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## Fruit and vegetable consumption in Scotland: analysis from the Expenditure and Food Survey

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It is widely known that high intakes of fruit and vegetables are associated with lower rates of disease, and population targets of greater than 400 g/d or “5 a day” are common in UK public health policy.

Household food purchase data from the UK Expenditure and Food Survey were analysed to estimate fruit and vegetable consumption in Scotland over the period 2001 to 2006 and by the Scottish Index of Multiple Deprivation (SIMD) for the period 2004 to 2006. Adjustments were made for waste (values derived from the Department for Environment, Food and Rural Affairs<sup>(1)</sup>) and the Waste and Resource Action Programme survey of 2007<sup>(2)</sup>), and for the fruit and vegetable content of prepared dishes. Data were analysed using general linear models within the complex samples module of SPSS (SPSS Inc., Chicago, IL, USA) weighting to the Scottish population and taking account of sampling methods. The results are presented as population means (i.e. includes consumers and non-consumers) for household and eating out foods combined.

		2001 (n 619) (wt n 5015)	2002 (n 585) (wt n 4967)	2003 (n 546) (wt n 4952)	2004 (n 590) (wt n 4948)	2005 (n 566) (wt n 4939)	2006 <sup>1</sup> (n 577) (wt n 4906)	P-value for Linear Association
Fruit and Vegetables <sup>2,3</sup> (g per person per d)	Mean	239	243	228	246	262	256	0.023
	95% CI	222, 257	224, 261	209, 246	225, 267	244, 281	238, 274	
Fruit <sup>2</sup> (g per person per d)	Mean	123	127	119	130	142	138	0.009
	95% CI	111, 136	113, 141	106, 132	117, 143	129, 155	127, 150	
Vegetables <sup>3</sup> (g per person per d)	Mean	116	115	109	116	120	118	0.386
	95% CI	108, 124	108, 123	100, 117	107, 126	113, 128	107, 128	

n refers to the number of households and weighted (wt) n refers to the weighted number of people in the sample.

<sup>1</sup>From 2006, the EFS moved from a financial year to a calendar year basis. As a consequence of this, the January to March 2006 data are duplicated in the 2005 and the 2006 results. <sup>2</sup>Includes fruit and vegetable juice. <sup>3</sup>Includes baked beans.

		Scottish Index of Multiple Deprivation Quintile <sup>1</sup>					P-value for linear association
		1 Most deprived (n 336) (wt n 2740)	2 (n 346) (wt n 2776)	3 (n 345) (wt n 2855)	4 (n 310) (wt n 2668)	5 Least deprived (n 394) (wt n 3738)	
Fruit and vegetables <sup>2,3</sup> (g per person per d)	Mean	196	228	244	286	304	<0.001
	95% CI	175, 217	207, 249	221, 267	263, 309	285, 323	
Fruit <sup>2</sup> (g per person per d)	Mean	95.9	120	129	160	168	<0.001
	95% CI	81.7, 110	106, 133	117, 142	145, 176	154, 183	
Vegetables <sup>3</sup> (g per person per d)	Mean	99.9	108	115	125	136	<0.001
	95% CI	90.4, 109	98.1, 118.5	103, 127	113, 137.5	123, 149	

n refers to the number of households and weighted (wt) n refers to the weighted number of people in the sample.

<sup>1</sup>Combined data for years 2004 to 2006. <sup>2</sup>Includes fruit and vegetable juice. <sup>3</sup>Includes baked beans.

A small (17 g) but statistically significant increase was found in the mean daily consumption of fruit and vegetables for the period 2001 to 2006. This is due to an increase in fruit consumption with no significant change to vegetable consumption over the period. Inclusion of fruit juice increases the consumption figures by the equivalent of half a portion per day; however, the proportion of fruit to fruit juice remained similar over the time period. A clear gradient was found in fruit and vegetable consumption by SIMD quintile, with the most deprived quintile consuming one-third less than the least deprived quintile.

Mean fruit and vegetable consumption remains almost 150 g (2 portions) below the population target of >400 g/d. The linear modelling showed that if the current rate of increase was to continue, it would take 37 years to reach the >400 g/d target.

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1. Department of Environment, Food and Rural Affairs/Office for National Statistics (2008) *Family Food. A Report on the 2007 Expenditure and Food Survey*. London: The Stationery Office.
2. Waste and Resource Action Programme (2007) *The Food We Waste*. [http://www.wrap.org.uk/retail/case\\_studies\\_research/report\\_the\\_food\\_we.html](http://www.wrap.org.uk/retail/case_studies_research/report_the_food_we.html)