

**NATIONAL DIET AND NUTRITION SURVEY ROLLING PROGRAMME:  
PROGRESS REPORT**

**Executive Summary**

1. The Board agreed to the implementation of the core rolling programme for the National Diet and Nutrition Survey (NDNS) at its February 2005 meeting. This paper provides an update on progress towards setting up the rolling programme.
2. The Board is invited to note that proposals for boosts to the core NDNS and for additional survey work will be considered as part of the process for determining the priorities for the business/corporate plan.
3. This paper is for information only. **No action** is required.

**NUTRITION DIVISION**

**Contacts:**

Rosemary Hignett	Tel: 020 7276 8178 (GTN 276 8178) Email: <a href="mailto:rosemary.hignett@foodstandards.gsi.gov.uk">rosemary.hignett@foodstandards.gsi.gov.uk</a>
Mark Bush	Tel: 020 7276 8905 (GTN 276 8905) Email: <a href="mailto:mark.bush@foodstandards.gsi.gov.uk">mark.bush@foodstandards.gsi.gov.uk</a>
Gillian Swan	Tel: 020 7276 8912 (GTN 276 8912) Email: <a href="mailto:gillian.swan@foodstandards.gsi.gov.uk">gillian.swan@foodstandards.gsi.gov.uk</a>

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**Issue**

1. To update the Board on progress towards setting up the NDNS rolling programme.

**Background**

2. The National Diet and Nutrition Survey (NDNS) is the major component of the Agency's dietary survey programme. Data from the NDNS on food consumption and nutritional status are critical to underpinning a wide range of the Agency's work to protect consumer safety and promote healthy diets.
3. Following a review of the Agency's dietary survey programme in 2002/03 the Board agreed in principle in December 2003 that a rolling programme model should be adopted for future dietary survey work in order to strengthen the ability to track changes over time and provide greater flexibility to respond to policy needs. Proposals for the structure and content of the rolling programme were presented to the Board in February 2005 (paper FSA05/02/03). The Board agreed that implementation of a core programme covering 1000 people per year could proceed, subject to agreement of co-funding arrangements with Department of Health. The Board also agreed that co-funding should be sought for two enhancements to the core programme: sample boosts in devolved countries and sample boosts in ethnic minority groups.
4. Under the rolling programme model the NDNS will run continuously with fieldwork carried out every year. As well as providing the detailed food consumption data essential to support risk assessments for food chemicals, the rolling programme will also benefit a wide range of Government activities related to diet and health. It will be the primary method for monitoring progress against nutrition targets in the Agency's Strategic Plan 2005-2010, for example on salt and saturated fat intakes, and will also be key to monitoring progress on diet and nutrition objectives set out in the 'Choosing Health' White Paper.
5. A more detailed description of the background to and rationale for the rolling programme is set out in Annex 1.

**Tendering Process**

6. The Advisory Committee on Research (ACR), along with other experts, was consulted in designing the core survey. That Committee emphasised the high value to the Agency of the data to be collected, and that the survey should take a

high priority in Agency funding. A contractor for the rolling programme was selected through an open competition in line with Government procurement guidelines. Bids were assessed by an appraisal panel including a range of Agency users of NDNS data and a number of independent expert assessors including members of the Scientific Advisory Committee on Nutrition (SACN). Assessment of bids focussed on scientific quality and capability to deliver. The contract for the rolling programme has been awarded to a consortium led by the National Centre for Social Research and comprising the MRC Human Nutrition Research and the Department of Epidemiology and Public Health at the Royal Free and University College London Medical School. The contract was signed at the end of November.

### **Funding**

7. The cost of the core rolling programme is £15.5 million over a 6½ year contract, covering pilot work, four years fieldwork and data analysis and reporting.
8. Agreement has been secured with Department of Health for co-funding the core programme to the level of £500,000 per year.

### **Sample “Boosts” in Scotland, Wales and Northern Ireland**

9. The core survey of 1000 people per year will include samples in the devolved countries to a level representative of the UK population. However the sample sizes in Scotland, Wales and Northern Ireland will be too small to permit separate analysis. Therefore FSA Scotland, Wales and Northern Ireland are seeking funding from Health Departments and other suitable partners for sample boosts in each country. Colleagues in FSA HQ, primarily in Nutrition and Statistics, are supporting FSA offices in the devolved countries throughout these discussions. The additional cost of boosting the sample in each devolved country to 400 over two years is in the region of £400,000 to £600,000 per country depending on the sample size for each country in the core survey.
10. In order to maintain comparable up to date information for Scotland, Wales and Northern Ireland to stand alongside the continuous fieldwork described above further sample boosts would be needed in later years. Rather than treating these as one-off events FSA HQ will work with colleagues in Scotland, Wales and Northern Ireland to establish a solution that meets the data needs of all parties in the longer term, beginning with assessment of options, costs and practicalities during the next twelve months.
11. Officials have updated the Welsh Food Advisory Committee on progress towards the Rolling Programme and on discussions on funding of sample boosts. The Committee was supportive of plans for the survey as a whole and of proposals for a sample boost in Wales. The Northern Ireland Food Advisory Committee

was updated on the survey at their November meeting. Update information has also been circulated to members of the Scottish Food Advisory Committee.

### **Other Sample “Boosts”**

12. The core survey will also include people from ethnic minority groups in proportion to the UK population but, again, the numbers will be too small for separate analysis. Therefore we are seeking co-funding for a programme of sample boosts to the most populous ethnic minority groups. The ACR noted that the ability to enhance the survey to cover ethnic minority or other population sub-groups was extremely valuable and should also take a high priority for Agency funding. The cost for each group will vary according to the approach required to identify and recruit a representative sample, which depends on its geographical spread. However a boost to 400 for one group is likely to be in the region of £800,000+ at 2006 prices. This work can be taken forward should the Board consider it important, but the Board is asked to note that it may be necessary to bid for additional funds to meet the expense involved.
13. We have approached a range of external organisations to seek co-funding for enhancements and will continue to pursue this option. We also continue to explore opportunities for commercialisation of the data generated by the survey.

### **Content and Structure of Rolling Programme**

14. The core rolling programme will comprise a sample of 1000 people per year covering all ages from 1½ years upwards and representative of the UK, including Northern Ireland. The components of the core survey are listed at Annex 1.
15. The survey design includes measures to help assure the quality of the data, in particular by ongoing assessment of under-reporting and continuous monitoring of response rates with remedial measures if response drops below a pre-defined level.
16. The current timetable for implementation of the core programme is set out below. Subject to the success of pilot work timetabled for Spring 2007, fieldwork for the rolling programme should be ready to commence by April 2008. Results should begin to become available from the end of 2009.

October 2006	Award contract
March – May 2007	Pilot study fieldwork
June – July 2007	Review of pilot study findings
December 2007	Progress report to the Board on outcome of pilot study, any implications for the core survey and position on funding for enhancements.
January – February 2008	Dress rehearsal

April 2008	Start fieldwork for year 1
April 2009	Start fieldwork for year 2
December 2009	Headline results for year 1 available
April 2010	Start fieldwork for year 3
December 2010	Headline results for year 2 available
April 2011	Start fieldwork for year 4
December 2011	Headline results for year 3 available
December 2012	Headline results for year 4 available
March 2013	Printed report covering findings of years 1-4 ready for publication

### **Management of Rolling Programme**

17. A project board will oversee the management of the survey. This will include representatives from co-funders. Expert input will be secured through involvement, including on the project board, of SACN members.

### **Role of NDNS in monitoring Strategic Plan targets**

18. Data from the NDNS rolling programme will be very important in monitoring targets in the Agency's Strategic Plan. However it is recognised that there will be a gap before the first results become available in 2009. The possibility of accelerating the delivery of first results from NDNS has been explored. However it is not possible to bring forward the start date for data collection from April 2008 without reducing the time spent on essential pilot work. The NDNS timetable is determined by the need to carry out pilot work in 2007/08 to test alternative dietary methodologies and ensure that all elements of the survey can run successfully in the field and deliver high quality data. Cutting down on this work would jeopardise the quality of the final data and so the success of the survey.
19. There are a number of other sources of dietary survey data, including work commissioned by the FSA, which will provide some insights into the diet and nutrition of the UK population during the interim period before the first NDNS results become available in 2009. This will include indicators of salt, saturated fat and non-milk extrinsic sugar (NMES) intakes and will cover vulnerable groups as well as the general population. These data sources are described in Annex 2. FSA work currently underway or planned is listed in Table 1 (Annex 2) and includes a large national survey of the diet and nutrition of low income consumers which is due to report next year, and smaller national surveys of salt intake in adults. In addition the Agency has an ongoing research programme which includes analysis of dietary data to examine links between diet and health. A range of projects are underway and will be reporting throughout this period.
20. In addition to work commissioned by the Agency, the ongoing national surveys commissioned by OGDs (Table 2, Annex 2) will supplement the evidence base by providing some indication of trends in salt, saturated fat and NMES. It is

important to note that it is the NDNS that will provide the most robust estimates of nutrient intakes for comparison with Strategic Plan targets. Data from other sources use different methods and it is very difficult to make direct comparisons between these and NDNS results. Nevertheless they can provide useful indicative information.

21. The possibility of commissioning new work to provide additional data to cover the interim period before NDNS results become available has also been considered. Tables 1 and 2 indicate that there is little existing work due to deliver in 2008/09 and new data in that period to bridge the gap to the NDNS would be useful. Table 3 sets out some options. These include commissioning secondary analysis of the raw data from the Low Income Diet and Nutrition Survey to further investigate factors affecting diet and nutrition in this group and sub-groups within it. As well as defining and targeting policy objectives this may also identify further areas for detailed research. Another option is to expand the planned 2007/08 survey of salt intakes in adults to cover children as well. Finally a call for proposals for short term research aimed at delivering new data on saturated fat, NMES and salt intakes in 2008/09 could be considered. Such studies might usefully be focused on areas of the UK where little existing data are available, such as Northern Ireland and/or on vulnerable groups. Options for working in partnership with other relevant groups such as cross-border bodies in Ireland would also be pursued. Contractors with the expertise and resources to carry out this type of large scale data collection are in short supply so concentrating on limited geographical areas and/or population sub-groups would make the best use of the limited contractor resource available. Options for procuring additional work to the standard of or comparable with NDNS will be extremely limited but it may be possible to generate some useful indicative data within this timescale.
22. In order to prepare the Agency's next Strategic Plan (2010/2015) it will be critical to have robust baseline data on diet and nutrition available from the first year of the NDNS rolling programme (2008/09). As it currently stands, the core survey will deliver data on 1000 people per year. In order to strengthen the baseline data in 2008/09 a boost to 2000 people could be considered (i.e. doubling the sample size). This would increase the statistical power of the survey and allow more in-depth analysis of population sub-groups. Sample boosts in the devolved countries for the first years of fieldwork are already under consideration (para 9) and there is also an option for sample boosts of ethnic minority groups (see para 12).
23. It is proposed to explore the options outlined above in more detail. A further progress report will be prepared for the September 2007 Board meeting.

### **Resource Implications**

24. The options discussed in paragraphs 21-22 above (sample boosts within the NDNS and/or additional survey work to 'bridge the gap' until NDNS data became

available), would each have significant resource implications. These are summarised in Table 4 in Annex 2. These costs will need to be considered and prioritised, alongside other initiatives the FSA may want to take forward in delivering the Strategic Plan, as part of the development of the FSA Corporate Delivery Plans for 2007/8 and 2008/9 and beyond. This will take place in the context of an expected reduction in the FSA's overall funding over the period to 2010/2011.

25. Meanwhile, as noted in paragraph 9 above, the FSA's offices in Scotland, Wales, and Northern Ireland are seeking funding from their local funding authorities and other suitable partners for sample boosts in each country. The costs of UK-wide surveys would need to be met from the FSA's Westminster funds, and the possibility of securing funding through the End Year Flexibility arrangements will be discussed with the Treasury in the usual way.

### **Board Action Required**

26. This paper is for information only. **No action** is required.

## BACKGROUND AND RATIONALE FOR THE NDNS ROLLING PROGRAMME

### *Importance of NDNS data in supporting Agency activities*

1. NDNS data are critical to underpinning a wide range of the Agency's work to protect consumer safety and to promote healthy diets. The NDNS provides detailed information on food consumption, collected at the level of the individual. This is essential for the dietary chemical exposure assessments that the Agency carries out and that form an essential part of the risk assessment and subsequent risk management and communication processes. In helping the Agency to make appropriate and proportionate risk assessments and respond rapidly to emergencies, the NDNS assists the Agency to protect consumers. Taking the issue of elevated mercury levels in some fatty fish as an example, NDNS data enabled the Agency to identify accurately those population groups most at risk. This enabled the Agency to target its advice rather than having to issue less specific and less cost-effective blanket advice.
2. The NDNS also provides the information on diet and nutritional status needed to assess nutritional issues in the population, identify those areas where action is needed and to develop and evaluate the success of interventions. The NDNS can provide the up-to-date, timely data required to allow analysis of links between intake, status and other measures in the same individuals. The survey datasets are also an invaluable resource for nutrition research, contributing to the evidence base on which the Agency depends. For example, the Agency would be unable to refine its salt reduction strategy without comparative data on the relative contribution of different food groups to salt intakes.

### *Rationale for the move to a Rolling Programme*

3. In its previous form, the NDNS was a series of cross-sectional surveys of diet and nutritional status covering the whole population from age 1½ years upwards, split into four separate age groups. The programme began with the 1986/87 survey of adults aged 16-64 years and since then a survey has been carried out approximately every three years. The most recent survey of adults aged 19-64 years, carried out in 2000/01, repeated the 1986/87 survey of this group and completed a cycle of all the age groups.
4. A review of the dietary survey programme was carried out in 2002/2003 to address some concerns about the current approach, in particular the lack of timeliness and flexibility. It also considered methodological issues such as declining response rates and mis-reporting. Paper FSA 03/12/02 summarised the outcome of the review and offered four options for change to the existing programme to address the concerns identified above. Of these, the rolling programme option was the only one that offered the ability to track trends and

the flexibility required to respond more rapidly to emerging needs, as well as giving opportunities to address methodological issues. The Board agreed in principle that the Agency should adopt a rolling programme model for future survey work

#### *Components of the Core Rolling Programme*

- **Face to face interview** collecting background information on dietary habits, socio-demographic status and lifestyle.
- **Detailed assessment of food consumption over 4 days:** using the multiple pass 24-hour recall or the un-weighed diary method (dietary assessment method to be chosen following pilot work).
- **Physical measurements:** height and weight in all age groups; waist and hip circumference (ages 11 and over); mid upper arm circumference (up to 15 years)
- **Blood pressure**
- **Blood sample** for biochemical indices of nutritional status.
- **24-hour urine collection** to estimate salt intake
- **Physical activity:** Questionnaire to help estimate energy expenditure for use to assess under-reporting.

#### *Cost of the Rolling Programme*

5. The core programme will cost £15.5 million over 6½ years. This represents a significant investment by the Agency in securing high quality data. Fieldwork to collect the dietary and other data makes up the bulk of the costs. The other significant components contributing to the costs are blood and urine analysis, data analysis and reporting and pilot and preparatory work. Dietary survey work is a very 'labour intensive' activity involving highly skilled specialists. During fieldwork the survey team will visit each potential participant a number of times to make the initial contact and recruit them into the survey, collect four days dietary data, make physical measurements and collect blood and urine samples. This means that simply collecting the raw data from a single participant will involve work stretching over two or more weeks, before any analysis or reporting begins.

**ADDITIONAL SOURCES OF DIET AND NUTRITION DATA DUE TO BE DELIVERED BEFORE 2009**

**Table 1: Other sources of FSA diet and nutrition data**

<b>Date</b>	<b>Survey</b>	<b>Nutrients covered</b>	<b>Coverage / limitations</b>
Feb/ March 2007	2005/06 urinary sodium surveys published	- Salt	Salt intake in adults in each country to assess progress towards SP target
March/April 2007	Low Income Diet and Nutrition Survey published	- Saturated fat, - NMES - Salt (dietary assessment only – not comparable with urinary data)	Diet and nutrition in approximately 3500 adults and children in the UK. Designed to provide robust representative baseline data on food consumption, nutrient intake, nutritional status and factors affecting these in low income/materially deprived consumers.
Summer 2007	Survey to monitor intake of non-milk extrinsic sugars in Scottish schoolchildren.	- NMES (primary driver for survey) - Saturated fat	Diet in 1600 Scottish children 3-16 years. Will also measure intake of total fat and other nutrients related to “Hungry for Success” school meals policy.
Autumn 2008	Results of 2007/08 UK urinary sodium survey published	- Salt	Second survey of salt intake in UK adults to assess progress towards SP target.
2008 onwards	Secondary analysis of Scottish data from the Expenditure and Food Survey	- NMES - Saturated fat	Will also measure intakes of other nutrients and foods in relation to the Scottish Diet Action Plan Targets and will assess dietary differences between socio-economic groups using the Scottish Index of Multiple Deprivation, and between rural/ urban.
2008 onwards	Secondary analysis of the	Salt (use of salt e.g. if added to food)	Project designed to use the food data (nutrients

	Eating Habits module of the Scottish Health Survey 2003		not possible) collected in the Survey to explore food patterns in relation to health and socio-economic deprivation parameters.
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**Table 2: Sources of dietary survey data outside the FSA**

<b>Date</b>	<b>Survey</b>	<b>Nutrients covered</b>	<b>Coverage / limitations</b>
Dec 2006 and annually thereafter	Results of Health Survey for England published <sup>1</sup> (HSCIC)	- Salt (spot urine samples only, not comparable with urinary sodium surveys; use of salt in cooking / at table)	Series of annual surveys – each collects core data for whole population and focuses on a specific population group or health topic. Limited non-quantitative information on food habits including fruit and vegetable consumption, use of salt.
Spring 2007 and annually thereafter	Publication of Expenditure and Food Survey results (Defra)	- Saturated fat - NMES - Salt (dietary only not comparable with urinary sodium surveys)	Continuous survey of household food purchases in the UK. Provides annual trends on purchases and nutrient intakes at population average level. No data on age/sex groups. Intakes not directly comparable with NDNS but can indicate trends.

**Table 3: Options for collecting new data**

<b>Delivery date</b>	<b>Work area</b>
End 2007	Commission secondary analysis of Low Income Diet and Nutrition Survey dataset
End 2008	Extend 2007/08 UK urinary sodium survey to include children
Late 2008 / early 2009	Research call for proposals for short term studies to provide dietary data on vulnerable groups, focusing on saturated fat, sugar and salt to deliver in 2008/09

<sup>1</sup> An annual Health Survey is also carried out in Wales. The only dietary information collected is fruit and vegetable consumption.

**Table 4: Indicative costs\* for NDNS sample boosts and additional survey work**

	Indicative additional costs (£ million)		
	2007/8	2008/09	2009/10
Sample boost for Scotland**		£0.2	£0.2
Sample boost for Wales**		£0.25	£0.25
Sample boost for Northern Ireland**		£0.3	£0.3
Ethnic minority sample boost (typical cost per group)***		£0.8	
Sample boost for first year of core survey to 2000 people		£1.5	
Secondary analysis of Low Income Diet and Nutrition Survey	£0.03-0.05		
Extend 2007/08 urinary sodium survey to include children	Up to £1.0		
Research to provide additional data on saturated fat, NMES and salt to bridge the gap to NDNS.	£1.2 - £1.7 (timing dependent on proposals received)		

\* Including staff costs where relevant: dedicated staff resources would be needed to commission and support collection of data to bridge the gap to NDNS. This would be likely to require deferring other work given overall Treasury constraints on the FSA's budget for staff and related costs.

\*\*Devolved country sample boosts could be delayed so the additional costs are payable in 2009/10 and 10/11 or in 2010/11 and 11/12.

\*\*\* Ethnic minority sample boosts could be carried out in any or all years from 2008/09 to 2011/12