

A REVIEW OF FOOD CONSUMPTION AND NUTRIENT INTAKES FROM NATIONAL SURVEYS IN SCOTLAND: COMPARISON TO THE SCOTTISH DIETARY TARGETS

COMMISSIONED BY THE FOOD STANDARDS AGENCY SCOTLAND

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EXECUTIVE SUMMARY

Introduction

It is well established that dietary patterns in Scotland contribute to high rates of chronic diseases such as heart disease, obesity, type 2 diabetes, high blood pressure, stroke and certain types of cancer. Food and Nutrient based dietary targets for Scotland were set by the Scottish Office in the 1996 Scottish Diet Action Plan, Eating for Health. These were set for achievement in 2005. However, more recently, the Scottish Executive's public health policy document 'Improving Health in Scotland: The Challenge' (2003) sets out a commitment to further implementation of the Scottish Dietary Targets until at least 2010. A key recommendation of the report on the Working Group on Monitoring Scottish Dietary Targets (SDTs) was that in 2005, use should be made of existing surveys, particularly the Expenditure and Food Survey (EFS) to monitor the SDTs. Subsequently the Scottish Diet Action Plan Review Panel requested data relating to the earlier report on the Scottish Diet (Scottish Office, 1993) where a more extensive set of dietary changes were proposed. In addition, at the request of the Scottish Food and Health Council, the Food Standards Agency Scotland commissioned further analysis of the EFS data by the Scottish Index of Multiple Deprivation and Urban Rural Classification.

Purpose

The purpose of this report is to review recent national dietary and health surveys and, with re-analysis where appropriate, compare the results with the Scottish Dietary Targets. The usefulness of the surveys are discussed in terms of the methods used, presentation of results, and strengths and weaknesses for monitoring diet and nutrition in Scotland.

Methods

Three types of surveys were reviewed:

1. Household Budget Surveys use food purchase records:
 - National Food Survey (NFS) - Scotland, all years from 1996-2000
 - Expenditure and Food Survey (EFS) - Scotland 2001/2002, 2002/2003 and 2003/2004
2. National Diet and Nutrition Surveys (NDNS) use 7 day weighed food records:
 - NDNS 1997 - Scotland - young people aged 4-18 years
 - NDNS 2001 - Scotland - adults aged 19-64 years
3. Health Surveys use questionnaires:
 - Scottish Health Survey (SHS) 1995 Adults aged 16-64
 - Scottish Health Survey (SHS) 1998 Children aged 2-15 and Adults 16-74
 - Scottish Health Survey (SHS) 2003 Children aged 0-15 and Adults 16+
 - Health Education Population Survey (HEPS) 1996-2004

Analysis of progress towards the SDTs was made where appropriate data was available. Results were compared and discussed relative to the SDTs.

Data from the NFS of 1996 was adjusted to be comparable with the EFS to provide baseline information relevant to the time of the formulation of the SDTs. The EFS data (combined for three years) has been further analysed by The Scottish Index of Multiple Deprivation (in quintiles) and the Urban Rural Classification (simplified into 3 categories).

Key Findings

Different methodologies are used for the surveys resulting in variations in the way that results can be presented and compared with the SDTs.

Expenditure and Food Survey (EFS) / National Food Survey (NFS)

- These surveys contain the most appropriate data for measuring progress towards both the food and nutrient SDTs.
- The NFS and EFS are based on food purchases rather than individual food intakes.
- Using a standardised methodology to calculate food intakes from the NFS and EFS data from 1996 to 2004 it was demonstrated that although some progress has been made towards the target for total fat, little progress has been made in achieving the food based SDTs. and that progress towards the other nutrient based targets has been insignificant. Furthermore the consumption of Non Milk Extrinsic Sugars (NMES) appears to be rising.
- Analysis of the EFS (2001 - 2004) by the Scottish Index of Multiple Deprivation (SIMD) showed that the most deprived quintiles consume significantly less fruit and vegetables. In the most deprived quintile mean consumption was 183g compared to 312g in the least deprived quintile. Consumption of brown/wholemeal bread, breakfast cereals (all types and wholegrain/high fibre) and oil-rich fish was highest in the least deprived quintile.
- Despite the differences seen in food consumption between SIMD quintiles, further analysis in relation to the nutrient targets showed no differences in total complex carbohydrates, the percentage of energy from fat and saturated fatty acids. However NMES was significantly lower (14.6% of food energy) in the least deprived quintile compared with the 3 most deprived quintiles (16.4% of food energy in quintiles 1 to 3).
- Analysis of the EFS by the Urban Rural Classification (unadjusted for deprivation) indicated that the fruit and vegetable intake was highest in the remote rural localities as were brown/wholemeal bread, breakfast cereals (all types and wholegrain/high fibre), and oil-rich fish. No differences were seen in regard to nutrient targets.

Scottish Health Survey (SHS)

- The SHS does not provide a record of the whole diet and is therefore unable to provide suitable (numerical) food and nutrient data, with the possible exception of fruit and vegetables, to compare with the SDTs. This survey does however use samples representative of the Scottish population and can show broad trends in certain foods related to the SDTs, and differences between socio-economic groups.
- An apparent increase in fruit and vegetable consumption in the SHS from 1995 to 1998 may be due to the inclusion of fruit juice in the fruit and vegetable category in the later survey. No increase is apparent for 1998 - 2003.
- Like the EFS, the SHS 2003 showed a clear and marked social class gradient in fruit and vegetable intake with the most deprived consuming daily

intakes broadly equivalent to 160g, approximating to 2 portions and the least deprived consuming an average intake of 3.25 portions of fruit and vegetables per day.

- The SHS 2003 also showed that a higher percentages (54-73%) of children aged 5-15 years in the most deprived fifth of the SHS 2003 sample consumed energy dense foods (sweets and chocolates, sugared drinks, chips, meat products, and savoury snacks) regularly compared to those in the least deprived fifth (26-47%).

Health Education Population Survey (HEPS)

- The HEPS does not provide a record of the whole diet and is therefore unable to provide suitable (numerical) food and nutrient data to compare with the SDTs. Like the SHS this survey uses samples representative of the Scottish population and can show broad trends in a limited number of foods related to the SDTs, and differences between socio-economic groups.
- The HEPS showed an increase in reported consumption of fruit and vegetables (from 2.8 in 1996, to 3.6 portions in 2004). Clearly this is still some way short of the “5 a day” target, but unlike the EFS suggests that improvements have been made. However, this increase could simply reflect an increasing tendency to over-report fruit and vegetable consumption as awareness of the “5 a day” message has increased.

National Diet and Nutrition Surveys (NDNS)

- The NDNS uses the robust dietary survey method of the 7 day weighed diary but the sample for Scotland (n=123 in 2000) is small and therefore not representative.
- Food and nutrient intakes calculated from the NDNS were similar to those calculated for Great Britain overall and with the exception of fat confirmed that the population SDTs had not been met in 2000 (19-64 year olds). Non-milk extrinsic sugar intake calculated from the NDNS of young people carried out in 1997 was more than 17% of food energy and considerably higher than the SDT of 10%.

Conclusion

The 4 types of surveys reviewed all concur that the SDTs would not be met in 2005. The Expenditure and Food Survey 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). The results reported here suggest a small improvement (reduction) in fat as percentage of food energy. Conversely there was no improvement in fruit and vegetables, bread, breakfast cereal and fish consumption over the period of 1996 to 2003/2004 and an increase in NME sugar intake.

The Scottish Health Survey and Health Education and Population Survey ask participants about their perceived intake of fruit and vegetables and the increases recorded may be due to increasing awareness of the importance of fruit and

vegetable consumption (information bias). The strength of these surveys is that they can be used to monitor differences due to deprivation, sex and age. However they can only be used to provide information on food consumption in broad terms. In 2005 the results from the most recent Scottish Health Survey provided information on fruit and vegetable intakes which were very similar to these reported for 1998.

Actual consumption, calculated from food purchases suggests little improvement to date and is based on a standard measure of what is included in the various food target categories across the years. It is of particular concern that consumption of foods targeted for increased consumption are significantly lower in the most deprived groups of the population.

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. Clear inequalities have been shown in food consumption for the period 2001-2004 with those living in areas of low deprivation and very rural areas having an intake of fruit and vegetables and oil rich fish nearer to the SDTs. In future years it be possible to monitor progress towards the Scottish Dietary Targets by deprivation groups and urban rural categories.

Summary of progress towards the Scottish Dietary Targets: Results from the National Food Survey (NFS) 1996 compared with the Expenditure and Food Survey (EFS) 2003/2004

Target Food / Nutrient	Target	NFS 1996	EFS 2003/04	Change
Fruit and Vegetables	More than 400g per day	249g	246g	no change
Bread (all types)	154g per day	133g	116g	↓
Brown / Wholemeal Bread	More than 77g per day	26.5g	19.7g	↓
Breakfast Cereals (all types)	34g per day	18.2g	17.7g	no change
Oil Rich Fish	88g per week	35.1g	31.8g	no change
White Fish	No decrease (figures per week)	107g	75.2g	↓
Fat	35% of food energy or less	39.6%	37.6%	↓
Saturated Fat	11% of food energy or less	15.6%	15.2%	no change
NME Sugars	No increase	13.6%	16.7%	↑
Total Complex Carbohydrates	155g per day	143g	141g	no change

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LIST OF ABBREVIATIONS USED

CI	Confidence Interval
95% CI	95% Confidence Interval
DEFRA	Department of the Environment, Food and Rural Affairs
DEPCAT	Deprivation Category
EFS	Expenditure and Food Survey
g	gram
GB	Great Britain
HEPS	Health Education Population Survey
IQR	Interquartile Range
kcal	kilocalorie
kJ	kilojoule
MAFF	Ministry of Agriculture, Fisheries and Food
MJ	Megajoule = 1000 kJ
n	number
NDNS	National Diet and Nutrition Survey
NFS	National Food Survey
NHS	National Health Service
NME	Non Milk Extrinsic
NSP	Non Starch Polysaccharides
QUIN	Quintile
RNI	Reference Nutrient Intake
SDAP	Scottish Diet Action Plan
SDT	Scottish Dietary Target
SDTs	Scottish Dietary Targets
SHS	Scottish Health Survey
SIMD	Scottish Index of Multiple Deprivation
UK	United Kingdom
URC	Urban Rural Classification
>	greater than
<	less than
x	multiplied by
%	percent / percentage
% Food Energy	Percentage Food Energy
+	plus

EXPLANATORY NOTE ON SOME TERMS USED IN THE REPORT

Confidence Interval (CI)	A range of values that, it is estimated includes a population statistic, at a specific level of confidence.
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 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.
Interquartile range (IQR)	The range for the middle 50% of cases.
Mean	The sum of all scores in a distribution divided by the total number of cases.
Median	The value that divides the data in half, 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.
Non-milk extrinsic sugars (NME sugars)	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.
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.
Sodium	Sodium chloride is the chemical name for salt. 100mmol of sodium, as used in the SDAP, is equivalent to 6g of salt.
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.
% Food Energy	The percentage of food energy intake derived from a macronutrient i.e. fat, carbohydrate or protein.
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 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 (3 & 6) 3 = Remote small towns, remote rural and very remote rural (4,5, 7& 8)

Scottish Executive Urban Rural Classification	
(source http://www.scotland.gov.uk/library5/rural/seurc-02.asp)	
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.

1. BACKGROUND

1.1 Introduction

The Scottish diet is notoriously high in fat, salt and sugar and low in fruit and vegetables. Next to smoking, our diet is the single most significant cause of our poor health, contributing to a range of serious illnesses, which includes coronary heart disease, certain cancers, strokes, osteoporosis and diabetes.

Towards a Healthier Scotland, 1999

In 1993 a Scottish Office report on the Scottish Diet (Scottish Office, 1993) brought together evidence that dietary patterns in Scotland were contributing to high rates of chronic diseases such as heart disease, obesity, type 2 diabetes, high blood pressure, stroke, and certain forms of cancer. The report also estimated what changes would be needed to the Scottish diet to achieve current UK dietary recommendations. Following on, the proposed changes were established as Scottish Dietary Targets (SDTs) in the Scottish Diet Action Plan (SDAP) (Scottish Office, 1996). The dietary targets shown in Table 1 are a mixture of nutrient and food based targets, and were reconfirmed in the recent strategic framework for Food and Health, which also established the Scottish Food & Health Council (Scottish Executive, 2004a). Although the SDTs were originally to be achieved by 2005, the timescale for this has now been extended to 2010 (Scottish Executive, 2004a).

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 NME sugars in adults not to increase Average intake of NME sugars in children to reduce by half i.e. to less than 10% of total energy
Total Complex Carbohydrates	Increase average non-sugar carbohydrates (NSP and starch) intake by 25% from 124g (to155g) per day

The baseline figures quoted in Table 1 were those published in the SDAP in 1996, which were originally derived from the National Food Surveys of 1989-1991 and were therefore an indication of food and nutrient intake at that time.

From 1986/1987 survey (Gregory *et al.*, 1990).

NME sugars: These are also known as added or free sugars and are found in sweets, biscuits, soft drinks, added to breakfast cereals, table sugar, honey and fruit juice. They are not in milk or integrally present in the cells of food such as fruit and vegetables.

The dietary targets shown in Table 2 are food based targets which were included in the Scottish Diet report in 1993 but not in the SDAP in 1996.

Table 2: Dietary targets included in the Scottish Diet report but not the Scottish Diet Action Plan

Food Targets	
Cakes and Pastries	Cakes, biscuits and pastry intake to reduce by half
Meat	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

In Scotland today there is a major programme of activity aimed at improving the diet and nutritional status of the Scottish population, many aspects of which involve considerable investment of resources (Scottish Executive, 2004a). As part of evaluating this programme it is necessary to establish a method of measuring food consumption and nutrient intake in the Scottish population with a view to monitoring progress towards the dietary targets.

It is crucial to establish a method of assessing progress towards achieving the dietary targets, which can be used for continued monitoring.

There are a number of sources of information about the current Scottish diet. The major sources are from surveys that include data collected about diet, nutrition and food, including food purchases. A working group convened to explore how to monitor progress towards the SDTs concluded that “there is no single existing survey currently capable of assessing progress towards all the SDTs”, but that “the Expenditure and Food Survey (EFS) should be used to monitor progress towards the Scottish Dietary Targets”, (Food Standards Agency Scotland, 2004).

The Working Group on Monitoring Scottish Dietary Targets concluded that “the Expenditure and Food Survey should be used to monitor progress towards the Scottish Dietary Targets in 2005 and beyond”.

There are considerable differences in the information on food and nutrition provided by the various national surveys. This is due to variations in dietary assessment methodology, analysis and presentation of results. It is important to identify how useful these surveys are individually and/or collectively for monitoring the SDTs and, more broadly, for measuring improvements in diet and nutrition in the Scottish population into the future. In addition relevant findings from surveys can play a major role informing the future direction of health improvement strategies.

Evidence from the last 20 years has shown that those from the lower socioeconomic groups have a poorer diet in terms of vitamins and minerals (Gregory *et al.*, 1990), fruit and vegetable consumption (Wrieden *et al.*, 1993; Hunt *et al.*, 2000, Henderson *et al.*, 2002) and overall quality (Bolton-Smith, 1991, James *et al.* 1997,

Wrieden *et al.*, 2004). Inequalities in health have been acknowledged and tackling inequalities has become a major policy issue (Scottish Executive, 2003) with considerable resources being earmarked for deprived communities. It is therefore important to monitor whether the widening social gradient reported in dietary habits from 1986 to 1995 (Wrieden *et al.*, 2004) is now being reduced.

1.2 Purpose

The purpose of this report is to assess recent national Scottish dietary and health surveys and, where necessary, carry out further analysis to compare the results with the Scottish Dietary Targets.

The usefulness of the surveys are discussed in terms of the methods used, presentation of results, and strengths and weaknesses for monitoring diet and nutrition in Scotland.

1.3 Baseline data for 1996

The baseline figures quoted in Table 1 were those published in the SDAP in 1996. These were originally derived mainly from the National Food Surveys (NFS)¹ of 1989-1991 and were therefore an indication of food and nutrient intake at that time. These 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, 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. For this reason wholegrain/high fibre breakfast cereals consumption has been reported as well as all varieties of breakfast cereals, as it is these cereals that are likely to make a positive contribution to improving the dietary intake.

¹ National Food Survey (NFS) was predecessor of the Expenditure and Food Survey (EFS)

OIL RICH FISH

Estimates of oil rich fish 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 processing of canned 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 from the NFS of 1996 will be used as a comparison to the current food and nutrient intakes. There are three reasons why this is a logical comparison, these are:

- Food and drink eaten outside the home, sweets and confectionery were included in the NFS from 1994 onwards.
- The Scottish Diet Action Plan was published in 1996, establishing the Scottish Dietary Targets.
- A standardised method has now been established to calculate food consumption and nutrient intake in 1996 and for subsequent years of the NFS and EFS.

Table 3 illustrates the difference between the baseline figures published in the Scottish Diet Action Plan derived from NFS 1989-1991 and the revised figures for 1996 calculated from the NFS 1996.

Table 3: Baseline food and nutrient intakes from the Scottish Diet Action Plan 1989-91 and revised figures from 1996

Target Food / Nutrient	Unit	Scottish Dietary Targets Baseline ¹	NFS ¹ 1996
Fruit and Vegetables	g/day	181 ²	249.1 ³
Bread (all types)	g/day	106	132.9
Brown / Wholemeal Bread	g/day	-	26.5
Breakfast Cereals (all varieties)	g/day	17	18.2
Wholegrain / High Fibre Breakfast Cereals	g/day	-	9.8
Oil Rich Fish	g/week	44 ⁴	35.1
White Fish	g/week	-	106.8
Fresh Potatoes (not including chips or potato products)	g/day	-	99.0
Fat	% Food Energy	40.7	39.6
Saturated Fat	% Food Energy	16.6	15.6
NME Sugars	% Food Energy	-	13.6
Total Complex Carbohydrates	g/day	124 ⁵	143 ⁶

¹ Does not include foods eaten out, sweets and confectionery

² Includes only fresh and frozen fruit and vegetables

³ Includes all types of fruit and vegetables (including fruit juice, vegetable juice and baked beans)

⁴ Includes canned tuna

⁵ Starch only

⁶ Starch and non starch polysaccharide

1.4 Surveys on food consumption and nutrient intake

The Report of the Working Group on Monitoring Scottish Dietary Targets stated:

“There is no single survey currently taking place in Scotland capable of measuring progress towards all the Scottish Dietary Targets”

In particular it was acknowledged that new surveys were required to determine NME sugar intake in children and sodium intake in the Scottish population. It is not valid to assess salt (sodium) intake from dietary records. This is because dietary sodium is derived mainly from processed foods (with major variation in levels of added salt) and, to a lesser extent, salt added in cooking and at the table, which is difficult to measure. For this reason sodium intake in population groups has to be estimated from urinary sodium output. The following national surveys were considered by the working group to be suitable for assessing current food and nutrient intakes in the Scottish population. Where necessary these surveys have been further analysed to provide the figures presented in this report.

Table 4: Surveys providing information on food and nutrient intake in Scotland

1. Households Budget Surveys use food purchase records:
 - National Food Survey (NFS) - Scotland, all years from 1996-2000
 - Expenditure and Food Survey (EFS) - Scotland 2001/2002, 2002/2003 and 2003/2004
2. National Diet and Nutrition Surveys (NDNS) use 7 day weighed food records:
 - NDNS 1997 - Scotland - young people aged 4-18 years
 - NDNS 2001 - Scotland - adults aged 19-64 years
3. Health Surveys use questionnaires:
 - Scottish Health Survey (SHS) 1995 Adults aged 16-64
 - Scottish Health Survey (SHS) 1998 Children aged 2-15 and Adults 16-74
 - Scottish Health Survey (SHS) 2003 Children aged 0-15 and Adults 16+
 - Health Education Population Survey (HEPS) 1996-2004

1.4.1 Presentation of results: descriptive statistics

Data from the surveys was obtained from the UK Data Archive or from data sheets published on the internet. Where possible population average intakes of foods and nutrients relating to the SDTs have been re-calculated taking into account the accepted definitions of oil rich fish and fruit and vegetables.

The existing surveys are limited by a range of factors including:

- The number in the sample and representation of the Scotland population
- The frequency of the surveys
- The ability of the dietary methods used to assess the foods and nutrients listed as Scottish Dietary Targets
- The validity of the survey data for analysis by subgroups of the population e.g. children to assess the target for NME sugars

The population average figures for food consumption and nutrient intake have been presented as means with 95% confidence intervals and, where possible, medians and interquartile ranges. For nutrients contributing to energy intake (e.g. fat, saturated fat and NME sugars) figures are presented for the nutrient as a % of food energy.

Mean

The mean intake is calculated by summing all the 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% confidence interval (95% 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.

Median

The median is the middle value of a set of figures. 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, 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 non milk extrinsic sugars) to be placed relative to the target.

1.4.2 Strengths and weaknesses of the surveys analysed

Expenditure and Food Survey (EFS); formerly National Food Survey (NFS)

The Expenditure and Food Survey and its predecessor the National Food Survey are annual household budget surveys designed to collect information about household food and expenditure. The EFS provides a valuable source of information about the food consumption and nutrient intake of the population. However it is not designed to measure intakes of specific individuals. Further details about the design of the EFS/NFS are discussed in a previous report (Wrieden et al., 2003). In brief the NFS collected household food purchase data for 7 days from the main purchaser in each household. The EFS collects similar data but from every person over 7 years in each household for 14 day period. The length of time the food diaries are kept (14 days) is a major strength of this study. This is because, for most foods and nutrients the balance of intake is over more than 7-10 days. Methods that assess diet over three or less days are less likely to give an accurate measure of intake. To make the two sets of data comparable NFS data on household food and drink consumption is adjusted to be comparable to the EFS.

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 and low consumers 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.
- Because it records food acquisitions rather than consumption, it is 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 to consumption in the home
- It can be used to assess all the Scottish Dietary Targets (apart from salt and NME sugars in children), using assumptions on the varieties and composition of food groups which were developed for the present report.
- It is carried out annually and 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 Scottish Index of Multiple Deprivation (SIMD) (for more information see Scottish Executive, 2005) and urban rural classifications (URC) (for more information see Scottish Executive, 2004b).

Disadvantages

- The information is based on food purchased rather than actually eaten, so a 10% wastage factor is assumed for all foods, which may be too low for some e.g. fruit and vegetables.
- Information produced is an estimate of the consumption of a typical household member so no information can be obtained on consumption of sub-groups e.g. children.
- Median figures cannot be derived.
- Changes occurred in methodologies between NFS and EFS. However corrections have been applied so that the surveys are comparable.

Scottish Health Survey (SHS)

The Scottish Health Survey (SHS) is a cross sectional survey of a nationally representative sample of the population of Scotland. Further details about the design of the SHS are discussed in a previous report (Wrieden et al., 2003).

The dietary assessment methodology used is an interview where participants are asked to answer questions about their diet. The eating habits module is the questionnaire used to assess dietary behaviour and was developed for use in the 1995 SHS. It is a short, simple food list (approximately 24 questions) on frequency of consumption of a limited number of foods and food groups and as such is an indicator of reported dietary consumption about these particular foods only. It is not a comprehensive record of the whole diet, nor can it be used to calculate the quantity of foods and nutrients consumed.

The Scottish Health Survey provides information on the frequency of consumption of a few foods but is unable to quantify food or nutrient intakes. However it is useful for assessing limited aspects of dietary intake (e.g. fruit and vegetables) between sub groups of the population.

In 1995 only adults aged 16-64 were included in the survey (Joint Health Surveys Unit, 1997). The second SHS in 1998 (Shaw et al., 2000) used virtually the same dietary questionnaire as 1995, with one or two minor adjustments. Also in 1998 children aged 2-15 and older adults aged 65-74 were included in the survey.

The third and most recent Scottish Health Survey (SHS) in 2003 (Bromley et al., 2005) covered the adult population aged 16 and over, and children aged 0-15. It included the eating habits modules providing similar quantitative information as in 1998 but with two significant improvements:

- i The module was extended to include a series of questions on fruit and vegetable intake. This replaced the questions on fruit and vegetable intake used in previous surveys allows portions sizes to be estimated.
- ii The consumption of canned tuna is asked in a separate question, thus allowing the consumption of oil rich fish to exclude canned tuna.

Advantages

- The SHS covers a representative sample of around 13,000 individuals which is adequate to do analysis on sub-groups of the population.
- The 1998 and 2003 (but not the 1995) surveys included children years and older adults.
- The first SHS survey (1995) was carried out around the time the Scottish Dietary Targets first published. Results from the latest survey (2003) are now available.
- The 2003 survey provides estimates of fruit and vegetable intakes.

Disadvantages

- The SHS questions on foods are limited and it is not possible to derive portion sizes or nutrient intakes.
- There have been changes in the foods included in group categories such as fruit and vegetables and oil rich fish between the three surveys.

Health Education Population Survey (HEPS)

The Health Education Population Survey (NHS Health Scotland, 2005) began in 1996, and is carried out annually (with two waves at 6 month intervals). The principle aim of the HEPS survey is to collect the data required to monitor progress towards achieving the aims of NHS Scotland's work in terms of health improvement. The indicators presented concern knowledge, attitudes, and changes in behaviour/health status of adults. The most recent report (NHS Health Scotland, 2005) uses fruit and vegetable consumption as the main indicator of overall dietary patterns. Further details on the design of the HEPS are discussed in a previous report (Wrieden et al., 2003).

Advantages

- The HEPS was established in 1996 and has been carried out annually since then (apart from the year 2000).
- HEPS covers around 1,800 adults aged 16-74 each year allowing sub-groups analysis by age, sex and socio-economic indicators. It also provides information on knowledge and attitudes to healthy eating.

Disadvantages

- The dietary questions are limited to fruit and vegetables and a short list of other foods in broad categories. It is not possible to derive nutrient intakes.
- No information is available on children.
- Answers are likely to be influenced by respondent bias.
- Medians are not given.

National Diet and Nutrition Survey (NDNS)

The National Diet and Nutrition Survey (NDNS) programme is a joint initiative between the Food Standards Agency and the Department of Health and aims to provide comprehensive, cross-sectional information on the dietary habits and nutritional status of the population of Great Britain. The results from the 2 most recent surveys have been analysed for this report.

- Adults aged 19-64 years in 2000/2001 (Henderson et al., 2002; Henderson et al., 2003a; Henderson et al., 2003b and Ruston et al., 2004).
- Young people aged 4-18 years in 1997 (Gregory et al., 2000).

For both surveys a weighed dietary record of 7 consecutive days was used. This provides information on food and nutrient intakes. Further details about the design of the NDNS are discussed in a previous report (Wrieden et al., 2003). However the Scottish sample in each survey is small (less than 200) and does not allow for sub group analysis.

Advantages

- National Diet and Nutrition surveys (NDNS) up to 2003 have been based on the respected weighed diet record method which can provide information on

intake of all foods and nutrients in the whole population and selected sub-groups e.g. children.

- Mean and median results can be calculated and thus provide information on any skewed distributions of food intakes.

Disadvantages

- The NDNS typically includes 200 or fewer participants from Scotland, and does not include households north of the Caledonian Canal e.g. in the 2000/01 adult survey only 123 individuals from Scotland gave valid dietary data.
- The survey has only been carried out once in adults over 65 years, and children 4-18 years (1997) so cannot be used to assess changes.
- Two surveys have been carried out in adults up to the age of 65 years, but the first survey was carried out in 1986/87 i.e. considerably before the Scottish Dietary Targets were set, and the second survey was carried out in 2000/01, so provides limited information on recent progress.
- Weighed diet records are difficult for participants and may be subject to under-reporting and response bias, which reduces the reliability of the results for assessing population trends.
- Oil rich fish category includes canned tuna so cannot be compared with Scottish Dietary Targets in the current analysis.

Table 5 summarises the comparisons between the surveys included in this report.

Table 5: Summary of ability of the four surveys used to monitor progress towards Scottish Dietary Targets

	Scottish sample size	Frequency of survey over the period 1996-2005	Timing of surveys over the period 1996-2005	Suitability of dietary methods to measure Scottish Dietary Targets	Provision of separate results for children
NFS/EFS	***	***	***	**	—
SHS	***	**	**	*	*
HEPS	***	***	***	—	—
NDNS	—	—	—	***	***

*** Good ** Acceptable * Weak — Unsatisfactory

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

2.1 Household Budget Surveys

2.1.1. National Food Survey

Data for Scotland (1996-2000) for mean food and drink consumption and nutrient intake per person per day were provided by the Department of Environment and Rural Affairs (DEFRA). Data were obtained for household foods and foods eaten outside the home separately. The data on household food and drink consumption were adjusted to be comparable to the Expenditure and Food Survey (EFS) using factors provided by DEFRA. The eating out food and drink consumption data and the nutrient intakes have not been adjusted as factors are not yet available from DEFRA. However a further adjustment was made to food consumption and nutrient intake data to take account of wastage; this was set at 10% in line with that used by DEFRA when comparing nutrient intake (of purchases) to reference nutrient intakes (RNI) (Department of Health, 1991). Analysis was carried out to provide mean food consumption and nutrient intake. A detailed methodology can be found in Appendix 1. Briefly, food consumption data was selected using food mapping information provided by DEFRA which was linked to the EFS coding frames (Appendix 2) and mean figures calculated. Using factors provided by DEFRA the household food data from the National Food Survey (NFS) of 1996 -2000 was adjusted to be comparable with the EFS to provide baseline information relevant to the time of the formulation of the Scottish Dietary Targets (SDTs).

2.1.2. Expenditure and Food Survey

Detailed coding frames were designed (Appendix 2), listing the foods forming part of each dietary target and some further food groups of interest, namely cooking fats and oils, and takeaway foods. These provided a definite list for future calculations using the EFS and allow a standardised methodology to allow comparison of 'like with like'. EFS data becomes available in 2 stages; firstly mean food consumption and energy and nutrient intakes are published on the Defra website, secondly raw data becomes available which can be used for further analysis. Preliminary analysis of food consumption and nutrient intake for Scotland was calculated for 2001/2002-2003/2004 using the Excel data sheets available on the Defra website. These results were used as a check on the more detailed analysis carried out on the raw data as it became available. This meant that results were calculated by two different methods and provided a means of quality control.

The original data files on food and drink purchases for 2001/02, 2002/03 and 2003/04 were obtained from the UK Data Archive and linked to files containing information on calculation factors, SIMD and URC (data on SIMD and URC were provided by the Office for National Statistics). Mean food consumption; energy and nutrient intakes and 95% confidence intervals (95% CI) were calculated as a 3 year average, by year, by SIMD and by URC (for detailed method see Appendix 2). Medians could not be calculated due to the weightings applied to calculate intakes per person. All data were adjusted by subtracting 10% to take account of wastage.

2.2. Scottish Health Survey (SHS)

The main data files for SHS 1995 and 1998 were obtained from the UK Data Archive. Foods which related to Scottish dietary targets were re-coded and where necessary new variables derived (for fruit and vegetables, foods high in NME sugars). Further analysis was carried out to calculate median (with IQR) and mean (with 95% CI) frequency of consumption of foods related to achieving the SDTs. To illustrate the capacity of the SHS to allow for sub group analysis an example was analysed to show fruits and vegetable consumption by social class in young people. The 2003 Scottish Health Survey followed on from the Scottish Health Surveys of 1995 and 1998. The sample is cross sectional, nationally representative and large enough to allow sub-group analysis and linking to other health outcomes and measures of inequality. Details of the design of the survey are available from the main report (Bromley et al., 2005). The eating habits module was first developed for the 1995 SHS to collect dietary information using a simple food list questionnaire (approx. 24 questions) to measure frequency of consumption of limited number of foods. The questions were similar but not identical in 1995 and 1998, and then in 2003 some changes were made to improve accuracy of some questions e.g. oil rich fish. The 2003 survey included a new section measuring fruit and vegetable consumption on the day preceding the survey interview. For the purposes of this report survey information on food consumption has been extracted and interpreted from the main report for the 2003 survey (the raw data file was not available at the time of the analysis). The aims were to provide a brief description of consumption patterns for key food indicators: bread, cereals and energy dense foods compared to the 1998 survey where possible. In addition information on inequalities in food consumption were explored with a couple of examples presented using the 2004 Scottish Index of Multiple Deprivation.

2.3. Health Education Population Survey (HEPS)

For the purposes of this paper findings relating to fruit and vegetable consumption have been extracted from the recent report on the HEPS survey 1996-2004 (NHS Scotland, 2005).

2.4 National Diet and Nutrition Survey

Results related to the SDTs for adults were reanalysed for the 2000/2001 NDNS of adults (Henderson et al., 2002; Henderson et al., 2003a; Henderson et al., 2003b and Ruston et al., 2004) and food energy and non-milk extrinsic sugars are reported from the 1997 survey of 4-18 year-olds (Gregory et al., 2000). The original data files were obtained from the UK Data Archive and calculations of the median with inter-quartile ranges (IQR) and mean with 95% CI intakes of food and nutrients calculated for males and females combined.

The Report of the Working Group (Food Standards Agency Scotland 2004) acknowledged the fact that the Scottish sample for the NDNS in its current form was too small to be representative and that existing NDNS data should not be used to monitor progress towards the SDTs. However the analysis provided a useful support to the food and nutrient data calculated from the EFS/NFS. Results are shown for the Scottish sample only and the whole of Great Britain (including Scotland) for comparison. For the adult survey bread is calculated as 'all bread' and 'brown/wholemeal bread'. Breakfast cereals are calculated as 'all breakfast cereals', and as 'high fibre and wholegrain breakfast cereals' (most of which have added

sugar). An adjustment was made to porridge to convert the wet weight to dry oats to make it comparable with the SDT. Each wet portion weight of porridge/hot oat cereal was divided by 8.03 (calculated from recipe in food composition tables, FSA, 2002) to get a dry weight which was subsequently summed with other breakfast cereals to give overall individual totals and averages for the groups. Oil rich fish includes canned tuna (low in omega 3 fatty acids, MAFF, 1998) as well as other canned varieties (it is possible to obtain a figure for oil rich fish excluding canned tuna, but this would require a more complex analysis).

3. RESULTS

3.1 National Food Survey/Expenditure and Food Survey

Food consumption and nutrient intakes (means) relating to the SDTs (Table 1) and other dietary targets (Table 2) are presented from 1996 through to 2003/2004. Confidence intervals were only able to be calculated for the EFS. More detailed results are given in Appendix 3. Food consumption and nutrient intakes for Scotland are presented for the combined data from the EFS 2001/2002 through to 2003/2004 by quintiles of the SIMD distribution and the URC in 3 groups (1.Urban; 2.Accessible small towns/ rural and 3.Remote small towns/rural/very remote rural).

3.1.1 Food Consumption relating to the Scottish Dietary Targets 1996-2004

Fruit and Vegetables

Table 6 and Figure 1a show that there was no increase in mean consumption of fruit and vegetables in the population from 1996 to 2004. Mean daily consumption for all fruit and vegetables (including fruit and vegetable juices and baked beans) was 249g in 1996 and 246g in 2003/04, which equates to 3 portions per day and considerably less than the target of 400g or more per day. The contribution of fruit and vegetables to the overall total showed little change over the period (Figure 1b).

It should be noted that the addition of fruit juice increases the consumption figures by the equivalent of half a portion (Appendix 3 Table 2).

Table 7 and Figure 1c show a clear gradient in fruit and vegetable consumption by SIMD quintiles. In the most deprived quintile (Quintile 5) mean consumption was 183g compared to 312g in the least deprived quintile (Quintile 1). Examination of the 95% confidence intervals of the mean consumption of in the 3 least deprived quintiles show that these were significantly different from that in the Quintiles 4 and 5.

Table 8 and Figure 1d show that mean fruit and vegetable consumption was highest in the remote small towns/rural/very remote rural category of the URC (322g). Mean consumption in the accessible small town/rural category (274 g) was significantly higher than in the urban category (241g). It should be noted that these results were not adjusted for deprivation and are likely to be due in part to the higher level of deprivation found urban areas. Over half (52%) of subjects in the urban category (1) were in the 2 most deprived quintiles for SIMD compared with 26% in the accessible small town/rural category (2) and 18% in the remote small towns/rural/very remote rural category.

Other foods in relation to the SDTs

Over the same period, total bread and brown/wholemeal bread consumption appeared to fall (Table 6, Figure 2a), as did that of white fish and fresh potatoes.(Table 6) However examination of the 95% confidence intervals showed that there were no significant changes in consumption over the period 2001-2004. Although it was not possible to calculate confidence intervals for the NFS data (which was obtained directly from DEFRA) if similar confidence intervals are assumed for the NFS data it is likely that the differences between the 1996 and 2003-2004 figures are significant.

Consumption of breakfast cereals and oil rich fish (Table 6 and Figures 3a & 4a) has fluctuated but essentially stayed about the same as it was in 1996.

Consumption of brown/wholemeal bread, breakfast cereals (all types and wholegrain/high fibre) and oil-rich fish were highest in the least deprived quintile (Table 7 and Figure 2c, 3b, 3c & 4b) but total bread and fresh potato consumption was highest in the most deprived quintile (Table 7 and Figure 2b). Higher mean consumption for all foods was seen for the remote small towns/rural/very remote rural areas compared to more urban areas (Table 8 and Figures 2d, 2e, 3d, 3e & 4c) but the small sample of the remote small towns/rural/very remote rural category led to a large confidence interval and no conclusions could be drawn except for white fish (Table 8) where mean consumption was significantly higher in the remote small towns/rural/very remote rural (104g weekly) compared to the urban (71.4g weekly) category. There was a significantly higher consumption of wholegrain types of bread and cereals (Figures 2e and 3 e) in the accessible small towns/ rural areas compared to urban. As for fruit and vegetables these differences are likely to be linked to deprivation differences.

Table 6: Consumption of the Scottish Diet Action Plan (1996) Target Foods: National Food Survey and Expenditure and Food Survey data 1996-2004 (g per person/day with the exception of fish g per person/week). Household and eating out consumption combined.

Food	National Food Survey ¹					Expenditure and Food Survey		
	1996	1997	1998	1999	2000	2001 / 2002	2002 / 2003	2003 / 2004
	H=775 P=1885	H=550 P=1347	H=541 P=1341	H=541 P=1263	H=546 P=1320	H=618 P=1412	H=585 P=1342	H=546 P=1266
	Mean	Mean	Mean	Mean	Mean	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Fruit and Vegetables (including fruit and vegetable juice and baked beans)	249	261	258	248	234	255 (239 - 271)	263 (246 - 280)	246 (229 - 263)
Bread (all types)	133	132	122	128	122	126 (120 - 132)	124 (118 - 130)	116 (110 - 122)
Brown / Wholemeal Bread	26.5	26.6	22.9	23.7	19.3	21.5 (19.1 - 23.9)	22.4 (20.0 - 24.8)	19.7 (17.3 - 22.1)
Breakfast Cereals (all varieties)	18.2	18.2	18.9	16.5	15.8	18.1 (16.1 - 20.0)	18.1 (16.2 - 20.0)	17.7 (15.7 - 19.6)
Wholegrain / High Fibre Breakfast Cereals	9.8	9.9	9.7	8.0	7.6	9.3 (7.9 - 10.7)	9.7 (8.3 - 11.1)	9.5 (8.1 - 10.9)
Oil Rich Fish	35.1	36.0	36.0	36.7	31.4	28.4 (24.0 - 32.8)	30.9 (25.6 - 36.2)	31.8 (25.5 - 38.0)
White Fish	106.8	84.5	75.5	83.0	68.4	77.6 (69.8 - 85.4)	73.1 (65.4 - 80.7)	75.6 (66.7 - 84.6)
Fresh Potatoes (not including processed potato products)	99.0	89.0	78.1	84.9	83.6	79.1 (70.6 - 87.6)	70.3 (63.0 - 77.5)	67.9 (61.5 - 74.3)

H = Number of Households

P = Number of Members of Households

¹ This data is supplied solely for use in the work of the Food Standards Agency and is not to be copied, reproduced or published in any format without prior reference to DEFRA.

Fuller tables of results are given in Appendix 3, Tables 1 & 2.

Table 7: Consumption of the Scottish Diet Action Plan (1996) Target Foods by Scottish Index of Multiple Deprivation Quintile (SIMD): Expenditure and Food Survey data 2001-2004 (g per person/day with the exception of fish g per person/week). Household and eating out consumption combined.

Food	SIMD Quintile 1	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5
	H=298 P=740	H=352 P=841	H=351 P=793	H=382 P=836	H=366 P=810
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Fruit and Vegetables (including fruit and vegetable juice and baked beans)	312 (287 - 337)	294 (271 - 317)	273 (251 - 295)	216 (199 -233)	183 (166 - 200)
Bread (all types)	112 (105 - 119)	115 (108 - 121)	125 (117 - 133)	124 (117 - 132)	133 (124 - 142)
Brown / Wholemeal Bread	26.6 (23.2 - 30.1)	25.0 (21.8 - 28.2)	20.7 (17.7 - 23.7)	18.5 (15.5 - 21.6)	15.5 (12.9 - 18.1)
Breakfast Cereals (all varieties)	21.3 (18.5 - 24.2)	21.2 (18.5 - 23.9)	18.0 (15.8 - 20.1)	15.2 (13.0 - 17.5)	14.2 (12.0 - 16.5)
Wholegrain / High Fibre Breakfast Cereals	13.2 (10.8 - 15.5)	11.7 (9.8 - 13.7)	8.5 (7.0 - 10.0)	8.0 (6.4 - 9.6)	6.2 (4.7 - 7.6)
Oil Rich Fish	41.3 (33.1 - 49.4)	32.5 (26.2 - 38.9)	31.5 (24.6 - 38.4)	26.9 (18.9 - 34.9)	20.7 (15.9 - 25.4)
White Fish	75.7 (64.7 - 86.7)	80.2 (70.0 - 90.3)	77.8 (66.3 - 89.4)	73.5 (63.8 - 83.1)	70.0 (59.6 - 80.4)
Fresh Potatoes (not including processed potato products)	55.7 (49.3 - 62.0)	75.3 (63.7 - 86.9)	80.4 (69.5 - 91.3)	75.5 (67.7 - 83.4)	74.0 (64.1 - 83.8)

H = Number of Households

P = Number of Members of Households

SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Table 8: Consumption of the Scottish Diet Action Plan (1996) Target Foods by Urban Rural Classification Category (URC): Expenditure and Food Survey data 2001-2004 (g per person/day with the exception of fish g per person/week). Household and eating out consumption combined.

Food	URC 1	URC 2	URC 3
	H=1181 P=2698	H=445 P=1064	H=123 P=258
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Fruit and Vegetables (including fruit and vegetable juice and baked beans)	241 (229 - 252)	274 (255 - 293)	322 (278 - 366)
Bread (all types)	121 (117 - 126)	122 (115 - 128)	128 (116 - 140)
Brown / Wholemeal Bread	19.2 (17.6 - 20.7)	25.2 (22.1 - 28.3)	25.7 (20.4 - 31.0)
Breakfast Cereals (all varieties)	16.9 (15.5 - 18.2)	19.4 (17.2 - 21.5)	23.7 (18.3 - 29.0)
Wholegrain / High Fibre Breakfast Cereals	8.6 (7.6 - 9.5)	11.0 (9.3 - 12.6)	13.1 (9.1 - 17.2)
Oil Rich Fish	30.4 (26.3 - 34.4)	27.4 (22.8 - 32.0)	43.3 (29.0 - 57.6)
White Fish	71.4 (66.1 - 76.7)	79.0 (69.4 - 88.6)	104 (77.0 - 130)
Fresh Potatoes (not including processed potato products)	67.1 (62.6 - 71.7)	82.6 (71.9 - 93.3)	86.3 (69.7 - 103)

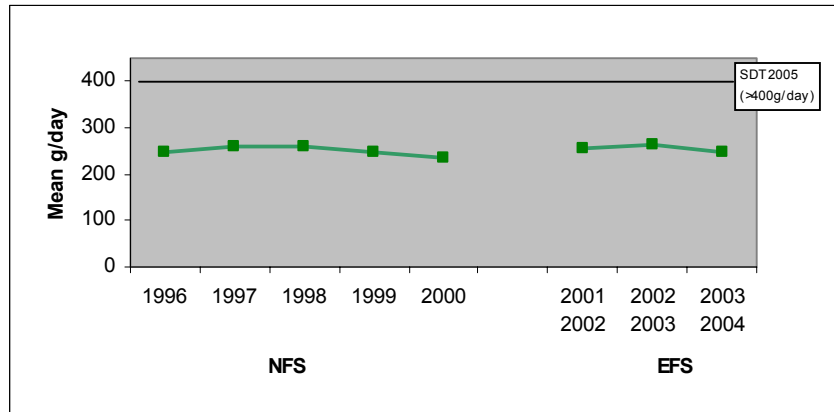
H = Number of Households

P = Number of Members of Households

URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

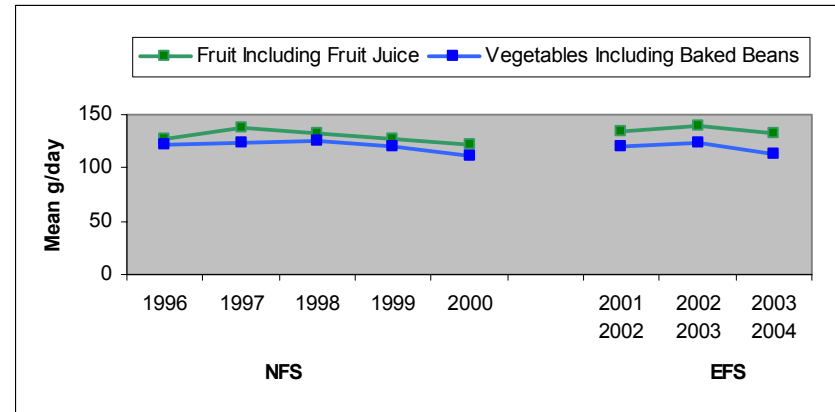
Figure 1: Mean daily fruit and vegetable consumption: National Food Survey / Expenditure and Food Survey

Figure 1a: Population level total fruit and vegetable consumption 1996-2003/2004 compared with SDT



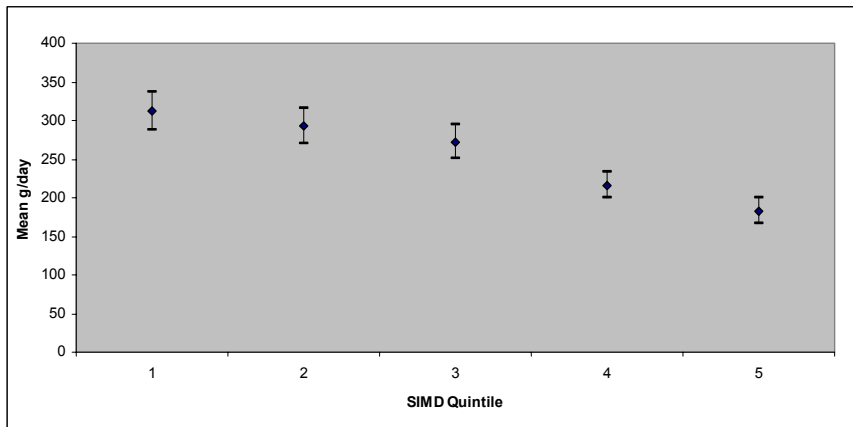
NFS = National Food Survey; EFS = Expenditure and Food Survey

Figure 1b: Population level fruit and vegetable consumption separately 1996-2003/2004



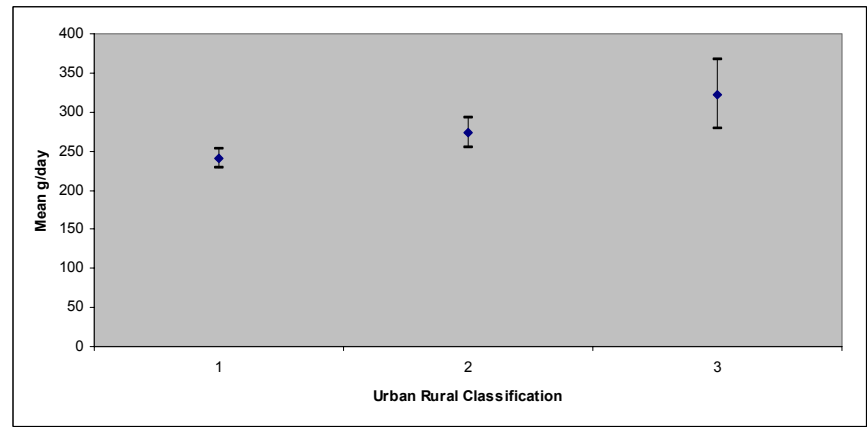
NFS = National Food Survey; EFS = Expenditure and Food Survey

Figure 1c: Mean (with 95% confidence intervals) fruit and vegetable consumption (2001/2002-2003/2004) by SIMD quintiles



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

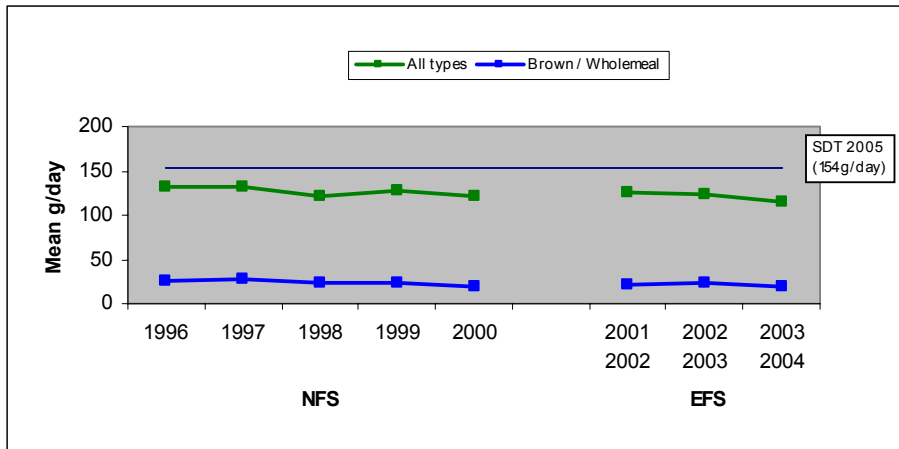
Figure 1d: Mean (with 95% confidence intervals) fruit and vegetable consumption (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

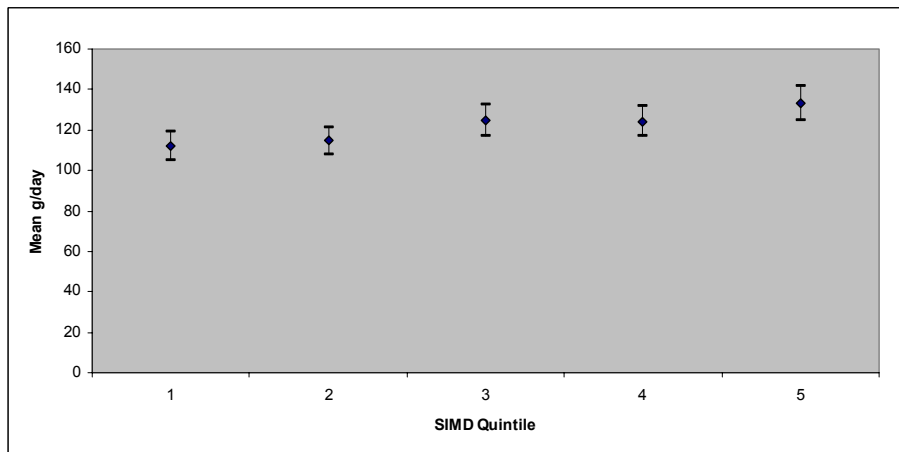
Figure 2: Mean daily bread consumption: National Food Survey / Expenditure and Food Survey

Figure 2a: Population level bread consumption 1996-2003/2004 compared with SDT



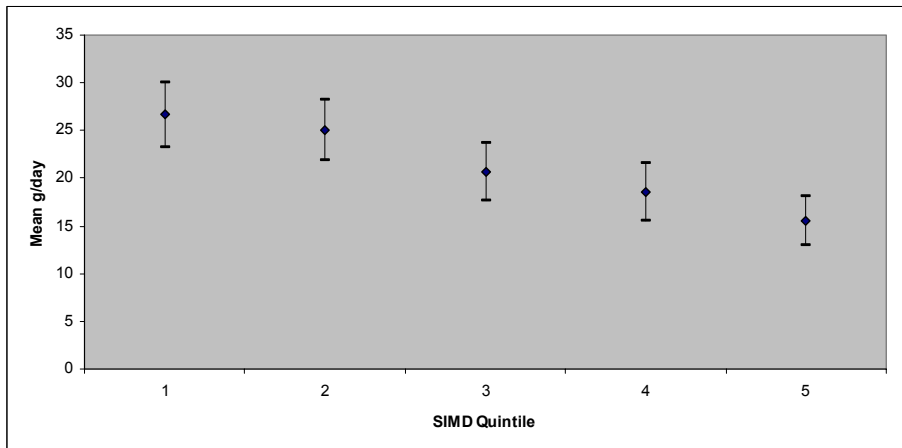
NFS = National Food Survey; EFS = Expenditure and Food Survey

Figure 2b: Mean (with 95% confidence intervals) bread (all types) consumption (2001/2002-2003/2004) by SIMD quintiles



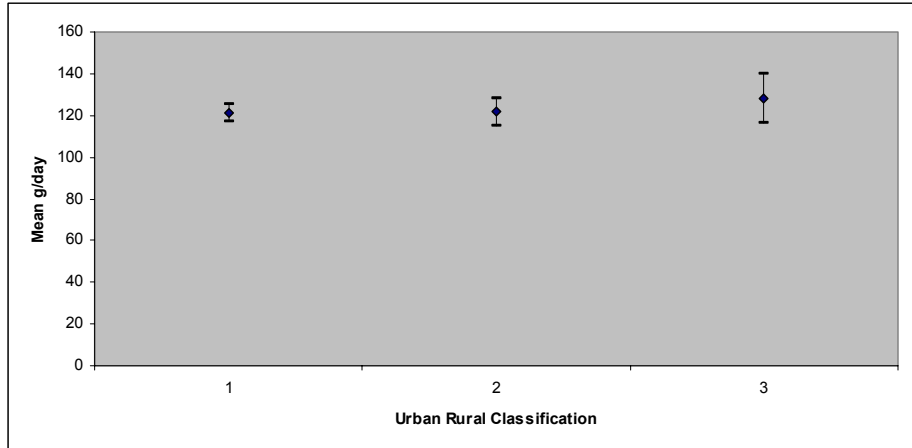
SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Figure 2c: Mean (with 95% confidence intervals) brown / wholemeal bread consumption (2001/2002-2003/2004) by SIMD quintiles



SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Figure 2d: Mean (with 95% confidence intervals) bread (all types) consumption (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

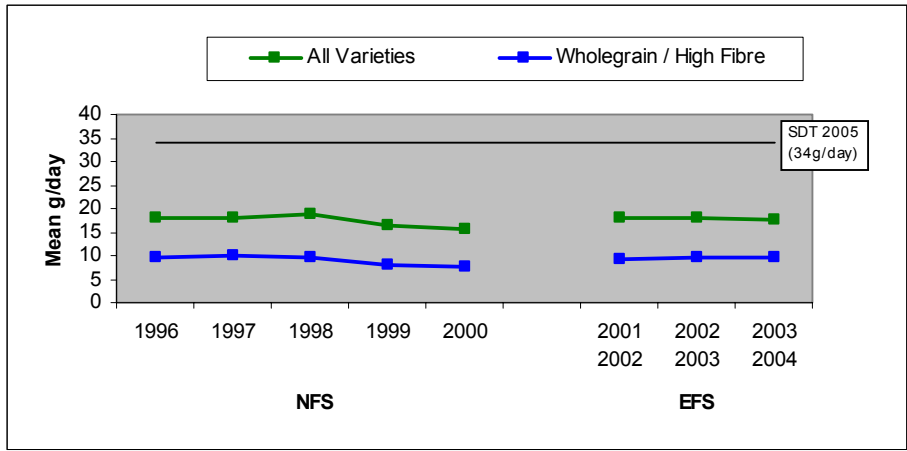
Figure 2e: Mean (with 95% confidence intervals) brown / wholemeal bread consumption (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

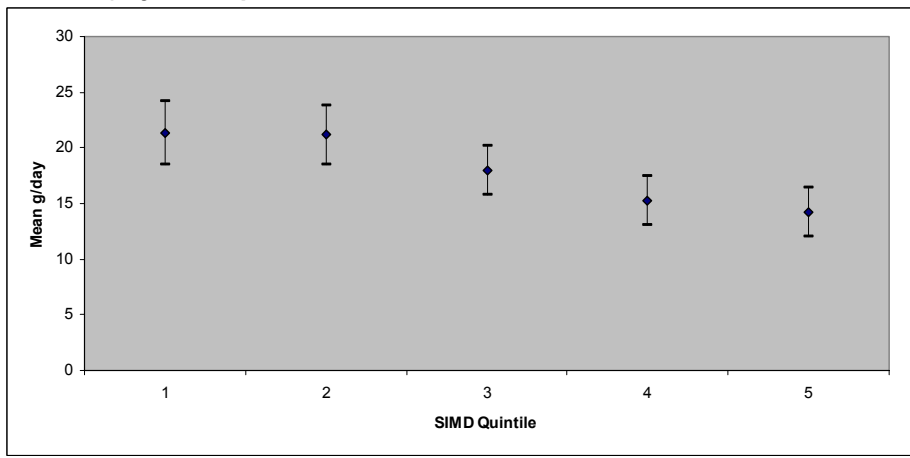
Figure 3: Mean daily breakfast cereal consumption: National Food Survey / Expenditure and Food Survey

Figure 3a: Population level breakfast cereal consumption 1996-2003/2004 compared with SDT



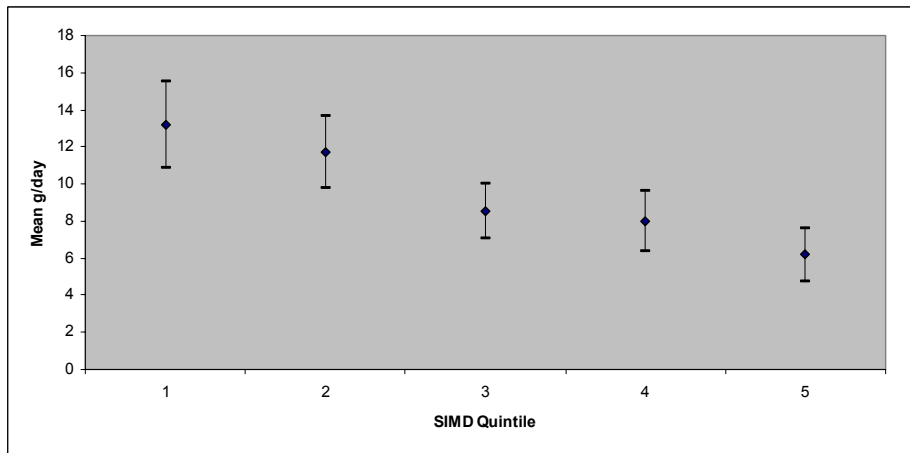
NFS = National Food Survey; EFS = Expenditure and Food Survey

Figure 3b: Mean (with 95% confidence intervals) breakfast cereal (all varieties) consumption (2001/2002-2003/2004) by SIMD quintiles



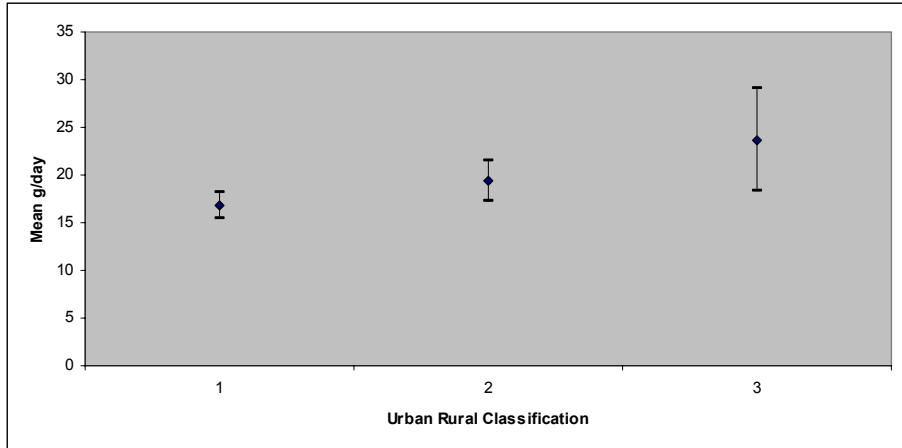
SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Figure 3c: Mean (with 95% confidence intervals) wholegrain / high fibre breakfast cereal consumption (2001/2002-2003/2004) by SIMD quintiles



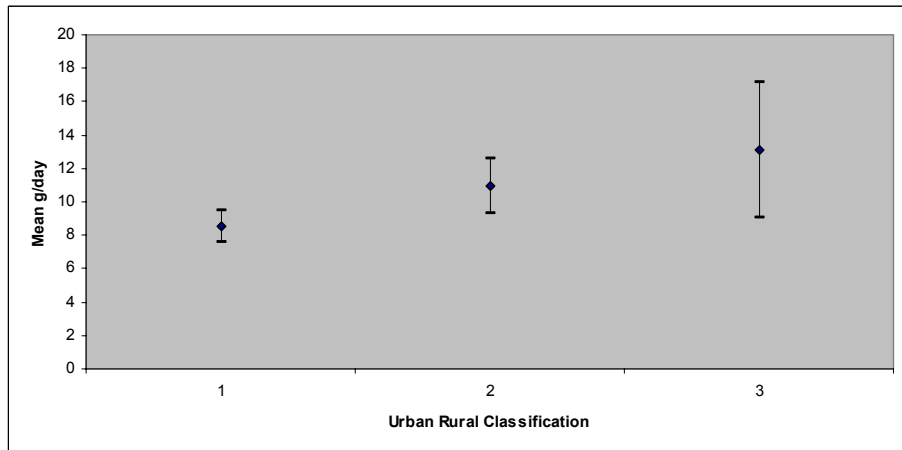
SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Figure 3d: Mean (with 95% confidence intervals) breakfast cereal (all varieties) consumption (2001/2002-2003/2004) by Urban Rural Classification (URC)



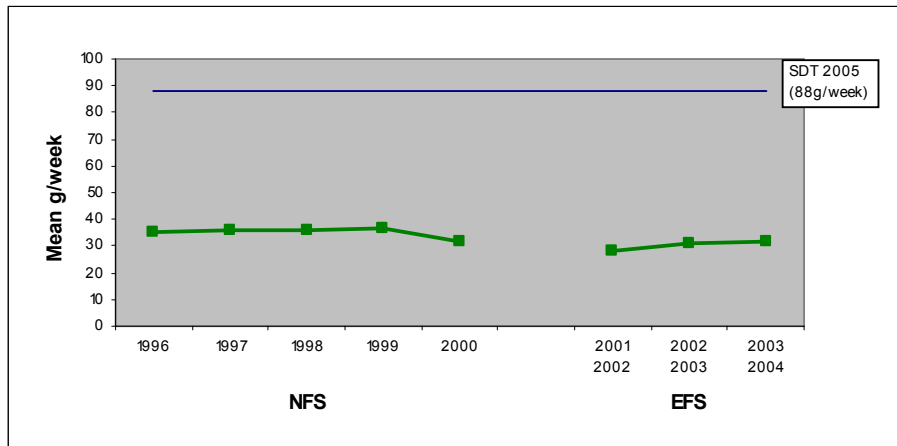
URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 3e: Mean (with 95% confidence intervals) wholegrain / high fibre breakfast cereal consumption (2001/2002-2003/2004) by Urban Rural Classification (URC)



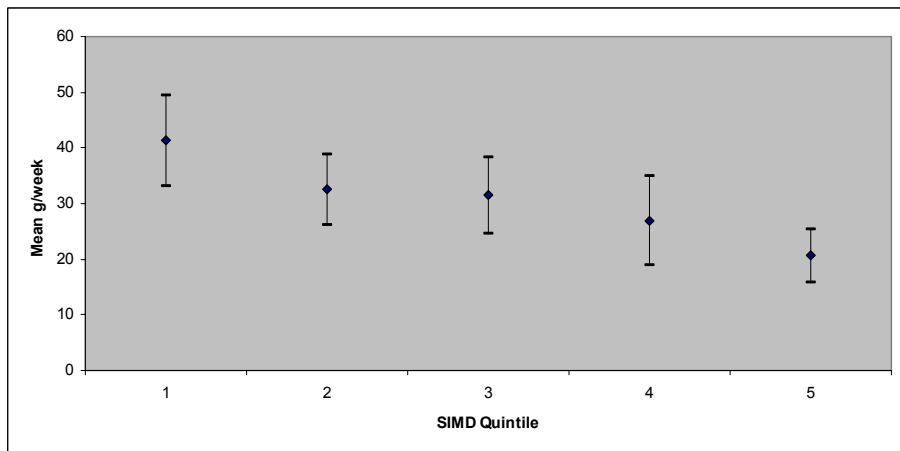
URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 4: Mean daily oil rich fish consumption: National Food Survey / Expenditure and Food Survey
Figure 4a: Population level oil rich fish consumption 1996-2003/2004 compared with SDT



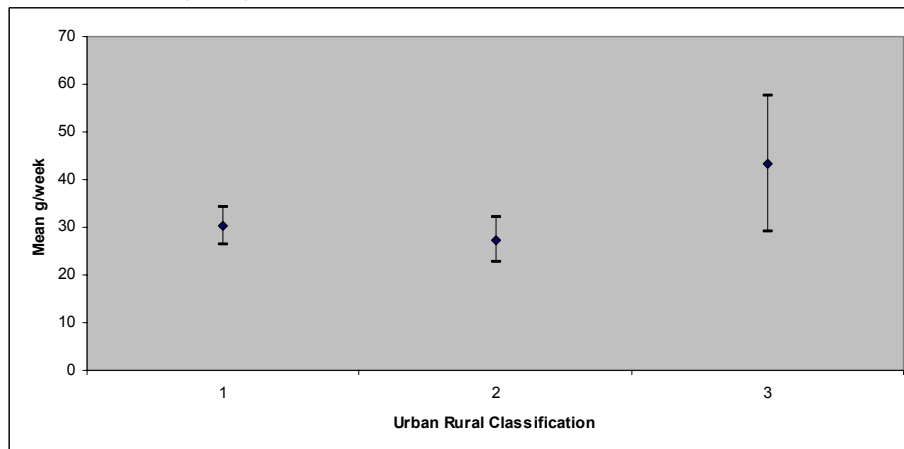
NFS = National Food Survey; EFS = Expenditure and Food Survey

Figure 4b: Mean (with 95% confidence intervals) oil rich fish consumption (2001/2002-2003/2004) by SIMD quintiles



SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Figure 4c: Mean (with 95% confidence intervals) oil rich fish consumption (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

3.1.2 Nutrient intake relating to the Scottish Dietary Targets 1996-2004

Fat

In 2003/2004 fat intake had decreased from the 1996 figure by 2.0% to 37.6% food energy towards the target of 'not >35% food energy (Table 9 and Figure.5a). Saturated fatty acid intake was similar to 1996, at 15.2% food energy, compared to the target of 'not >11% food energy (Table 9 and Figure 6a). Examination of the 95% confidence intervals showed that there were no significant changes over the period 2001-2004. Although it was not possible to calculate confidence intervals for the NFS data (which was obtained directly from DEFRA) if similar confidence intervals are assumed it is likely that the difference in percentage of energy from fat (but not saturated fat) was significantly lower in 2003/2004 than in 1996 and represents an improvement towards the dietary target of less than 35%.

Table 10 and Figure 6b show that there were no differences in percentage of food energy from fat, or saturated fatty acids when compared by SIMD quintiles. No differences were seen between URC groups (Table 11 and Figure 6c)

Non milk extrinsic sugars (NME sugars)

There has been an increase in NME sugars intake from 13.6% to 16.7% food energy which is likely to have a negative effect on overall dietary intake (Table 9 and Figure 7a). Examination of the 95% confidence intervals demonstrated a significant increase in the percentage of food energy from NME sugar from 2001/2002 (14.9-16.0%) to 2003/2004 (16.1-17.3%).

Table 10 and Figure 7b shows that NMES was significantly lower (13.9-15.3% of food energy) in the least deprived quintile compared with the 3 most deprived quintiles (15.7-17.2% of food energy in quintiles 3 to 5).

No differences were seen when the percentage of energy from NMES was compared by URC groups (Table 11 & Figure 7c)

Total Complex Carbohydrates

There has been little change in the intake of total complex carbohydrates which have remained stable at approximately 140g per day over the period 1996-2004 (Table 9 and Figure 8a).

Table 10 and Figure 8b show that there were no differences in total complex carbohydrates when compared by SIMD quintiles although there was a lower non-starch polysaccharide (NSP) intake in the most deprived quintile compared with the least deprived (Quintile 1) and quintiles 2 and 3.

No differences were seen between URC groups (Table 11 & Figure 8c).

Discontinuities between NFS and EFS on graphs may be partially explained by differing methodologies between the NFS and the EFS, namely:

- Adjustments have been made to household food consumption to control for this BUT no factors have been devised as yet by Defra for eating out foods.
- NFS to EFS adjustment factors for nutrient intake are not yet available from DEFRA for Regional Data; therefore the nutrient intake data have not been adjusted.
- Children did not have their own diaries in the NFS and this may explain some of the increase in snack type foods in the EFS.

Table 9: National Food Survey and Expenditure and Food Survey nutrient intake data 1996–2004 (units per person per day). Household and eating out intakes combined.

Nutrient	Unit	1996	1997	1998	1999	2000	2001/02		2002/03		2003/04	
		H=775 P=1885	H=550 P=1347	H=541 P=1341	H=541 P=1263	H=546 P=1320	H=618 P=1412		H=585 P=1342		H=546 P=1266	
		Mean	Mean	Mean	Mean	Mean	Mean	95% CI	Mean	95% CI	Mean	95% CI
Fat	% Food Energy	39.6	38.1	39.0	37.8	37.9	37.7	37.1 - 38.4	37.4	36.8 - 37.9	37.6	37.0 - 38.2
Saturated Fat	% Food Energy	15.6	15.5	15.6	15.2	15.5	15.1	14.9 - 15.4	15.2	14.9 - 15.4	15.2	14.9 - 15.5
NMES	% Food Energy	13.6	13.8	13.9	13.5	14.1	15.4	14.9 - 16.0	15.9	15.3 - 16.4	16.7	16.1 - 17.3
Starch	g	132	130	124	128	122	135	131 - 140	135	130 - 141	129	124 - 134
NSP	g	11	11	11	11	10	12.1	11.6 - 12.5	12.1	11.6 - 12.6	11.7	11.2 - 12.1
Total Complex Carbohydrates	g	143	141	135	138	133	147	142 - 152	147	141 - 153	141	135 - 146

H = Number of Households

P = Number of Members of Households

1 This data is supplied solely for use in the work of the Food Standards Agency and is not to be copied, reproduced or published in any format without prior reference to DEFRA.

The above figures are derived directly from raw data. Missing food weights have been replaced with average food weights. A fuller breakdown of results including household and eaten out intakes is given in Appendix 3, Table 4.

Table 10: Expenditure and Food Survey nutrient intake data 2001–2004 (units per person per day) by Scottish Index of Multiple Deprivation (SIMD) Quintiles. Household and eating out intakes combined.

Nutrient	Unit	SIMD Quintile 1		SIMD Quintile 2		SIMD Quintile 3		SIMD Quintile 4		SIMD Quintile 5	
		H=298 P=740		H=352 P=841		H=351 P=793		H=382 P=836		H=366 P=810	
		Mean	95% Confidence Interval	Mean	95% Confidence Interval	Mean	95% Confidence Interval	Mean	95% Confidence Interval	Mean	95% Confidence Interval
Fat	% Energy	37.9	37.1 - 38.6	37.4	36.7 - 38.1	37.6	36.8 - 38.3	37.3	36.6 - 38.0	37.7	36.9 - 38.5
Saturated Fat	% Energy	15.2	14.9 - 15.6	15.2	14.8 - 15.5	15.3	15.0 - 15.7	15.2	14.8 - 15.5	15.0	14.6 - 15.3
NMES	% Energy	14.6	13.9 - 15.3	15.8	15.2 - 16.5	16.5	15.7 - 17.3	16.5	15.7 - 17.2	16.4	15.6 - 17.1
Starch	g	134	126 - 141	129	123 - 136	136	129 - 142	132	126 - 138	136	129 - 143
NSP	g	12.8	12.2 - 13.5	12.5	11.8 - 13.1	12.2	11.6 - 12.8	11.4	10.9 - 12.0	10.9	10.3 - 11.5
Total Complex Carbohydrates	g	146	139 - 154	142	135 - 149	148	141 - 155	143	137 - 149	147	139 - 154

SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Table 11: Expenditure and Food Survey nutrient intake data 2001–2004 (units per person per day) by Urban Rural Classification Category. Household and eating out intakes combined.

Nutrient	Unit	URC 1		URC 2		URC 3	
		H=1181 P=2698		H=445 P=1064		H=123 P=258	
		Mean	95% Confidence Interval	Mean	95% Confidence Interval	Mean	95% Confidence Interval
Fat	% Energy	37.5	37.1 - 37.9	37.9	37.2 - 38.6	37.3	35.8 - 38.8
Saturated Fat	% Energy	15.1	14.9 - 15.3	15.3	15.0 - 15.7	15.1	14.3 - 15.8
NMES	% Energy	16.1	15.7 - 16.5	15.6	15.0 - 16.2	16.7	14.9 - 18.5
Starch	g	133	125 - 141	133	115 - 150	139	98.7 - 179
NSP	g	11.7	11.0 - 12.4	12.4	10.7 - 14.1	13.2	9.4 - 16.9
Total Complex Carbohydrates	g	145	136 - 153	145	125 - 164	152	108 - 196

URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 5: National Food Survey / Expenditure and Food Survey mean daily fat (% of food energy) intake

Figure 5a: Population level fat (% of food energy) intake compared with SDT

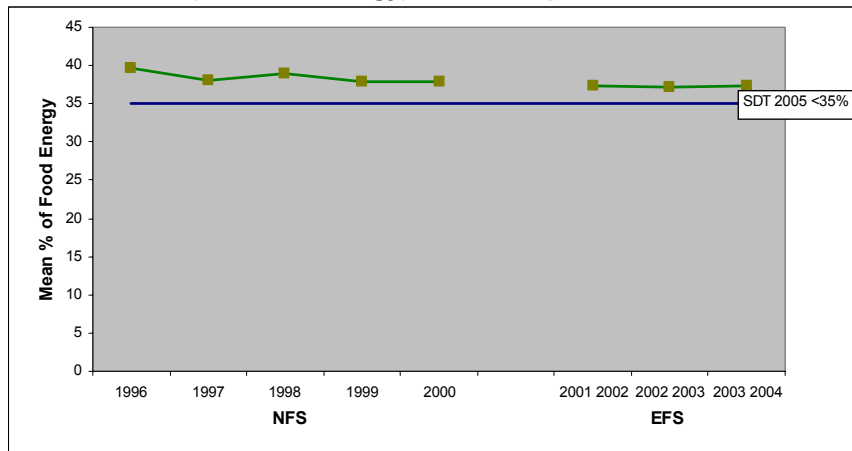
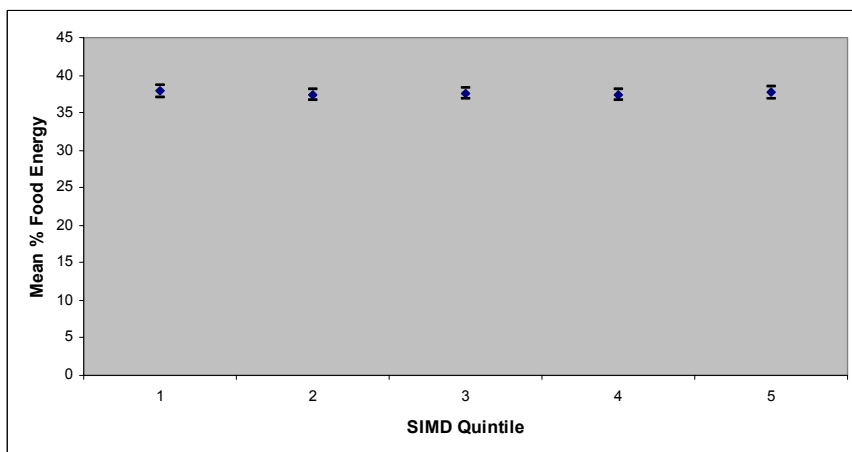
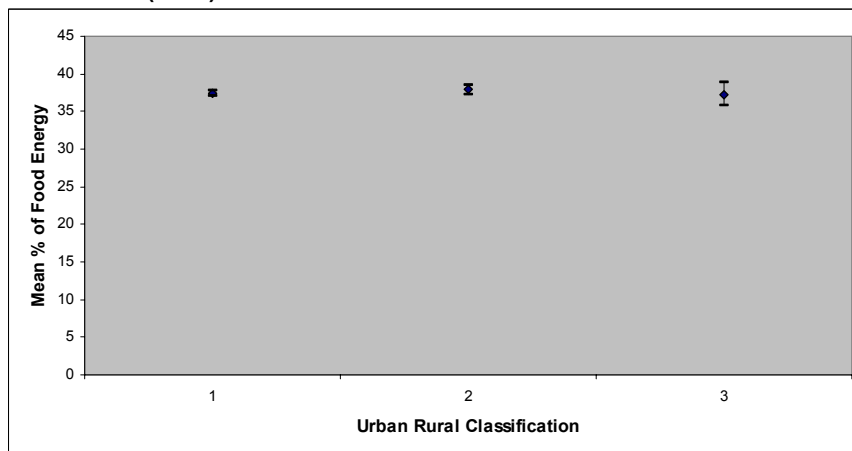


Figure 5b: Mean (with 95% confidence intervals) fat (% of food energy) intake (2001/2002-2003/2004) by SIMD quintiles



SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Figure 5c: Mean (with 95% confidence intervals) fat (% of food energy) intake (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 6: National Food Survey / Expenditure and Food Survey mean daily saturated fatty acid (% of food energy) intake

Figure 6a: Population level saturated fatty acid (% of food energy) intake compared with SDT

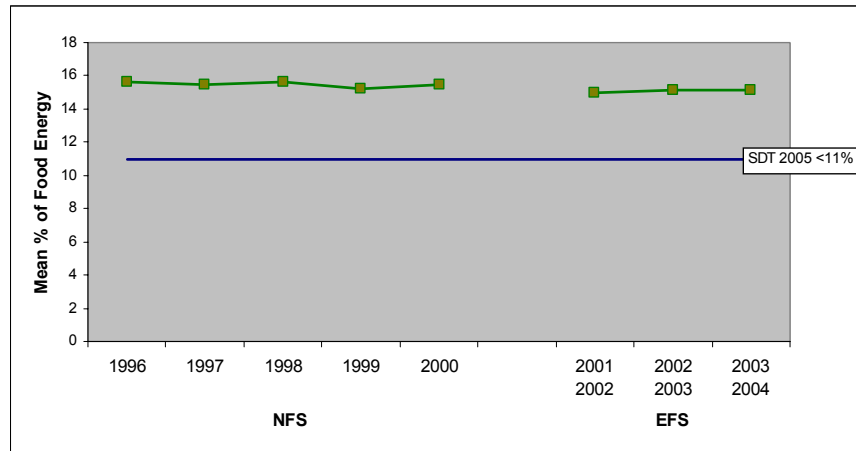
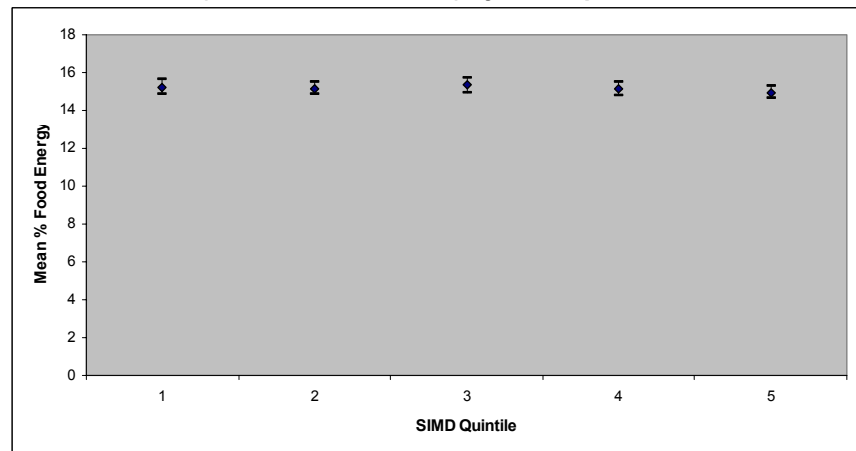
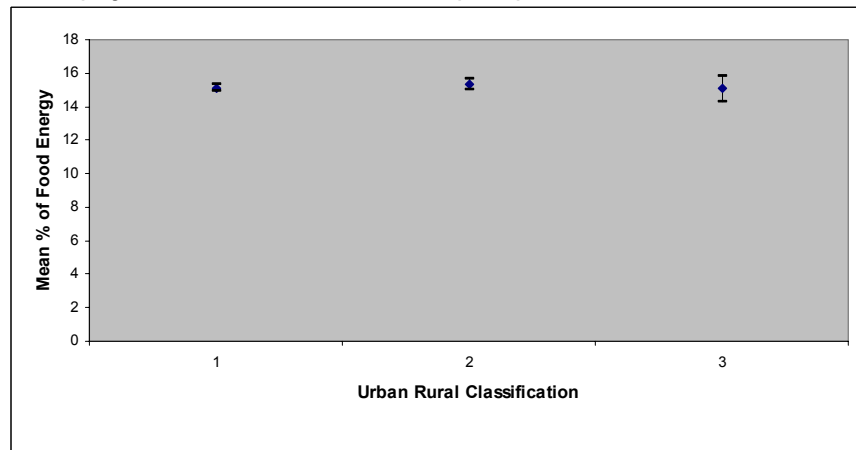


Figure 6b: Mean (with 95% confidence intervals) saturated fatty acid (% of food energy) intake (2001/2002-2003/2004) by SIMD quintiles



SIMD Quintiles: 1 = Least Deprived; 5 = Most Deprived

Figure 6c: Mean (with 95% confidence intervals) saturated fatty acid (% of food energy) intake (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 7: National Food Survey / Expenditure and Food Survey mean daily NME sugar (% of food energy) intake

Figure 7a: Population level NME sugar (% of food energy) intake compared with SDT

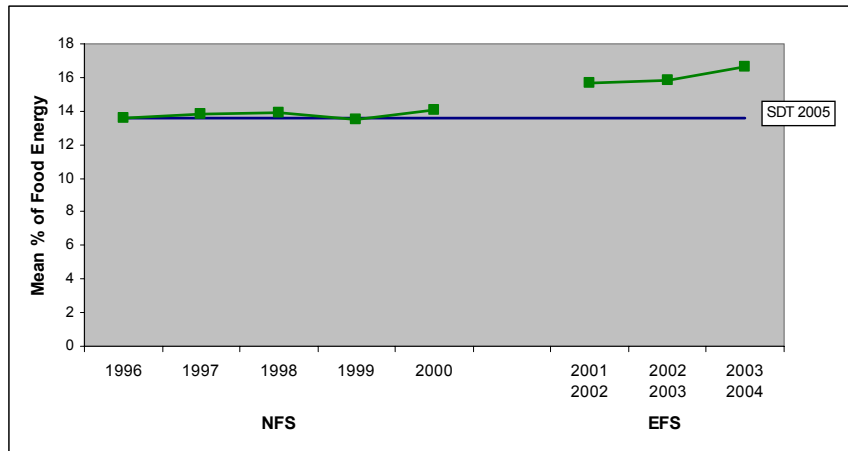
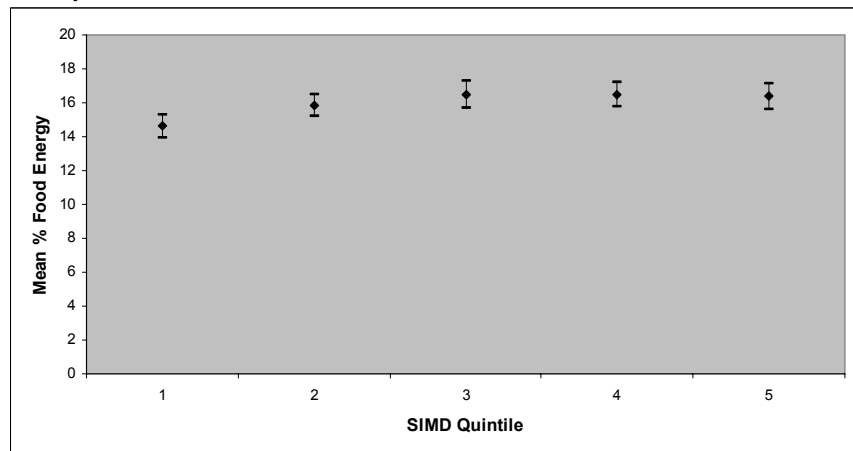
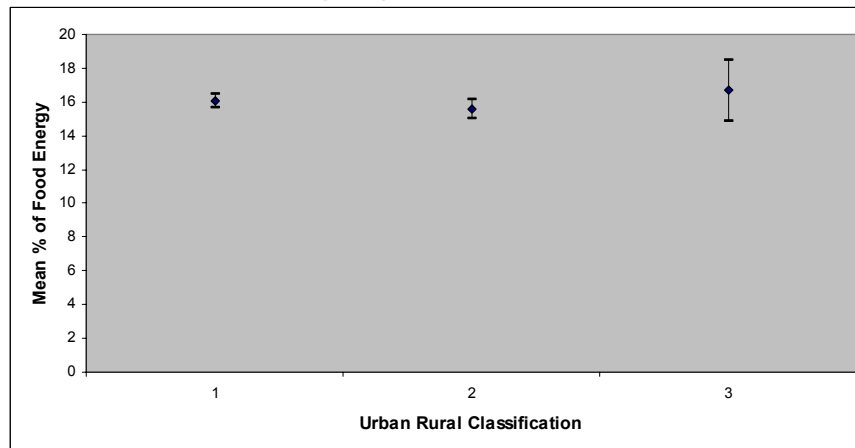


Figure 7b: Mean (with 95% confidence intervals) NME sugar (% of food energy) intake (2001/2002-2003/2004) by SIMD quintiles



SIMD Quintiles: 1 = Least Deprived; 5 = Most Deprived

Figure 7c: Mean (with 95% confidence intervals) NME sugar (% of food energy) intake (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 8: National Food Survey / Expenditure and Food Survey mean daily NME sugar (% of food energy) intake

Figure 8a: Population level complex carbohydrate intake compared with SDT

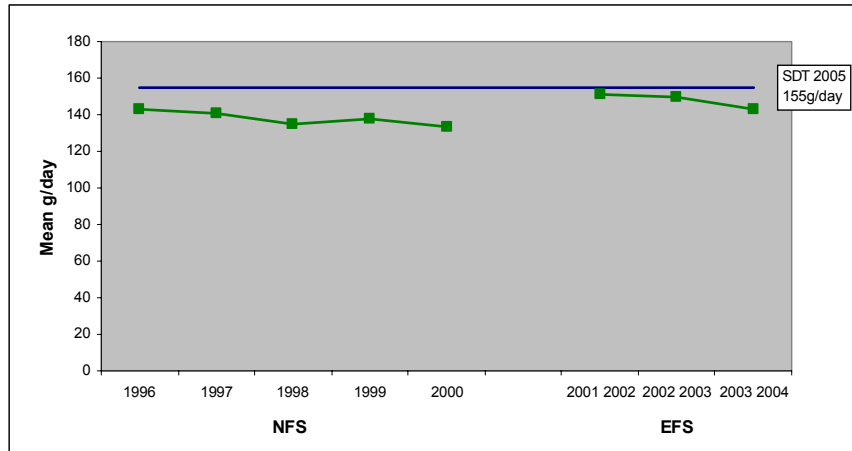
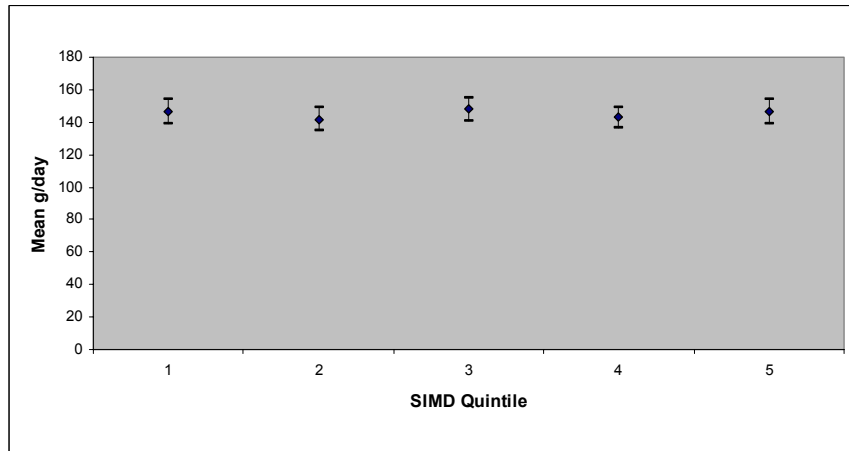
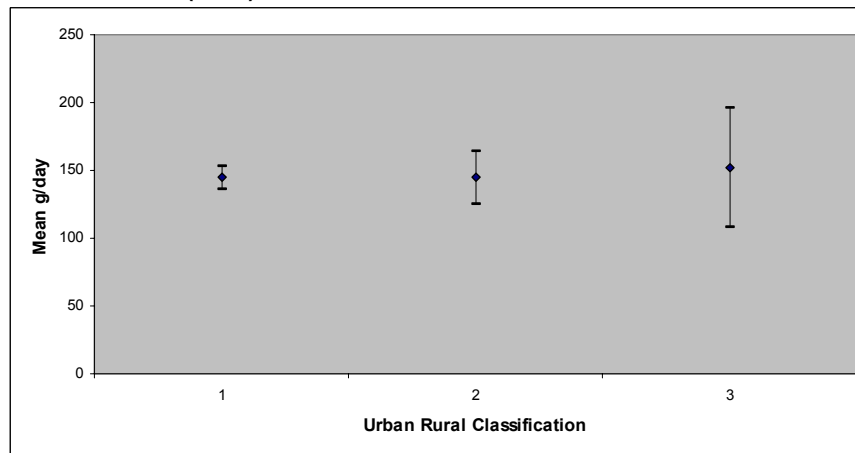


Figure 8b: Mean (with 95% confidence intervals) complex carbohydrate intake (2001/2002-2003/2004) by SIMD quintiles



SIMD Quintiles: 1 = Least Deprived; 5 = Most Deprived

Figure 8c: Mean (with 95% confidence intervals) complex carbohydrate intake (2001/2002-2003/2004) by Urban Rural Classification (URC)



URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

3.1.3 Foods relating to dietary targets included in the Scottish Diet report not included in the Scottish Diet Action Plan Targets.

Table 12 shows that consumption of cakes, biscuits and pastries appeared to fall from 1996-2003/2004, with a slightly larger proportional decrease in sweet biscuit consumption. Consumption of sugar and preserves reduced by about one third. However consumption of all types of confectionery and all types of soft drinks increased (Figure 9). Some of this increase may be due to the fact that the NFS eating out data has not been adjusted to make it comparable with the EFS as factors are currently unavailable for Scotland. Confectionery and soft drinks are 2 products which are likely to be considered eating out foods, especially with young people.

Consumption of processed meat & sausages, and bacon & ham showed little change between 1996 and 2003/2004 (Table 13). Consumption of all types of spreading fats, and all types of milk 1996 and 2004 showed little change. However the use of cooking fats and oils appeared to decrease (Table 13). Some of this shift may have been caused by increases in the consumption of ready-made meals as these products may have been constituents of these meals if home prepared.

Consumption of savoury snacks appears to have remained about the same between 1996 and 2003/2004 (Table 13).

Takeaway food consumption appears to have fluctuated and is slightly increased to that of 1996.

Overall there were no significant changes in consumption of these foods from 2001/2002 to 2003/2004.

Consumption of soft drinks, processed meats and sausages, and whole milk were highest in the most deprived quintile (Tables 14 and 15) of SIMD.

When analysed by URC (Tables 16 and 17) mean consumption of soft drinks, and processed meat and sausages was significantly lower for the remote small towns/rural/very remote rural category compared to the urban category but the reverse was seen for sweet biscuits and sugar and preserves. Mean consumption of sugar and preserves was almost double for the remote small towns/rural/very remote rural category (29.6g) compared to the urban category (17.2g).

Table 12: Consumption of Scottish Diet Report (1993) Target Foods (sweet) not included in SDAP: National Food Survey and Expenditure and Food Survey data 1996-2004 (g per person/day). Household and eating out consumption combined.

Food	National Food Survey ¹					Expenditure and Food Survey		
	1996	1997	1998	1999	2000	2001 / 2002	2002 / 2003	2003 / 2004
	H=775 P=1885	H=550 P=1347	H=541 P=1341	H=541 P=1263	H=546 P=1320	H=618 P=1412	H=585 P=1342	H=546 P=1266
	Mean	Mean	Mean	Mean	Mean	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Cakes and Pastries	21.9	22.4	21.8	22.5	19.9	18.6 (16.8 - 20.5)	17.7 (15.9 - 19.6)	17.7 (16.0 - 19.5)
Sweet Biscuits	27.9	28.8	27.1	28.5	26.3	20.4 (18.5 - 22.2)	22.0 (20.2 - 23.8)	20.9 (18.8 - 22.9)
Total Cakes, Sweet Biscuits and Pastries	49.8	51.2	48.9	51.0	46.2	39.0 (36.0 - 42.0)	39.7 (36.8 - 42.6)	38.6 (35.5 - 41.7)
Sugar and Preserves	28.4	23.0	23.6	21.4	22.1	19.3 (17.0 - 21.5)	16.9 (14.8 - 19.0)	19.7 (16.8 - 22.5)
Chocolate Confectionery	13.2	15.9	15.4	12.8	14.6	12.7 (11.3 - 14.2)	14.2 (12.7 - 15.7)	15.1 (13.4 - 16.8)
Sugar Confectionery	6.1	6.0	5.7	4.3	5.4	6.8 (5.9 - 7.8)	7.5 (6.5 - 8.4)	7.5 (6.5 - 8.5)
Total Confectionery	19.2	21.9	21.1	17.1	20.0	19.6 (17.7 - 21.5)	21.6 (19.6 - 23.6)	22.6 (20.4 - 24.8)
Sugar Containing Soft Drinks	135.7 ²	149.9 ²	147.2 ²	135.6 ²	151.4 ²	219 (198 - 241)	235 (212 - 259)	255 (230 - 281)
Sugar Free Soft Drinks	79.4 ²	99.3 ²	75.0 ²	66.6 ²	109.3 ²	94.4 (79.5 - 109)	107 (90.3 - 123)	105 (87.9 - 122)
Total Soft Drinks	256.1	297.1	262.6	243.3	304.1	314 (289 - 339)	342 (314 - 369)	360 (329 - 391)

H = Number of Households; P = Number of Members of Households

¹ This data is supplied solely for use in the work of the Food Standards Agency and is not to be copied, reproduced or published in any format without prior reference to DEFRA

² These are household figures only as eating out consumption of soft drinks is only available as a combined figure for the NFS

A fuller table of results is given in Appendix 3, Table 3.

Table 13: Consumption of Scottish Diet Report (1993) Target Foods (not sweet) not included in SDAP: National Food Survey and Expenditure and Food Survey data 1996-2004 (g per person/day). Household and eating out consumption combined.

Food	National Food Survey ¹					Expenditure and Food Survey		
	1996	1997	1998	1999	2000	2001 / 2002	2002 / 2003	2003 / 2004
	H=775 P=1885	H=550 P=1347	H=541 P=1341	H=541 P=1263	H=546 P=1320	H=618 P=1412	H=585 P=1342	H=546 P=1266
	Mean	Mean	Mean	Mean	Mean	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Processed Meat and Sausages	52.0	48.5	51.3	49.5	53.1	50.7 (47.0 - 54.3)	50.8 (47.1 - 54.4)	54.9 (50.8 - 59.0)
Bacon and Ham	11.8	11.6	12.3	11.0	10.8	16.0 (14.5 - 17.5)	15.2 (13.7 - 16.7)	16.2 (14.5 - 17.8)
Butter	5.8	5.2	5.2	4.2	5.6	5.7 (4.8 - 6.5)	5.3 (4.4 - 6.1)	5.1 (4.1 - 6.1)
Block Margarine	1.4	0.3	0.1	0.4	0.5	0.0 (0.0 - 0.0)	0.1 (0.0 - 0.1)	0.1 (0.0 - 0.2)
Soft Margarine	3.9	2.4	3.0	2.1	2.9	1.1 (0.7 - 1.5)	1.2 (0.8 - 1.7)	1.2 (0.9 - 1.6)
Low Fat Spreads	9.1	8.0	8.4	7.7	8.1	8.8 (7.7 - 9.9)	7.5 (6.5 - 8.5)	8.3 (7.2 - 9.4)
Cooking Fat	1.4	0.5	0.9	0.5	0.3	0.5 (0.3 - 0.8)	0.5 (0.2 - 0.8)	0.5 (0.2 - 0.8)
Cooking Oil	6.6	5.3	6.8	5.7	4.8	6.0 (4.6 - 7.4)	5.0 (3.8 - 6.2)	5.0 (3.8 - 6.2)
Whole Milk	99.6	115.1	98.3	96.2	95.0	91.7 (76.9 - 107)	85.2 (72.2 - 98.2)	89.7 (76.2 - 103)
Semi-skimmed Milk	135	121	108	117	128	126 (112 - 139)	125 (112 - 139)	125 (111 - 138)
Skimmed Milk	16.8	15.1	17.7	13.5	14.9	14.9 (9.1 - 20.6)	12.5 (8.5 - 16.5)	9.2 (6.1 - 12.3)
Total Milk	251	251	224	227	238	232 (216 - 249)	223 (209 - 238)	224 (208 - 239)
Savoury Snacks	14.1	13.7	12.1	11.4	11.5	13.6 (12.4 - 14.7)	13.8 (12.7 - 15.0)	14.1 (12.9 - 15.3)
Takeaway Foods	22.9	24.4	22.6	23.6	20.4	24.0 (20.6 - 27.4)	28.3 (24.7 - 32.0)	24.9 (21.6 - 28.1)

H = Number of Households; P = Number of Members of Households

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A fuller table of results is given in Appendix 3, Table 3.

Table 14: Consumption of Scottish Diet Report (1993) Target Foods (sweet) not included in SDAP by Scottish Index of Multiple Deprivation Quintiles: Expenditure and Food Survey data 2001-2004 (g per person/day). Household and eating out consumption combined.

Food	SIMD Quintile 1	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5
	H=298 P=740	H=352 P=841	H=351 P=793	H=382 P=836	H=366 P=810
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Cakes and Pastries	18.3 (15.7 - 20.9)	18.9 (16.5 - 21.3)	18.1 (16.0 - 20.3)	17.7 (15.3 - 20.1)	17.2 (14.9 - 19.4)
Sweet Biscuits	20.0 (17.3 - 22.8)	22.7 (20.4 - 25.0)	23.1 (20.6 - 25.6)	20.6 (18.3 - 22.8)	19.0 (16.4 - 21.5)
Cakes, Sweet Biscuits and Pastries	38.3 (34.1 - 42.5)	41.6 (38.0 - 45.2)	41.2 (37.5 - 44.9)	38.2 (34.4 - 42.1)	36.1 (32.3 - 39.9)
Sugar and Preserves	14.6 (12.1 - 17.1)	17.5 (14.8 - 20.2)	21.4 (17.7 - 25.1)	20.7 (17.2 - 24.1)	18.6 (15.7 - 21.6)
Chocolate Confectionery	14.5 (12.4 - 16.6)	14.3 (12.2 - 16.3)	14.6 (12.3 - 16.8)	13.3 (11.5 - 15.0)	13.5 (11.6 - 15.4)
Sugar Confectionery	6.3 (5.1 - 7.5)	7.1 (5.9 - 8.3)	8.8 (7.2 - 10.3)	6.3 (5.3 - 7.2)	7.9 (6.5 - 9.2)
Total Confectionery	20.8 (18.0 - 23.5)	21.4 (18.9 - 23.9)	23.3 (20.4 - 26.3)	19.5 (17.3 - 21.7)	21.3 (18.5 - 24.2)
Sugar Containing Soft Drinks	190 (164 - 216)	213 (182 - 244)	231 (203 - 260)	247 (218 - 275)	298 (263 - 332)
Sugar Free Soft Drinks	111 (86.4 - 135)	114 (91.1 - 136)	106 (86.7 - 126)	96.0 (75.1 - 117)	83.4 (68.3 - 98.6)
Total Soft Drinks	301 (264 - 337)	327 (290 - 364)	338 (304 - 372)	343 (309 - 377)	381 (344 - 418)

H = Number of Households;
P = Number of Members of Households
SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Table 15: Consumption of Scottish Diet Report (1993) Target Foods (not sweet) not included in SDAP by Scottish Index of Multiple Deprivation Quintiles: Expenditure and Food Survey data 2001-2004 (g per person/day). Household and eating out consumption combined.

Food	SIMD Quintile 1	SIMD Quintile 2	SIMD Quintile 3	SIMD Quintile 4	SIMD Quintile 5
	H=298 P=740	H=352 P=841	H=351 P=793	H=382 P=836	H=366 P=810
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Processed Meat and Sausages	44.4 (39.5 - 49.3)	44.2 (39.8 - 48.7)	52.5 (47.6 - 57.4)	54.9 (50.5 - 59.4)	64.0 (58.5 - 69.5)
Bacon and Ham	15.8 (13.5 - 18.1)	14.4 (12.6 - 16.3)	16.4 (14.3 - 18.4)	16.6 (14.6 - 18.6)	15.8 (13.9 - 17.7)
Butter	5.4 (4.3 - 6.5)	5.4 (4.3 - 6.6)	6.5 (5.1 - 7.9)	5.2 (4.1 - 6.2)	4.3 (3.2 - 5.4)
Block Margarine	<0.1	<0.1	<0.1	<0.2	<0.1
Soft Margarine	0.9 (0.5 - 1.3)	1.1 (0.5 - 1.7)	1.1 (0.6 - 1.5)	1.2 (0.7 - 1.7)	1.6 (1.0 - 2.1)
Low Fat Spreads	7.7 (6.4 - 9.0)	7.8 (6.5 - 9.1)	9.3 (7.7 - 10.8)	8.0 (6.8 - 9.3)	8.2 (6.7 - 9.7)
Cooking Fat	0.4 (0.1 - 0.7)	0.3 (0.1 - 0.5)	0.4 (0.1 - 0.7)	0.6 (0.2 - 1.0)	0.9 (0.3 - 1.4)
Cooking Oil	4.6 (3.3 - 6.0)	4.9 (3.5 - 6.4)	5.5 (3.9 - 7.1)	4.6 (3.2 - 6.1)	7.0 (4.8 - 9.1)
Whole Milk	62.2 (41.6 - 82.9)	64.9 (50.6 - 79.2)	92.9 (76.3 - 110)	99.5 (81.8 - 117)	123 (104 - 142)
Semi-skimmed Milk	139 (123 - 155)	128 (112 - 145)	118 (102 - 135)	122 (106 - 138)	120 (99.5 - 140)
Skimmed Milk	15.3 (9.0 - 21.5)	12.2 (7.1 - 17.4)	14.8 (6.2 - 23.5)	8.8 (5.2 - 12.4)	10.3 (6.2 - 14.4)
Total Milk	216 (194 - 239)	205 (118 - 222)	226 (206 - 245)	231 (212 - 249)	253 (231 - 275)
Savoury Snacks	13.7 (12.2 - 15.3)	13.9 (12.3 - 15.5)	12.9 (11.4 - 14.4)	13.7 (12.4 - 15.0)	14.8 (13.2 - 16.4)
Takeaway Foods	25.4 (21.5 - 29.3)	21.1 (17.2 - 25.0)	21.8 (18.0 - 25.6)	28.7 (24.5 - 32.9)	31.6 (25.8 - 37.4)

H = Number of Households
P = Number of Members of Households
SIMD Quintiles: 1= Least Deprived; 5 = Most Deprived

Table 16: Consumption of Scottish Diet Report (1993) Target Foods (sweet) not included in SDAP by Urban Rural Classification Category: Expenditure and Food Survey data 2001-2004 (g per person/day). Household and eating out consumption combined.

Food	URC 1	URC 2	URC 3
	H=1181 P=2698	H=445 P=1064	H=123 P=258
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Cakes and Pastries	18.5 (17.1 - 19.8)	16.4 (14.6 - 18.2)	20.2 (16.3 - 24.2)
Sweet Biscuits	20.4 (19.1 - 21.7)	21.4 (19.2 - 23.6)	26.8 (22.2 - 31.3)
Total Cakes, Sweet Biscuits and Pastries	38.9 (36.8 - 41.0)	37.8 (34.7 - 40.9)	47.0 (40.1 - 53.9)
Sugar and Preserves	17.2 (15.6 - 18.7)	19.7 (17.2 - 22.3)	29.6 (19.3 - 39.9)
Chocolate Confectionery	14.2 (13.1 - 15.3)	14.1 (12.3 - 15.9)	11.4 (8.8 - 13.9)
Sugar Confectionery	7.2 (6.5 - 7.9)	7.4 (6.3 - 8.5)	7.2 (4.9 - 9.6)
Total Confectionery	21.4 (20.0 - 22.9)	21.5 (19.2 - 23.7)	18.6 (14.9 - 22.2)
Sugar Containing Soft Drinks	249 (232 - 266)	214 (190 - 234)	201 (156 - 246)
Sugar Free Soft Drinks	100 (88.7 - 112)	113 (94.9 - 132)	71.1 (44.9 - 97.3)
Total Soft Drinks	349 (329 - 369)	328 (298 - 357)	272 (222 - 322)

H = Number of Households;

P = Number of Members of Households

URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Table 17: Consumption of Scottish Diet Report (1993) Target Foods (not sweet) not included in SDAP by Urban Rural Classification Category: Expenditure and Food Survey data 2001-2004 (g per person/day). Household and eating out consumption combined.

Food	URC 1	URC 2	URC 3
	H=1181 P=2698	H=445 P=1064	H=123 P=258
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Processed Meat and Sausages	53.4 (50.6 - 56.1)	50.9 (46.7 - 55.2)	43.5 (36.8 - 50.3)
Bacon and Ham	15.4 (14.3 - 16.5)	16.5 (14.7 - 18.3)	16.5 (13.6 - 19.4)
Butter	5.0 (4.4 - 5.6)	6.0 (4.9 - 7.1)	6.2 (4.0 - 8.3)
Block Margarine	<0.1	<0.1	<0.2
Soft Margarine	1.2 (0.9 - 1.4)	1.1 (0.6 - 1.6)	1.8 (0.5 - 3.1)
Low Fat Spreads	7.5 (6.8 - 8.3)	9.6 (8.3 - 10.9)	9.5 (6.9 - 12.2)
Cooking Fat	0.5 (0.3 - 0.7)	0.6 (0.3 - 0.8)	0.2 (0.0 - 0.5)
Cooking Oil	5.0 (4.1 - 5.9)	5.8 (4.3 - 7.2)	7.0 (3.8 - 10.3)
Whole Milk	91.5 (81.3 - 102)	77.2 (64.4 - 90.0)	111 (76.1 - 146)
Semi-skimmed Milk	126 (116 - 135)	129 (115 - 144)	103 (77.4 - 128)
Skimmed Milk	11.0 (8.5 - 13.5)	15.5 (8.4 - 22.6)	11.0 (4.0 - 18.0)
Total Milk	228 (217 - 239)	222 (207 - 237)	225 (184 - 265)
Savoury Snacks	14.3 (13.4 - 15.1)	13.2 (11.9 - 14.5)	12.0 (9.4 - 14.6)
Takeaway Foods	28.0 (25.4 - 30.6)	22.3 (19.0 - 25.6)	16.3 (10.6 - 21.9)

H = Number of Households

P = Number of Members of Households

URC Categories: 1 = Urban; 2 = Accessible small towns/ rural; 3 = Remote small towns/rural/very remote rural – see glossary for more details

Figure 9: National Food Survey / Expenditure and Food Survey mean daily confectionery and soft drink consumption

Figure 9a: Population level confectionery consumption

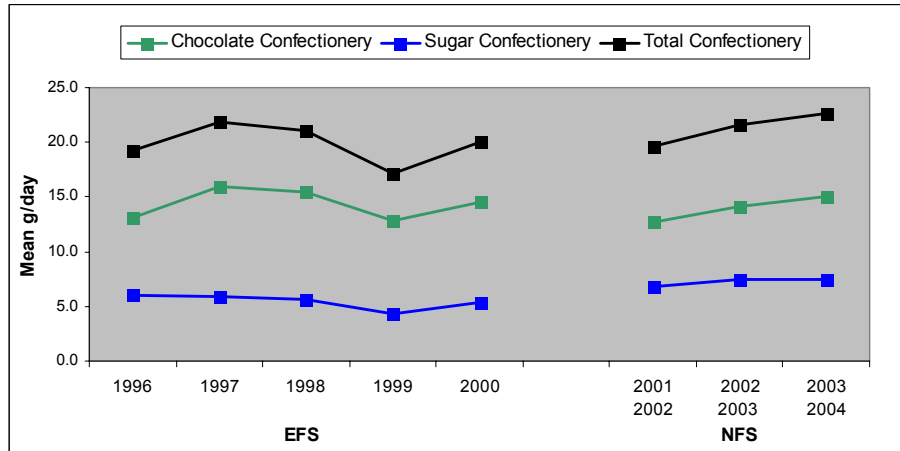
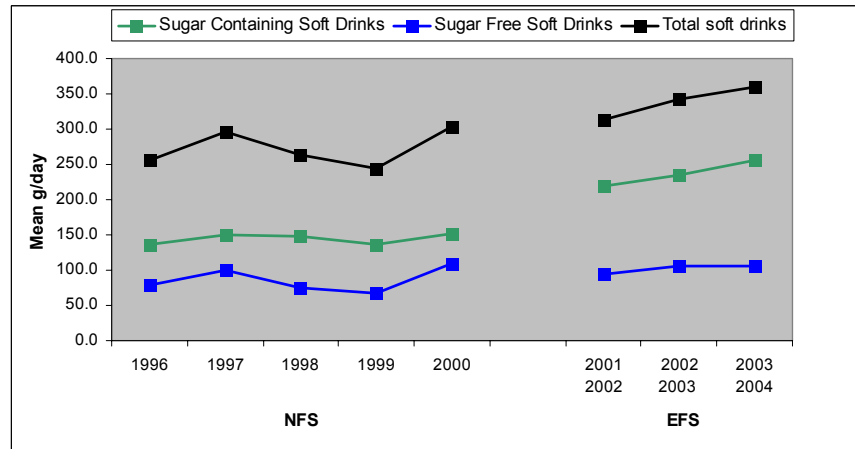


Figure 9b: Population level soft drink consumption



(NFS sugar containing and sugar free does not include Eating Out)

3.2 Scottish Health Survey

The Scottish Health Survey gives an indication of food consumption patterns for bread, breakfast cereals, complex carbohydrates, oil rich fish and energy dense foods. The food frequency list used in 1995 and 1998 is unable to measure the food or nutrient-based targets. However the 2003 survey provides information on the target for fruits and vegetables. The sample is nationally representative and large enough to allow sub group analysis and linking to other health outcomes and measures. It has a well designed survey framework of national sampling covering all sectors of the Scottish population.

3.2.1 Scottish Health Survey (1995 and 1998)

Table 18 shows results from the SHS of 1995 and 1998: estimated median and mean frequency of consumption of fruit and vegetable, foods high in non-milk extrinsic sugars, oil rich fish, bread and breakfast cereals.

Fruits and vegetables

There was an apparent increase in the frequency of consumption of fruit and vegetables in adults aged 16-64 from a median daily frequency of 2.2 in 1995 to 2.9 in 1998. This is partly, but not all, explained by fruit juice being included in the category in 1998. In 1998 elderly people, aged 65-74 had a higher frequency of consumption of fruit and vegetables than children or adults aged 16-64.

Other Foods

When comparing 1995 to 1998 for adults aged 16-64 the frequency of consumption of bread was the same, breakfast cereal was higher, oil rich fish was lower and foods high in NME sugars were higher. In children (aged 2-15) in 1998 the frequency of consumption of food high in NME sugars was particularly high at 4.4 times per day.

The SHS data does not allow a distinction to be made between breakfast cereals which contribute positively to achieving the target for starchy carbohydrate (i.e. wholegrain/high fibre) (see Table 1). This limitation could be resolved by changing the questionnaire. In the SHS survey of 1995 and 1998 canned tuna is included in the food group oil rich fish. This makes it difficult to interpret results on oil rich fish consumption (see Table 1). The questions used in the SHS 2003 were amended to resolve this problem so results should be clearer from this survey.

The SHS can be analysed to show differences in food consumption by subgroups of the population e.g. age, social class. Figure 10 illustrates this by showing the social class differences in fruits and vegetable intake for young Scottish people.

Table 18: Estimated median with interquartile range (IQR) and mean with 95% confidence intervals (95% CI) frequency of consumption of fruit and vegetable, bread, breakfast cereals, oil rich fish, and foods high in free/NME sugars from the Scottish Health Survey 1995 and 1998

Foods	Adults Aged 16-64				Children Aged 2-15		Older Adults Aged 65-74	
	1995		1998		1998		1998	
	n = 7929		n = 7576		n = 3878		n = 1462	
	Median (IQR)	Mean (95% CI)	Median (IQR)	Mean (95% CI)	Median (IQR)	Mean (95% CI)	Median (IQR)	Mean (95% CI)
Fruit and Vegetables ¹ (per day)	2.20 (1.40 - 3.40)	2.51 (2.48 - 2.54)	2.90 (1.80 - 4.37)	3.19 (3.15 - 3.23)	2.80 (1.77 - 4.10)	3.08 (3.02 - 3.14)	3.20 (2.00 - 4.50)	3.36 (3.27 - 3.45)
Slices of Bread or Rolls ² (per day)	2.50 (2.50 - 4.50)	3.27 (3.23 - 3.30)	2.50 (2.50 - 4.50)	3.33 (3.29 - 3.36)	2.50 (2.50 - 4.50)	3.06 (3.00 - 3.10)	2.50 (2.50 - 4.50)	3.15 (3.08 - 3.22)
Breakfast Cereals ³ (per day)	0.40 (0.00 - 1.00)	0.56 (0.55 - 0.58)	1.00 (0.40 - 1.00)	0.76 (0.74 - 0.77)	1.00 (0.80 - 1.00)	1.09 (1.06 - 1.11)	1.00 (0.80 - 1.00)	0.87 (0.84 - 0.89)
Oil Rich fish ⁴ (per week)	0.50 (0.00 - 1.00)	0.82 (0.80 - 0.85)	0.50 (0.00 - 1.00)	0.97 (0.94 - 0.99)	0.50 (0.00 - 1.00)	0.89 (0.85 - 0.93)	0.50 (0.00 - 1.00)	0.83 (0.78 - 0.88)
Foods High in Free Sugars ⁵ (per day)	1.70 (1.00 - 3.05)	2.27 (2.22 - 2.31)	1.80 (1.00 - 3.20)	2.40 (2.36 - 2.46)	3.80 (2.50 - 5.90)	4.41 (4.33 - 4.50)	1.60 (0.90 - 2.90)	2.03 (1.94 - 2.11)

1 Frequency of fruit and vegetables per day in 1995 does not include fruit juice and in 1998 includes fruit juice counted a maximum of once per day

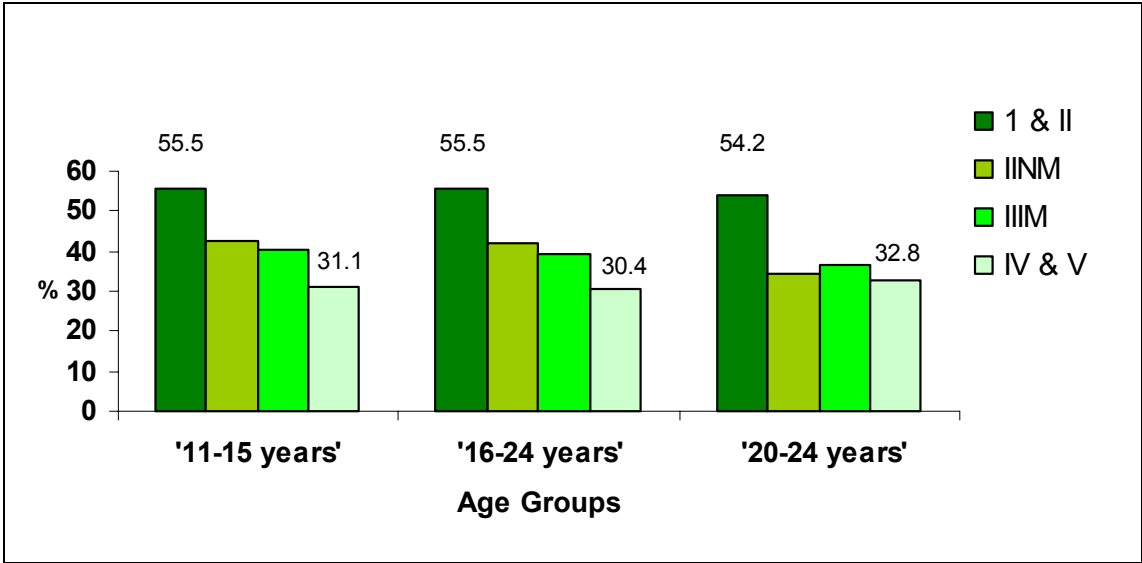
2 Includes all bread and rolls

3 Includes all types

4 Includes canned tuna fish

5 Food high in free sugars includes sweetened drinks, chocolate and sweets, cakes and biscuits and ice cream

Figure 10: Scottish Health Survey 1998: Young people in Scotland: percentage consuming three or more portions of fruits and vegetables per day by social class

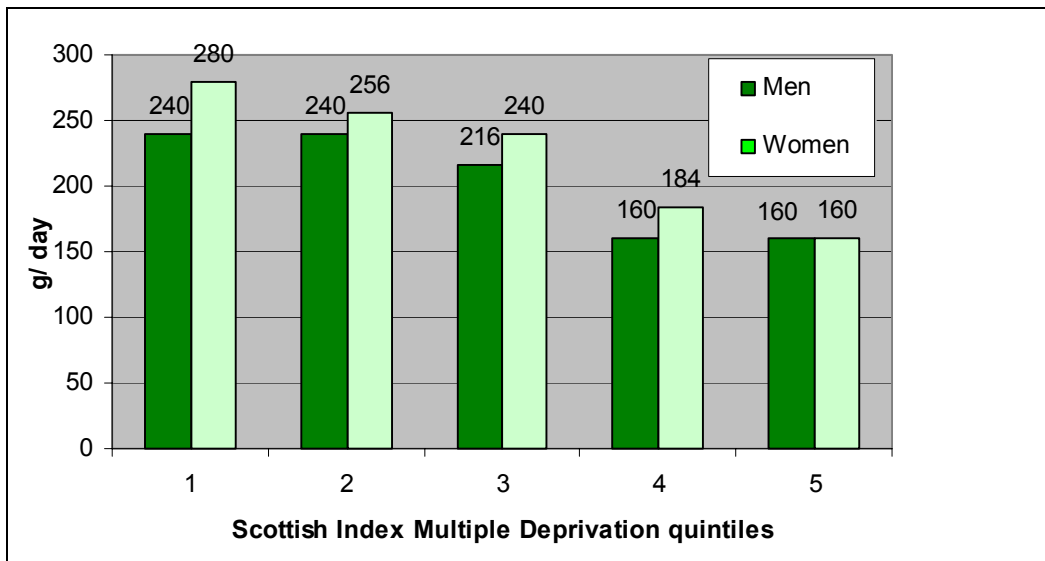


3.2.2 Scottish Health Survey (2003)

a) Fruit and Vegetables

Median fruit and vegetables intake in adults aged 16-74 (all) was estimated as 232g (2.9 x standard 80g portion) in 1998. Using the revised fruit and vegetable questions for 2003 intakes were 216g in men, and 240g in women. This intake remains well below the target intake of a minimum of 400g per day.

Figure 11: Mean total fruit and vegetables intake (g per day) by men and women aged 16-74 from the Scottish Health Survey 2003 by deprivation.*



*Quintile 1 = least deprived Quintile 5 = most deprived

Total fruit and vegetables intake are higher in women than men and this is consistent across all deprivation quintiles, with the exception of the most deprived group where intakes are the same (Figure 11). There is a clear and marked social class gradient in fruit and vegetable intake with the most deprived having intakes of 160g, approximating to 2 portions of fruit and vegetables per day.

b) Starchy carbohydrates.

The consumption of foods high in starchy carbohydrate foods by men aged 16-74 are shown in Figure 12 and by women aged 16-74 in Figure 13 in 1995 and 2003

The comparisons are made for categories defined as 2-3 slices bread per day or more; 2-3 slices high fibre bread per day or more; breakfast cereal 5-6 times per week or more; high fibre breakfast cereal 5-6 times per week or more; potatoes/pasta/rice 5 + times per week.

Bread consumption has changed little in men but has gone down in women between 1995 and 2003. Consumption of breakfast cereal shows no consistent change, although high fibre cereals are not any more popular than in 1995. Consumption of potatoes/pasta/rice has decreased in women but is unchanged in men between 1995 and 2003.

Figure 12: Scottish Health Survey consumption of starchy carbohydrates by men aged 16-74

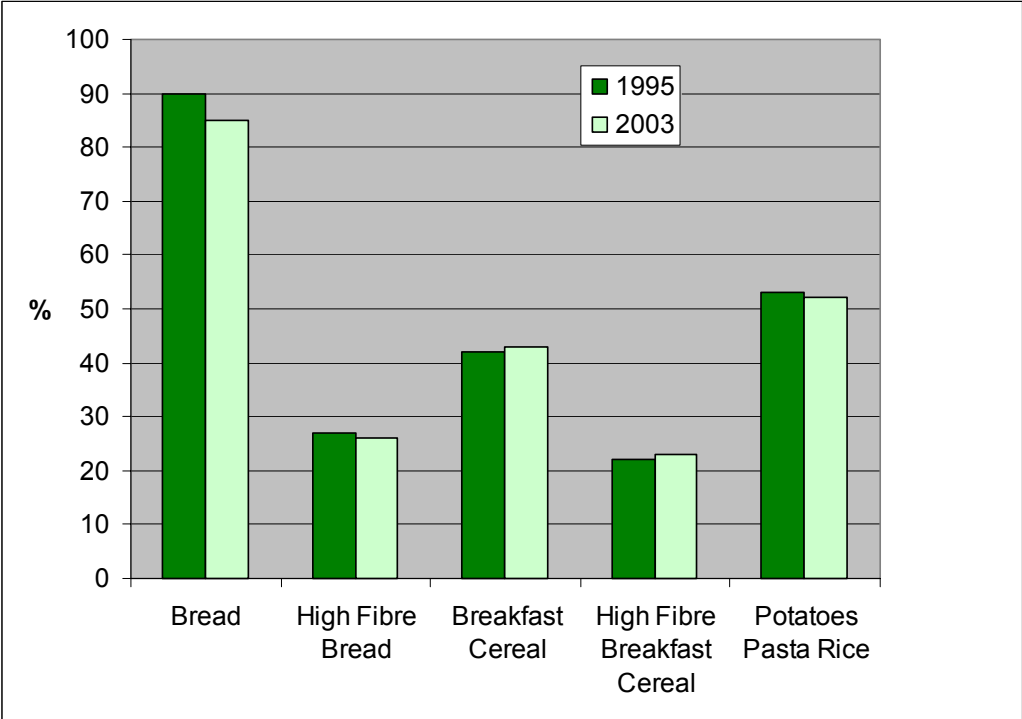
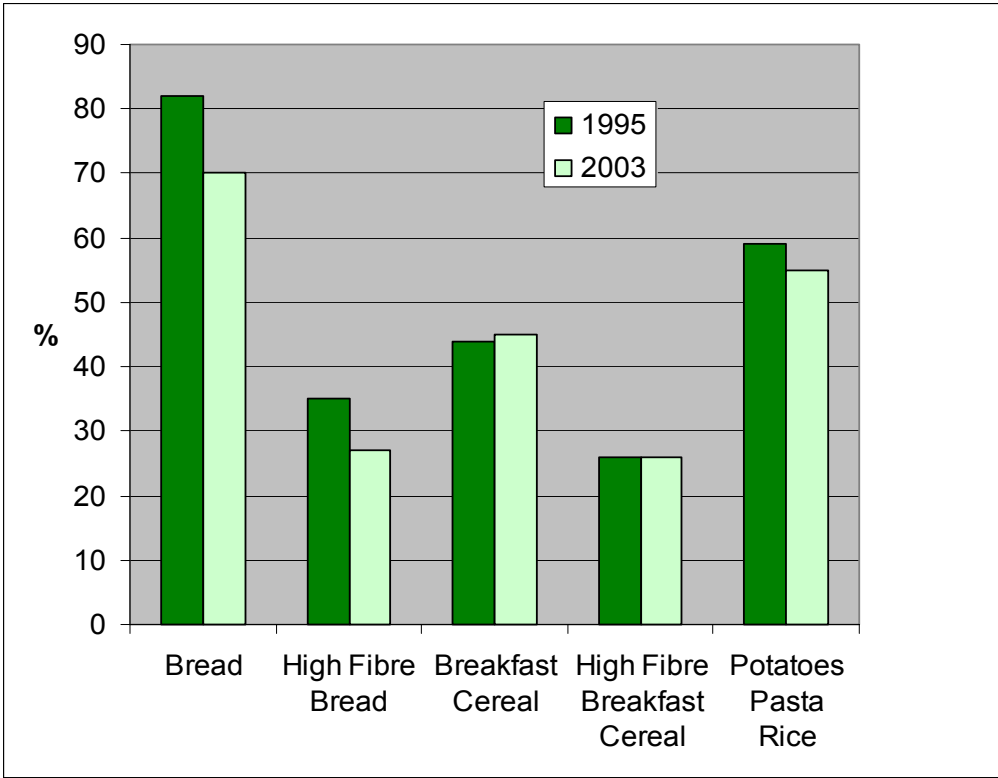


Figure 13: Scottish Health Survey consumption of starchy carbohydrates by women aged 16-74



c) Consumption of energy dense food by children

The percentage of girls and boys aged 5-15 years consuming energy dense foods are given in Figures 14 & 15 respectively. There was a higher percentage of boys and girls consuming these foods in the most deprived SIMD quintile. Categories are defined as : Sweets and chocolates once a day or more; sugared drinks once a day or more; crisps/savoury snacks one a day or more; chips 2+ per week; meat products 2+ per week; usually adds salt to food.

Figure 14: Scottish Health Survey 2003 consumption of energy dense foods in girls by deprivation category (SIMD)

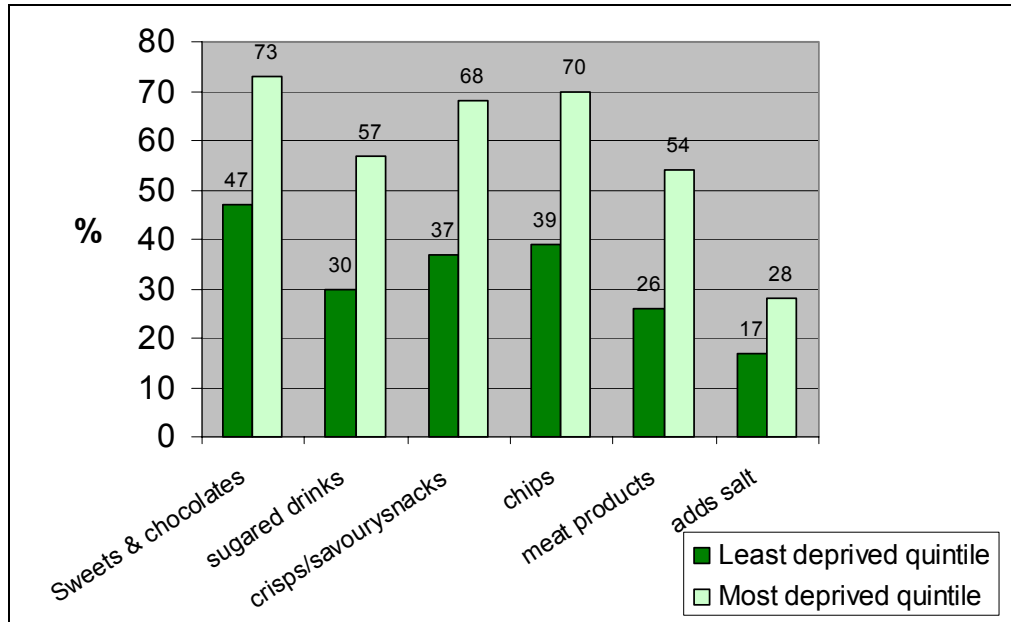
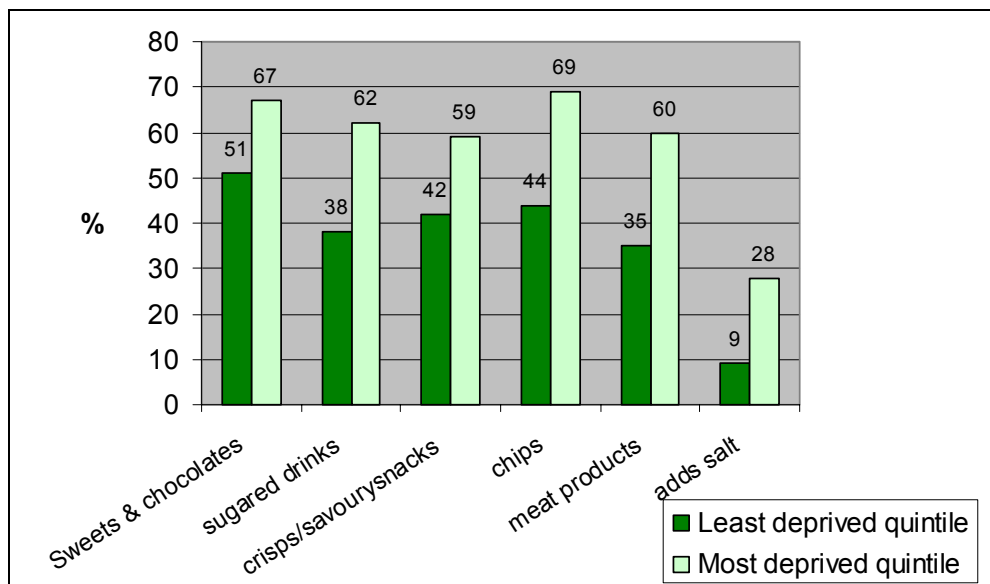


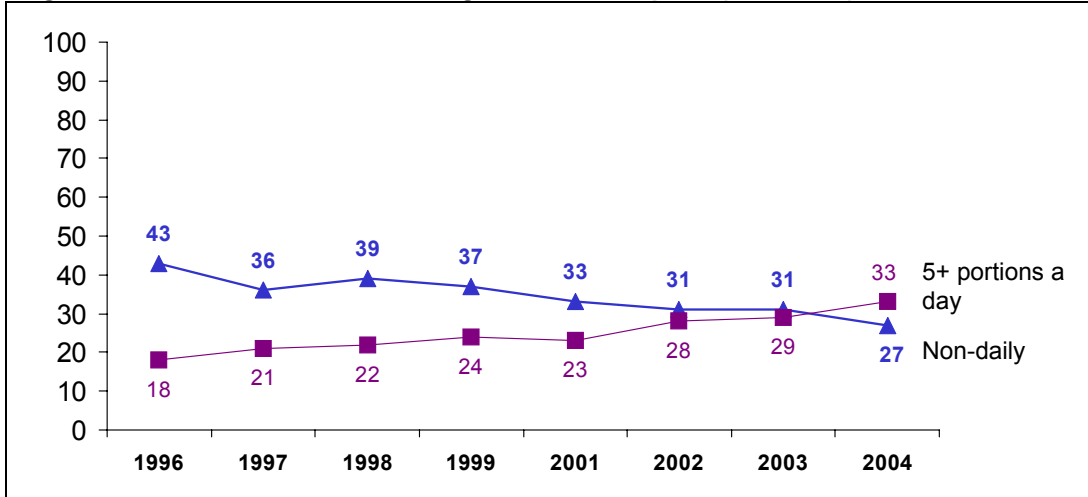
Figure 15: Scottish Health Survey 2003 consumption of energy dense foods in boys by deprivation category (SIMD)



3.3 Health Education Population Survey (HEPS)

The results from the full Health Education Population Survey report (NHS Scotland, 2005) focus on fruits and vegetables as a marker of overall dietary patterns. Figure 16 shows there has been a significant increase over time in reported consumption of five or more portions of fruit and vegetables per day. The percentage of the population reporting to eat five or more portions of fruit and vegetable per day rose from 23% in 2001 to 33% in 2004.

Figure 16: Time trends in fruit and vegetable consumption (1996-2004)



n=1784 in 2004

For the first time in 2004, a higher proportion of the population (33%) ate five or more portions of fruit and vegetables a day than ate no fruit and vegetables each day (27%). There are clear gradients in behaviour by sex, age, social grade and deprivation category (Carstairs and Morris, 1991) (Table 19). Women are more likely than men to meet the targets, as are those in social grades AB and those living in the least deprived areas. Nevertheless, there has been significant improvement in almost all subgroups since 1996. The only exceptions are young people aged 16-24 and those living in the most deprived areas. This means that over the last nine years there has been a growing divergence between the under-25s and those aged 25+, and between those in the most and least deprived areas in terms of reported dietary behaviour.

On average people reported eating 3.6 portions of fruit and vegetables per day in 2004, which had risen from 2.8 in 1996 (Table 23). It is still some way short of the “five a day” target, but the data suggests clear improvements have been made.

Consumption of fruit and vegetables was higher among women, older respondents and those from higher socio-economic groups.

Table 19: HEPS 1996-2004: Percentage reporting eating at least five portions daily by sex/age/social grade/ Deprivation category (DEPCAT)

	1996	1997	1998	1999	2001	2002	2003	2004
	n = 1810	n = 1795	n = 1794	n = 880	n = 1757	n = 1742	n = 1720	n = 1784
	%	%	%	%	%	%	%	%
All	18	21	22	24	23	28	29	33
Sex								
Men	14	17	16	22	16	21	21	27
Women	22	25	28	27	29	36	36	39
Age								
16-24	12	15	15	9	15	15	19	18
25-34	12	20	17	20	23	26	28	32
35-44	19	17	22	33	23	30	27	36
45-54	22	24	25	28	26	32	34	39
55-64	27	28	27	35	20	35	34	37
65-74	22	25	29	24	34	30	31	38
Social Grade								
AB	27	23	35	44	35	41	47	45
C1	21	27	26	25	32	29	28	36
C2	18	17	15	20	15	20	28	33
DE	13	17	14	18	13	25	20	32
DEPCAT								
1-2	27	27	30	28	28	40	41	36
3-5	17	20	20	25	26	27	27	35
6-7	15	18	16	18	12	19	20	21

There was continued increase among all respondents in terms of consuming the recommended amount of fruit and vegetables (reaching 33% in 2004) with the exception of the youngest age group (aged 16-24) and those living in more deprived areas.

In 2004 there have been particular increases in reported fruit and vegetable consumption for men and those in the lower social grades. These should be monitored in the future to determine if they will be sustained. In addition the survey shows a significant increase in the level of awareness of the recommendation of five portions of fruit and vegetables per day (results not shown).

Table 20: HEPS 1996-2004: Mean number of portions of fruit and vegetables consumed per day by sex/age/social grade/ Deprivation category (DEPCAT)

	1996	1997	1998	1999	2001	2002	2003	2004
	n = 1810	n = 1795	n = 1794	n = 880	n = 1757	n = 1742	n = 1720	n = 1784
All	2.8	3.0	2.9	3.1	3.1	3.3	3.4	3.6
Sex								
Men	2.5	2.7	2.5	2.8	2.7	2.8	2.9	3.4
Women	3.1	3.3	3.3	3.3	3.4	3.8	3.8	3.9
Age								
16-24	2.6	2.5	2.4	2.2	2.5	2.4	2.7	2.7
25-34	2.2	2.6	2.5	2.8	3.0	3.3	3.1	3.5
35-44	2.9	2.9	3.1	3.3	3.1	3.5	3.4	3.8
45-54	3.3	3.2	3.3	3.4	3.4	3.6	3.7	4.0
55-64	3.3	3.6	3.1	3.5	3.0	3.8	3.7	3.9
65-74	2.9	3.4	3.7	3.4	3.8	3.5	3.6	3.9
Social Grade								
AB	3.6	3.5	3.8	4.4	3.9	4.1	4.4	4.4
C1	3.2	3.3	3.2	3.1	3.5	3.5	3.4	3.9
C2	2.8	2.5	2.6	2.7	2.7	2.9	3.1	3.4
D	2.3	2.7	2.3	2.6	2.8	3.1	2.9	3.2
E	2.2	2.4	2.5	2.7	2.2	2.9	2.8	2.7
DEPCAT								
1-2	3.5	3.5	3.6	3.5	3.5	3.9	4.1	3.9
3-5	2.7	3.0	2.8	3.0	3.3	3.3	3.3	3.7
6-7	2.5	2.6	2.5	2.7	2.3	2.8	2.7	4.1

HEPS provides useful qualitative data on fruit and vegetables consumption patterns to contribute to monitoring. It may be useful for looking at intermediate outcomes and providing indicators of improvements in diet. However it does not provide the detailed level of dietary assessment required for monitoring specific Scottish dietary targets food or nutrient based targets. The significant increase in the proportion of the sample who report consuming five or more portion of fruit and vegetables per day is consistent with the marked increase in the level of awareness of the “eat five a day” message. There is a possibility that some of the reported change in intake is explained by respondents over reporting to match their knowledge of what they should eat (Gibson, 2005).

3.4 National Diet and Nutrition Survey

Although the sample size for Scotland is too small the data was explored with a view to provide a comparison with the larger EFS.

Median (IQR) and mean (95% CI)² intakes of foods (Table 21) and nutrients (Table 22) for Scottish adults aged 16-64 in 2000-2001 compared to Great Britain as a whole (All GB) are presented. Table 23 shows median and mean daily energy and non-milk extrinsic sugar (NME sugars) intake in Scottish young people aged 4-18 years in 1997 compared to Great Britain (All GB).

Fruit and Vegetables

Median fruit and vegetable consumption was 212g per day which equates to 2.6 portions per day and is approximately half the target of 400g. Results for the Scottish sample were similar to the whole of Great Britain.

Other foods

Median and mean total bread intake was less than 100g per day (SDT=154g) with brown/wholemeal bread constituting around 15% of the mean intake. The median brown/wholemeal bread consumption of zero showed that less than 50% of the sample consumed this type of bread. These figures suggest that no increase in total bread consumption or brown/wholemeal bread has occurred. Median breakfast cereal consumption was 18.9g per day compared to the target of 34g per day. Only a small proportion of the breakfast cereal appeared to be from wholegrain and high fibre cereals.

Median and mean intakes of oil rich fish were considerably lower than the target, despite the fact that canned tuna was included in this category, which would over estimate consumption in this category. The median intake was zero, demonstrating that fewer than 50% of the sample consumed this type of fish.

The differences between the median and mean intakes of foods (Table 21) demonstrate that there are larger numbers of low or non-consumers than suggested by the mean.

Fat

When calculated as a percentage of food energy median and mean fat intake in 2000 was similar to the SDT of 35%. However saturated fat, at 13% of food energy was still higher than the SDT of 11%.

Non-Milk Extrinsic Sugar (NME sugars)

Median and mean NME sugars intake for adults was slightly higher than current guidelines given by the Department of Health (1991). However intake by young people was considerably higher, at 17% of food energy compared to the target of less than 10% (Table 23).

² For more explanation see text box on page 5

Table 21: Median with interquartile range (IQR) and mean with 95% confidence intervals (95% CI) intakes of target foods. NDNS Adults aged 19-64 years (2000-2001) for Scotland and Great Britain (All GB)

Food	Unit	Scotland n = 123		All GB n = 1724	
		Median (IQR)	Mean (95% CI)	Median (IQR)	Mean (95% CI)
Fruit and Vegetables ¹	g/day	212 (126 - 377)	267 (230 - 304)	228 (132 - 379)	273 (264 - 282)
Bread (all types)	g/day	86.4 (55.0 - 123)	95.6 (85.4 - 105)	89.6 (59.0 - 127)	98.2 (95.5 - 101)
Brown / Wholemeal Bread	g/day	0.00 (0.00 - 17.4)	14.6 (9.71 - 19.5)	0.00 (0.00 - 19.6)	15.6 (14.1 - 17.0)
Breakfast Cereals ² (all varieties)	g/day	18.9 (3.00 - 38.6)	25.2 (20.3 - 30.2)	15.0 (0.00 - 36.0)	23.1 (21.8 - 24.4)
Wholegrain and High Fibre Breakfast Cereals ²	g/day	4.29 (0.00 - 19.9)	14.6 (10.4 - 18.9)	0.00 (0.00 - 24.1)	15.6 (14.4 - 16.8)
Oil Rich Fish ³	g/week	0.00 (0.00 - 113)	77.7 (53.4 - 102)	0.00 (0.00 - 125)	88.8 (81.5 - 96.2)
White Fish	g/week	44.0 (0.00 - 175)	120 (88.3 - 152)	0.00 (0.00 - 170)	102 (95.0 - 109)
Potatoes ⁴	g/day	61.1 (25.9 - 92.1)	61.0 (53.6 - 68.4)	49.3 (21.7 - 84.4)	57.4 (55.1 - 29.7)

1 Including all fruit juice, baked beans and fruit and vegetables in composite dishes

2 Porridge weight (wet) in NDNS has been adjusted to give an equivalent dry weight for comparison with other surveys

3 Including canned tuna

4 Potatoes = non-fried potato products + other potato dishes (not chips)

Table 22: Median with interquartile range (IQR) and mean with 95% confidence intervals (95% CI) food energy and nutrient intakes. NDNS Adults aged 19-64 years (2000-2001) for Scotland and Great Britain (All GB)

Nutrient	Unit	Scotland N=123		All GB N=1724	
		Median (IQR)	Mean (95% CI)	Median (IQR)	Mean (95% CI)
		Energy (excluding alcohol)	kcal/day	1775 (1335 - 2154)	1783 (1684 - 1881)
	MJ/day	7.48 (5.63 - 9.04)	7.51 (7.10 - 7.92)	7.35 (5.92 - 8.98)	7.55 (7.43 - 7.66)
Fat	g/day	68.6 (50.5 - 86.3)	70.8 (66.0 - 75.6)	69.4 (52.3 - 87.9)	72.1 (70.7 - 73.4)
	% Food Energy	35.1 (31.4 - 38.8)	34.9 (33.9 - 35.9)	35.5 (31.4 - 39.4)	35.3 (35.0 - 35.6)
Saturated Fat	g/day	25.4 (19.1 - 33.7)	26.7 (24.8 - 28.7)	25.9 (18.9 - 34.1)	27.3 (26.7 - 27.9)
	% Food Energy	13.3 (11.6 - 15.0)	13.2 (12.7 - 13.7)	13.3 (11.3 - 15.2)	13.3 (13.1 - 13.4)
NME Sugars	g/day	51.0 (32.2 - 77.3)	58.8 (51.4 - 66.2)	56.1 (34.6 - 81.1)	62.8 (60.9 - 64.7)
	% Food Energy	10.9 (7.4 - 14.9)	12.2 (11.0 - 13.3)	11.7 (8.16 - 15.9)	12.7 (12.3 - 13.0)
Total Complex Carbohydrates	g/day	139 (114 - 173)	146 (137 - 155)	140 (110 - 177)	146 (144 - 149)

Table 23: Median with interquartile range (IQR) and mean with 95% confidence intervals (95% CI) daily energy and non-milk extrinsic sugar (NMES) intakes. NDNS Young People aged 4-18years (1997)¹ for Scotland and Great Britain (All GB)

Nutrient	Unit	Scotland 4-18y n = 137		All GB 4-18y n = 1701	
		Median (IQR)	Mean (95% CI)	Median (IQR)	Mean (95% CI)
		Energy (excluding alcohol)	Kcal/day	1630 (1376 - 1906)	1672 (1594 - 1751)
	MJ/day	6.85 (5.80 - 8.02)	7.03 (6.70 - 7.36)	7.06 (6.00 - 8.33)	7.27 (7.18 - 7.36)
NME Sugars	g/day	72.0 (52.2 - 98.6)	77.0 (71.0 - 83.0)	72.9 (53.7 - 95.5)	77.3 (75.7 - 79.0)
	% Food Energy	17.4 (13.9 - 20.0)	17.2 (16.3 - 18.1)	16.6 (13.1 - 20.3)	16.8 (16.6 - 17.1)

¹ It should be noted that there was a high incidence of underreporting in this survey (Gregory and Lowe, 2000) particularly in the 11-18 year olds (74% in GB girls aged 15-18y) so despite the presumed accuracy of the method the results may not be as reliable as anticipated.

Table 24: Progress towards the Scottish Dietary Targets: Summary of results from the various surveys

Population Target	NFS 1996-2000 EFS 2000/2001 to 2003/2004	SHS 1995,1998, 2003	HEPS 1996- 2004	NDNS NB: Small sample size for Scotland
Average intake of total fat to reduce from 40.7% to no more than 35% of food energy	Progress apparent towards target	No data	No data	Progress apparent SDT met
Average intake of saturated fat to reduce from 16.6% to no more than 11% of food energy	No apparent change	No data	No data	Progress apparent
Average sodium intake to reduce from 163 mmol per day to 100mmol per day	Not known	No data	No data	No detectable progress
Average intake of NME sugar not to increase in adults	Has increased from 1996	No data	No data	No detectable progress
Average intake of NME intake in children to reduce by half to less than 10% food energy	Not known			
Total complex carbohydrates Increase non sugar carbohydrate intake from 124g per day by 25%	No change	No data	No data	No detectable progress
Oil rich fish consumption to increase from 44g per week to 88g per week	No detectable progress	No detectable progress	No data	No detectable progress
Fruit & vegetable consumption to double to more than 400 g per day	No detectable progress. Highest intake in least deprived	No change from 1998 –2003 Apparent progress towards the target in adults 1995-1998	Apparent progress and higher intakes in older age groups and least deprived.	Apparent progress in adults but young peoples intakes ¼ of SDT in 1997
Bread intake to increase by 45% from present daily intake of 106g, mainly using wholemeal and brown breads	No detectable progress	No detectable progress	No data	No detectable progress
Breakfast cereals average intake to double from 17g per day	No detectable progress	Apparent progress to 1998 but then none from 1998-2003	No data	No detectable progress

4. DISCUSSION

This paper summarises findings from the main national surveys, which include data on food consumption and nutrient intake and compares them to the Scottish Dietary Targets (SDTs) and some of the Scottish Diet Report (1993) Target Foods not included in the SDTs.

The Expenditure and Food Survey (EFS) provides the most comprehensive information on food consumption and nutrient intake available for a nationally representative Scottish sample. The EFS (and its predecessor the National Food Survey (NFS)) has provided trend data on food consumption and nutrient intake from 1996 through to 2004 and this has been related to the SDTs. Results from the EFS suggest that the percentage of energy from fat has fallen slightly toward the target but there has been no increase in the mean consumption of fruit and vegetables in the population between 1996 and 2004. Over the same period, consumption of bread and brown/wholemeal bread appears to have fallen, as has that of white fish and potatoes. Consumption of breakfast cereals and oil rich fish has fluctuated but essentially stayed about the same as it was in 1996. Nutrient intake data from the EFS suggest that the percentage of food energy from dietary fat, saturated fat and non-milk extrinsic sugars remains higher than the SDTs. Over the period there appears to have been an increase in the consumption of confectionery and soft drinks which may explain the increased intake of non-milk extrinsic sugars. It is likely that the increases in soft drink and confectionery outweighed the decreases seen in consumption of sweet biscuits and sugar & preserves. However such results should be treated with caution due to differing methodologies between the NFS and the EFS which have been adjusted for in part.

Differences were seen in relation to SIMD and URC with the foods targeted for increase showing a highest mean consumption in the least deprived quintile of the SIMD and the remote rural categories. The influence of a lower level of deprivation in the remote small towns/rural/very remote rural category should be noted and in future some adjustment should be made to account for this.

It was interesting that despite the differences seen in food consumption by SIMD and URC the only difference in SDT nutrients was seen in NME sugars where the most deprived quintiles had the highest intakes.

The main limitation of the EFS is that it is based on records of household food consumption 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 an assumed but probably unrealistic figure of 10% for waste). However the data is less likely to be biased by individual perceptions of what should be reported, and the fact that data can be linked to SIMD and URC makes it an extremely useful survey for ongoing work.

Despite the different methodologies the results from the National Diet and Nutrition Survey (NDNS) for adults in 2000/2001 confirm those of the EFS that food consumption

and nutrient intakes were not meeting the SDTs. The exception is the NDNS data for total fat which was 35.3% of food energy. This figure differs from the 37–39% of energy estimated for the same period from the EFS data and it is not possible to tell which is the most accurate. The NDNS methodology is subject to underreporting which may be biased towards the more fatty foods. Although the dietary assessment methodology for the NDNS provides detailed food consumption and nutrient intake data for individuals, it is designed as a UK national survey and there are insufficient subjects for a Scottish national sample. Mean intakes of foods 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 and the zero median consumption figures for wholemeal bread (for both Scotland and the whole of Great Britain) showed that the majority of the sample were non-consumers, a fact that could not be appreciated from the EFS. A similar situation 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 in the latter. Fat, saturated fat and NME sugar 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 Scottish Health Survey (SHS) are for frequency of consumption of a few foods, some of which are useful indicators of dietary patterns. In 1998 the median frequency for fruit and vegetable consumption was 2.9 times per day which is comparable to an intake of between 200-300 g per day if we assume an average portion of around 80g is eaten for each time of eating. This is also less than the SDT. However interpretation of the SHS food frequency data is somewhat limited due to imprecision in the food categories in the 1998 questionnaire, particularly for oil rich fish and breakfast cereals, as well as the lack of portion sizes. Unlike the NFS/EFS the SHS suggests an apparent increase in fruit and vegetable consumption from 1995 to 1998. This is likely to be due to the inclusion of fruit juice in the fruit and vegetable category in the later survey. No increase is apparent from 1998 to 2003 with median intakes of 2.9 for both surveys despite a change in the questionnaire. As seen in the EFS, differences due to deprivation were seen with those in the most deprived quintile being less likely to consume the foods targeted for increase (Bromley *et al.*, 2005).

The Health Education Population Survey (HEPS) is a national survey for Scotland and a recent report showing trends in dietary behaviour between 1996 and 2004 suggests an increase in the percentage of the population eating five or more fruit and vegetables per day. Over the same periods there was also an increase in the mean number of portions of fruit and vegetables eaten daily, as well as an 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 higher socioeconomic groups.

The EFS/NFS collected purchase data which provides a more objective method than the HEPS and the SHS which asks participants on 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 tripled over the period

1996-2003. 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 the opposite picture and this finding, together with the fact that anecdotal reports suggest wastage levels have increased (BBC, 2004) indicate that the apparent improvement in dietary habits has been slight. Actual consumption, calculated from food purchases suggests little improvement and is based on a standard measure of what is included in the various food target categories across the years.

In summary the NFS and EFS show little change in total amount of fruit and vegetables consumed over the period of 1996 to 2003/4, but a clear difference when analysed by SIMD quintiles. A similar divide was seen for deprivation in the SHS and HEPS but by contrast the SHS and HEPS found an increase in frequency of 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 and vegetables in SHS and HEPS as awareness of the “5 a day” message becomes more widespread. The overall intake, portions or frequency is still well below the dietary target of 400g.

The Expenditure and Food Survey is a very comprehensive source of information on food consumption and nutrient intake for the Scottish population. When comparing with the NFS there are certain methodological problems that must be noted. It is thought that under-reporting is likely to be lower in the EFS because it does not focus on diet but on expenditure. Scaling of the UK data has corrected for this assumed under-reporting and has resulted in adjusted energy intakes being slightly higher in the NFS of 2000 than in the EFS of 2001/2002. However scaling has not yet been carried out on regional energy and nutrient data; this means that the absolute energy and nutrient data presented in this report for Scotland shows a discontinuity between the NFS of 2000 and the EFS of 2001/2002. In years to come this will become less of a problem as trends will be assessed from data collected using the same methodology. 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 non-milk extrinsic sugars (NME sugar) intake in children, and sodium intake in the population. There is no current information on NME sugar intakes in Scottish children. As sodium in the diet is derived mainly from processed foods and, to a lesser extent salt added in cooking and at the table, sodium intake in population groups has to be estimated from urinary sodium output. The Food Standards Agency Scotland is currently commissioning separate surveys of both sodium intake by urinary output, and NME sugar intake amongst children.

The previous SHS has provided food frequency information on foods which may be indicators of dietary targets. The food information can be analysed to show differences in intake between sub groups of the population. Consideration should be given in future SHS to an improved dietary module or a sub set study to provide more comprehensive dietary information related to the SDTs. For trends on dietary behaviours, motivation and awareness the HEPS provides useful information for fruits and vegetables but without quantities. However both the HEPS and the SHS may be liable to response bias related to health messages (Gibson, 2005).

5. KEY FINDINGS

NATIONAL FOOD SURVEY/EXPENDITURE AND FOOD SURVEY - CHANGES FROM 1996-2004

Foods	Change	Lowest in most deprived SIMD
Fruit and Vegetables	no change	Yes
Bread - all	↓	No -highest
Bread - wholemeal/brown	↓	Yes
Breakfast Cereals	no change	Yes
Fish - oil rich	no change	Yes
Fish - white	↓	No
Fresh Potatoes	↓	No- highest
Nutrients	Change	
Total Fat	↓	No- similar
Saturated Fat	no change	No - similar
NME Sugars	↑	No- highest
Total Complex Carbohydrate	no change	No - similar

SCOTTISH HEALTH SURVEY -CHANGES FROM 1995-1998

Foods	Change	Lowest in most deprived SIMD
Fruit and Vegetables	↑ *	Yes
Bread - all bread	no change	No
Breakfast Cereals	↑	Yes*
Fish - oil rich	no change	Yes*
Foods High in Free Sugars	↑	Yes*

* but no apparent change from 1998 to 2003

HEALTH EDUCATION POPULATION SURVEY - CHANGES FROM 1996 – 2004

Foods	Change
Fruit and Vegetables	↑

Food purchasing data collected by the Expenditure and Food Survey is the most useful existing data to monitor the majority of the Scottish Dietary Targets. It collects quantitative information on diet over 14 days and is likely to be more objective than other dietary assessment methods. 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. The results reported here suggest a small improvement (reduction) in fat as percentage of food energy but no improvement in fruit and vegetables, bread, breakfast cereal and fish consumption over the period 1996 to 2004. Consumption of these foods is lowest in the most deprived quintile of the Scottish Index of Multiple Deprivation but intakes of NME sugar were higher. There was also significant increase in NME sugar from 2001 to 2004

Both the Scottish Health Survey and the Health Education Population Survey can be used to monitor differences due to deprivation, sex and age but they can only be used to provide information on food consumption in broad terms. The results from the most recent Scottish Health Survey (2003) provide information on fruit and vegetable intakes but suggest no increase has occurred since 1998.

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8. APPENDICES

Appendix 1: National Food Survey Calculation Methodology

Appendix 2: Expenditure and Food Survey Calculation Methodology

Appendix 3: Additional Tables

Appendix 1: National Food Survey Calculation Methodology

Data for Scotland (1996-2000) for mean food and drink consumption and nutrient intake per person per day were provided by DEFRA. Data were obtained for household foods and foods eaten outside the home separately.

Calculation of Food Consumption

Adjustment factors which DEFRA have calculated to adjust NFS household food and drink purchases data to make it comparable to the differing methodology used by the EFS were provided by DEFRA along with food code mapping from the NFS to the EFS. Using the food code mapping data, NFS codes were mapped to those listed in the detailed coding frames constructed for household food and drink purchases for the EFS (Appendix 2). Factors for proportions of foods, e.g. proportion of vegetables in a composite dish, were then applied, as with EFS data (Appendix 2). Finally adjustment factors provided by DEFRA to make NFS data comparable to EFS data were applied and mean intakes of each of the food groupings (see Appendix 2) were computed.

No food code mapping data or NFS to EFS adjustment data was available for eating out food and drink purchases, so similar foods to those listed in the EFS eating out coding frame were selected and factors for proportions of foods were applied. Mean intakes of each food grouping were then computed and added to those for household food and drink purchases to obtain mean consumption data for household and eating out combined. A further adjustment was made to food consumption data to take account of wastage; this was set at 10% in line with that used by DEFRA when comparing nutrient intake (of purchases) to reference nutrient intakes (RNI) (Department of Health, 1991).

Calculation of Nutrient Intake

NFS to EFS adjustment factors for nutrient intake are not yet available from DEFRA for regions; therefore the nutrient intake data have not been adjusted. However an adjustment was made to nutrient intake data to take account of wastage; this was set at 10% in line with that used by DEFRA when comparing nutrient intake (of purchases) to reference nutrient intakes (RNI) (Department of Health, 1991).

Appendix 2: Expenditure and Food Survey Calculation Methodology

1. Coding Frames

Detailed coding frames (see later) were designed for both household food and drink and eaten out food and drink purchases. They list groupings of foods (and codes) which form key components of each of the Scottish Dietary Targets (and other foods of interest, namely cooking fats and oils and takeaway foods) and give details of factors for proportions of foods used in the calculations, e.g. proportion of vegetables in a composite dish. As data is not available on the proportion that each of the constituent foods make to the food code grouping it is not possible to split each of the EFS codes apart to constituent foods. However informed judgements have been made and food codes where the majority of the component foods fall under the categories of interest have been included. Food groupings forming part of the SDAP dietary targets have been given a factor where possible but with the exception of the soft drink component of alcoholic soft drinks (where a factor of 0.85 was used for the proportion of soft drink), 100% of all foods included in the food groupings of the dietary targets included in the Scottish Diet Report but not the SDAP have been used. This is of particular importance in meat and meat products where pastry and vegetable components have not been excluded. Also any food which could not be properly categorised has been excluded e.g. unspecified milk, unspecified spreading fat. However, as this is the same for all years the figures are comparable. The food groupings for which mean intakes were calculated are listed in Figures 1 and 2.

Figure 1: Scottish Diet Action Plan - Dietary Targets: Food groupings for which mean intakes were calculated

1. Fruit and Vegetables	
Fruit and Vegetables including fruit (and vegetable) juice and baked beans	
Fruit and Vegetables excluding fruit (and vegetable) juice and baked beans	
Fruit and Vegetables including fruit (and vegetable) juice and excluding baked beans	
Fruit and Vegetables excluding fruit (and vegetable) juice and including baked beans	
Fruit including and excluding fruit (and vegetable) juice	
Vegetables including and excluding baked beans	
2. Breads	
Total Bread	
White Bread only	
Brown/Wholemeal Bread only	
3. Breakfast Cereal	
Total Breakfast Cereal	
Wholegrain/ high fibre Breakfast Cereal	
Low fibre or high NMES Breakfast Cereal	
Low fibre and lower NMES Breakfast Cereal	
4. Fish	
Oil rich Fish	White Fish
5. Potatoes	
Fresh Potatoes	Processed Potatoes

Figure 2: Dietary targets included in the Scottish Diet report but not the Scottish Diet Action Plan (and other food groups of interest): Food groupings for which mean intakes were calculated

1. Cakes, Biscuits and Pastries	
Cakes and Pastries	Sweet Biscuits
2. Meat and Meat Products	
Processed Meat and Sausages	Bacon and Ham
3. Butter and Spread	
Butter	Block Margarine
Soft Margarine	Low Fat Spread
4. Cooking Fats and Oils	
Cooking Fat	Cooking Oil
5. Milk	
Whole Milk	
Semi-skimmed Milk	Skimmed Milk
6. Sugar and Preserves	
7. Confectionery	
Chocolate Confectionery	Sugar Confectionery
8. Soft Drinks	
Sugar Containing Soft Drinks	Sugar Free Soft Drinks
9. Savoury Snacks	
10. Takeaway Foods	

2. Preliminary Analysis

EFS data becomes available in 2 stages; firstly mean food consumption and energy and nutrient intakes are published on the Defra website, secondly raw data becomes available which can be used for further analysis. Preliminary analysis of food consumption and nutrient intake for Scotland was calculated for 2001/2002-2003/2004 using the Excel data sheets available on the Defra website. These results were used as a check on the more detailed analysis carried out on the raw data as it became available. This meant that results were calculated by two different methods and provided a means of quality control.

3. Calculation of Food Consumption

Further to collaborations with the Department for Environment Food and Rural Affairs (DEFRA), raw data (at the household level) for food and drink purchases for 2001 – 2004 was obtained from the UK Data Archive. Data on SIMD and URC was obtained from the UK Office of National Statistics.

The files containing data on food and drink purchases, Government Regional Office and household information were linked by Case ID and merged in Microsoft Access, creating a database containing Scottish data. These were then in turn linked by Case ID to household data on SIMD and URC. Raw data was adjusted to take account of wastage; this was set at 10% in line with that used by DEFRA when comparing nutrient intake (of purchases) to RNIs.

The database containing the Scottish data was linked to a table constructed from the coding frame, coding each food grouping of interest, and listing each food within these groupings and the appropriate factor to be applied for the calculations (where no factor was necessary 1.0 was applied). A series of queries were subsequently constructed and run in Microsoft Access to enable the mean and standard error to be calculated for household, eaten out and total food and drink purchases. In brief, household consumption for each food grouping was multiplied by the appropriate factor, summed, multiplied by the DEFRA weighting (applied to make the sample representative of the population), summed across households and divided by the population ($\Sigma(\text{number in household} \times \text{DEFRA weighting})$) to obtain the fortnightly mean. This was then divided by 2 or 14 as appropriate to obtain the mean weekly or daily consumption per person respectively.

The standard error equation (see Figure 3) was split into component parts and a series of queries were constructed to calculate the standard error. From this 95% confidence intervals were calculated for each of the food groupings (standard error multiplied by 1.96 then added and subtracted from the mean).

Figure 3: Equation for calculating Standard Error of the Mean

$$SE \frac{\sum(wx)}{\sum(wp)} = \frac{\sum(wx)}{\sum(wp)} \sqrt{\left(\frac{n}{n-1} \left(\frac{\sum(wx)^2}{(\sum(wx))^2} - 2 \frac{\sum((wx)(wp))}{\sum(wx)\sum(wp)} + \frac{\sum(wp)^2}{(\sum(wp))^2} \right) \right)}$$

$$\frac{\sum(wx)}{\sum(wp)}$$

Where: standard error = SE; mean = $\frac{\sum(wx)}{\sum(wp)}$; w = weighting; x = quantity of food/drink or nutrient;
 p = number of persons in the household; n = number of persons in sample

4. Calculation of Energy and Nutrient Intakes

Nutrient composition tables for each of the EFS food codes were obtained from the UK Data Archive and multiplied by the weight of each food (adjusted by 10% to take account of wastage) to obtain the nutrient intake per food. A series of queries were subsequently constructed and run in Microsoft Access to enable the mean and standard error to be calculated for each nutrient. In brief, household intake of each nutrient was, summed, multiplied by the DEFRA weighting (applied to make the sample representative of the population), summed across households and divided by the population ($\Sigma(\text{number in household} \times \text{DEFRA weighting})$) to obtain the fortnightly mean. This was then divided by 14 to obtain the mean daily energy and nutrient intake (as listed in Figure 4) per person.

Figure 4: Nutrients for which mean intakes were be collated

	Units
Energy	kJ, kcal
Fat	g, as % energy
Saturated Fat	g, as % energy
Carbohydrate (CHO)	g, as % energy
Starch	g, as % energy
Non-Milk Extrinsic Sugars (NMES)	g, as % energy
Non-Starch Polysaccharide (NSP)	g
Total Complex Carbohydrates (starch + NSP)	g

The standard error equation (see Figure 3) was split into component parts and a series of queries were constructed to calculate the standard error. From this 95% confidence intervals were calculated for each nutrient (standard error multiplied by 1.96 then added and subtracted from the mean).

The mean percentage energy and standard error for each macronutrient were calculated using the formulas shown in Figure 5

Figure 5: Equation for calculating Standard Error of the Mean % Energy

$$\text{Mean \% Energy} = \frac{\sum (we)}{\sum (wE)} \times 100$$

$$SE \frac{\sum (we)}{\sum (wE)} = \frac{\sum (we)}{\sum (wE)} \sqrt{\left(\frac{n}{n-1} \left(\frac{\sum (we)^2}{(\sum (we))^2} - 2 \frac{\sum ((we)(wE))}{\sum (we) \sum (wE)} + \frac{\sum (wE)^2}{(\sum (wE))^2} \right) \right)}$$

Where:
 standard error = SE;
 mean = $\frac{\sum (we)}{\sum (wE)}$;
 w = weighting;
 e = household energy from macronutrient
 E = household energy intake

Intakes of sodium were not included as they were deemed inaccurate as salt added at the table was not included and it was felt that nutrient databanks for manufactured products are not up to date with the current reductions which manufacturers are making in the sodium content of products.

Coding Frame for Household Food from EFS

Descriptions as provided by Defra

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

- Fruit and vegetables including fruit (and vegetable) juice and baked beans
- Fruit and vegetables excluding fruit (and vegetable) juice and baked beans
- Fruit and vegetables including fruit (and vegetable) juice and excluding baked beans
- Fruit and vegetables excluding fruit (and vegetable) juice and including baked beans
- Fruit including fruit (and vegetable) juice
- Fruit excluding fruit (and vegetable) juice
- Vegetables including baked beans
- Vegetables excluding baked beans

Fruit

EFS Food Code No	Defra food code	Description	Definition
1.1.6.1.1	21001	Fresh oranges	
1.1.6.1.2	21401	Other fresh citrus fruit	clementines, grapefruit, kumquat, lemons, limes, mandarins, ortaniques, tangerines, satsumas, ugli
1.1.6.2.1	22801	Fresh bananas	
1.1.6.3.1	21701	Fresh apples	including toffee apples
1.1.6.3.2	21801	Fresh pears	
1.1.6.3.3	22101	Fresh stone fruit	apricots, avocado pears , cherries, damsons, dates, greengages, lychees, mangoes, medlars, nectarines, peaches, plums, stuffed olives, vacuum packed olives
1.1.6.4.1	22201	Fresh grapes	
1.1.6.4.2	22701	Other fresh soft fruit	bilberries, blackberries, black-currants, blueberries, cranberries, gooseberries, loganberries, mulberries, redcurrants, raspberries, strawberries
1.1.6.5.1	22901	Fresh melon	
1.1.6.5.2	23101	Other fresh fruit incl fruit not specified	pineapples, fresh figs, kiwi fruit, rhubarb, guava, passion fruit, pawpaw, persimmon, pomegranates, prickly pear, quinces, sharron fruit, star fruit fresh fruit salad, fresh fruit in natural juice "fruit", type not specified
1.1.6.6.1	24101	Frozen fruits	strawberries, frozen apple slices, peach halves, blackberries, blackcurrants, cranberries, mandarin segments, melon balls, raspberries fruit salad - FROZEN frozen orange juice
1.1.6.7.1	24001	Dried fruit	dried apples, apricots, bananas, peaches, pineapple rings dates, figs, raisins, sultanas, currants, prunes crystallised fruit, glacé cherries, mincemeat, packeted mixed fruit include tropical mix

+

Adjusted [23301 x 0.60] and [23601 x 0.52] to remove weight of juice / syrup, factors calculated from the fruit and nuts supplement of the composition of foods

EFS Food Code No	Defra food code	Description	Definition
1.1.6.8.1	23301	Tinned peaches, pears and pineapples only	
1.1.6.8.2	23601	All other tinned or bottled fruit	apricots, cherries, mandarin oranges, olives, apples, blackcurrants, gooseberries, grapefruit, lychees, loganberries, plums, prunes, rhubarb, strawberries, stem ginger fruit salad, fruit cocktail, fruit desserts (eg "Bonne Maman") includes pie fillings and mixes

Vegetables

EFS Food Code No	Defra food code	Description	Definition
1.1.7.1.1	16701	Lettuce, fresh incl watercress NOT prepared salads	Lettuce - all varieties, cos, chicory, endive, frisee, iceberg, little gem, radicchio, webb Watercress, mustard and cress Crispy seaweed, vine leaves for prepared lettuce salads see 1.1.7.1.4
1.1.7.1.2	17101	Other fresh green vegetables	Spinach, kale, sprouting broccoli, turnip tops but not turnips - see 1.1.7.5.2
1.1.7.1.3	18302	Stem vegetables New for 2003/04	sweetcorn, celery, asparagus, bean sprouts Artichokes, globe artichokes but not Jerusalem artichokes - see 1.1.7.5.4
1.1.7.1.4	16702	Prepared lettuce salads (eg in bags), mixed salads	Bags of lettuce salad, leafy mixed salad, mixed salad vegetables eg M & S continental salad, all seasons salad, garden salad, crispy salad, herb salad, Italian style salad, wild rocket salad, fresh green salad, endive & radicchio salad pasta salad is coded in 1.1.1.7.2 pre-packed meat and fish salads are coded in meat (1.1.2.13.2) and fish (1.1.3.6.1) sections cheese, egg or vegetable salads are coded in 1.1.7.10.1
1.1.7.2.1	16201	Cabbages, fresh	Red cabbage, savoy cabbage, spring cabbage, spring greens, brussels tops, kale, greens, curly greens, savoy greens, Chinese leaf, white cabbage
1.1.7.2.2	16301	Brussels sprouts, fresh	
1.1.7.2.3	16401	Cauliflower, fresh	includes headed broccoli, eg Calabrese
1.1.7.3.1	17601	Cucumbers, fresh	
1.1.7.3.2	18303	Marrow, courgettes,	incl aubergine, pumpkin, plantain, green bananas, fresh chillies, peppers (red/green/yellow), capsicums, okra
1.1.7.3.3	16801	Peas, fresh	Mangetout, sugar snap peas
1.1.7.3.4	16901	Beans, fresh	Runner beans, broad beans, french beans, etc
1.1.7.3.5	17801	Tomatoes, fresh	Vine, plum, cherry but not tinned
1.1.7.5.1	17201	Carrots, fresh	
1.1.7.5.2	17301	Turnips and swedes, fresh	
1.1.7.5.3	17501	Onion, shallots, leeks, fresh	scallions, syboes, spring onions
1.1.7.5.4	17401	Other root vegetables, fresh	parsnips, beetroot raw & cooked, Kohlrabi, horseradish, Jerusalem artichokes , , yams, sweet potatoes, fennel, root-ginger (fresh), radish
1.1.7.5.5	17701	Mushrooms, fresh	all varieties - eg oyster, button, shikate
1.1.7.5.6	18301	Packs of mixed veg incl stirfry packs, stewpacks Fresh veg - type not specified	fresh mixed vegetables, stir fry vegetables, 'casserole' vegetables, 'winter' vegetables
1.1.7.6.1	20301	Frozen peas	including frozen petit pois
1.1.7.6.2	20401	Frozen beans	all varieties including frozen french beans
1.1.7.6.3	20801	All other frozen vegetables	sweetcorn, asparagus, broccoli, Brussels sprouts, , carrots, cauliflower, corn-on-the-cob, mixed vegetables, spinach
1.1.7.7.1	19501	Air-dried vegetables	Celery, "Farmhouse Brunch", red or green peppers, "Surprise" peas and beans, "Swel" onions, mixed vegetables, sundried tomatoes (on their own)
1.1.7.7.2	19201	Dried pulses, other than air-dried	Broth mix, chick pea flour, lentils, masoor, mixed barley, peas and lentils, Batchelors dried peas, soya

Appendix 2: Expenditure and Food Survey Calculation Methodology

			beans, split peas
1.1.7.8.1	18401	Tomatoes, canned or bottled	Include passata
1.1.7.8.2	18501	Peas, canned	garden, mushy, petit pois, processed etc
1.1.7.8.4	18803	Other canned beans and pulses	broad beans, butter beans, kidney beans, chick peas, lentils, refried beans, etc
1.1.7.8.6	19101	Other canned or bottled vegetables (NOT potatoes, tomatoes or pulses)	Carrots, sweet corn, corn nibblets, mixed vegetables, mushrooms, runner beans, spinach, water chestnuts, tinned bamboo shoots, celery, asparagus tips, artichokes (hearts), canned beetroot (but for pickled beetroot - see code 1.1.9.1.1) tinned cauliflower cheese, canned vegetable salad bottled chillies
1.1.7.8.7	19602	Tomato purée and vegetable pureés	Tomato purée, vegetable purée, For passata see 1.1.7.8.1
1.1.9.2.3	18304	Fresh herbs	Fresh herbs sold in pots or loose: basil, coriander, lemongrass, majoram, mint, parsley, rosemary, sage, thyme, Clove of garlic

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Vegetable contribution of vegetarian dishes x0.4, factor as NDNS adults 19-64 2002

EFS Food Code No	Defra food code	Description	Definition
1.1.7.10.1	20601	Vegetarian ready meals & other vegetable products FROZEN & NOT FROZEN Not canned or bottled Not takeaway	Fresh pasta filled with vegetables, mushroom ravioli/tortelloni, vegetable lasagne, Vegetable curry, vegetable bake, vegetable kiev, ratatouille, vegetable stirfry, bubble and squeak, creamed mushrooms, humus, pease pudding, guacamole, Cheese & onion pie/slice/pasty, vegetable pasties, vegetable slices, vegetable samosas, onion bhajis, vegetable spring rolls, Sauerkraut, vegetarian sausages, vegeburgers, vegetarian sausages, Lava (laver) bread (seaweed) Vegetable paté, mushroom paté, Pre-packed cheese/egg salads, vegetable salad, pic & mix salad, coleslaw, Florida salad, dahl, felafel, pasta & vegetable salad. pasta & cheese salad is coded 1.1.1.7.2 pre-packed meat and fish salads are coded in meat (1.1.2.13.2) and fish (1.1.3.6.1) sections Leafy salads are coded in 1.1.7.1.4
1.3.1.5.1	20604	ALL vegetable takeaway products	vegetable curry (code rice separately see 1.3.1.2.1) vegetable accompaniments to Chinese or Indian takeaway or home delivered meal (such as onion bhajis, dahl, spring rolls, vegetable samosas) omelettes containing vegetables, vegetable-based side dishes jacket potato, potatoes salad, coleslaw, peas

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Vegetable contribution of soups (x0.3), factor calculated from label data of vegetable soups

EFS Food Code No	Defra food code	Description	Definition
1.1.9.5.1	31801	Soups - canned or cartons	broths, fresh stock and canned condensed soups, cartons of fresh soup, frozen soup (baby food soups are coded 1.1.9.3.1)

1.1.9.5.2	31901	Soups - dehydrated or powdered	includes 'cup-a-soup'
1.3.1.8.5	32001	Soups (takeaway)	

Pure Fruit / Vegetable Juice

EFS Food Code No	Defra food code	Description	Definition
1.2.2.4.1	24801	Pure fruit juices	Orange, pineapple, apple, grape, grapefruit, lemon (eg, "PLJ", "Jiffy"), lime, and blends of fruit juices eg 'breakfast' juice (orange & grapefruit), pure fruit smoothies eg Innocent. To distinguish fruit juices from soft drinks these are usually labelled as eg pure orange juice, freshly squeezed orange juice, 100% squeezed orange juice, 100% pressed orange juice. orange juice drink=1.2.2.2.1 orange crush [suggest diet/low calorie]=1.2.2.2.2 orange squash=1.2.2.3.1 orange squash [suggest diet/low calorie]=1.2.2.3.2 For cranberry juices 1.2.2.2.1 & 1.2.2.2.2 Pure orange juice is often labelled as 'made from concentrate' ie the orange juice was concentrated after harvest and has now been reconstituted. This is coded here, and should not be confused with concentrated orange squash which we 'dilute to taste'.
1.2.2.5.1	19603	Vegetable juices (eg tomato juice)	tomato juice, carrot juice, V8

Baked Beans

EFS Food Code No	Defra food code	Description	Definition
1.1.7.8.3	18802	Baked beans in sauce	baked beans in tomato sauce, curry sauce, etc

2. Dietary Target: Bread intake to increase by 45% from present daily intake of 106g, mainly using wholemeal and brown breads.

- Total Bread
- White Bread Only
- Brown/Wholemeal Bread Only

Total Bread

Addition of all white and wholemeal / brown bread categories

White Bread

EFS Food Code No	Defra food code	Description	Definition
1.1.1.1.1	25102	White Bread, standard - UNSLICED	include standard 800g and small 400g loaves include part-baked white bread
1.1.1.1.2	25202	White Bread, standard - SLICED	Include standard 800g and small 400g loaves include Burgen cholesterol
1.1.1.1.3	25701	White Bread, premium - sliced or unsliced	Include standard 800g and small 400g loaves & own brands labelled premier or premium
1.1.1.1.4	25801	White Bread, SOFTGRAIN sliced or unsliced	Include standard 800g and small 400g loaves and other fibre-enriched white breads
1.1.1.3.2	26303	Malt bread and fruit bread or loaf	Fruit loaf, 'Lincolnshire Plum Bread', Malt cake, raisin loaf, Trafford loaf
1.1.1.3.3	26304	Vienna and French bread white, brown or wholemeal	fresh or frozen part-baked French bread Baguette, French baton, French stick, Vienna Cob, Vienna Crustic
1.1.1.3.4	26305	Starch-reduced bread and rolls	Procea, Slimcea, Nimble - including Nimble wholemeal, Nimble diet, Danish, Danish Toaster, Low-carbohydrate breads
1.1.1.3.6*	26308	Other bread and rolls	pitta, nan, garlic bread, rye bread, sunflower bread, honey bread, walnut bread, jewish bread, bagels, ciabatta, olive ciabatta, cheese topped bread & rolls, focaccia, fugasse, milk rolls & breads, soda bread (Irish wheaten bread), includes part-baked 'Other' bread
1.3.1.2.4*	26311	Breads from takeaway eg garlic bread, nan	garlic bread, nan, chapati, rolls yorkshire puddings not popadums (see 1.3.1.8.2)
1.1.1.4.1*	26701	Buns, scones and teacakes	buns, hot-cross buns, teacakes, tea bread, scones, cheese scones, barm/barn bracts, barm cakes, dough cakes, griddlecakes, lardy cake, pikelets, crumpets, English muffins (toasting), croissants, part-baked buns. fruit filled pancakes or crepes (not frozen), scotch pancakes, syrup & sultana pancakes

*These food groupings include some wholemeal / brown products but is predominantly white

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Proportion of rolls [26302] as white x0.78, factor from Mintel market share data

EFS Food Code No	Defra food code	Description	Definition
1.1.1.3.1	26302	Rolls white, brown or wholemeal	baps, cobs, butteries, fluffies, hoagies, morning rolls, stove bottoms, scufflers, stotties, Yorkshire dusties, burger buns part-baked rolls (fresh or frozen);

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Proportion of pizza as base [29601] and [29602] x0.57, factor calculated from the 6th edition composition of foods and food portion sizes

EFS Food Code No	Defra food code	Description	Definition
1.1.1.7.3	29601	Pizzas FROZEN OR NOT FROZEN	(not takeaway pizza - see section 1.3)
1.3.1.6.1	29602	Takeaway Pizza	takeaway or home-delivered pizza

+

Proportion of hamburger as bun [9502] x0.55, factor calculated from food portion sizes

EFS Food Code No	Defra food code	Description	Definition
1.3.1.3.1	9502	Burger & bun eg hamburger	hamburger, cheeseburger, chicken burger, beefburger in batter

+

Proportion of sandwiches [26309] and [26310] as bread x0.48 and white x0.78, factor for bread calculated from the 6th edition composition of foods, food portion sizes and Sainsbury's website, proportion of white from Mintel market share data

EFS Food Code No	Defra food code	Description	Definition
1.1.1.3.5	26309	Sandwiches - from retail outlets only	including filled croissants, filled bagels, filled pitas, filled wraps
1.3.1.7.1	26310	Takeaway sandwiches	Include only those from a catering outlet, not from a shop

Brown/Wholemeal Bread

EFS Food Code No	Defra food code	Description	Definition
1.1.1.2.1	25901	Brown bread - sliced or unsliced include granary BROWN	include all non-wholemeal brown loaves, 400g or 800g - usually described as whole wheat Hovis, Hovis Golden Brown, Hovis, Wheatgerm, Hovis Granary, Kingsmill Malted Wheat, Gold Brown Toastie 'Turkestan', Warburtons Wheatie Bread labelled 'Rich in Fibre', Hi-bran (Bürgen) , 'Country Bran'
1.1.1.2.2	26001	Wholemeal bread - sliced or unsliced include granary WHOLEMEAL & 'granary' not specified	include standard 800g and small 400g loaves Sainsbury Multigrain, 'Country Grain' supermarket-brand Granary Wholemeal and Stoneground Wholemeal, Hovis Country Grain loaves described just as 'granary' with brown/wholemeal not specified part-baked

Appendix 2: Expenditure and Food Survey Calculation Methodology

			wholemeal bread Hovis Best of Both , Best of Health, Kingsmill Whole & White
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Proportion of rolls [26302] as wholemeal/brown x0.22, factor from Mintel market share data

EFS Food Code No	Defra food code	Description	Definition
1.1.1.3.1	26302	Rolls white, brown or wholemeal	baps, cobs, butteries, fluffies, hoagies, morning rolls, stove bottoms, scufflers, stotties, Yorkshire dusties, burger buns part-baked rolls (fresh or frozen)

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Proportion of sandwiches [26309] and [26310] as bread x0.48 and wholemeal/ brown x0.22, factor for bread calculated from the 6th edition composition of foods, food portion sizes and Sainsbury's website, proportion of wholemeal/brown from Mintel market share data

EFS Food Code No	Defra food code	Description	Definition
1.1.1.3.5	26309	Sandwiches - from retail outlets only	including filled croissants, filled bagels, filled pitas, filled wraps not from takeaway outlet - see 1.3.1.7.1
1.3.1.7.1	26310	Takeaway sandwiches	Include only those from a catering outlet, not from a shop

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

- Total Breakfast Cereals
- Wholegrain/high fibre breakfast cereals
- Processed breakfast cereals low in fibre (<2% NSP except porridge as more eaten) or high in NMES (30% or above)
- Processed breakfast cereals low in fibre (< 2% NSP except porridge as more eaten) and lower in NMES (< 30%)

Total Breakfast Cereals

Addition of all breakfast cereal categories

Wholegrain/high fibre breakfast cereals

EFS Food Code No		Description	Definition
1.1.1.5.1	28101	Oatmeal and oat products	Porridge oats, oatcakes, oatmeal, oatflakes, rolled oats
1.1.1.5.2	28202	Muesli & crisp/crunch cereals	Alpen, Country Store, own brand muesli, crunch or crisp cereals, Jordans crunch cereal, country crisp cereal.
1.1.1.5.3	28203	High fibre breakfast cereals	Allbran, Branflakes, Nestle Clusters, Feast of Flakes, Fruit 'n' Fibre, Harvest Crunch, Multi-Cheerios, Shredded Wheat, Shreddies, Weetabix Instant Quaker Oats, Oats so simple, Ready Brek

Processed breakfast cereals low in fibre (<2% NSP except porridge as more eaten) or high in NMES (30% or above)

EFS Food Code No		Description	Definition
1.1.1.5.4	28204	Sweetened breakfast cereals	Coco Pops, Crunchy Nut cornflakes, Frosties, Ricles, Start, Sugar puffs, Weetos, Honey Nut Cheerios, Variety Packs

Processed breakfast cereals low in fibre (< 2% NSP except porridge as more eaten) and lower in NMES (< 30%)

EFS Food Code No	Defra food code	Description	Definition
1.1.1.5.5	28205	Other breakfast cereals	Cornflakes, Rice Crispies, Rice Snaps, Special K, Nestle Fitnesse

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

- Oil Rich Fish
- White Fish

Oil Rich Fish

EFS Food Code No	Defra food code	Description	Definition
1.1.3.2.1	10701	Salmon, FRESH OR CHILLED	Not tinned salmon (see 1.1.3.5.1)
1.1.3.2.2	10702	Salmon, FROZEN	
1.1.3.2.3	10601	Herrings & other blue fish, FRESH OR CHILLED	trout, trout fillets, mackerel, tuna steaks, sprats, eel, roe, rock eel
1.1.3.2.4	10602	Herrings & other blue fish, FROZEN	trout, trout fillets, mackerel, tuna steaks, sprats, eel, roe, rock eel
1.1.3.4.2	10801	Blue fish and seafood - dried, smoked or salted filleted or unfileted	Kippers, bloaters, soused or pickled herrings, rollmop herrings, smoked mackerel, smoked salmon, anchovies, smoked trout, Smoked roe, jellied eels - includes frozen
1.1.3.5.1	11901	Tinned salmon	

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Proportion fish x0.5 and market share of [12103] as oil rich x0.3, factors calculated from label data, other EFS consumption and market data from Seafish

EFS Food Code No	Defra food code	Description	Definition
1.1.3.6.1	12103	All ready meals and other fish products Frozen or not frozen	fish fingers, fish cakes, frozen fish and chips, frozen crispy oven fish, fish in sauce, cod-in-sauce, frozen fish in butter sauce, cod fries, Toppers (fish in cheese sauce), breaded or battered fish fillet/portion/steak prawn cocktail, taramasalata, sushi fish/ crab/ salmon/ tuna paté fish paste, potted salmon ready meals (eg 'Vesta'), prawn curry with rice, stirfry, ocean pie, fish pie, fish crumble, salmon en croute, smoked salmon parcels, salmon mousse fresh pasta filled with fish, pasta & tuna bake, pasta nicoise with tuna, seafood pasta, salmon tortellini Fish salads eg tuna & pasta salad, prawn salad 'fish & chips' from chip shop or fish-based takeaway meals - see takeaway codes in 1.3

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Market share of [12001] as oil rich x0.19, factor from Mintel market share data

EFS Food Code No	Defra food code	Description	Definition
1.1.3.5.2	12001	Other tinned or bottled fish/ seafood (eg sardines, tuna)	Sardines, pilchards, anchovies, tuna, brisling, herrings, mackerel, sild, tinned tuna twists caviar, roes, shellfish

White Fish

EFS Food Code No	Defra food code	Description	Definition
1.1.3.1.1	10201	White fish, FRESH OR CHILLED Eg – from fresh fish counter or chiller cabinet	cod, haddock, coley, hake, whiting, plaice, skate, sole and other flat fish, conger eel, red mullet, ling, saithe, snapper fish, queen fish
1.1.3.1.2	10202	White fish, FROZEN Eg – from freezer cabinet	frozen cod, haddock, hake, plaice, lemon sole but for breaded/battered fish, fish fingers, portions etc – see code 1.1.3.6.1
1.1.3.4.1	11401	White fish and seafood dried, smoked, salted, frozen	Haddock, cod etc Crabsticks, dried shrimp

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Proportion fish x0.5 and market share of [12103] as white x0.7, factors calculated from label data, other EFS consumption and market data from Seafish

EFS Food Code No	Defra food code	Description	Definition
1.1.3.6.1	12103	All ready meals and other fish products Frozen or not frozen	fish fingers, fish cakes, frozen fish and chips, frozen crispy oven fish, fish in sauce, cod-in-sauce, frozen fish in butter sauce, cod fries, Toppers (fish in cheese sauce), breaded or battered fish fillet /portion /steak etc prawn cocktail, taramasalata, sushi fish/ crab/ salmon/ tuna paté fish paste, potted salmon ready meals (eg 'Vesta'), prawn curry with rice, stirfry, ocean pie, fish pie, fish crumble, salmon en crouete, smoked salmon parcels, salmon mousse fresh pasta filled with fish, pasta & tuna bake, pasta nicoise with tuna, seafood pasta, salmon tortellini Fish salads eg tuna & pasta salad, prawn salad for 'fish and chips' from chip shop or fish-based takeaway meals – see takeaway codes in 1.3

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Market share of [12001] as white(tuna) x0.81, factor from Mintel market share data

EFS Food Code No	Defra food code	Description	Definition
1.1.3.5.2	12001	Other tinned or bottled fish/ seafood (eg sardines, tuna)	Sardines, pilchards, anchovies, tuna, brisling, herrings, mackerel, sild, tinned tuna twists caviar, roes, shellfish

+

Proportion fish [12305]x0.50, [11801]x0.55 and [12304]x0.50, factors calculated from label data and food portion sizes

EFS Food Code No	Defra food code	Description	Definition
1.3.1.4.2	12305	FISH- based meals incl Indian & chinese takeaways eg prawn curry	Takeaway or home delivered Chinese and Indian meals or dishes based on fish or shellfish eg prawn biriani, prawn curry, seafood chowmein code rice separately (see1.3.1.2.1) NOT fish from fish & chip shop, fish cakes, scampi, (see section 1.3.1.1 above)
1.3.1.1.3	11801	Fish eg from fish & chip shop	eg battered fish from fish n chip chop fried fish, fried roe, cooked or jellied eels

Appendix 2: Expenditure and Food Survey Calculation Methodology

			chips are coded below
1.3.1.1.4	12304	Fish products eg fish cakes, scampi	incl fish cakes from chip shop, fish fillet burgers, scampi

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

- Fresh Potatoes
- Processed Potatoes

Fresh Potatoes

EFS Food Code No	Defra food code	Description	Definition
	15501	Potatoes - bought Jan-Aug, previous years crop	
	15502	Potatoes - bought Jan-Aug, this years crop	
	15503	Potatoes - bought Sep-Dec, this years crop or new imported	

Processed Potato

EFS Food Code No	Defra food code	Description	Definition
1.1.7.9.1	19801	Instant potato	"Smash", "Yeoman"
1.1.7.9.2	19702	Chips FROZEN & NOT FROZEN	Oven chips, fries, American fries
1.1.7.9.3	20101	Other potato products FROZEN & NOT FROZEN	Hash browns, potato croquettes, potato wedges, potato waffles, potato scones, roast potatoes, potato cakes, potato salad, potato skins, Bird's Eye Alpha Bites, rosti , potato flour/potato starch
1.1.7.8.5	19901	Canned potato	includes bottled potatoes
1.3.1.2.1	19703	Chips eg from chip shop	includes chips purchased as part of takeaway food (eg with fish, meat pies, pasties, sausages) potato fritters, potato wedges

Household foods relating to dietary targets included in the Scottish Diet report not included in the Scottish Diet Action Plan Targets

Cakes, Biscuits and Pastries

Cakes and Pastries

Food Code No		Description	Definition
1.1.1.6.1	27001	Cakes & pastries – NOT FROZEN	fruit pies, fruit tarts, sponge cakes, chocolate cakes, cream cakes, doughnuts, □clairs, flans, iced cakes, meringues, parkin, pop tarts, swiss rolls, pavlova – chilled, American muffin ‘cakes’
1.1.1.6.2	29402	Cakes & pastries – FROZEN	Cheesecakes, □clairs, frozen sponges and gateaux, (including those with ice-cream – eg “Arctic Roll”), frozen apple pie, fruit pies, frozen forest gateau, gateaux, pavlova, profiteroles.
1.1.1.6.4	28601	Puddings	Fruit puddings, summer fruit pudding, sponge puddings, chocolate sponge pudding, treacle sponge pudding, syrup puddings, fruit fritters, Christmas pudding, bread pudding, sticky toffee pudding
1.3.1.2.5	27002	Cakes, pastries, puddings, custard, rice pudding, buns & biscuits from takeaway	cake, sponge pudding, doughnut, iced bun, biscuits, gingerbread man banana fritter, pineapple fritter custard, rice milk pudding

Sweet Biscuits

Food Code No		Description	Definition
1.1.1.4.3	27702	Chocolate biscuits and wafers	chocolate covered marshmallows & wafers: Bandit, Blue Riband, Club, Fingers, Kit-Kat, Penguin, Wagon Wheels, chocolate biscuits: chocolate Hobnobs, McVities Chocolate Homewheat & Homewheat Light, chocolate digestives, chocolate rich tea, Jaffa cakes, KP "Chocolate Dip" see 1.1.8.4 for chocolate bars
1.1.1.4.4	27402	Sweet biscuits (NOT chocolate) and cereal bars	Biscuit assortment, coconut rings, digestives, Lincoln biscuits, Malted milk biscuits, plain marshmallow on biscuit base, Morning Coffee, Nice, shortcake, shortbread, shortbread fingers Cereal bars eg Kellogs ‘Nutrigrain’, “Harvest Crunch”, Rice Crispy squares, Weetos cereal bar

Meat and Meat Products

Processed Meats and Sausages

Food Code No	Description	Definition
1.1.2.8.1 7901	Sausages (uncooked) – pork	fresh, chilled or frozen includes pork sausage meat, Cotswold sausages, Cumberland sausages, Lincolnshire sausages
1.1.2.8.2 8001	Sausages (uncooked) – other	fresh, chilled or frozen beef, pork & beef, lorne sausages, turkey sausages, lamb sausages.
1.1.2.8.3 9302	Delicatessen type sausages	bierwurst, chorizo, frankfurter, garlic sausage, ham sausage, kabanos, liver sausage, peperami spiced sausage, polony, Red pudding (not frozen), salami, saveloy
1.1.2.8.4 8501	Burgers Frozen or not frozen	beefburgers, porkburgers, steakburgers, turkey/beef burgers, cheeseburgers, sausage burger, steaklets, Dale steaks, chicken burgers
1.1.2.9.1 9301	Pâté	all meat pâtés including liver pâté, country pâté, farmhouse pâté, chicken liver pâté, Brussels pâté
1.1.2.9.2 9403	Meat pastes and spreads includes potted meat	including chicken spread, beef spread - not frozen includes potted meat eg potted beef, potted chicken
1.1.2.10.1 6201	Corned beef/ corned meat (canned or sliced)	includes all corned meat, whether purchased in cans or sliced corned beef
1.1.2.10.2 7102	Other canned meat and canned meat products	Purchased in a can - chopped ham & pork, chopped pork, luncheon meat, "Heinz beans & sausages", bacon & beans, hot dogs, tinned sausages & frankfurters, tinned spaghetti & sausages, minced meat, meat puddings and pies, stewed steak, pie fillings, meat with vegetables, poultry (chicken), ready meals (incl "Duo Can"), tinned meat balls in gravy, "Toast Toppers", "Omelette Mate", tinned egg, bacon & beans, canned meat paté, canned ham
1.1.2.12.1 8303	Sausage rolls - FRESH NOT FROZEN	Cooked, ready to eat sausage rolls. For frozen - see 1.1.2.12.3
1.1.2.12.2 8302	Meat pies, FRESH NOT FROZEN	Cold, buffet style meat pies Pork pies, pork & egg pie, hunter's pie, veal and ham pies, Saxby & scotch pies
1.1.2.12.3 8401	Meat pies, pasties and puddings FRESH AND FROZEN	Meat pies, beef & onion pie, beef & mushroom pie, steak & kidney pies/ puddings, steak & ale pie, meat & veg pies/ puddings, meat & potato pie, chicken pies, chicken & veg/chicken & mushroom pie, chicken & asparagus pie, Saxby & scotch pies Frozen chicken pockets, bridies, meat samosas, frozen sausage rolls Cornish pasty, chicken & mushroom slice, smoked ham & cheese slices Cottage pie, shepherds pie
1.1.2.13.2 8902	Other convenience meat products FRESH AND FROZEN	Chicken kiev, chicken cordon bleu (filled with ham and cheese), Chinese/ Mexican chicken wings, Southern Fried chicken, chicken tikka, Cajun chicken Turkey steaks, savoury duck, stuffed lamb groin, kebabs Black pudding, meatloaf, faggots, haggis, scotch eggs, pork scratchings Pancakes with chicken/ beef/ meat (see also 1.1.1.4.1 for fruit pancakes & and 1.1.1.7.5 for plain) Pre-packed meat salads eg chicken snack salad, pasta & ham salad Burgers in buns Dairylea Funpack [add 'with meat?']
1.3.1.3.1	Burger & bun eg hamburger	hamburger, cheeseburger, chicken burger, beefburger in batter

Appendix 2: Expenditure and Food Survey Calculation Methodology

9502		
1.3.1.3.2 9503	Kebabs	takeaway or home delivered doner kebab, kebabs cooked on a skewer - ie chicken, pork, lamb kebabs, shish, shaslick kebab
1.3.1.3.3 9504	Sausages & saveloys	eg as in 'sausages and chips' hot dogs, sausage rolls
1.3.1.3.4 9506	Miscellaneous meats eg faggots, haggis, pepperami	faggots, haggis, pepperami, black pudding
1.3.1.1.1 5904	Takeaway chicken	eg chicken as in 'chicken and chips', chicken pieces, chicken nuggets, battered chicken (eg from KFC)
1.3.1.1.2 9501	Takeaway meat pies & pasties	eg from chip shop, beef & onion pie, chicken pie, chicken & veg pie, steak & kidney pie

Bacon and Ham

Food Code No	Description	Definition
1.1.2.3.1 5502	Bacon and ham joints, uncooked NOT BACON RASHERS	Including sides and steaks cut from the joint Gammon steak & slices, bacon chops & steaks.
1.1.2.3.2 5505	Bacon and ham rashers, uncooked	Back bacon, middle, streaky includes bacon pieces
1.1.2.11.2 5801	Cooked ham & bacon Not purchased in cans (see 1.1.2.10.2)	Sliced ham, honey roast ham, ham off the bone, Danish ham, Honey roast ham, Parma Ham, Serrano ham, cooked sliced ham, sliced smoked ham Include cooked bacon joint

Butter and Spread

Butter

Food Code No	Description	Definition
1.1.5.1.1 13501	Butter - All types & from all countries	Include spreadable butter but not lite, light, low-fat, half-fat - see 1.1.5.2.4

Block Margarine

Food Code No	Description	Definition
1.1.5.2.2 13802	Other margarine	Own brand Block Margarine, Stork Hard, Includes margarine containing a proportion of butter

Soft Margarine

Food Code No	Description	Definition
1.1.5.2.1 13801	Soft margarine	Own brands soft, soya margarine, sunflower margarine Pure Dairy Free Margarine, "Stork SB", "Stork Rich Blend",

Low Fat Spread

Food Code No	Description	Definition
1.1.5.2.3 14802	Reduced fat spreads more than 60% less than 80% incl spread where fat content not known	'Clover', 'Flora Buttery', 'Flora Extra Rich', 'Flora', 'I can't believe its not butter', 'M&S Olive Spread', 'M&S Touch of Butter', 'Pure Dairy Free with Sunflower', 'Safeway Meadow', 'St Ivel Mono', 'St Ivel Utterly Butterly', 'Vitalite', Sainsbury's FreeFrom, Tesco Unbelievable, Willow.
1.1.5.2.4 14803	Low fat spreads 60% or less - described as light, lite, low fat, half fat	'Anchor low fat butter', 'Asda Puregold Spread', 'Benecol Light Spread', 'Benecol Olive Spread', 'Bertolli/Olivio', 'Clover Extra Lite', 'Delight', 'Filippo Berio Olive Spread', 'Flora Diet', 'Flora Pro Activ', 'Kerrygold Lite', 'Lurpak Lighter', 'M&S Low Fat Touch of Butter', 'Olivite', 'Outline', 'Pure Dairy Free with Soya', 'Sainsbury's low fat spread', 'St Ivel Gold Lite', 'St Ivel Gold Lowest', 'St Ivel Gold', 'Pure Dairy Free Organic', 'Sainsbury's Be Good to Yourself Olive Spread', 'Sainsbury's Olive Reduced Fat Spread', 'Half fat 'butters'.

Cooking Fats and Oils

Cooking Fat

Food Code No	Description	Definition
1.1.5.5.1 13901	Lard and cooking fat	Cookeen, Spry, Trex, pure solid vegetable oil, White Flora
1.1.5.5.2 14805	Suet and dripping	Beef suet, vegetable suet, beef dripping

Cooking Oil

Food Code No	Description	Definition
1.1.5.3.1 14304	Olive Oil	
1.1.5.4.1 14305	Other vegetable & salad oils	Soya, sunflower, corn oil, cooking oil Groundnut oil, macademia nut oil Rapeseed, palm oil, blended vegetable oil

Milk**Whole Milk**

Food Code No	Description	Definition
1.1.4.1.1 404	Pasteurised/ homogenised (whole milk only)	Ordinary cartons of pasteurised and homogenised whole milk; Channel Isles (gold top); unpasteurised breakfast milk
1.1.4.1.2 403	Sterilised (whole milk only)	not semi/fully skimmed milk
1.1.4.1.3 402	UHT/LONG LIFE (whole milk only)	not semi/fully skimmed milk include long life whole milk

Semi-skimmed Milk

Food Code No	Description	Definition
1.1.4.2.2 1503	Semi-skimmed milk	half fat, "Light Gold", "Unigate Long-Life Semi-Skimmed milk", "St Ivel Shape", "Vita pints", green cap/label include UHT & Sterilised semi-skimmed milk

Skimmed Milk

Food Code No	Description	Definition
1.1.4.2.1 1502	Fully skimmed milk	"Trimilk", "Unigate Balance", "Lowfat Vita Pints", "Fresh 'n' Low virtually fat free, red cap/label include UHT & Sterilised skimmed milk

Sugar and Preserves

Food Code No	Description	Definition
1.1.8.1.1 15001	Sugar	includes icing sugar (but not instant icing - see code 1.1.8.3.2); glucose, caster sugar
1.1.8.2.1 15101	Jams, fruit curds	lemon curd
1.1.8.2.2 15201	Marmalade	includes jelly marmalade
1.1.8.2.3 32901	Table jellies, squares and crystals	includes jelly pots
1.1.8.2.4 15401	Honey	includes honey spreads
1.1.8.3.1 15301	Syrup, treacle	includes maple syrup, fruit syrup for milkshakes/ice-cream, e.g. Crusha concentrated syrup
1.1.8.3.2 32303	Other spreads and dressings	Chocolate spread, instant icing, rum butter, chocolate sauce & syrup cake decorations, eg hundreds & thousands, chocolate strands, Nesquik milkshake powder

Confectionery

Chocolate Confectionery

Food Code No	Description	Definition
1.1.8.4.1 35001	Chocolate bars - SOLID incl Chocolate bar, type not specified	plain, milk, blended or white; chocolate in blocks or shapes with or without additions such as nuts, fruit – eg, Aero, Cadbury's Dairy Milk, Cadbury's Whole Nut, Galaxy, Yorkie, Fruit and Nut, Toblerone, Wispa Easter Eggs - not filled Cooking chocolate
1.1.8.4.2 35101	Chocolate Bars - FILLED Chocolate sweets	chocolate coated bars/sweets filled with caramel, coconut, biscuit chocolate coated bars eg: Boost, Bounty, Cadbury's Caramel, Caramac, Crunchy, Fudge, Lion Bar, Mars, Picnic, Snickers, Time Out, Toffee Crisp, Topic, Twix Chocolate coated sweets eg: chocolate assortments such as Black Magic, Milk Tray, Quality Street, Roses, Terry's Allgold, chocolate liqueurs, M&M, Maltesers, Munchies, Mini-Eggs, Minsterels, Cream Eggs, Revels, Rolos, Smarties, Walnut Whip Chocolate coated nuts, chocolate covered peanuts, chocolate covered raisins, yoghurt covered raisins Easter Eggs (code all as 'filled' unless know from the brand name that the chocolate is solid, then code as 1.1.8.4.1) Christmas selection boxes (ie mixes of chocolate bars and sweets from one manufacturer)

Sugar Confectionery

Food Code No	Description	Definition
1.1.8.5.2 35301	Mints	hard pressed mints eg, Polo, Extra Strong Mints
1.1.8.5.3 35302	Boiled sweets and jellies incl 'Pick & Mix' sweets incl sweets, type not specified	boiled sweets, Fishermen's Friends, humbugs chews, fruit gums, fruit pastilles, Opal Fruits, Refreshers, Jelly Beans, Liquorish Allsorts, packets of marshmallow sweet pillows candy floss, glucose tablets, Kelloggs Fruit Winders
1.1.8.5.4 35401	Fudges, toffees, caramels	Sugar confectionery containing fat eg Chocolate Eclairs, Devon Creams, Halva, honeycomb, Toffos
1.3.1.8.1 35501	Confectionery (minimal so included with sugar confectionery)	sweets, chocolate, etc

Soft Drinks

Sugar Containing Soft Drinks

Food Code No	Description	Definition
1.2.2.2.1 34101	Soft drinks, not concentrated, not low calorie	carbonates: Coke, Fanta, Gini, Ginger Beer, ginger ale, Irn Bru, Lilt, Lucozade, Orangina, 7-Up, Sprite, Tango, Tizer, Vimto, fizzy pop, shandy, tonic water, Red Bull Ready to drink squashes and fruit juice drinks (NOT pure fruit juice): ready to drink apple juice drink, orange juice drink etc, ready to drink ice pops, apple crush, Five Alive, Fruitopia, Oasis, Ribena ready to drink, Robinson's ready to drink fruit juice drinks, Snapple, cranberry juice drink, appleade, orange nectar, raspberry & pear, coconut & pineapple Iced tea
1.2.2.3.1 34001	Soft drinks, concentrated, not low calorie Made up weight (1 part to 5 water)	High juice squash, concentrated fruit juice squash, Sodastream concentrates and drinks marked 'dilute to taste' . eg Kia-Ora whole orange squash, Ribena, Quosh orange squash, barley Water, rosehip syrup, lime juice cordial, blackcurrant squash include concentrated baby fruit juice eg Cow & Gate baby fruit juice

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Soft Drink Content of Spirits with Mixers and Alcopops – Factor 0.85

Food Code No	Description	Definition
1.4.1.1.3 38501	Spirits with mixers	Ready-to-drink Gin & Tonic, ready-to-drink Bacardi & Coke
1.4.2.1.5 38901	Alcoholic soft drinks (Alcopops) and ready-mixed bottled drinks	Alcoholic lemonade, alcoholic orangeade, alcoholic soda, Bacardi Breezer, Decoda, Hooch, Jag, Lemon Head, Metz, Red Square, Shotts, Smirnoff Ice, Smirnoff black ice, Archers Aqua, Sub, Two Dogs, Red Vodka

Sugar Free Soft Drinks

Food Code No	Description	Definition
1.2.2.3.2 34301	Soft drinks, concentrated, low calorie Made up weight (1 part to 5 water)	drinks marked low calorie, sugar free or no sugar High juice squash, concentrated fruit juice squash, squashes, Sodastream concentrates and drinks marked 'dilute to taste' . eg Kia-Ora low cal orange squash, Quosh low cal orange, Low calorie Ribena
1.2.2.2.2 34401	Soft drinks, not concentrated, low calorie	Drinks marked low calorie, sugar free or no sugar Carbonates: Diet Coke, Diet Tango, Fanta Diet, Gini Diet, Irn Bru Diet, Lilt Diet, Lucozade light, Orangina Diet, Pepsi Max, Sparkling Ribena Spring Diet, 7-up light, Sprite Diet, Diet tango low sugar flavoured waters, bottled flavoured waters, diet fizzy pop, diet lemonade, slimline tonic water ready to drink squashes and fruit juice drinks (NOT pure fruit juice), ready-to-drink light fruit juice drinks, ready-to-drink light blackcurrant juice drink, Oasis light, Snapple light, Ribena ready-to-drink no sugar, Ribena ready-to-drink toothkind, Robinson's ready-to-drink light, Cranberry juice light

Savoury Snacks

Food Code No	Description	Definition
1.1.8.6.1 20002	Crisps and potato snacks	crisps, chipples, mini-chips, puffs, crunchie sticks, "Quavers", "Hula-hoops", "Tuba-loops", Pringles, kettle chips,
1.1.8.6.2 29909	Cereal snacks	Doritos, Wotsits, Twiglets, Skips, tortilla chips, prawn crackers Dairy Lea Handy Snacks, cheese biscuits, mini-cheddars Corn Curls, Frazzles, Mignon Morceau, popcorn, bombay mix, mini poppadums Quaker snack-a-jacks, Niknaks, Monster munch
1.3.1.8.2 29916	Crisps, savoury snacks, popcorn, popadums, prawn crackers	

Takeaway Foods

Food Code No	Description	Definition
1.3.1.1.1 5904	Takeaway chicken	eg chicken as in 'chicken and chips', chicken pieces, chicken nuggets, battered chicken (eg from KFC)
1.3.1.1.2 9501	Takeaway meat pies & pasties	eg from chip shop, beef & onion pie, chicken pie, chicken & veg pie, steak & kidney pie
1.3.1.1.3 11801	Fish eg from fish & chip shop	eg battered fish from fish n chip chop fried fish, fried roe, cooked or jellied eels
1.3.1.1.4 12304	Fish products eg fish cakes, scampi	incl fish cakes from chip shop, fish fillet burgers, scampi
1.3.1.2.1 19703	Chips eg from chip shop	includes chips purchased as part of takeaway food (eg with fish, meat pies, pasties, sausages) potato fritters, potato wedges
1.3.1.2.2 28704	Cooked rice from takeaway	Includes boiled rice, egg fried rice, pilau rice, special fried rice
1.3.1.2.3 29503	Pasta & noodles - from takeaway	
1.3.1.2.4 26311	Breads from takeaway eg garlic bread, nan	garlic bread, nan, chapati, rolls yorkshire puddings
1.3.1.2.5 27002	Cakes, pastries, puddings, custard, rice pudding, buns & biscuits from takeaway	cake, sponge pudding, doughnut, iced bun, biscuits, gingerbread man, banana fritter, pineapple fritter custard, rice milk pudding
1.3.1.3.1 9502	Burger & bun eg hamburger	hamburger, cheeseburger, chicken burger, beefburger in batter
1.3.1.3.2 9503	Kebabs	takeaway or home delivered doner kebab, kebabs cooked on a skewer - ie chicken, pork, lamb kebabs, shish, shaslick kebab
1.3.1.3.3 9504	Sausages & saveloys	eg as in 'sausages and chips' hot dogs, sausage rolls
1.3.1.3.4 9506	Miscellaneous meats eg faggots, haggis, pepperami	faggots, haggis, pepperami, black pudding
1.3.1.4.1 9505	MEAT- based meals incl Indian & Chinese takeaways	takeaway and home delivered Chinese and Indian meals which contain meat
1.3.1.4.2 12305	FISH- based meals incl Indian & chinese takeaways eg prawn curry	Takeaway or home delivered Chinese and Indian meals or dishes based on fish or shellfish eg prawn biriani, prawn curry, seafood chowmein
1.3.1.5.1	ALL vegetable takeaway products	vegetable curry, vegetable accompaniments to Chinese or

Appendix 2: Expenditure and Food Survey Calculation Methodology

20604		Indian takeaway or home delivered meal (such as onion bhajis, dahl, spring rolls, vegetable samosas), omelettes containing vegetables, vegetable-based side dishes, jacket potato, potatoes, salad, coleslaw, peas
1.3.1.6.1 29602	Takeaway Pizza	takeaway or home-delivered pizza
1.3.1.7.1 26310	Takeaway sandwiches	Include only those from a catering outlet, not from a shop
1.3.1.8.1 35501	Confectionery	sweets, chocolate, etc
1.3.1.8.2 29916	Crisps, savoury snacks, popcorn, popadums, prawn crackers	
1.3.1.8.3 33304	Ice cream, ice cream products, milkshakes, jellies etc	Viennetta, ice lolly, Jelly, fruit salad, trifle, blancmange
1.3.1.8.4 32704	Sauces, mayonnaise, gravy, etc	curry sauce, gravy
1.3.1.8.5 32001	Soups	

Coding Frame for Eaten Out Food from EFS

Descriptions as provided by Defra

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

- Fruit and vegetables including fruit (and vegetable) juice and baked beans
- Fruit and vegetables excluding fruit (and vegetable) juice and baked beans
- Fruit and vegetables including fruit (and vegetable) juice and excluding baked beans
- Fruit and vegetables excluding fruit (and vegetable) juice and including baked beans
- Fruit including fruit (and vegetable) juice
- Fruit excluding fruit (and vegetable) juice
- Vegetables including baked beans
- Vegetables excluding baked beans

Fruit

Defra food code	Description
200101	All citrus fruit, fresh eg orange, grapefruit
200102	Banana, fresh
200103	Apples, fresh
200104	Pears, fresh
200105	Stone fruit, fresh eg apricot, plum, peach, cherry, avocado
200106	Grapes, fresh
200107	Soft fruit/berries, fresh eg strawberries, blackberries - NO cream/ice cream
200108	Melon, fresh
200109	Pineapple, fresh
200110	Fresh fruit salad, without cream/ice cream
200111	Other fresh fruit (kiwi, passion) & 'fruit', type not specified
2002	Dried fruit eg sultanas, raisins
2003	Tinned, stewed/baked or processed fruit - without cream/ice cream
240301	Fruit filling eg peaches for pancakes

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Fruit contribution of fruit pies x0.4, factor as NDNS adults 19-64

Defra food code	Description
290205	Fruit and other pies/pastries

Vegetables

Defra food code	Description
150101	Lettuce & cress
150102	Other green vegetables eg spinach, cabbage, sprouts
150201	Peppers - raw/cooked
150202	Courgettes, marrow, aubergine, pumpkin, plantain, cucumbers
150203	Peas & sweetcorn
150205	Tomato - fresh, raw
150206	Tomato - cooked or processed
150301	Carrots
150302	Onions - raw or cooked incl 'onions' type not specified
150303	Onions - fried
150304	Other root vegetables/ tubers eg turnip, parsnip, radish, beetroot
1504	Mushrooms - raw or cooked
150501	Mixed vegetables and 'veg' type not specified.
150502	Other vegetables eg artichoke, asparagus
160101	Mixed salad, main course - without dressing
160102	Mixed salad, side dish - without dressing; incl 'salad' type not specified
160103	Green salad - without dressing

+

Vegetable contribution of vegetarian dishes x0.4, factor as NDNS adults 19-64

Defra food code	Description
150503	Vegetables in batter or breadcrumbs and deep fried veg eg onion rings
150504	Onion and other vegetable bhajis & pakora
150601	Veggie burger, bean burger, veggie sausage, nut roast
150602	Vegetable lasagne, veg cannelloni, veg moussaka and other oven baked vegetable based dishes
150603	Stuffed vegetables (eg stuffed pepper) and vegetable based starter
150604	Vegetable based stews & casseroles and veg-based pies
160201	Vegetable/ fruit and nut salad - with dressing
100103	Vegetable or fruit based curry
100104	Dhal & Dhal dishes
240104	Tomato-based sauce containing vegetables, incl ratatouille
240302	Vegetable filling
130201	Pizza - cheese & tomato, vegetable; incl Pizza, type not specified
100203	Chinese or Thai vegetable based main course dishes
240203	Coleslaw

+

Vegetable contribution of soups (x0.3), factor calculated from label data of vegetable soups

Defra food code	Description
180102	Vegetable-based soups
180104	Soups, other; incl SOUP NOT SPECIFIED

Pure Fruit / Vegetable Juice

Defra food code	Description
260204	PURE fruit juices
260205	Vegetable juices eg tomato juice, carrot juice

Baked Beans

Defra food code	Description
150204	Baked Beans and other beans (not green beans) & pulses

2. Dietary Target: Bread intake to increase by 45% from present daily intake of 106g, mainly using wholemeal and brown breads.

- Total Bread
- White Bread Only
- Brown/Wholemeal Bread Only

Total Bread

Addition of all white and wholemeal / brown bread categories

White Bread

Defra food code	Description
220101	White bread, with or without butter/margarine (toasted or untoasted)
220103	White, without butter/marg (or butter/marg not spec)
220105	Garlic bread
220106	Croissant
220107	Continental breads eg pitta, ciabatta, focaccio
220108	Muffins/ crumpets
220109	Fried bread, incl croutons
100107	Indian breads
2903	Waffles & pancakes
2904	Teacakes, scones, currant bun, iced bun

+

Proportion as bread/roll x0.52, factor for bread/roll calculated from the 6th edition composition of foods, food portion sizes and Sainsbury's website

Defra food code	Description
230101	Meat-based, white bread/roll
230104	Chicken/turkey-based, white bread/roll
230107	Bacon and egg, white bread/roll; incl Bacon & Egg McMuffin
230110	Fish-based, white bread/roll
230201	Cheese-based, white bread/roll
230204	Egg-based, white bread/roll incl Egg McMuffin
230207	Vegetarian-based, white bread/roll

+

Proportion as bread/roll x0.52 and white x0.78, factor for bread/roll calculated from the 6th edition composition of foods, food portion sizes and Sainsbury's website, factor for proportion of white from Mintel market share data

Defra food code	Description
230103	Meat-based, bread not specified
230106	Chicken/turkey-based, bread not specified
230109	Bacon and egg, bread not specified
230112	Fish-based, bread not specified
230203	Cheese-based, bread not specified
230206	Egg-based, bread not specified

230209	Vegetarian-based, bread not specified
230210	Sweet-filled sandwich

+

Proportion as white x0.78, factor from Mintel market share data

Defra food code	Description
220110	Bread/ rolls/ toast etc, type not specified

+

Proportion of pizza as base x0.57, factor calculated from the 6th edition composition of foods and food portion sizes

Defra food code	Description
130201	Pizza - cheese & tomato, vegetable; incl Pizza, type not specified
130202	Pizza - meat, fish or poultry

Brown/Wholemeal Bread

Defra food code	Description
220102	Brown or wholemeal bread, with or without butter/margarine (toasted or untoasted)
220104	Brown/ wholemeal , without butter/marg (or butter/marg not spec)

+

Proportion as bread/roll x0.52, factor for bread/roll calculated from the 6th edition composition of foods, food portion sizes and Sainsbury's website

Defra food code	Description
230102	Meat-based, brown bread/roll
230105	Chicken/turkey-based, brown bread/roll
230108	Bacon and egg, brown bread/roll
230111	Fish-based, brown bread/roll
230202	Cheese-based, brown bread/roll
230205	Egg-based, brown bread/roll
230208	Vegetarian-based, brown bread/roll

+

Proportion as bread/roll x0.52 and brown/wholemeal x0.22, factor for bread/roll calculated from the 6th edition composition of foods, food portion sizes and Sainsbury's website, factor for proportion of brown/wholemeal from Mintel market share data

Defra food code	Description
230103	Meat-based, bread not specified
230106	Chicken/turkey-based, bread not specified
230109	Bacon and egg, bread not specified
230112	Fish-based, bread not specified
230203	Cheese-based, bread not specified
230206	Egg-based, bread not specified
230209	Vegetarian-based, bread not specified
230210	Sweet-filled sandwich

+

Proportion as brown/wholemeal x0.22, factor from Mintel market share data

Defra food code	Description
220110	Bread/ rolls/ toast etc, type not specified

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

- Total Breakfast Cereals
- Wholegrain/high fibre breakfast cereals
- Processed breakfast cereals low in fibre (<2% NSP except porridge as more eaten) or high in NMES (30% or above)
- Processed breakfast cereals low in fibre (< 2% NSP except porridge as more eaten) and lower in NMES (< 30%)

Total Breakfast Cereals

Addition of all breakfast cereal categories

Wholegrain/high fibre breakfast cereals

Defra food code	Description
190101	Muesli and Oat Crunch Cereals
190102	Other high fibre breakfast cereals eg Allbran, Weetabix
190104	Hot breakfast cereals eg porridge, Ready Brek

Processed breakfast cereals low in fibre (<2% NSP except porridge as more eaten) or high in NMES (30% or above)

Defra food code	Description
190103	Sweetened breakfast cereals eg Frosties, Sugar Puffs

Processed breakfast cereals low in fibre (< 2% NSP except porridge as more eaten) and lower in NMES (< 30%)

Defra food code	Description
190105	Other breakfast cereals and type not specified eg Cornflakes, Rice Krispies, Special K

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

- Oil Rich Fish
- White Fish

Oil Rich Fish

Defra food code	Description
120201	Trout, tuna and salmon only - fresh - without sauce/dressing
120202	Other fatty fish - without sauce/dressing eg herring, mackerel, sardines
1204	Kippers and other smoked fish eg smoked salmon

+

Proportion fish x0.5 and market share as oil rich x0.3, factors calculated from label data, other EFS consumption and market data from Seafish

Defra food code	Description
120603	Fish based pie or other dish eg paella, kedgeree, tuna pasta bake

White Fish

Defra food code	Description
120101	White fish - grilled, steamed, baked or boiled - no sauce

+

Proportion fish x0.5 and market share as white 0.7, factors calculated from label data, other EFS consumption and market data from Seafish

Defra food code	Description
120603	Fish based pie or other dish eg paella, kedgeree, tuna pasta bake

+

Proportion fish (see factors below), factors calculated from label data and food portion sizes

Defra food code	Description	Factor
120102	White fish - fried (incl in batter/breadcrumbs) - no sauce	0.55
120601	Fish, processed, in breadcrumbs (fish fingers, fish cakes, scampi) - without sauce/dressing	0.50
120602	Fish burgers [in bun]	0.225
240304	Fish-based filling eg tuna mayonnaise	0.65

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

- Fresh Potatoes
- Processed Potatoes

Fresh Potatoes

Defra food code	Description
140103	Potatoes - boiled & type not specified
140104	Potatoes - mashed
140105	Potatoes - roast
140106	Sautéed potatoes/ potato croquettes/ hash browns
140107	Baked/ jacket potatoes - no filling
140108	Other potato dishes (eg wedges, potato salad) & not specified

Processed Potato

Defra food code	Description
140101	Chips & french fries - from fast food outlet eg McDonalds
140102	Chips - served with meal eg from restaurant, CHIP SHOP

Eating out foods relating to dietary targets included in the Scottish Diet report not included in the Scottish Diet Action Plan Targets

Cakes and Pastries

Food Code No	Description
290201	Doughnut
290202	Cream pastries eg chocolate eclairs, profiteroles
290203	Cream sponge/ gateau (not chocolate) eg Victoria sandwich
290204	Rich chocolate cake & chocolate gateau eg Death by Chocolate
290205	Fruit and other pies/pastries
290206	Fruit cake
290207	Other sponge cakes/desserts (NOT cream cakes)
290209	Meringue desserts incl pavlova
290210	Cheesecake
290214	Other cakes and desserts incl not specified
2903	Waffles & pancakes

Sweet Biscuits

Food Code No	Description
300101	Fully-coated chocolate biscuits/ wafers
300102	Sweet biscuits incl half- coated chocolate biscuits
300103	Cereal bars and cereal based cakes

Processed Meat and Pies

Food Code No	Description
110301	Small or single burgers
110302	Large or double burgers
110303	Chicken burger
110401	Kebabs - all types including chicken
110402	Plain sausages eg beef, pork
110403	Other sausages
110404	Hot Dogs and sausage sandwiches
110501	Meat pies & pasties
110502	Meat pies
110503	Sausage Roll (pastry)
1107	Pate
1108	Other meat products or dishes

Bacon and Ham

Food Code No	Description
110106	Bacon
110107	Gammon/ ham

Butter and Spread:

Not possible to split butter and margarine – figure for household purchases only

Cooking Fats and Oils

No foods within this category

Milk

Not possible to split types of milk – will have to give figure for household purchases only

Sugar and Preserves

Food Code No	Description
240405	Sugar (as an addition to tea, coffee etc)
240402	Jam, marmalade & honey

Chocolate Confectionery

Food Code No	Description
280101	Chocolate bars & sweets – SOLID, UNFILLED incl 'chocolate', type not specified
280102	Chocolate-coated bar & sweets – FILLED eg Mars, Snickers, Minstrels
280103	Single chocolate (after dinner)

Sugar Confectionery

Food Code No	Description
280105	Mints eg Polo, Extra Strong
280106	Boiled sweets, jellies eg fruit gums; incl 'sweets', type not specified
280107	Toffee/fudge, uncoated eg Toffos, Choc Eclairs, caramels
280108	Pick n mix, nougat, liquorice and other sweets

Sugar Containing Soft Drinks

Food Code No	Description
260203	Soft drink (incl carbonates & still), not low calorie; incl low calorie/ not low cal not specified

+

Soft Drink Content of Spirits with Mixers and Alcopops – Factor 0.85

Food Code No	Description
270104	Spirits/liqueurs with mixer e.g. gin & tonic, Bacardi & coke
270206	Alcoholic soft drinks (alcopops), and ready-mixed bottled drinks

Sugar Free Soft Drinks

Food Code No	Description
260202	Soft drink (incl carbonates & still) , LOW CALORIE

Crisps and Savoury Snacks

Food Code No	Description
310102	Potato crisps/snacks incl 'crisps', prawn crackers
310103	Cornsnacks, based on maize
310104	Wheat-based savoury snack

References for Appendix 2

Food Standards Agency (2002) Food Portion Sizes. Third Edition. London: HMSO

Food Standards Agency (2002) McCance and Widdowson's The Composition of Foods. Sixth Summary Edition. Cambridge: Royal Society of Chemistry

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Holland B, Unwin ID & Buss DH (1992) Fruit and Nuts. The first supplement to McCance and Widdowson's The Composition of Foods (5th Edition). Cambridge: Royal Society of Chemistry

Mintel International Group Limited, Personal Communication

Sainsbury's Website: <http://www.sainsburystoyou.com>

Seafish Website: <http://www.seafish.org>

Appendix 3: Additional Tables

Table 1: Consumption of the Scottish Diet Action Plan (1996) Target Foods: National Food Survey data 1996-2000 (g per person/day with the exception of fish g per person/week). See coding frames for inclusions (Appendices 1 & 2)

Food	1996	1997	1998	1999	2000
	H=775 P=1885	H=550 P=1347	H=541 P=1341	H=541 P=1263	H=546 P=1320
Fruit and Vegetables (including fruit (and vegetable) juice and baked beans)	249.1	260.8	258.1	247.7	233.6
Fruit and Vegetables (excluding fruit (and vegetable) juice and baked beans)	209.7	218.6	213.5	208.4	197.3
Fruit and Vegetables (including fruit (and vegetable) juice) and excluding baked beans)	246.5	258.5	255.2	245.2	231.1
Fruit and Vegetables (excluding fruit (and vegetable) juice) and including baked beans)	212.3	220.9	216.4	210.9	199.8
Fruit (including fruit (and vegetable) juice)	126.7	137.0	132.7	127.2	122.0
Fruit (excluding fruit (and vegetable) juice)	90.3	97.2	91.3	90.5	88.5
Vegetables (including baked beans)	122.4	123.8	125.4	120.6	111.6
Vegetables (excluding baked beans)	119.8	121.5	122.5	118.1	109.1
Total Bread	132.9	131.6	122.2	127.5	122.0
White Bread Only	106.4	104.9	99.3	103.8	102.7
Brown / Wholemeal Bread Only	26.5	26.6	22.9	23.7	19.3
Total Breakfast Cereals	18.2	18.2	18.9	16.5	15.8
Wholegrain / High Fibre Breakfast Cereals	9.8	9.9	9.7	8.0	7.6
Processed Cereals (low fibre (<2% NSP except porridge as more eaten) cereals high in NMES (30% or above))	3.0	4.5	4.1	4.0	5.0
Other Processed Breakfast Cereals (low fibre (<2% NSP except porridge as more eaten) cereals lower in NMES (<30%))	5.4	3.8	5.0	4.5	3.2
Oil Rich Fish	35.1	36.0	36.0	36.7	31.4
White Fish	106.8	84.5	75.5	83.0	68.4
Fresh Potatoes	99.0	89.0	78.1	84.9	83.6
Processed Potatoes	41.9	38.6	39.6	39.6	36.9

H = Number of Households

P = Number of Members of Households

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Table 2: Consumption of the Scottish Diet Action Plan (1996) Target Foods: Expenditure and Food Survey data 2001-2004 (g per person/day with the exception of fish g per person/week). See coding frames for inclusions (Appendices 1 & 2)

Food	Household						Eating Out					
	2001		2002		2003		2001		2002		2003	
	2002		2003		2004		2002		2003		2004	
	H=618 P=1412		H=585 P=1342		H=546 P=1266		H=618 P=1412		H=585 P=1342		H=546 P=1266	
	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals
Fruit and Vegetables inc fruit (and vegetable) juice and baked beans	247.8	231.6 - 264	253.7	237.1 - 270.2	236.9	219.9 - 253.9	7.2	6.2 - 8.2	9.3	8.1 - 10.5	8.9	7.6 - 10.1
Fruit and Vegetables exc fruit (and vegetable) juice and baked beans	195.1	181.9 - 208.3	199	185.5 - 212.6	190.9	176.4 - 205.3	4.4	3.8 - 5	6.2	5.3 - 7	5.5	4.6 - 6.4
Fruit and Vegetables inc fruit (and vegetable) juice and excluding baked beans	236.8	220.9 - 252.8	240.7	224.4 - 257	227	210.3 - 243.6	6.7	5.7 - 7.7	8.7	7.5 - 9.9	8.4	7.2 - 9.6
Fruit and Vegetables exc fruit (and vegetable) juice and including baked beans	206.1	192.6 - 219.6	212	198.1 - 225.8	200.8	186 - 215.6	4.9	4.3 - 5.5	6.8	5.9 - 7.7	5.9	5 - 6.9
Fruit including fruit (and vegetable) juice	131	119.7 - 142.3	135	123.6 - 146.4	128.7	117 - 140.5	3.2	2.5 - 3.9	4.1	3.2 - 4.9	4	3.2 - 4.9
Fruit excluding fruit (and vegetable) juice	89.3	81.2 - 97.3	93.3	85.2 - 101.4	92.7	83.4 - 101.9	0.9	0.7 - 1.2	1.5	1 - 2	1.1	0.7 - 1.4
Vegetables including baked beans	116.8	108.6 - 125	118.7	110.7 - 126.6	108.1	100.3 - 116	4	3.4 - 4.5	5.2	4.5 - 5.9	4.9	4.1 - 5.6
Vegetables excluding baked beans	105.8	98.1 - 113.6	105.7	98.2 - 113.2	98.2	90.7 - 105.7	3.5	3 - 4	4.6	4 - 5.3	4.4	3.7 - 5.1
Total Bread	118.5	112.7 - 124.3	114.9	109.1 - 120.7	108.3	102.3 - 114.3	7.5	6.6 - 8.3	8.8	7.7 - 9.8	7.6	6.6 - 8.5
White Bread only	98	92.6 - 103.4	93.6	88.2 - 98.9	89.6	84.2 - 95.1	6.5	5.7 - 7.4	7.8	6.8 - 8.7	6.6	5.7 - 7.4
Brown/Wholemeal Bread only	20.6	18.2 - 22.9	21.4	19 - 23.8	18.7	16.3 - 21.1	0.9	0.7 - 1.2	1	0.7 - 1.2	1	0.7 - 1.4
Total Breakfast Cereal	18	16.1 - 19.9	18	16.1 - 19.9	17.6	15.7 - 19.6	0.1	0 - 0.1	0	0 - 0.1	0.1	0 - 0.1
Wholegrain/ high fibre Breakfast Cereal	9.2	7.8 - 10.6	9.6	8.2 - 11	9.5	8 - 10.9	0.1	0 - 0.1	0	0 - 0.1	0	0 - 0.1
Low fibre or high NMES Breakfast Cereal	4.9	3.9 - 5.8	4.6	3.8 - 5.4	3.7	2.9 - 4.5	0	0 - 0	0	0 - 0	0	0 - 0
Low fibre and lower NMES Breakfast Cereal	3.9	3.2 - 4.7	3.8	2.9 - 4.7	4.5	3.6 - 5.3	0	0 - 0	0	0 - 0	0	0 - 0
Oil rich Fish	27.9	23.6 - 32.3	29.8	24.6 - 35.1	30.9	24.7 - 37.2	0.5	0.2 - 0.8	1.1	0.5 - 1.6	0.8	0.4 - 1.2
White Fish	71.7	64 - 79.3	66.4	58.9 - 74	69.7	60.9 - 78.4	5.9	4.7 - 7.2	6.6	5.3 - 8	6	4.8 - 7.2
Fresh Potatoes	76.8	68.3 - 85.3	67.3	60.1 - 74.6	65.4	59 - 71.8	2.3	1.8 - 2.7	2.9	2.4 - 3.4	2.6	2.1 - 3
Processed Potatoes	28.5	25.5 - 31.4	28.9	25.9 - 31.8	29.3	26.3 - 32.2	7.8	6.8 - 8.7	8.5	7.5 - 9.5	7.2	6.3 - 8.1

H = Number of Households; P = Number of Members of Households

Table 2: Continued

Food	Combined Data					
	2001		2002		2003	
	2002		2003		2004	
	H=618 P=1412		H=585 P=1342		H=546 P=1266	
	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals	Mean	95% Confidence Intervals
Fruit and Vegetables including fruit (and vegetable) juice and baked beans	255	238.7 - 271.2	263	246.2 - 279.7	245.8	228.6 - 262.9
Fruit and Vegetables excluding fruit (and vegetable) juice and baked beans	199.5	186.3 - 212.8	205.2	191.5 - 218.8	196.4	181.8 - 210.9
Fruit and Vegetables including fruit (and vegetable) juice and excluding baked beans	243.5	227.5 - 259.5	249.4	232.9 - 265.9	235.4	218.5 - 252.2
Fruit and Vegetables excluding fruit (and vegetable) juice and including baked beans	211	197.4 - 224.5	218.7	204.8 - 232.7	206.8	191.9 - 221.6
Fruit including fruit (and vegetable) juice	134.2	122.9 - 145.5	139.1	127.6 - 150.5	132.8	120.9 - 144.6
Fruit excluding fruit (and vegetable) juice	90.2	82.2 - 98.2	94.8	86.7 - 102.9	93.7	84.5 - 103
Vegetables including baked beans	120.8	112.5 - 129	123.9	115.9 - 131.9	113	105.1 - 120.9
Vegetables excluding baked beans	109.3	101.5 - 117.1	110.3	102.8 - 117.9	102.6	95.1 - 110.2
Total Bread	126	120.2 - 131.8	123.7	117.8 - 129.5	115.9	109.8 - 122
White Bread only	104.5	99.2 - 109.9	101.3	96 - 106.7	96.2	90.6 - 101.8
Brown/Wholemeal Bread only	21.5	19.1 - 23.9	22.4	20 - 24.8	19.7	17.3 - 22.1
Total Breakfast Cereal	18.1	16.1 - 20	18.1	16.2 - 20	17.7	15.7 - 19.6
Wholegrain/ high fibre Breakfast Cereal	9.3	7.9 - 10.7	9.7	8.3 - 11.1	9.5	8.1 - 10.9
Low fibre or high NMES Breakfast Cereal	4.9	3.9 - 5.8	4.6	3.8 - 5.5	3.7	2.9 - 4.5
Low fibre and lower NMES Breakfast Cereal	3.9	3.2 - 4.7	3.8	2.9 - 4.7	4.5	3.6 - 5.3
Oil rich Fish	28.4	24 - 32.8	30.9	25.6 - 36.2	31.8	25.5 - 38
White Fish	77.6	69.8 - 85.4	73.1	65.4 - 80.7	75.6	66.7 - 84.6
Fresh Potatoes	79.1	70.6 - 87.6	70.3	63 - 77.5	67.9	61.5 - 74.3
Processed Potatoes	36.2	33 - 39.4	37.3	34.1 - 40.5	36.5	33.2 - 39.7

H = Number of Households; P = Number of Members of Households

Table 3: Consumption of Scottish Diet Report (1993) Target Foods not included in SDAP: Expenditure and Food Survey data 2001-2004 (g per person/day). See coding frames for inclusions (Appendices 1 & 2)

Food	Household						Eating Out						Combined Data					
	2001		2002		2003		2001		2002		2003		2001		2002		2003	
	2002		2003		2004		2002		2003		2004		2002		2003		2004	
	H=618 P=1412		H=585 P=1342		H=546 P=1266		H=618 P=1412		H=585 P=1342		H=546 P=1266		H=618 P=1412		H=585 P=1342		H=546 P=1266	
	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs	Mean	95% CIs
Cakes and Pastries	16.9	15.1 - 18.7	15.3	13.4 - 17	15.6	13.9 - 17.3	1.7	1.5 - 2	2.5	2.1 - 2.9	2.1	1.8 - 2.5	18.6	16.8 - 20.5	17.7	15.9 - 19.6	17.7	16 - 19.5
Sweet Biscuits	20	18.1 - 21.8	21.6	19.8 - 23.4	20.3	18.2 - 22.4	0.4	0.3 - 0.5	0.4	0.3 - 0.5	0.5	0.4 - 0.7	20.4	18.5 - 22.2	22	20.2 - 23.8	20.9	18.8 - 22.9
Cakes, Sweet Biscuits and Pastries	36.9	33.9 - 39.8	36.8	34 - 39.6	36	32.9 - 39	2.1	1.8 - 2.5	2.9	2.5 - 3.3	2.6	2.2 - 3	39	36 - 42	39.7	36.8 - 42.6	38.6	35.5 - 41.7
Sugar and Preserves	19.2	17 - 21.4	16.8	14.7 - 18.9	19.6	16.8 - 22.5	0	0 - 0.1	0.1	0.1 - 0.1	0.1	0 - 0.1	19.3	17 - 21.5	16.9	14.8 - 19	19.7	16.8 - 22.5
Chocolate Confectionery	10.9	9.5 - 12.3	11.9	10.5 - 13.2	12.9	11.2 - 14.6	1.8	1.5 - 2.1	2.3	1.8 - 2.8	2.2	1.8 - 2.6	12.7	11.3 - 14.2	14.2	12.7 - 15.7	15.1	13.4 - 16.8
Sugar Confectionery	5.8	4.9 - 6.7	6.1	5.2 - 7	6.3	5.3 - 7.2	1	0.8 - 1.2	1.4	1 - 1.8	1.2	0.9 - 1.6	6.8	5.9 - 7.8	7.5	6.5 - 8.4	7.5	6.5 - 8.5
Total Confectionery	16.7	14.9 - 18.5	18	16.2 - 19.8	19.2	17 - 21.3	2.8	2.4 - 3.3	3.7	2.9 - 4.4	3.4	2.8 - 4	19.6	17.7 - 21.5	21.6	19.6 - 23.6	22.6	20.4 - 24.8
Sugar Containing Soft Drinks	186	166 - 207	189	167 - 210	215	190 - 240	33.1	29.7 - 36.4	46.8	41 - 52.6	40.3	35.2 - 45.4	219.2	198 - 241	235	212 - 259	255	230 - 281
Sugar Free Soft Drinks	85.5	71.3 - 99.7	96	80.5 - 111	91.4	75.8 - 107	8.9	6.9 - 10.9	10.5	8.3 - 12.7	13.5	10.1 - 16.8	94.4	79.5 - 109	107	90.3 - 123	105	87.9 - 122
Total Soft Drinks	272	248 - 295	284.5	259 - 310	306.4	277 - 336	42	37.9 - 46.1	57.3	51 - 63.6	53.8	47.4 - 60.1	314	289 - 339	342	314 - 369	360	329 - 391
Processed Meat and Sausages	44.4	40.7 - 48	42.9	39.5 - 46.2	47.4	43.4 - 51.4	6.3	5.5 - 7.1	7.9	6.8 - 9	7.5	6.6 - 8.5	50.7	47 - 54.3	50.8	47.1 - 54.4	54.9	50.8 - 59
Bacon and Ham	15.8	14.3 - 17.3	14.8	13.3 - 16.3	15.8	14.1 - 17.5	0.3	0.2 - 0.3	0.3	0.2 - 0.4	0.4	0.3 - 0.5	16	14.5 - 17.5	15.2	13.7 - 16.7	16.2	14.5 - 17.8
Butter	5.7	4.8 - 6.5	5.3	4.4 - 6.1	5.1	4.1 - 6.1	-	-	-	-	-	-	5.7	4.8 - 6.5	5.3	4.4 - 6.1	5.1	4.1 - 6.1
Block Margarine	0	0 - 0	0.1	0 - 0.1	0.1	0 - 0.2	-	-	-	-	-	-	0	0 - 0	0.1	0 - 0.1	0.1	0 - 0.2
Soft Margarine	1.1	0.7 - 1.5	1.2	0.8 - 1.7	1.2	0.9 - 1.6	-	-	-	-	-	-	1.1	0.7 - 1.5	1.2	0.8 - 1.7	1.2	0.9 - 1.6
Low Fat Spreads	8.8	7.7 - 9.9	7.5	6.5 - 8.5	8.3	7.2 - 9.4	-	-	-	-	-	-	8.8	7.7 - 9.9	7.5	6.5 - 8.5	8.3	7.2 - 9.4
Cooking Fat	0.5	0.3 - 0.8	0.5	0.2 - 0.8	0.5	0.2 - 0.8	-	-	-	-	-	-	0.5	0.3 - 0.8	0.5	0.2 - 0.8	0.5	0.2 - 0.8
Cooking Oil	132	118 - 145	131	117 - 144	130	116 - 143	-	-	-	-	-	-	132	118 - 145	131	117 - 144	130	116 - 143
Whole Milk	91.7	76.9 - 107	85.2	72.2 - 98.2	89.7	76.2 - 103	-	-	-	-	-	-	91.7	76.9 - 107	85.2	72.2 - 98.2	89.7	76.2 - 103
Semi-skimmed Milk	126	112 - 139	125	112 - 139	125	111 - 138	-	-	-	-	-	-	126	112 - 139	125	112 - 139	125	111 - 138
Skimmed Milk	14.9	9.1 - 20.6	12.5	8.5 - 16.5	9.2	6.1 - 12.3	-	-	-	-	-	-	14.9	9.1 - 20.6	12.5	8.5 - 16.5	9.2	6.1 - 12.3
Total Milk	232	216 - 249	223	209 - 238	224	208 - 239	-	-	-	-	-	-	232	216 - 249	223	209 - 238	224	208 - 239
Savoury Snacks	11.9	10.8 - 12.9	11.8	10.8 - 12.9	12.2	11.1 - 13.3	1.7	1.4 - 2	2	1.7 - 2.3	1.9	1.6 - 2.3	13.6	12.4 - 14.7	13.8	12.7 - 15	14.1	12.9 - 15.3
Takeaway Foods	24	20.6 - 27.4	28.3	24.7 - 32	24.9	21.6 - 28.1	-	-	-	-	-	-	24	20.6 - 27.4	28.3	24.7 - 32	24.9	21.6 - 28.1

H = Number of Households; P = Number of Members of Households

Table 4: Expenditure and Food Survey nutrient intake data 2001–2004 (units per person per day).

Nutrient	Unit	Household Mean Daily Intake				Eating Out Mean Daily Intake				Combined Data Mean Daily Intake			
		2001 2002	2002 2003	2003 2004	3 Year Ave	2001 2002	2002 2003	2003 2004	3 Year Ave	2001 2002	2002 2003	2003 2004	3 Year Ave
		H=622 P=1417	H=585 P=1342	H=548 P=1268	H=1755 P=4027	H=622 P=1417	H=585 P=1342	H=548 P=1268	H=1755 P=4027	H=622 P=1417	H=585 P=1342	H=548 P=1268	H=1755 P=4027
Energy (excluding alcohol)	kJ	7666	7597	7535	7600	745	752	664	720	8411	8349	8200	8320
	kcal	1834	1818	1803	1818	178	180	159	172	2012	1997	1962	1990
Fat	g	76	75	74	75	8	8	7	7	84	82	81	82
	% Energy	37.3	37.0	37.2	37.2	38.6	38.2	38.9	38.5	37.4	37.1	37.3	37.3
Saturated Fat	g	31	31	31	31	3	3	2	3	34	33	33	33
	% Energy	15.1	15.2	15.2	15.2	13.5	13.5	13.7	13.6	15.0	15.1	15.1	15.1
Carbohydrate	g	238	237	235	237	23	24	21	23	261	260	256	259
	% Energy	48.6	48.8	48.9	48.8	49.0	49.3	48.8	49.0	48.7	48.9	48.9	48.8
Starch	g	128	127	121	125	11	11	10	11	139	138	131	136
	% Energy	26.2	26.2	25.2	25.9	23.2	23.0	22.6	23.0	25.9	25.9	25.0	25.6
NMES	g	74	73	77	75	11	11	10	10	84	84	87	85
	% Energy	15.1	15.1	16.1	15.4	22.1	22.9	23.0	22.7	15.7	15.8	16.6	16.0
NSP	g	11.34	11.40	10.92	11.22	0.93	0.94	0.82	0.90	12.27	12.34	11.74	12.12
Total Complex Carbohydrates	g	139	138	132	137	12	12	10	11	151	150	143	148

H = Number of Households

P = Number of Members of Households

Data taken from Defra website with 10% subtracted from energy (kJ/kcal) and nutrient intakes (g).