.7		-7.7	-10.5, -4.8		-7.1	-10.1, -4.1	
Savoury Snacks	1	12.0	11.1 - 12.9	0.0[3]			0.0[3]			0.0[3]		
	2	12.5	10.8 - 14.1	0.5	-1.5, 2.5	*0.640*	0.6	-1.4, 2.6	*0.629*	-0.1	-1.9, 1.7	*0.866*
	3	11.1	8.5 - 13.6	-0.9	-3.6, 1.8		-0.8	-3.5, 1.9		-0.7	-3.1, 1.8	
Takeaway Foods	1	21.7	19.7 - 23.8	0.0[3]			0.0[3]			0.0[3]		
	2	19.6	15.9 - 23.3	-2.2	-6.4, 2.0	***<0.001***	-1.3	-5.6, 2.9	***<0.001***	-1.4	-5.6, 2.8	***<0.001***
	3	9.0	6.6 - 11.3	-12.8	-15.8, -9.7		-11.9	-15.0, -8.7		-10.1	-13.4, -6.8	

Household and eating out consumption combined. Urban Rural Classification (URC) Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote. 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 2005/2006 and the 2006 results. Sample Size: URC 1 = 1249 Households (HH), 2797 People (P), 10405 People Weighted (PW); URC 2 = 300 HH, 743 P, 2724 PW; and URC 3 = 182 HH, 435 P, 1646 PW. [1]URC adjusted by SIMD Quintile, Equivalised Income, HH Composition, HH Size, %GNWI Spent on Food, kcal and HRP Age; [2]Meat portion only – see appendices 3 & 4 for methodology; [3]Reference Category

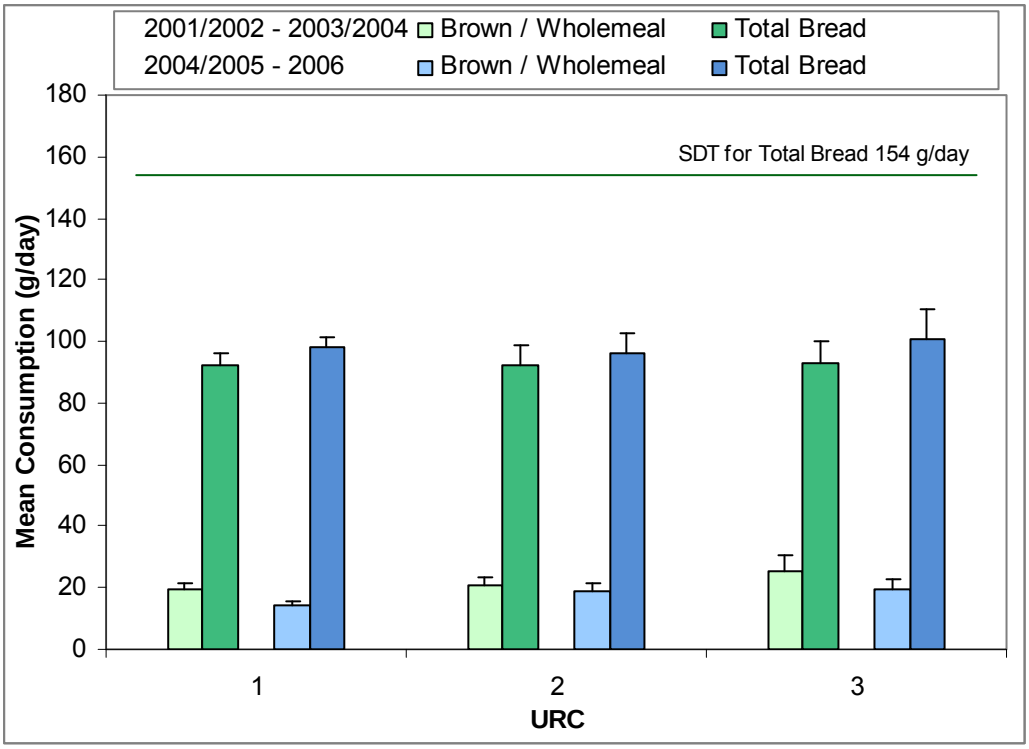
Figure 10: Mean (with 95% CI) food consumption and nutrient intake by unadjusted URC group

Figure 10a: Mean (with 95% CI) fruit and vegetable consumption by unadjusted URC group compared with SDT (>400g/day)



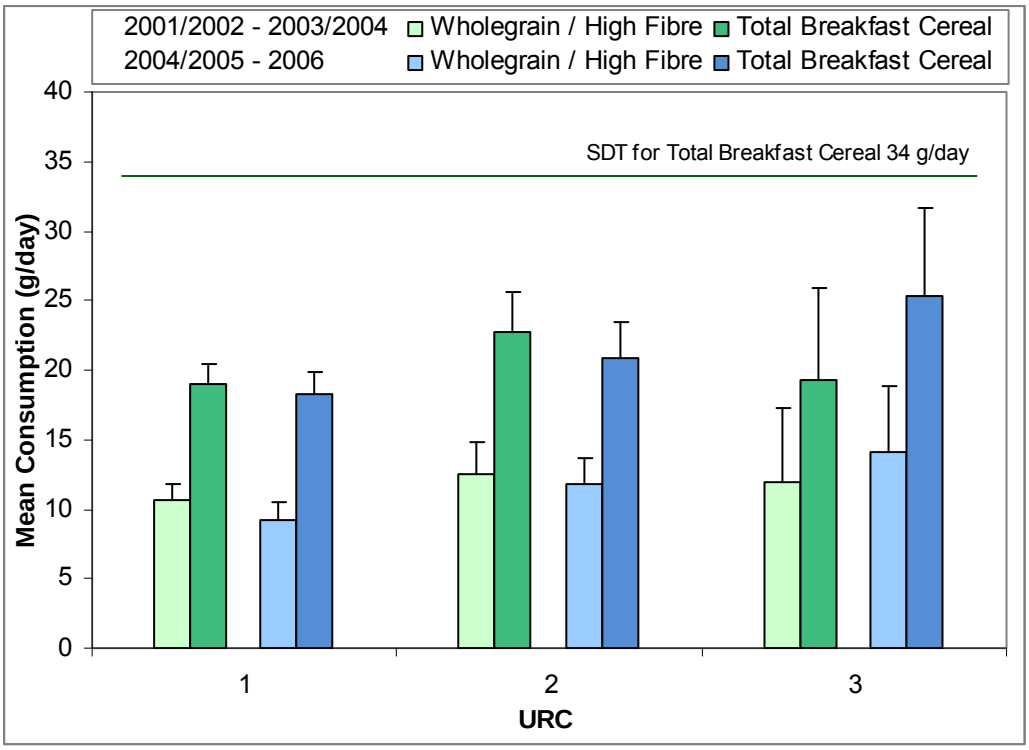
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10b: Mean (with 95% CI) bread consumption by unadjusted URC group compared with SDT (154g/day)



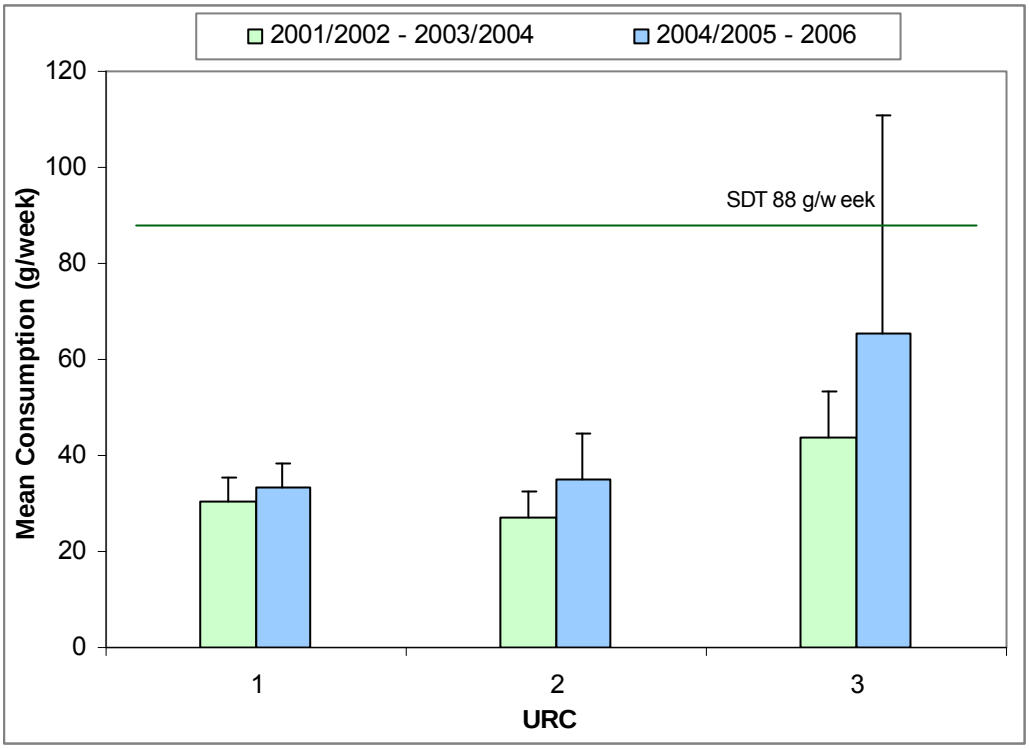
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10c: Mean (with 95% CI) breakfast cereal consumption by unadjusted URC group compared with SDT (34g/day)



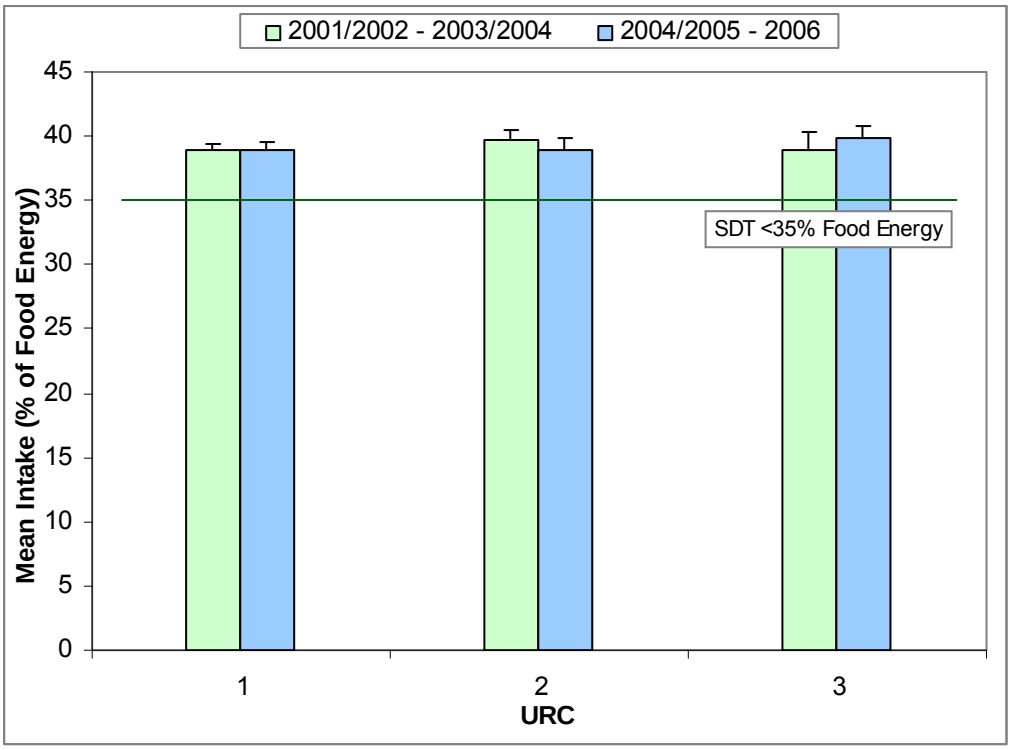
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10d: Mean (with 95% CI) oil rich fish consumption by unadjusted URC group compared with SDT (88g/day)



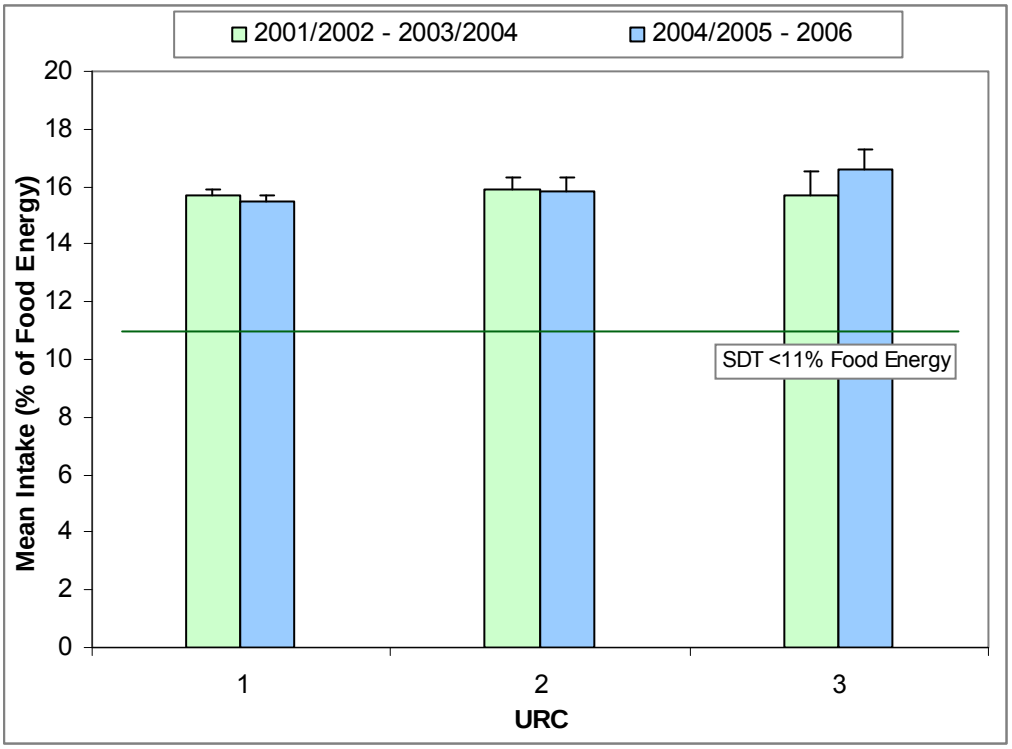
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10e: Mean (with 95% CI) total fat intake (% food energy) by unadjusted URC group compared with SDT (<35% food energy)



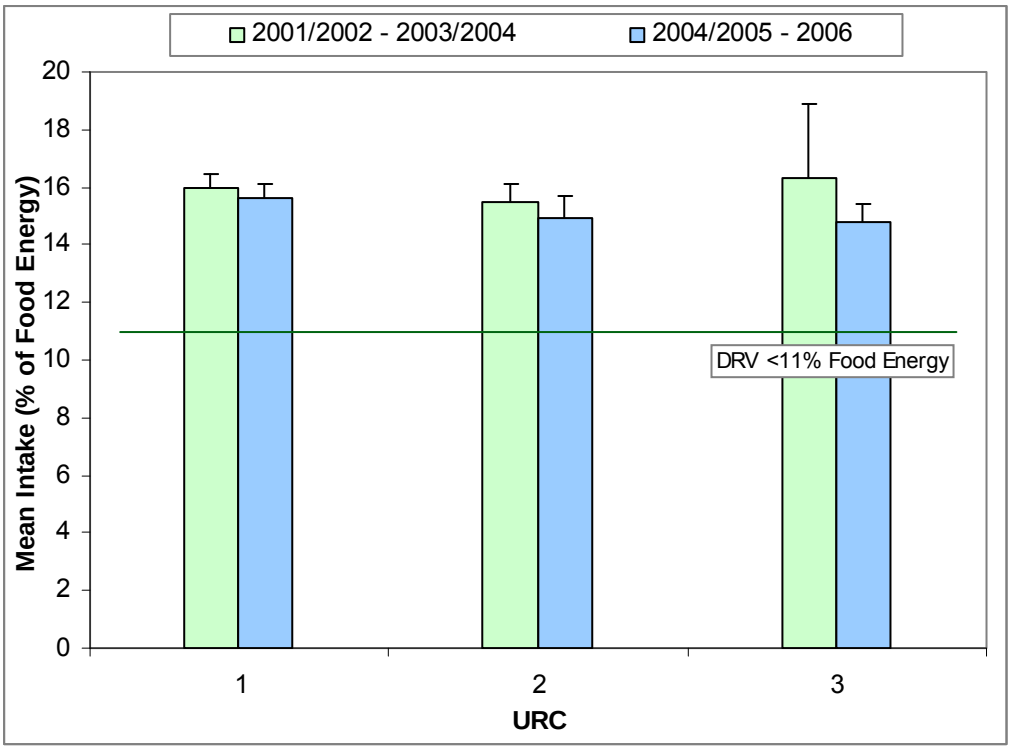
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10f: Mean (with 95% CI) saturated fat intake (% food energy) by unadjusted URC group compared with SDT (<11% food energy)



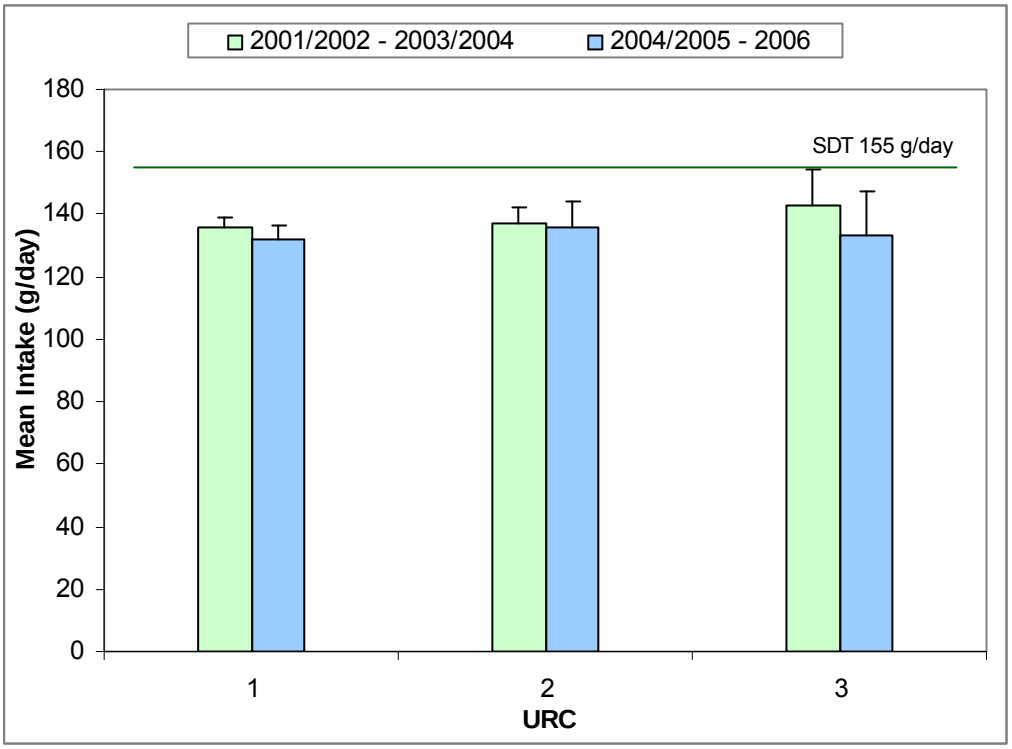
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10g: Mean (with 95% CI) NMES intake (% food energy) by unadjusted URC group compared with DRV (<11% food energy)



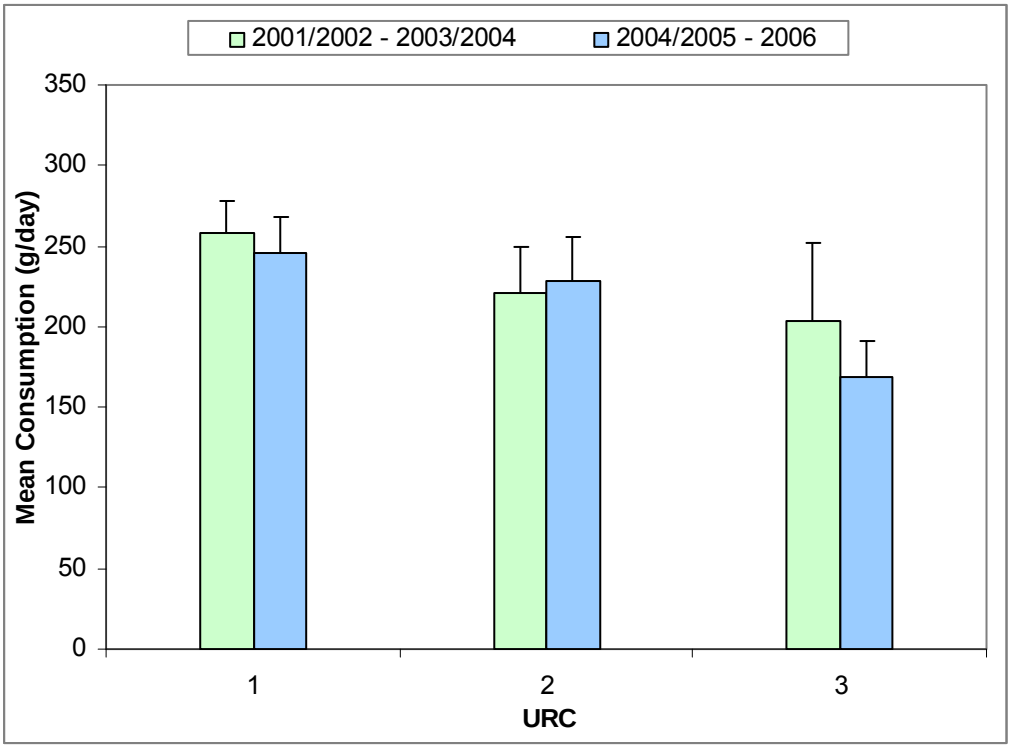
URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10h: Mean (with 95% CI) complex carbohydrate intake by unadjusted URC group compared with SDT (>155g/day)



URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

Figure 10i: Mean (with 95% CI) sugar containing soft drink consumption by unadjusted URC group



URC Categories: 1= Urban; 2= Accessible small towns/ rural; 3= Remote – see explanatory notes section for more details

4. DISCUSSION

Methodology

The EFS is a very comprehensive source of information on food consumption and nutrient intake for the Scottish population. Thus the EFS can be used to assess dietary trends and progress towards both food and nutrient based dietary targets, with the exception of the target for a reduction in NMES intake in children, and sodium intake in the population, which have been surveyed in separate work commissioned by the Food Standards Agency in Scotland (Sheehy *et al.*, 2008; McNeill *et al.*, 2009, NatCen & UCL, 2007).

The main limitation of the EFS is that it is based on records of household food purchases analysed to provide population data (per person) and not on dietary assessment of individuals. It must be noted that the derived nutrient intakes are estimates and are calculated from household purchase data (less estimated waste). However, the data is less likely to be biased by individual perceptions of what should be reported (Chesher, 1997) and the fact that data can be linked to SIMD and URC makes it an extremely valuable survey for monitoring dietary changes in the population. The EFS collects quantitative information on diets over 14 days and is likely to be more objective than other dietary assessment methods. Other methods may be more subject to both selection bias (the sample is skewed towards a more educated section of the population) and information bias (subjects are more likely to report foods known to be promoted as healthy and vice versa).

Results

Using the newly developed and standardised methodology to calculate food consumption and nutrient intake from the EFS, trend data has been produced from 2001 through to 2006 and this has been related to the SDTs. A summary of these results are presented in Table 23.

Results from the EFS suggest that there has been a small statistically significant increase in mean consumption of fruit and vegetables in the population over the 6 years from 2001 to 2006 inclusive. This increase is mostly explained by an increase in fruit rather than in vegetable intake. Similarly there has been a small statistically significant increase in mean consumption of oil rich fish in the population over the 6 year period. Mean fruit and vegetable consumption remains around 2 portions below the population target of 5 portions per day per day and if the current rate of increase was to continue, it would take 37 years to reach this target. Likewise at current rates of increase it would take 28 years to reach the population target for oil rich fish of 88g per week. Over the same period, total bread consumption has fallen, although it appears that there may have been a shift in the type of bread being consumed, as consumption of brown/wholemeal bread has increased slightly. Consumption of breakfast cereals and white fish have not changed from 2001 and there has been a small decrease in consumption of fresh potatoes although this change was not statistically significant.

Nutrient intake data from the EFS suggest that the percentage of food energy from dietary fat, saturated fat and NMES and intake of complex carbohydrates have not changed over the 6 year time

period and continue to be significantly higher than the SDTs for total fat, saturated fat and NMES and lower for complex carbohydrates.

Table 23: Food/nutrient changes in relation to the Scottish Dietary Targets from 2001 to 2006

Target Food / Nutrient	Scottish Dietary Target	1996[1]	2001	2006	Change Between 2001 and 2006	Highest Consumption by SIMD[2]
Fruit and Vegetables	More than 400g per day	249g	239g	256g	↑	Least Deprived
Bread (all types)	154g per day	133g	101g	93.5g	↓	Most Deprived
Brown/Wholemeal Bread	More than 77g per day	26.5g	16.2 g	21.0g	↑	Least Deprived
Breakfast Cereals (all types)	34g per day	18.2g	19.5g	19.2g	No Change	Least Deprived
Oil Rich Fish	88g per week	35.1g	28.2g	37.1g	↑	Least Deprived
White Fish	No decrease (figures per week)	107g	92.9g	92.7g	No Change	Least Deprived
Fat	≤35% food energy	39.6%	39.2%	39.1%	No Change	No Difference
Saturated Fat	≤11% of food energy	15.6%	15.7%	15.9%	No Change	No Difference
NMES	Adults - No ↑[3] Children - <10%	13.6%	15.6%	15.2%	No Change	Most Deprived
Total Complex Carbohydrates	155g per day	143g	138g	133g	No Change	No Difference

[1]Figures for 1996 were taken from Wrieden *et al.*, 2006 and were calculated using a different methodology, which included different waste figures.

[2]SIMD = Social Index of Multiple Deprivation, for combined years 2004 - 2006

[3]DRV for Adults 11% Food Energy (Department of Health, 1991)

The new WRAP waste figures for more perishable products like bread, fruit and vegetables and potatoes used in this study are higher than the 10% used across all products in previous analysis (Wrieden *et al.*, 2006) and less than 10% for less perishable foods like confectionery and biscuits. These figures were incorporated into the revised analysis and backdated to 2001. When a comparison is made to the results presented in the 2006 Wrieden *et al.* report it can be seen that as a consequence of the updated analysis method figures reported for bread, fruit and vegetable and potato intake are lower than those previously estimated, and figures reported for biscuits and confectionery are higher than previously estimated for 2001 to 2003. Consequently the figures reported for energy and complex carbohydrate are lower and those for percentage energy from fat and NMES are higher than previously reported.

Comparison by SIMD

Statistically significant differences were seen in relation to SIMD, with the foods targeted for increase (fruit and vegetables, bread, breakfast cereal, fish and complex carbohydrates) showing the highest mean consumption in the least deprived quintile of the SIMD. The differences were particularly marked for the food based targets of fruit and vegetables and oil rich fish, both extremely important in improving health and preventing diet related chronic disease. Conversely for the foods which are associated with a poorer quality diet (sugar containing soft drinks; processed meat, pies and sausages; processed potatoes and takeaway foods) mean consumption was highest in the most deprived quintiles, with the difference being particularly more for sugar containing soft drinks. These foods are associated with a poorer quality diet and a consequent increased risk of obesity and chronic disease. There is strong evidence that a high consumption of sugar containing drinks is a major contributor to the development of obesity (Malik *et al*., 2006). A particularly important finding is that the gap between the least and most deprived groups in consumption of these foods did not diminish between the earlier (2001 to 2003) and later (2004 to 2006) periods of survey so there was no evidence of improvement of the diet of the most deprived groups.

It is interesting to note that that although the consumption of some of the main foods contributing to total fat and saturated fat intake, such as milk and processed meat are higher in more deprived groups, no socioeconomic differences have been detected in total fat and saturated fat intake. However, the differences in sugar containing soft drink consumption (higher in the most deprived groups) are reflected in a similar pattern for NMES intake. These socio-economic differences in foods and food groups mirrored those of other recent studies. The UK Low Income Diet and Nutrition Survey (LIDNS) (Nelson et al., 2007) found that "*generally, those on low income were less likely to eat wholemeal bread and vegetables. They tended to drink more soft drinks (not diet drinks) and eat more processed meats, whole milk and sugar*".

The survey of sugar intake among children in Scotland (Sheehy et al., 2008) found that those living in deprived areas were significantly less likely to consume wholemeal bread, oily fish and fruit juice and were more likely to consume sugar containing soft drinks. There were no significant associations between total fat or saturated fat (as a percentage of food energy) and SIMD, but those living in more deprived areas consumed significantly more processed meats, crisps and savoury snacks.

Dietary patterns were derived using principal component analysis and a dietary quality index was established by Armstrong et al. (2009) which was used to assess the relationships between the diet and socio-economic status, lifestyle factors and health outcomes in sub-groups of the Scottish population and compared to dietary patterns in both the EFS and the Scottish Health Survey of 2003 (SHS) (Bromley et al., 2005). In both surveys there was evidence to suggest a significant influence of socio-economic status on dietary patterns and diet quality, in particular, an effect of equivalised income. Increasing deprivation, decreasing equivalised income and decreasing social class were all linked to following the "energy dense" eating patterns more closely, following the "healthy" patterns less closely and having a lower dietary quality index.

Preliminary inspection of the EFS data suggest that the lower mean consumption found for the "healthier foods" (e.g. wholemeal bread and oil rich fish) in the more deprived quintiles of SIMD is due to larger numbers of non consumers than is found in the less deprived quintiles of SIMD rather than lower intakes by those consuming. This suggests that more emphasis needs to be placed on non-consumers in health promotion campaigns as well as trying to get everyone to eat more of the foods targeted for increased consumption. Targeting non-consumers could assist in reducing the socio-economic gradient found between the least and most deprived quintiles of SIMD and would also increase the population mean. Further work should be carried out to find out if the differences found for the population in terms of food consumption and SIMD quintiles remain when data of consumers only are assessed.

Comparison by URC

Analysis by URC shows that rural households typically purchase more of the "healthier foods" and less of the "unhealthier foods" than urban households. For example, mean daily fruit and vegetable consumption was 68g higher in the remote areas and 26g higher in the accessible – small towns / rural areas than in urban areas for the period 2001 to 2003. However, these differences were not significant after adjustment for the individual household level SES variables and reduced to 57g and 11g respectively after adjustment for SIMD (Table 15). The opposite was true in the period 2004 to 2006 with differences remaining after adjustment for the individual household level SES variables but not after adjustment for SIMD (Table 16). It was notable that vegetables, but not fruit, remained significantly higher in rural areas even after adjustment for SIMD or the individual household level SES variables in the earlier but not the later time period.

Overall for those foods that were statistically significantly different before adjustment, there is a degree of attenuation when adjustment is made for SIMD and more so for the individual household level SES variables. This is the case for all SDT foods (Table 1) for the period 2001 to 2003 with the exception of oil rich fish where a stronger association is found when URC is adjusted by SIMD. However, after adjustment by both SIMD and the individual household level SES variables a significant difference was still found for vegetables, brown/wholemeal bread, oil rich fish and fresh potatoes. This suggests that rurality might be an important factor in the dietary choice of certain foods for that period, orientating to a better quality of diet in the most rural areas. However, further research would be required to draw specific conclusions as to the reasons for this as the size and statistical significance of the differences were inconsistent over the time period analysed.

It was noted that the only significant difference in SDT foods for the later period was for fruit and vegetables (41g higher in remote rural than urban). However, this was not significant after adjustment for SIMD and was reduced to 32g after adjustment for the individual household level SES variables.
No differences in the percentage of energy from fat, saturated fat and NMES were seen between urban and rural locations although the consumption of processed foods such as sugar containing drinks; processed meat, pies and sausages; processed potatoes and takeaways had a tendency to be higher in the urban areas.

Comparison of results with other dietary surveys

Although the dietary assessment methodology for the 2001/02 NDNS of Great Britain (Henderson *et al.*, 2002; Henderson *et al.*, 2003a; Henderson *et al.*, 2003b; Ruston *et al.*, 2004) provides detailed food consumption and nutrient intake data for individuals, it is designed as a national survey and there are insufficient subjects for a Scottish national sample (n=123).

The food and nutrient intakes for adults in the NDNS 2000/2001 survey are similar to those of the results of this secondary analysis of Scottish Data from the EFS despite the different methodologies used in the two surveys. Both surveys confirm that food consumption and nutrient intakes are far from meeting the SDTs. The exception is the NDNS data for total fat, which was 35.3% of food energy. This figure differs from the 39% of energy estimated for the same period from the EFS data.

Mean intakes of foods from the 2001/02 survey compared with those obtained from the EFS were similar for fruit and vegetables (when all fruit juice, baked beans and fruit and vegetables in composite dishes are included). Bread intake was lower in the NDNS and median consumption figures of zero for wholemeal bread (for both Scotland and the whole of Great Britain) indicating that the majority of the participants were non-consumers (a fact that cannot be appreciated with the mean figures estimated from the EFS). A similar situation with regards to non-consumers was seen for oil rich fish but the higher mean intake from the NDNS is likely to be due to the inclusion of canned tuna. Fat, saturated fat and NMES intakes expressed as percentage of food energy were lower in the NDNS and nearer the SDTs. However, it is known that people often under-report food they know to be high in fat and/or sugar (Gibson, 2005) and this may be the reason for the mismatch of these results. It highlights the difficulties in deciding whether the Scottish population is meeting the target for fat consumption.

The results from the SHS are for frequency of consumption of a few foods, some of which are useful indicators of dietary patterns. In the 2003 SHS, the mean frequency for fruit and vegetable consumption was 3.1 portions per day which is comparable to an intake of around 248g per day if we assume an average portion size of around 80g. No statistically significant increase was apparent from 2003 to 2008 with mean intakes in 2008 of 3.2 portions per day, comparable to an intake of around 256g per day. As seen in the EFS, those in the most deprived quintile were less likely to consume the foods targeted for increase (Bromley *et al.*, 2005; Corbett *et al.*, 2009).

The Health Education Population Survey (HEPS) is a national survey of adults for Scotland and a recent report (NHS Health Scotland, 2008) showing trends in self-reported dietary behaviour of individuals between 1996 and 2007 suggests an increase in the percentage of the population who report eating five or more portions of fruit and vegetables per day. Over the same period there was also a self-reported increase in the mean number of portions of fruit and vegetables eaten daily, as well as a self-reported increase in awareness of the target for fruit and vegetable intake. These trends were evident across all population groups, though more pronounced in women and in the least deprived groups.

The findings from the HEPS are in contrast to the findings reported here for the EFS and may be explained by the limitations of the methodology of self-reported health behaviours. The EFS collected purchase data which provides a more objective method than the method of reporting used in the HEPS and the SHS which asks participants about their perceived intake of fruit and vegetables. The HEPS has shown that the percentage of people knowing the recommendations for fruit and vegetable consumption almost quadrupled over the period 1996-2007. With this awareness it is perhaps not surprising that self reported consumption of fruit and vegetables has risen. The more objectively collected results of the EFS show that the apparent improvement in fruit and vegetable consumption has been small at 17g per day and other improvements minimal or nonexistent.

In summary, the EFS has shown little increase in the total amount of fruit and vegetables consumed over the period of 2001 to 2006, and a clear socio-economic gradient by SIMD quintiles. A similar pattern was seen for deprivation in the SHS and HEPS. By contrast the SHS and HEPS found an increase in frequency of reported consumption of fruit and vegetables with time. This difference in trends could arise if more but smaller portions were eaten, or it could reflect an increasing tendency to over-report fruit or vegetables, or both, in SHS and HEPS as awareness of the "5 a day" message becomes more widespread. However intake was still well below the dietary target of 400g.

Conclusion

A robust standardised methodology has been designed, developed and tested to calculate food and nutrient intakes on a population basis, which can be used to continue to monitor the Scottish diet in the future. The results reported here suggest small improvements in fruit and vegetable consumption, oil rich fish and brown/ wholemeal bread consumption. Overall the results obtained suggest that the targets will not be met by the end of March 2010.

As in the previous report by Wrieden et al., (2006) clear inequalities have been shown in food consumption for the period 2004 - 2006 with those living in areas of low deprivation having higher intakes of fruit and vegetables, nearer to the SDTs, than those in living in areas of high deprivation. It is also of particular concern that consumption of foods targeted for increased consumption are significantly lower in the most deprived groups of the population. Following a further 3 years of data collection, it will be possible to reassess progress towards the SDTs by SIMD and URC in terms of social inequalities.

The work reported is part of an ongoing project to monitor the impact of policy initiatives in Scotland on secular trends in food and nutrient intake in Scotland. However, due to the fact that the data for the EFS is not available until at least 1 year after the end of the period of data collection the analysis reported here only provides estimates for the period to 2006. The impact of newer initiatives outlined in Scotland's National Food and Drink Policy (Scottish Government, 2009b) such as "Take Life On" and "Eat more Fish" and the Nutritional Requirements for Food and Drink in Schools (Scotland) regulations 2008 (Scottish Government, 2008b) on the Scottish diet will be measured in the coming years.

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7. APPENDICES

Appendix 1: Advantages and Disadvantages of the EFS

Appendix 2: Derivation of SDTs and Accepted Definitions of Foods

Appendix 3: Further Detail on Methodology

Appendix 4: Coding Frame

Appendix 5: Flowchart of Data Handling Process

Appendix 6: Household and Eaten Out Results by Year 2001 to 2006

Appendix 1: Advantages and Disadvantages of the EFS

The EFS and its 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 provides 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 it is not designed to measure intakes of specific individuals. The EFS collects household food purchase data from every person over 7 years of age 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 intake is over more than 7-10 days. Methods that assess diet over shorter periods of time e.g. three to four or less days are less likely to give an accurate measure of intake. Due to the nature of the data collected in household budget surveys it is not possible to produce median intakes. Therefore the prevalence of individuals who are particularly high or low consumers of a food, food group or nutrient cannot be determined.

Advantages

- The EFS includes around 600 households (approximately 1,300 people) per year in mainland Scotland.
- It collects information over a period of 14 days on food and drink purchases and includes foods eaten within the household and those eaten out.
- The EFS 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 EFS is one of the few sources of information on food purchased out of the home. This can be compared with consumption in the home.
- It can be used to assess all the SDTs (except salt and NMES in children), using the varieties and composition of food groups which were developed for the Wrieden *et al.*, 2006 report.
- Data is collected continuously and published annually; it is possible to merge datasets over a number of years.
- Further information can be gained by linkage of data from the EFS to the SIMD and URC (for more information see Scottish Government, 2009a & Scottish Executive, 2004b respectively).

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 does not include 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.
- Median and other distributional characteristics relating to consumption cannot be estimated.
- Updates have been made by Defra to the data for the EFS (Defra, 2006). However, these have been backdated to the 2001 EFS to make results comparable.

Appendix 2: Derivation of SDTs and Accepted Definitions

The baseline figures quoted in Table 1 were those published in the Scottish Diet Action Plan in 1996 (The Scottish Office, 1996). These were originally derived mainly from the National Food Surveys (NFS) of 1989-1991 https://statistics.defra.gov.uk/esg/publications/efs/default.asp and were therefore an indication of food and nutrient intake at that time. The baseline figures were used to formulate the SDTs and were the best available at the time. However, a major limitation is that the 1989-1991 NFS did not include food and drink eaten outside the home or sweets and confectionery.

In addition, the calculations used to derive certain food groups e.g. fruit and vegetables, differed from those now advised (see text boxes on fruit and vegetables, breakfast cereals and oil rich fish).

FRUIT AND VEGETABLES

Original estimates of fruit and vegetable consumption were based simply on fresh and frozen varieties. Today it is recognised that the term 'fruit and vegetables' encompasses not only fresh and frozen varieties but also tinned, dried and juiced.

BREAKFAST CEREALS

The range of breakfast cereals available today has increased considerably since the targets were set. New products with high levels of sugar, salt and/or fat and often low levels of fibre have been introduced. The target does not distinguish between cereals that are high in fibre/low in sugar, and cereals that are low fibre/high in sugar, salt and sometimes fat. As wholegrain/high fibre breakfast cereals are more likely to make a positive contribution to improving diet, consumption has been reported for wholegrain/high fibre breakfast cereal as well as total breakfast cereal.

OIL RICH FISH

Estimates of oil rich fish consumption in early studies and some more recent surveys included canned tuna. The target to increase oil rich fish intake is based on gaining the health benefits of omega 3 fatty acids found in fish oils. Fresh tuna is a good source of omega 3 fatty acids, but during the process of canning tuna these oils are lost and replaced with other oils or brine. Consequently canned tuna has a low content of the omega 3 fatty acids and should not be included in the category of oil rich fish for monitoring progress towards this particular target.

In this report the results for food consumption and nutrient intake are calculated from the EFS which replaced the NFS in 2001. The composition of the categories of fruit and vegetables, breakfast cereals and oil-rich fish are defined as above to reflect current advice.

Appendix 3: Further Detail on Methodology

The Expenditure and Food Survey

The EFS is an annual household budget survey designed to collect information about household food and expenditure. The EFS 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 intakes of specific individuals. The EFS collects household food purchase and eating out data from every person over 7 years of age in each household over a 14 day period. Due to the nature of the data collected in household budget surveys it is not possible to produce median intakes. Therefore the prevalence of individuals who are particularly high or low consumers of specific foods cannot be determined.

Coding Frame

A detailed coding frame based on that reported by Wrieden *et al.*, (2006) was compiled for both household and eaten out food purchases (Appendix 4). The coding frame is based on food codes (and sub-codes) allocated by Defra to household or eaten out food purchases. It lists groupings of foods (and codes) which form part of each dietary target (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 (2002). Where no factor was necessary, a factor of 1.0 was applied. Some changes to the original coding frame given in appendix 2 of the Wrieden *et al.*, report (2006) were made. These included allowances for components of meals previously excluded (e.g. a factor of 0.2 of 'meals on wheels' was added to allow for the vegetable and fruit component) or not included (e.g. vegetable component of meat/fish dishes and salads), or a correction to convert dried or concentrated weights to wet weight (e.g. a factor of 3.71 for dried fruit). Also included were some additions to allow comparison to targets and recommendations set by other expert groups. The conversion factors were applied to food purchases to estimate the actual quantity of each food consumed.

Categorisation of Foods

The Defra EFS coding frames for household and eaten out food purchases were examined and foods forming part of each dietary target (or food group of interest) were selected and categorised accordingly.

Conversion Factor

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, bread, meat etc in a composite food; for the proportion of food in food grouping (where it bridges more than one food grouping); raw to cooked weight (where appropriate); proportion of inedible waste; and estimate of edible waste. Data for these conversion factors were taken from the 1st, 2nd, 5th and 6th supplements 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 this data was not available from the above sources, information was sought from manufacturers' label data or market share data supplied by the Food Standards Agency.

Edible Waste

Estimates of waste for the UK population have been published in the recent report by WRAP (2008). The annex of the report on the 2007 EFS (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 food codes used in the EFS. 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.

Data Handling

EFS data for each year, in its raw form, was obtained form the UK Data Archive, University of Essex. The data comprised 3 files for each year – an Access database (Microsoft Corporation, 2003) containing raw data (at the household level) for food and drink purchases; and 2 SPSS files – one containing information on each household (HH file) and the other containing information on each person within each household (PP file). Appendix 5 provides a flowchart which illustrates the data handling process for data from each year, which are then merged in SPSS to obtain one working data file. The Scottish sample of the EFS 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.

Data on sampling strata and clusters, SIMD, domains of SIMD, URC and raw Gross Normal Weekly Income (GNWI) were obtained from the UK ONS. Data on SIMD and domains of SIMD were provided as quintiles and URC in 3 categories. Data on SIMD and URC by postcode were initially obtained from Scottish Neighbourhood Statistics and the Scottish government respectively and sent to ONS to link to anonymised case ID's.

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 to be applied to the calculations (where no factor was necessary 1.0 was applied). This table also contained data on 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.

Household consumption (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.

For nutrients: household consumption data minus 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. Household, eaten 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.

Derivation of Additional Variables Required for Analysis Purposes

Additional descriptive variables for each household were extracted from the two SPSS files described previously and merged with data on sampling strata and clusters, SIMD, domains of SIMD, URC and raw GNWI obtained from ONS to form a SPSS file containing all additional variables. Where the household reference person (HRP) or their partner were under 18, they were re-coded as adults for the purposes of this analysis, as it affected both the household McClements score (see below) and category the household was assigned to for waste purposes.

The number of categories assigned to the variables on household size and composition were reduced to aid analysis and variables on GNWI, % GNWI spent on food and equivalised income were divided into quintiles by year. Due to the fact that income is likely to change over time, the income variables were split into quintiles by year rather than splitting the whole dataset into quintiles. This also had the benefit of ensuring that when data from additional years were added to the dataset each household would remain in its quintile position within each year.

Equivalised income adjusts actual income by household size and composition. It was calculated by dividing gross normal weekly household income by the McClements score for the household.

The McClements Score is calculated by allocating each household member the appropriate individual McClements score according to age and number in the household, then summing all scores in the household (Corbett *et al.,* 2009b).

Analysis of Data

The food consumption and nutrient intake data were exported to SPSS and merged with the additional variables file. Due to the multi-staged stratified sampling procedure of the EFS, data were analysed using Descriptive Statistics and General Linear Models within the Complex Samples module of SPSS, version 15 (SPSS Inc., Chicago, IL, USA) and weighted according to the Scottish population.

This methodology was compared against the method using Microsoft Access that was used for the previous report by Wrieden *et al.*, 2006 (prior to the inclusion of strata and cluster variables in the analysis, an improvement only recently made available) and identical results for mean values were obtained, although, as expected the 95% confidence intervals were wider than under the assumption of simple random sampling.

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.

Overall associations between food consumption/nutrient intake and year, SIMD quintile or URC group were assessed by an adjusted Wald test. The adjusted Wald test was used in the general linear modelling section of the complex samples methodology module of SPSS and tests whether the value for all years, SIMD quintiles or URC categories are equal in a single test and produces a single P-value. Linear associations between food consumption/nutrient intake and year or SIMD quintile were

assessed by linear regression within the general linear modelling section of the complex samples methodology module of SPSS.

Analysis by URC was carried out firstly unadjusted, secondly adjusted by SIMD quintile and thirdly adjusted by multivariable's. The multivariable model used in the URC analysis further adjusted for SIMD quintile, equivalised income, HH composition, HH size, %GNWI spent on food, energy intake (kcal) and HRP age as these variables were all found to have an impact on food and nutrient intake. The decision as to which variables to include in the model was taken after analysis was carried out by each variable independently. This work also included the analysis by quintiles of individual domains of SIMD (namely education, employment, health and housing) but it was felt that as these are given different weightings in the overall SIMD score that it was better to use the overall SIMD score in the multivariable model rather than include all the individual domains.

Appendix 4: Coding Frame

1. Dietary Target: Fruit and vegetables average to double to more than 400g per day

- Fruit including fruit (and vegetable) juice
- Vegetables including baked beans
- Fruit and Vegetables including fruit (and vegetable) juice and baked beans (addition of 1 and 2)

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

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

Household Vegetables - including baked beans

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 baked beans

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 baked beans (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 Target: Bread intake to increase by 45% from present daily intake of 106g, mainly using wholemeal and brown breads

- White Bread
- Brown / Wholemeal Bread
- Total Bread (addition of 1 and 2)

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 specified	0.57	0	0
130202	Pizza - meat, fish or poultry	0.57	0	0
220101	White bread, with or without butter/margarine (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 wholemeal bread, with or without butter/margarine (toasted or untoasted)	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

3. Dietary Target: Breakfast cereals average intake to double from the present intake of 17g per day

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

4. Dietary Target: White fish consumption to be maintained at current levels, Oil rich fish consumption to increase from 44g per week to 88g 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

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

5. Dietary Target: Increase average non sugar carbohydrate intake by 25% from 124g per day, through increased consumption of fruit and vegetables, bread, breakfast cereals, rice and pasta and through an increase of 25% in potato consumption

Household Fresh Potatoes

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
15501	Potatoes - bought Jan-Aug, previous years crop	1	0.3718	0.2416
15502	Potatoes - bought Jan-Aug, this years crop	1	0.3718	0.2416
15503	Potatoes - bought Sep-Dec, this years crop or new imported	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

Additional Foods and Drinks I**ndicative of Diet Quality**

Cakes, 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

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

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

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 and Meat Products

Household Total Red 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

Eaten Out Total Red 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

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

Eaten 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 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

Eaten Out Other 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

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

Butter

Household Butter

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

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

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

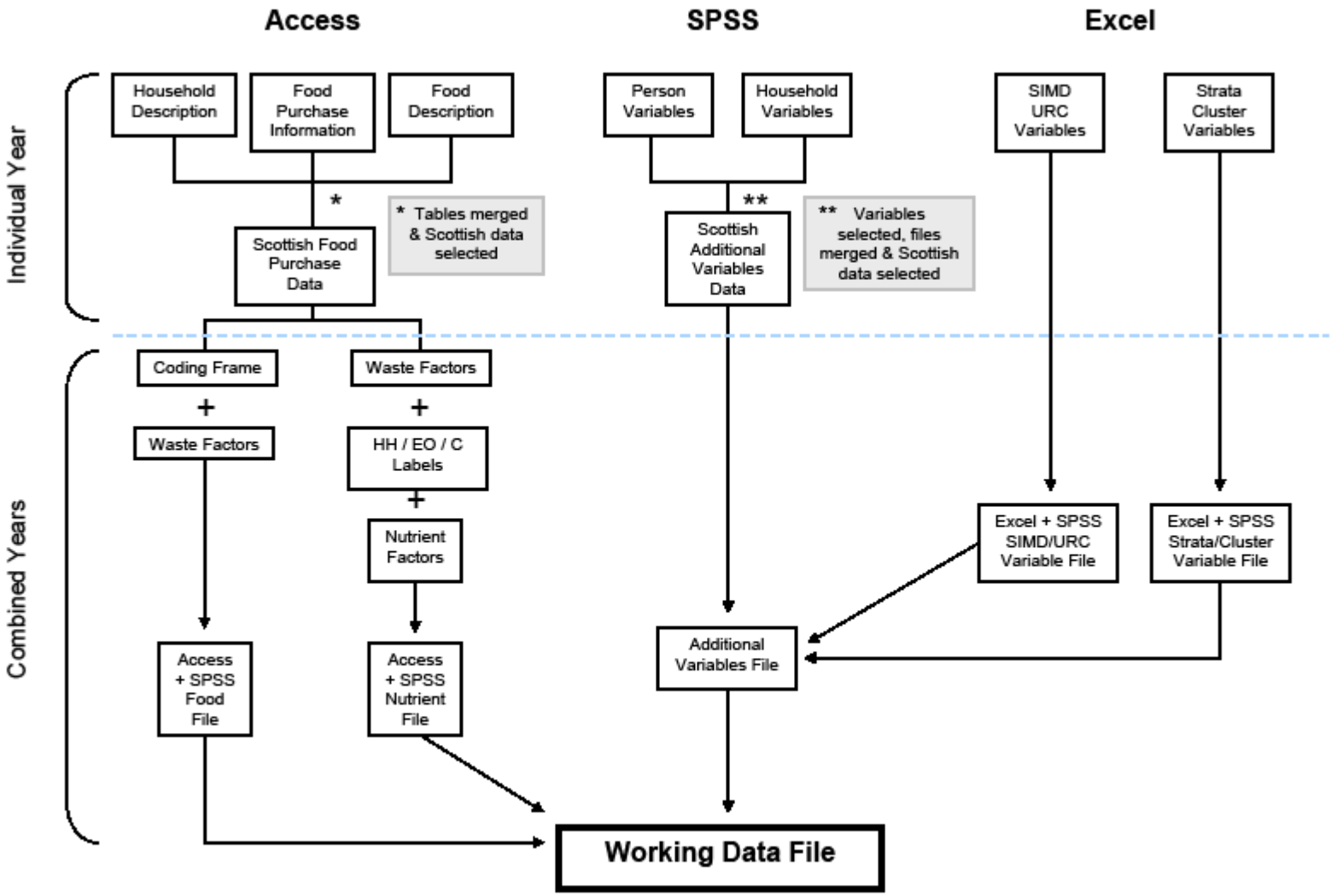
Eating Out Savoury Snacks

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

Takeaway Foods

Household Takeaway Foods

Defra Code	Food Description	Factor	Single Adult HH Waste	Multiple Adult HH Waste
5904	Takeaway chicken	1	0.1855	0.0837
9501	Takeaway meat pies & pasties	1	0.2563	0.29
9502	Takeaway burger & bun	1	0.2563	0.29
9503	Takeaway kebabs	1	0.2563	0.29
9504	Takeaway sausages & saveloys	1	0.2563	0.29
9505	Takeaway meat based meals	1	0.2563	0.29
9506	Takeaway miscellaneous meats	1	0.2563	0.29
11801	Takeaway fish	1	0.096	0.0418
12304	Takeaway fish products	1	0.2563	0.29
12305	Takeaway fish based meals	1	0.2563	0.29
19703	Takeaway chips	1	0.3718	0.2416
20604	All vegetable takeaway products	1	0.2563	0.29
26310	Sandwiches from takeaway	1	0.2563	0.29
26311	Takeaway breads	1	0.3349	0.4585
27002	Takeaway pastries	1	0.2802	0.1703
28704	Takeaway rice	1	0.2335	0.1402
29503	Takeaway pasta & noodles	1	0.2563	0.29
29602	Takeaway pizza	1	0.2563	0.29
29916	Takeaway crisps, savoury snacks, popcorn, popadoms, prawn crackers	1	0.1239	0.0809
32001	Soups - from takeaway	1	0.2563	0.29
32101	Other takeaway food brought home	1	0.2563	0.29
32704	Takeaway sauces and mayonnaise	1	0.1267	0.091
33304	Takeaway ice cream, ice cream products, milkshakes	1	0.0638	0.0283
35501	Takeaway confectionery	1	0.0958	0.0575


Access
SPSS
Excel
Individual Year
Household Description
Food Purchase Information
Food Description
Person Variables
Household Variables
SIMD URC Variables
Strata Cluster Variables
*
* Tables merged & Scottish data selected
Scottish Food Purchase Data
**
** Variables selected, files merged & Scottish data selected
Scottish Additional Variables Data
Combined Years
Coding Frame
Waste Factors
+
+
Waste Factors
HH / EO / C Labels
+
Nutrient Factors
Excel + SPSS SIMD/URC Variable File
Excel + SPSS Strata/Cluster Variable File
Access + SPSS Food File
Access + SPSS Nutrient File
Additional Variables File
Working Data File

Appendix 6: Household and Eaten Out Results by Year 2001/2002 to 2006

Consumption of Scottish Diet Action Plan 1996 Target Foods by Year 2001 to 2006

EFS data (g/person/day with the exception of fish g/person/week)

Food	**2001** Mean 95% CI	**2002** Mean 95% CI	**2003** Mean 95% CI	**2004** Mean 95% CI	**2005** Mean 95% CI	**2006**[1] Mean 95% CI	***P-value for Linear Association***
HH Fruit and Vegetables[2, 3]	224 207 - 242	227 209 - 245	211 193 - 229	231 210.5 - 251	247 229 - 264.5	240 223 - 258	***0.023***
EO Fruit and Vegetables[2, 3]	15.0 13.5 - 16.6	15.6 13.8 - 17.4	16.3 14.1 - 18.6	15.3 13.0 - 17.7	15.8 13.9 - 17.6	15.7 14.0 - 17.5	*0.715*
HH Fruit[2]	119 106 - 132	122 108 - 136	114 101 - 127	125 112 - 137	137 125 - 150	133 122 - 144	***0.012***
EO Fruit[2]	1.7 1.3 - 2.1	2.2 1.6 - 2.7	1.7 1.2 - 2.1	2.7 1.7 - 3.7	2.1 1.6 - 2.7	2.2 1.7 - 2.7	*0.184*
HH Vegetables[3]	106 97.8 - 113	105 97.8 - 112	97.2 89.4 - 105	106 96.9 - 115	110 102 - 117	108 97.7 - 118	*0.332*
EO Vegetables[3]	10.5 9.4 - 11.7	10.6 9.2 - 12.0	11.4 9.6 - 13.2	10.1 8.6 - 11.6	10.7 9.2 - 12.3	9.9 8.6 - 11.2	*0.471*
HH Total Bread	88.2 83.2 - 93.2	85.7 81.5 - 89.9	80.8 75.4 - 86.2	80.6 76.3 - 84.8	80.0 74.7 - 85.2	81.0 76.0 - 86.1	***0.024***
EO Total Bread	13.0 11.4 - 14.5	13.4 12.1 - 14.8	12.1 10.6 - 13.6	11.4 10.0 - 12.7	11.8 10.2 - 13.5	12.4 10.8 - 14.1	*0.255*
HH Brown/Wholemeal Bread	14.9 13.3 - 16.6	15.6 13.5 - 17.7	13.6 11.9 - 15.3	18.3 16.3 - 20.3	18.5 16.1 - 20.9	19.4 17.1 - 21.7	***<0.001***
EO Brown/Wholemeal Bread	1.2 0.9 - 1.5	1.2 0.9 - 1.5	1.4 0.9 - 1.9	1.6 1.1 - 2.1	1.4 0.9 - 1.8	1.6 1.2 - 2.0	*0.069*
n Households	*619*	*585*	*546*	*590*	*566*	*577*	
n People	*1414*	*1342*	*1266*	*1329*	*1285*	*1365*	
n People Weighted[4]	*5015*	*4967*	*4952*	*4948*	*4939*	*4906*	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results

[2]Fruit includes fruit and vegetable juice; [3]Vegetables include baked beans; [4]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Consumption of Scottish Diet Action Plan 1996 Target Foods by Year 2001 to 2006 (Continued)

EFS data (g/person/day with the exception of fish g/person/week)

Food	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
HH Total Breakfast Cereal	19.4 17.2 - 21.6	19.5 17.1 - 21.9	19.0 16.3 - 21.7	20.6 18.4 - 22.9	19.2 17.0 - 21.4	19.1 16.9 - 21.2	*0.903*
EO Total Breakfast Cereal	0.1 0.0 - 0.1	0.0 0.0 - 0.1	0.1 0.0 - 0.2	0.0 0.0 - 0.1	0.1 0.0 - 0.1	0.1 0.0 - 0.3	*0.348*
HH High Fibre Breakfast Cereal	10.0 8.4 - 11.6	10.4 8.7 - 12.2	10.2 8.4 - 12.0	11.1 9.2 - 12.9	11.1 9.5 - 12.6	11.0 9.2 - 12.7	*0.216*
EO High Fibre Breakfast Cereal	0.1 0.0 - 0.1	0.0 0.0 - 0.1	0.0 0.0 - 0.1	0.0 0.0 - 0.1	0.0 0.0 - 0.1	0.1 0.0 - 0.2	*0.587*
HH Oil Rich Fish	27.1 23.0 - 31.3	29.2 22.8 - 35.6	30.5 24.2 - 36.7	32.1 25.7 - 38.5	39.7 23.2 - 56.3	35.7 27.9 - 43.5	***0.013***
EO Oil Rich Fish	1.1 0.5 - 1.7	1.4 0.5 - 2.3	1.5 0.8 - 2.2	1.2 0.3 - 2.1	1.5 0.8 - 2.1	1.4 0.8 - 2.0	*0.593*
HH White Fish	76.2 67.3 - 85.1	71.6 63.0 - 80.2	74.2 64.7 - 83.7	68.8 60.8 - 76.9	66.1 55.9 - 76.4	77.2 67.7 - 86.8	*0.658*
EO White Fish	16.7 13.9 - 19.5	17.7 14.6 - 20.8	14.6 11.9 - 17.3	14.2 11.6 - 16.8	16.6 14.2 - 19.0	15.5 13.0 - 17.9	*0.429*
HH Fresh Potatoes[2]	53.5 46.8 - 60.3	47.0 41.7 - 52.3	45.6 41.0 - 50.2	44.1 39.1 - 49.1	46.4 42.3 - 50.5	48.8 42.3 - 55.3	*0.364*
EO Fresh Potatoes[2]	2.9 2.2 - 3.6	3.3 2.6 - 3.9	2.8 2.2 - 3.5	2.4 1.7 - 3.1	2.8 2.2 - 3.5	2.6 2.1 - 3.1	*0.216*
n Households	619	585	546	590	566	577	
n People	1414	1342	1266	1329	1285	1365	
n People Weighted[3]	5015	4967	4952	4948	4939	4906	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results.

[2]Part of complex carbohydrate target; [3]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Intake of Scottish Diet Action Plan 1996 Target Nutrients by Year 2001 to 2006

Expenditure and Food Survey data (units/person/day)

	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
HH % Food Energy - Fat	38.6 37.8 - 39.4	38.5 37.9 - 39.1	38.7 37.9 - 39.5	38.3 37.6 - 39	38.6 37.7 - 39.5	38.5 37.7 - 39.3	*0.432*
EO % Food Energy - Fat	39.1 38.2 - 39.9	38.5 37.6 - 39.4	39.9 38.9 - 40.9	38.9 37.7 - 40.1	38.6 37.3 - 39.9	39.3 38.4 - 40.2	***0.002***
HH % Food Energy - Saturated Fat	16.0 15.7 - 16.3	16.0 15.7 - 16.4	16.2 15.8 - 16.7	15.8 15.5 - 16.2	15.9 15.5 - 16.2	16.2 15.8 - 16.6	*0.162*
EO % Food Energy - Saturated Fat	13.6 13.1 - 14.1	13.5 13.1 - 13.9	13.6 13.1 - 14.1	13.4 12.8 - 14.0	13.1 12.5 - 13.7	13.4 12.9 - 13.9	***0.005***
HH % Food Energy - NMES	15.7 14.9 - 16.4	15.8 15.2 - 16.4	16.3 15.5 - 17.2	15.9 15.1 - 16.6	15.4 14.7 - 16.0	15.3 14.6 - 16.1	*0.539*
EO % Food Energy - NMES	20.4 18.8 - 22.1	21.6 19.8 - 23.4	19.9 18.2 - 21.6	19.8 17.8 - 21.9	20.5 18.4 - 22.5	19.4 17.8 - 20.9	***0.002***
HH Complex CHO g	116 111 - 121	116 111 - 121	110 105 - 115	113 108 - 117	113 107 - 119	115 109 - 121	*0.326*
EO Complex CHO g	22.4 20.0 - 24.7	21.7 19.2 - 24.2	23.2 20.4 - 26.1	19.6 17.0 - 22.1	20.6 17.9 - 23.4	18.4 16.6 - 20.1	*0.229*
HH Food Energy - MJ	7.1 6.9 - 7.4	7.1 6.8 - 7.4	7.0 6.7 - 7.4	7.1 6.8 - 7.4	7.0 6.7 - 7.3	7.0 6.7 - 7.3	*0.340*
EO Food Energy - MJ	1.3 1.1 - 1.4	1.2 1.1 - 1.4	1.3 1.2 - 1.4	1.1 1.0 - 1.2	1.2 1.0 - 1.3	1.0 1.0 - 1.1	***<0.001***
HH Food Energy - kcal	1700 1634 - 1765	1689 1619 - 1758	1671 1592 - 1750	1678 1606 - 1749	1662 1591 - 1732	1665 1598 - 1731	*0.337*
EO Food Energy - kcal	302 273 - 331	295 265 - 326	310 275 - 344	258 226.5 - 289	275 243 - 307	249 227 - 271	***<0.001***
n Households	*619*	*585*	*546*	*590*	*566*	*577*	
n People	*1414*	*1342*	*1266*	*1329*	*1285*	*1365*	
n People Weighted[3]	*5015*	*4967*	*4952*	*4948*	*4939*	*4906*	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results.

[2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Appendix 6: Household and Eaten Out Results by Year 2001/2002 to 2006

Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by Year - 2001 to 2006: Expenditure and Food Survey data (g/person/day)

Food	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
HH Cakes and Pastries	13.7 12.0 - 15.4	12.4 10.8 - 13.9	12.8 11.1 - 14.4	13.4 11.7 - 15.1	12.0 11.0 - 13.0	13.8 12.0 - 15.5	*0.957*
EO Cakes and Pastries	2.8 2.3 - 3.3	3.1 2.7 - 3.6	2.6 2.2 - 3.1	2.7 2.3 - 3.2	3.1 2.5 - 3.7	2.8 2.3 - 3.4	*0.928*
HH Sweet Biscuits	21.0 19.3 - 22.7	22.7 20.5 - 24.9	21.4 19.3 - 23.5	20.7 18.7 - 22.6	19.0 16.9 - 21.1	21.7 19.3 - 24.1	*0.364*
EO Sweet Biscuits	0.6 0.4 - 0.7	0.5 0.3 - 0.6	0.6 0.4 - 0.7	0.5 0.4 - 0.7	0.4 0.4 - 0.5	0.5 0.3 - 0.7	*0.566*
HH Cakes, Sweet Biscuits and Pastries	34.7 32.0 - 37.4	35.0 31.9 - 38.2	34.1 30.9 - 37.4	34.1 31.0 - 37.1	31.0 28.5 - 33.5	35.5 32.3 - 38.7	*0.533*
EO Cakes, Sweet Biscuits and Pastries	3.4 2.8 - 3.9	3.6 3.1 - 4.1	3.2 2.7 - 3.8	3.3 2.8 - 3.8	3.6 2.9 - 4.2	3.3 2.8 - 3.9	*0.929*
HH Sugar and Preserves	18.7 16.2 - 21.1	16.3 14.2 - 18.4	19.1 15.8 - 22.4	17.4 15.4 - 19.3	14.9 12.9 - 16.9	16.7 13.9 - 19.5	*0.155*
EO Sugar and Preserves	0.1 0.1 - 0.2	0.2 0.1 - 0.3	0.1 0.0 - 0.1	0.1 0.1 - 0.2	0.1 0.0 - 0.2	0.1 0.0 - 0.2	*0.368*
HH Chocolate Confectionery	11.0 9.1 - 12.9	11.9 10.3 - 13.6	13.0 11.0 - 14.9	12.5 10.6 - 14.5	11.4 9.8 - 13.0	11.5 9.9 - 13.2	*0.921*
EO Chocolate Confectionery	2.2 1.9 - 2.5	2.6 2.0 - 3.1	2.4 2.0 - 2.8	1.6 1.2 - 2.1	1.9 1.5 - 2.4	1.8 1.4 - 2.2	*0.017*
HH Sugar Confectionery	5.8 4.9 - 6.8	6.1 5.1 - 7.2	6.3 5.4 - 7.1	5.9 5.1 - 6.8	5.5 4.6 - 6.5	5.7 4.6 - 6.8	*0.536*
EO Sugar Confectionery	1.6 1.0 - 2.2	1.5 1.0 - 2	1.4 1.0 - 1.7	1.0 0.6 - 1.4	1.0 0.6 - 1.5	0.7 0.5 - 0.9	***<0.001***
HH Total Confectionery	16.8 14.4 - 19.2	18.1 15.9 - 20.2	19.2 16.9 - 21.6	18.5 16.2 - 20.7	16.9 14.9 - 18.9	17.2 15.0 - 19.4	*0.847*
EO Total Confectionery	3.8 3.0 - 4.6	4.1 3.1 - 5.1	3.8 3.2 - 4.4	2.6 2.0 - 3.3	3.0 2.3 - 3.7	2.5 2.0 - 3.0	***<0.001***
n Households	*619*	*585*	*546*	*590*	*566*	*577*	
n People	*1414*	*1342*	*1266*	*1329*	*1285*	*1365*	
n People Weighted[2]	*5015*	*4967*	*4952*	*4948*	*4939*	*4906*	

Household and eating out consumption combined; [1]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 2005/2006 and the 2006 results; [2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Appendix 6: Household and Eaten Out Results by Year 2001/2002 to 2006

Consumption of Additional Foods and Drinks Indicative of Diet Quality (sweet) by Year - 2001 to 2006 (Continued)**: EFS data (g/person/day)**

Food	**2001** Mean 95% CI	**2002** Mean 95% CI	**2003** Mean 95% CI	**2004** Mean 95% CI	**2005** Mean 95% CI	**2006**[1] Mean 95% CI	***P-value for Linear Association***
HH Sugar Containing Soft Drinks	185	188	215	209	192	185	*0.948*
	161.5 - 209	166 - 211	192 - 238	184 - 234	165 - 218	161 - 210	
EO Sugar Containing Soft Drinks	48.8	52.1	44.8	36.5	41.7	36.7	***<0.001***
	42.9 - 54.6	44.8 - 59.3	39.5 - 50.1	30.3 - 42.8	35.5 - 47.9	31.2 - 42.1	
HH Sugar Free Soft Drinks	84.9	96.0	91.4	76.8	75.5	102	*0.900*
	71.3 - 98.6	78.4 - 114	73.0 - 110	65 - 88.7	59.4 - 91.6	82.4 - 122	
EO Sugar Free Soft Drinks	13.2	11.7	14.9	8.2	9.4	9.5	***0.020***
	10.0 - 16.4	9.1 - 14.3	11.3 - 18.6	6.0 - 10.4	6.4 - 12.4	6.7 - 12.2	
HH Total Soft Drinks	270	284	306	286	267	288	*0.902*
	245 - 295	255 - 314	280 - 333	256 - 315.5	233 - 301	256 - 320	
EO Total Soft Drinks	62.0	63.8	59.7	44.7	51.1	46.1	***<0.001***
	55.1 - 69.0	55.9 - 71.6	52.5 - 66.9	37.6 - 51.9	44.1 - 58.2	39.4 - 52.8	
n Households	*619*	*585*	*546*	*590*	*566*	*577*	
n People	*1414*	*1342*	*1266*	*1329*	*1285*	*1365*	
n People Weighted[2]	*5015*	*4967*	*4952*	*4948*	*4939*	*4906*	

Household and eating out consumption combined

[1]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 2005/2006 and the 2006 results

[2]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish population

Consumption of Additional Foods and Drinks Indicative of Diet Quality (not sweet) by Year - 2001 to 2006: Expenditure and Food Survey data (g/person/day)

Food	2001 Mean 95% CI	2002 Mean 95% CI	2003 Mean 95% CI	2004 Mean 95% CI	2005 Mean 95% CI	2006[1] Mean 95% CI	*P-value for Linear Association*
HH Total Red Meat[2]	56.7 52.4 - 61.1	56.8 53.1 - 60.6	58.9 54.9 - 62.9	54.4 50.7 - 58.0	54.9 51.5 - 58.3	53.0 49.3 - 56.7	*0.097*
EO Total Red Meat[2]	6.3 5.4 - 7.2	6.3 5.7 - 6.9	5.8 5 - 6.6	5.4 4.4 - 6.4	5.8 4.9 - 6.6	5.7 4.9 - 6.6	*0.241*
HH Bacon and Ham	11.1 9.9 - 12.3	10.5 9.4 - 11.7	11.1 9.9 - 12.4	10.2 9.3 - 11.1	10.6 9.7 - 11.4	10.5 9.3 - 11.6	*0.429*
EO Bacon and Ham	0.4 0.3 - 0.5	0.4 0.3 - 0.5	0.5 0.3 - 0.6	0.5 0.4 - 0.6	0.5 0.4 - 0.6	0.7 0.5 - 0.8	***0.025***
HH Other Red Meat Products[2]	24.2 21.8 - 26.6	24.1 22.0 - 26.1	26.4 24.4 - 28.4	23.5 21.3 - 25.7	24.5 22.4 - 26.6	21.7 19.6 - 23.8	*0.134*
EO Other Red Meat Products[2]	4.5 3.8 - 5.1	4.4 3.9 - 4.8	4.3 3.7 - 5.0	3.5 2.8 - 4.1	3.9 3.2 - 4.5	3.7 3.1 - 4.3	***0.033***
HH Butter	6.0 5.1 - 7.0	5.6 4.8 - 6.4	5.5 4.2 - 6.7	6.0 5.0 - 6.9	6.7 5.5 - 7.9	7.2 5.9 - 8.4	*0.092*
HH Whole Milk	91.6 75.8 - 107	85.2 72.9 - 97.5	89.7 74.1 - 105	68.1 56.2 - 79.9	59.2 47.1 - 71.2	71.4 56.9 - 85.8	***<0.001***
HH Semi-skimmed Milk	126 111 - 140	125 113 - 138	125 112 - 137	124 110 - 138	136 122 - 150	127 113 - 141	*0.527*
HH Skimmed Milk	14.8 8.9 - 20.8	12.5 8.6 - 16.5	9.2 6.0 - 12.5	13.4 8.6 - 18.2	14.1 9.1 - 19.1	14.4 10.6 - 18.1	*0.768*
HH Total Milk	247 231 - 262	244 230- 259	240 222 - 258	222 205.5 - 238	221 208 - 235	229 213 - 244	***0.015***
EO Total Milk	3.6 2.6 - 4.6	5.0 3.2 - 6.8	4.5 3.0 - 6.0	5.0 3.2 - 6.7	3.5 2.0 - 5.1	4.0 2.2 - 5.9	*0.810*
HH Processed Potatoes	19.8 17.6 - 22.1	20.1 18.0 - 22.3	20.4 18.1 - 22.7	18.2 16.1 - 20.2	17.2 14.9 - 19.5	17.7 15.6 - 19.8	***0.036***
EO Processed Potatoes	10.0 8.6 - 11.5	9.4 8.2 - 10.6	8.0 7.0 - 9.0	6.8 5.7 - 8.0	7.5 6.1 - 8.8	7.4 6.4 - 8.4	***0.001***
HH Savoury Snacks	11.8 10.7 - 13.0	11.8 10.7 - 13.0	12.1 11.1 - 13.1	10.3 9.2 - 11.5	10.5 9.2 - 11.8	10.6 9.5 - 11.6	***0.030***
EO Savoury Snacks	2.5 2.1 - 2.8	2.2 1.8 - 2.6	2.1 1.8 - 2.5	1.3 1.0 - 1.7	1.6 1.3 - 2.0	1.5 1.2 - 1.8	***<0.001***
HH Takeaway Foods	19.3 16.7 - 21.9	22.9 20.2 - 25.7	20.3 17.8 - 22.9	19.3 16.3 - 22.2	20.0 16.9 - 23.1	20.5 17.7 - 23.2	*0.751*
n Households	*619*	*585*	*546*	*590*	*566*	*577*	
n People	*1414*	*1342*	*1266*	*1329*	*1285*	*1365*	
n People Weighted[3]	*5015*	*4967*	*4952*	*4948*	*4939*	*4906*	

Household and eating out consumption combined; [1]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 2005/2006 and the 2006 results; [2]Meat portion only – see appendices 3 & 4 for methodology; [3]The results are weighted to the Scottish population - the number provided is approximately 1000th of the Scottish pop[n]