



Statistical Press Notice: National Diet and Nutrition Survey: results from Years 5 and 6 (combined) of the Rolling Programme (2012/13 – 2013/14)

Today, Public Health England published combined results from years 5 and 6 of the National Diet and Nutrition Survey (NDNS) rolling programme (2008/09 -2011/12). This report provides an update on results from years 1-4 (2008/09-2011/12) published in 2014.

The NDNS rolling programme is a continuous cross-sectional survey, designed to assess the diet, nutrient intake and nutritional status of a representative sample of around 1000 people per year (500 adults and 500 children) from the general population aged 18 months upwards living in private households in the UK. The NDNS comprises an interview, a four-day diet diary and collection and analysis of blood and urine samples. Results are used by government to monitor the diet and nutritional status of the population, to provide the evidence base for policy development and to track progress towards public health nutrition objectives such as reducing sugar, saturated fat and salt intakes.

The NDNS is jointly funded by Public Health England and the UK Food Standards Agency. Work for years 5 and 6 of the rolling programme was carried out by a consortium led by NatCen Social Research working with the Medical Research Council Elsie Widdowson Laboratory (formerly known as MRC Human Nutrition Research)¹.

Key findings for years 5&6

The findings in this report confirm that the UK population overall continues to consume too much sugar and saturated fat and not enough fruit and vegetables and fibre. Statistical comparison of 2012/13-2013/2014 (years 5&6) with earlier paired years (2008/09-2009/10 – years 1&2) showed evidence of a reduction in sugar intake in younger children (aged 4-10 years), but for most of the foods and nutrients assessed there was little or no evidence of change over time. The analyses presented in this report do not identify any new nutritional problems in the general population.

- **sugar:** Mean intakes of non-milk extrinsic sugars (NMES) were 11.1% of food energy in older adults, 12.3% in adults and 12.2% in pre-school children, 13.4% in children aged 4-10 years and 15.2% in children aged 11-18 years. The recommendation in place at the time of the survey was that NMES intakes should not exceed 11% of food energy intake. Mean intakes exceeded this recommendation in all age groups except for women aged 65 years and over.
- There were no statistically significant differences over time in sugar (NMES) intakes as a percentage of energy for any age groups except for children aged 4-10 years. Mean NMES intake in this age group was significantly lower in years 5&6 (13.4% food energy) than in years 1&2 (14.4% food energy) but was still well above the then current recommendation of no more than 11% food energy. This fall in sugar intake is at least partly attributable to a decline in consumption of sugar-sweetened soft drinks in this age group. Mean daily consumption of sugar-sweetened soft drinks in children aged 4-10

¹ For year 5 the consortium also included the University College London Medical School (UCL)

years was significantly lower in 2012/13-2013/14 (100g/day) compared with 130g/day in 2008/09-2009/10.

- The NMES intakes reported in this survey for all age groups are considerably above the new recommendation set in 2015 that no more than 5% of energy should come from free sugars.
- **total and saturated fat:** Mean total fat intakes met the recommendation of no more than 35% food energy in all age/sex groups. Mean saturated fat intakes in all age groups exceeded the recommendation of no more than 11% food energy. For example, mean saturated fat intake for adults aged 19 to 64 years was 12.7% food energy. For people aged 65 years and over there was evidence of a fall in intake over time – mean intake as a percentage of food energy was significantly lower in years 5 and 6 (13.4% food energy) than in years 1 and 2 (14.3% food energy), but this was not seen in other age groups.
- **trans fat:** Mean intakes of trans fat provided 0.5-0.6% of food energy for adults and older adults and 0.6% food energy for children, thus meeting the recommendation of no more than 2% food energy. There was no evidence of any change over time.
- **non-starch polysaccharides (NSP) (fibre):** Mean intakes of NSP in adults were 13-14g/day, below the recommendation in place at the time of the survey for a mean intake of 18g/day. There was no evidence of any change over time. A new recommendation was set in 2015 based on a broader definition of fibre, which equates to 23g NSP per day.
- **fruit and vegetables:** Adults aged 19 to 64 years consumed on average 4.0 portions per day, older adults (i.e. those aged 65 years and over) consumed 4.2 portions and children aged 11-18 years 2.8 portions per day. Twenty-seven percent of adults, 35% of older adults and 8% of 11-18 year olds met the “5-A-Day” recommendation
- statistical comparison of fruit and vegetable consumption in years 5 and 6 compared with earlier years showed no evidence of any change over time in the mean number of portions consumed or the percentage meeting 5-A-Day for any age group
- **red and processed meat:** There was evidence of a decline in red and processed meat consumption in women aged 19 to 64 years but not in men. Mean consumption in men aged 19-64 years and 65 years and over continued to exceed the recommendation of no more than 70g/day while mean intakes for women met the recommendation.
- **oily fish:** Mean consumption of oily fish was well below the recommended one portion (140g) per week in all age groups. There was no evidence of any change in consumption over time.
- **iron:** 48% of girls and 27% of women had low iron intakes. There was evidence of both iron-deficiency anaemia (as indicated by low haemoglobin levels) and low iron stores (plasma ferritin) in 5% of older girls and 3% of adult women and older women
- **vitamin D:** There was evidence of low vitamin D status (as indicated by low plasma 25-hydroxy vitamin D (25-OHD) concentrations in blood) in all age groups. A fifth of adults aged 19 to 64 years, and around a sixth of adults aged 65 years and over and children aged 11-18 years had low vitamin D status over the year as a whole.
- **urinary iodine:** Analysis of urinary iodine concentrations, carried out for the first time in NDNS, showed that all age/sex groups met the WHO criteria for adequate iodine intake

Background notes

1. The NDNS rolling programme was originally commissioned to collect data over a four year period from 2008/09 to 2011/12 with an extension to a fifth year covering 2012/13. The current contract runs for a further four years covering 2013/14 to 2016/17 (year 6-9). Prior to the rolling programme the NDNS comprised a series of cross-sectional surveys, each covering a different age group. The

earlier programme was set up in the early 1990s and ended in 2000/01. This report presents for the first time results from 2012/13 and 2013/14 combined alongside previously published results for 2008/09-2009/10 and 2010/11-2011/12.

2. The report published today covers consumption of selected food groups, intakes of energy, macronutrients, selected vitamins and minerals and nutritional status (see note 13). Results for food consumption, nutrient intake and nutritional status are presented for five age groups: 1½-3 years; 4-10 years; 11-18 years; 19-64 years; 65 years and over, split by sex in all except the youngest age group. Fieldwork was carried out between 2012/13 and 2013/14 with an overall response rate of 53%. The analyses of food consumption and nutrient intake are based on 2546 individuals (1288 adults and 1258 children). The blood sample analyses are based on 700 adults and 300 children. These numbers include additional recruitment in Wales and Northern Ireland which have been weighted down in the final analysis to give a UK representative sample.
3. This report updates the report of the year 1, 2, 3 and 4 combined results, published in 2014 by PHE <https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-results-from-years-1-to-4-combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012>.
4. Responsibility for nutrition policy in England and Wales transferred from FSA to Health Departments in 2010. Management of NDNS also transferred to the Department of Health in England at that time. From 1 April 2013, responsibility for the survey transferred to Public Health England, an operationally autonomous executive agency of DH.
5. The Government recommends an intake of at least five portions of fruit and vegetables per person per day. The Health Survey for England (HSE) is used to monitor '5-A-Day' in England. HSE estimates of fruit and vegetable consumption are based on a recall of consumption over the previous 24 hours and are therefore different from NDNS estimates, which are based on a four-day diary. NDNS estimates are higher than HSE, at least in part, because NDNS captures the contribution from composite dishes containing fruit and vegetables.
6. There was an error in the calculation of 5-A-Day fruit and vegetable portions in the Years 1-4 report which caused a slight overestimate of the consumption figures published in that report. 5-A-Day portions were calculated including food groups that should have been excluded, i.e. the fruit component of biscuits, cakes and confectionery items and the fruit juice component of soft drinks. This error has been corrected in the current report and the consumption figures for years 1&2, 3&4 and 5&6 are comparable.
7. The dietary recommendations or Dietary Reference Values for nutrients are reported in Dietary Reference Values (DRVs) for Food Energy and Nutrients for the UK, Report of the Panel on DRVs of the Committee on Medical Aspects of Food Policy (COMA) 1991. The Stationery Office. London. The DRVs for energy are reported in: Scientific Advisory Committee on Nutrition (2011). Dietary recommendations for energy. http://www.sacn.gov.uk/pdfs/sacn_dietary_reference_values_for_energy.pdf
8. Saturated fat is the kind of fat found in animal foods such as butter and lard, fatty cuts of meat, sausages and bacon, cheese and cream and foods containing them such as pies, cakes and biscuits. Consuming high levels of saturated fat can lead to raised blood cholesterol levels, which are associated with greater risk of developing heart disease.
9. Trans fats are formed when liquid vegetable oils are turned into solid or semi-solid fats through a process of hydrogenation. The main sources of trans fats in the diet are from partially hydrogenated vegetable oils (PHVOs), dairy and meat from ruminant animals. Hydrogenated Vegetable Oils can be used as ingredients in products such as biscuits, cakes and desserts and are also used as cooking and ingredient oils. Naturally occurring trans fats are found in dairy produce and the flesh of ruminant animals e.g. beef and lamb. Trans fats raise the levels of the type of cholesterol in the blood, which may increase the risk of heart disease.

10. At the time of the survey the recommendation for sugar intake was for non-milk extrinsic sugars (NMES) - any sugars which are not contained within the cellular structure of the food, either because they have been added to a food in the form of table sugar, honey etc; or because the food has been processed which has released (otherwise intrinsic) sugars from the cell structure e.g. fruit juice. In 2015 the Scientific Advisory Committee on Nutrition (SACN) recommended that a new definition of free sugars should be adopted in the UK and the population average intake of free sugars should not exceed 5% of total dietary energy for those aged 2 years and over. Intakes of free sugars will be presented in future NDNS reports.
11. At the time of the survey the recommendation for fibre intake was for non-starch polysaccharides. In 2015 SACN made a new recommendation for fibre intake based on a broader definition and method of analysis for fibre. The new recommendation is that average fibre intake for adults should be 30g/day which is equivalent to about 23g/day NSP, an increase from the previous 18g/day recommendation. Fibre intakes based on the new definition will be presented in future NDNS reports.
12. This report does not include results for salt intake based on 24-hour urinary sodium. The latest results for salt intake for adults aged 19 to 64 years in England were published earlier this year. <https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-assessment-of-dietary-sodium-in-adults-in-england-2014>
13. Nutritional status means the level of nutrients available to the body (after absorption) for use in metabolic processes. For some micronutrients, status can be assessed by directly measuring the level of the nutrient in blood, while for others it is assessed by a functional measure such as the activity of vitamin-dependent enzymes.
14. The report presents descriptive statistics on blood analytes for the following micronutrients: iron; vitamin B12; vitamin B2 (riboflavin); vitamin B6 and vitamin D. Results are also reported for blood lipids (e.g cholesterol). The percentage of participants with levels above or below an accepted threshold indicating low status is shown for those analytes for which threshold values have been proposed.
15. The survey also measured blood levels of folate to assess folate status. These results are not included in this report but will be published separately alongside revised results for years 1-4 when revised thresholds for assessing biochemical folate deficiency are available. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/501058/Notice_of_required_corrections_NDNS_blood_folate_thresholds_170216.pdf
16. Haemoglobin concentrations below 115-130g/L (depending on age and sex) indicate iron deficiency anaemia. Plasma ferritin levels below 15µg/l indicate low iron stores. The combination of haemoglobin and ferritin concentrations can be used as a measure of iron deficiency. Low levels may be due to low intakes or to blood loss
17. Severe vitamin D deficiency causes rickets in children and osteomalacia in adults, this is a condition characterised by pain, muscle weakness and bone fractures. Both conditions are rare in the UK although there is evidence of significant incidence in South Asian and Afro-Caribbean groups.
18. In 2013/14 (year 6) the survey measured urinary iodine concentration for the first time.