P2753

NATIONAL DIET AND NUTRITION SURVEY

(NDNS)

Year 4

INTERVIEWER PROJECT INSTRUCTIONS

For use from 01/07/11

1. BACKGROUND AND AIMS

The National Diet and Nutrition Survey (NDNS) rolling programme was originally commissioned by the UK Food Standards Agency (FSA).

The FSA was set up in April 2000 to 'protect public health and the interests of consumers in relation to food'. Its nutrition remit was to encourage and facilitate the eating of healthy diets in order to improve the nutrition and diet of the UK population.

Since October 2010, the nutrition remit of the FSA in England has been transferred to the Department of Health and nutrition policy in Wales has been transferred to the Assembly Government in Wales. At present, these functions remain the responsibility of the FSA in Scotland and Northern Ireland.

The FSA and Department of Health's information needs are obtained through its dietary survey programme, of which the NDNS is the major component. In the past, the NDNS involved a series of cross-section surveys, each covering a different age group: pre-school children (1.5 to 4 years); school-aged children and young people (4 to 18 years); adults aged 19-64 years; and older adults aged 65 and over. The first survey was carried out in 1986/87, and since then there has been a survey about every three years, with the most recent carried out in 2000/01. Each has been conducted as a 'one-off' survey. Following a review of the dietary survey programme in 2003, FSA's Board agreed in principle that future surveys should be carried out on an ongoing basis in order to strengthen the ability to track changes over time arising from rapidly changing eating habits, lifestyles, cooking skills, the availability of different types of food, and re-formulations of manufactured foods. The new format of continuous fieldwork provides a more responsive framework for dietary surveys, giving more ability to identify emerging policy issues, responding more rapidly to changing data needs and giving better opportunities to identify and analyse trends. This will enable the development, implementation and monitoring of effective policies to improve the nation's diet and nutritional status. This is particularly important at a time when under-nutrition, particularly for some micronutrients, is accompanied by over-nutrition, particularly for calories, fats, salt, and added sugars, all of which have adverse implications for health.

The main aims of the continuous NDNS survey are:

- to provide annual data about the nation's dietary intake and nutritional status;
- to estimate the proportion of individuals with compromised nutritional status; and
- to estimate the proportions attaining recommended intakes.

The data from the NDNS will be used to estimate the nation's diet and nutritional status, and that of sub-groups of the population. These data will play an important role in monitoring progress towards some specific targets relating to government strategies from both the Department of Health and FSA.

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.

Interviewer fieldwork for the fourth year of the study runs from April 2011 – March 2012.

2. OVERVIEW

The key elements to the survey are as follows:

- face-to-face interview and self-completion questionnaires.
- dietary data collection (4-day diary).
- taking of physical measurements (e.g. height, weight and blood pressure).
- wearing of physical activity monitors (ActiGraphs).
- blood sample collection (and analysis of nutritional status indices).
- 24-hour urine collection.

The study samples people living in private residential Catering Units only. The sample includes adults and children (aged 18 months and older). Pregnant and breastfeeding women are to be excluded, because they have different nutritional needs.

This study is being carried out by a consortium of three organisations:

- NatCen (National Centre for Social Research)
- MRC Human Nutrition Research (HNR), based in Cambridge
- Department of Epidemiology and Public Health at the Royal Free and University College London Medical School (UCL)

The study covers all four countries of the UK. The Northern Ireland Information, Statistics, and Research Agency (NISRA) is our research partner in Northern Ireland.

Information about the survey, its objectives and design have been approved by a Multi Centre Research Ethics Committee (MREC). This is the body that approves the ethical aspects of medical research. Committee members represent medical, professional and patient interests.

3. CHANGES TO YEAR 4 OF NDNS

Following careful consideration, we have made a few changes to various protocols for Year 4. The key changes are outlined below and further information is provided elsewhere in these instructions and at briefings.

3.1 Sample – Basic and Young person split

For Year 4, we have increased the number of basic addresses and reduced the number of young person addresses for each assignment. Year 4 assignments will include 27 addresses as usual, of which 11 will be basic address (up from 9) and 16 young person addresses (down from 18). As usual your ARFs will be delivered in your workpacks pre-labelled. We have made this change to increase the number of adult participants (respondent 1).

3.2 Young Person's Food Atlas

In Year 4, we have introduced the Young Person's Food Atlas to be used when reviewing the diary to improve accuracy in estimating portion sizes for children. There are 3 separate photo atlases that should be used when reviewing child diaries: a pre-school atlas for 18 months to 4 years, a primary school atlas for 4 to 11 years and a secondary school atlas for 11 to 15 years. Some of you may remember the atlases from our pilot in Year 3, Quarter 2.

3.3 ActiGraphs

AGs will not be sent in your workpacks anymore. AGs will be sent at the start of fieldwork instead. All AGs will be labelled with the date they were initialised. Before placing an AG, you will need to check the date of initialisation (on the label). If it is within 2 weeks, you can use the AG. If it is more than two weeks, you must return the AG and request a newly initialised one. You will still be required to boost charge all AGs for at least an hour before placement.

3.4 CAPI

The CAPI remains almost identical to Year 3 of NDNS. The key change is listed below, but you may also notice some minor changes when you run through an example interview. If you notice anything that seems unusual, however, please contact us.

Questions about benefits received: The working families' tax credits option has been removed and replaced with two different forms of benefits: working tax credits and child tax credit. All other options remain the same.

3.5 Doubly Labelled Water (DLW)

DLW is NOT an element of Year 4.

3.6 Documents

Where possible, we are trying to reuse as many documents as we can from Year 3 to try and cut down on document wastage. You will receive a list with your workpacks telling you what you can and can't use from Year 3 if you have old versions hanging around!

4. NDNS WEBSITE FOR RESPONDENTS

NDNS has its own website. It is designed to give respondents more information about the survey. You can refer respondents to the website if they would like further information. The website address is also on advance letters.

The website address is: **www.natcen.ac.uk/NDNS**

5. NDNS report publications

A few months after the nurse fieldwork is completed, a report is put together for the FSA which is published on their website: www.food.gov.uk/science/dietary surveys/ndnsdocuments. The report contains key results of the survey for the year, such as response rates, sample characteristics and figures on key nutrients such as intake of saturated fat, fibre and fruit and vegetable consumption. At the end of the current four-year rolling programme, a more detailed report will be published.

The first NDNS headline results report was published on the FSA website in February 2010 – this contained results from Year 1 of NDNS. The year 2 report is due to be published on the FSA website in spring 2011. Please have a look at the summary of the report, which highlights the key findings.

6. SUMMARY OF SURVEY DESIGN

6.1 Sampling

A total of 5,265 addresses have been drawn from 195 postcode sectors (points) across all four countries of the UK. The mainstage sample comprises a core sample plus a boost to increase the sample size in Wales, Scotland and Northern Ireland. The addresses will be issued on a monthly basis over the year.

Each assignment contains 27 addresses. You will send an advance letter (with stage 1 leaflet) to each address, introducing the study and explaining that you, the interviewer, will be calling.

At each address you will enumerate the number of households and in cases where there are two or more, select one at random. Within each selected household the CUs will be enumerated and one randomly selected.

Basic Addresses: In 11 of the 27 addresses (addresses 1-11), you will select one adult (aged 19+) and one child (aged 18months-18years) at random. In CUs with no such children, just one adult will be selected.

Young Person Boost Addresses: The remaining 16 addresses (addresses 12-27) are for a "young person" boost – here, you will select one person aged between 18months-18years and *no* adults; and you will screen out any households containing people aged 19+ only (i.e. no-one aged 18months-18years).

For selected respondents there are two main parts to the survey, an interviewer-administered first stage (Stage 1), and a visit by a nurse (Stage 2). Co-operation is entirely voluntary at each stage. Someone may agree to take part at Stage 1 but decide not to continue to Stage 2.

If the adult selected is not the 'Main Food Provider (MFP)' (see section 7 for a definition), this person will also be invited to take part in a short CAPI interview. Fuller details of the sample and associated documents are given in Section 8.

6.2 The Interviewer Visits

Interviewers make three main visits to a participating Catering Unit. The interviewer visits cover:

- questionnaire administration
  Most of the interview will be an interviewer-administered CAPI questionnaire carried out face-to-face. It will also include self-completion booklets to record smoking and drinking habits of children and young people and the physical activity of adults.
- collection of dietary data for four consecutive days using a diary (see section 12) and
- taking of physical measurements of standing height and weight.

All children aged 4-15 will be asked to wear an ActiGraph (see section 16 and Appendix A). There may be an additional visit to collect the ActiGraph.

At the end of the interviewer stage, the token of appreciation (£30 in high street vouchers) is given, and the second stage of the survey is introduced and the interviewer asks for permission for the nurse to visit.

The table below summarises the tasks carried out at each main visit.

1st visit	CAPI questionnaire (part 1). Smoking & drinking Self-completion questionnaires. Height & weight measurements. Place diary. *ActiGraph wearers (aged 4-15): explain to the respondent how to wear the activity monitor.*
2nd visit	Midweek diary check up(s) (Should be done face-to-face, and ONLY be done by telephone as a last resort).
3rd visit	Collect diary & complete checklist. CAPI questionnaire (part 2) including physical-activity self-completion qu'naire. Give token of appreciation. Introduce the nurse visit. *ActiGraph wearers (aged 4-15): collect activity monitor & paperwork.*

6.3 Summary of Data Collected

Some of the information collected is limited to a particular age group. The table below summarises the information to be collected.

CAPI questionnaire	**Respondent**
Catering Unit information	MFP/Selected adult
Food preparation, storage, cooking facilities	MFP
Eating habits, social eating	All ages
General health	All ages
Dental health	Adult (16+)
Smoking	Adult (18+), self-completion for young person aged 8-17
Drinking	Adult (18+), self completion for young person aged 8-17
Dietary supplements	All ages
Sun exposure	All ages
Employment status, educational background	16+
Physical activity self-completion questionnaire	16+
Measurements	
Height measurement	Ages 2+
Weight measurement	Ages 18 months+
Collection of dietary data	
Diaries	All ages (separate version of diary for under 16 years and for toddlers aged 1.5-3 years).

6.4 The Nurse Visit

The second stage of the survey is carried out by a qualified nurse. At the end of the final visit, you will seek consent for the nurse to visit (see section 15). All respondents completing at least three diary days (i.e. those deemed fully productive) will be eligible for a nurse visit.

Please note that there is gap of two to five months between interviewer and nurse fieldwork on NDNS, essentially making the nurse stage a "follow-up".

After you have returned completed cases to the office, respondents agreeing to progress to stage 2 are allocated to the nurse eight weeks after the completion of the interviewer fieldwork period. Nurse-related documents (i.e. Nurse Record Forms) will be generated in the office. See section 15 for more detail.

The nurse will collect details of any prescribed medications before taking, with agreement, the following physical measurements:

- Infant length (18 months to 2 years).
- Waist and hip circumferences (ages 11 and over).
- Mid-upper arm circumference (ages 2-15).
- Demi-span (ages 65+, and ages 16-64 where standing height is not obtained during the interviewer stage).
- Blood pressure (ages 4 and over).

Nurses aim to take 24-hour urine samples (from all aged 4 and older) and blood samples (from all respondents, 18 months and older). Where the NatCen nurse does not have recent experience in paediatric phlebotomy, paediatric phlebotomists have been recruited to take blood from those aged 1.5-10years. The NatCen nurse will accompany the phlebotomist to the respondent's home.

Before the nurse carries out any measurements, the respondent will be given, and asked to read, a leaflet that describes the measurements the nurse will take and their purpose. Before the urine and blood samples are taken, agreement will be obtained in writing.

Blood will only be taken from the arm, which is less painful than the hand; only two attempts are allowed in adults, one in children. With the respondent's permission, blood pressure readings and the results of the blood tests most relevant to their health will be sent to their GP. This information will also be sent to the respondent, if they so wish.

The following table summarises the **nurse** tasks on NDNS:

1st visit	CAPI interview. Carry out measurements. Introduce the 24-hour urine sample. Introduce the blood sample.
2nd visit *for those agreeing*	Collect the 24-hour urine sample. Take blood sample.
3rd visit *for those agreeing*	Collect the 24-hour urine sample, if not done on 2nd visit. Take blood sample, if not done on 2nd visit.

7. DEFINITIONS

The following definitions are particularly important on this study.

7.1 Dwelling Unit (DU)

A Dwelling Unit (DU) is an address or part of an address, which has its own front door. The front door does not have to be at street level, but it must separate one part of the address from other parts (i.e. only those who live behind the door have access to the area, it is not a communal part of the address).

A DU need not be fully self-contained - for example, an address may contain four bed-sitters, the inhabitants of whom share a bathroom. Each bed-sitter would count as a DU as long as it had its own front door.

You do not need to concern yourself with DUs whilst administering the questionnaire - the questionnaire itself deals with Catering Units. The concept of a DU is only used on the ARF as an aid to identifying households then Catering Units at multi-occupied addresses.

7.2 Household

The standard definition of a household applies for this study: one person/group of people who have the address (or the selected DU within the address) as their only or main residence. A group of people are classed as one household if they share at least one meal a day OR share living accommodation.

Many households consist of either an individual living alone or one or two parents with their dependent child(ren). Other households consist of one or more adults, some elderly, with no dependent children.

Also see page 63 of the *Interviewers' Manual* for further information on establishing who is resident at the address and on dividing residents into households.

7.3 Catering Unit (CU)

The Catering Unit (CU) is the primary grouping for this study. It is a "group of people who eat food that is bought and prepared for them (largely) as a group".

Occasionally a household will be found to consist of more than one CU. Although people may share accommodation and even be related, they may not be in the same CU. For example, adult children sharing a house with their parents may shop, cook and eat by themselves, in which case the parents would be in one CU and the children in another.

However, in the vast majority of cases, we expect the household and CU to be synonymous and hence, to avoid using jargon during the interview, the term 'household' rather than 'Catering Unit' is generally used in the CAPI programme and field documents.

7.4 Main Food Provider (MFP)

The Main Food Provider (MFP) in this study is the person in the CU with the main responsibility for shopping and preparing food. If these tasks are equally shared between two people, for example if one person does all the shopping and another person does all the cooking, then either resident can be classified as the MFP but, if possible, information should be obtained from both of them when the MFP interview is being completed.

7.5 Adults and children age limits

For the purposes of respondent selection:

- **adults** are those aged **19 years and over**
- **children/young people** are those aged **18months – 18 years**

Respondents aged 17 and 18 are counted as children/young people. In the questionnaire, those aged 16-18 will usually follow the same routing as those aged 19+.

Age at the time of respondent selection (i.e. the date you administer the ARF) **determines adult/child status on NDNS, irrespective of any imminent birthdays.**

What if a respondent is aged 18 at select, but turns 19 before you return do CAPI1?

So, if when doing the respondent selection, you are told that someone is currently 18 but they will have their 19th birthday soon, they are still counted as a child and should be included in the relevant "child/respondent 2" selection grid on the ARF. If they are selected as respondent 2 and turn 19 before you return to do the first visit interview and tasks, you would have to allocate the appropriate unproductive code for this individual. You would not do a reselection amongst those who are still aged under 19.

If at a basic address the adult refuses to take part but the child/respondent agrees, can respondent 2 still participate in the survey?

Yes, you can interview a young person if the adult selected doesn't want to take part but is happy for the child to be interviewed. There are individual outcome codes for each selected individual, which will then be used to calculate a household outcome code.

8. YOUR SAMPLE

8.1 The sample

The sample for this survey has been drawn from the publicly available Postcode Address File.

A total of 5,264 addresses were drawn from 195 postcode sectors (points) across all four countries of the UK. The sample comprises a **core sample** plus a **country boost** to increase the sample size in Scotland, Wales and Northern Ireland. The addresses will be issued on a monthly basis over the year to March 2012.

Each assignment will contain 27 addresses.

8.2 Who to interview

8.2.1 Selecting respondents

Basic Addresses: At addresses 1 to 11, you will select one adult (aged 19+) and one young person (aged 1.5-18years) at random. These are called "basic" addresses. In CUs with no such young people, just one adult will be selected.

Young person boost addresses: The remaining 16 addresses (addresses 12 – 27) are for a "young person boost" – here, you will *screen out* households containing persons aged 19+ only, and at other households select one child/young person and *no* adults.

The young person ARF is cream; and the basic ARF is blue. The front of the ARF indicates whether the address is a "basic" or a "young person" address. The ARF will guide you through the procedures for respondent selection (see section 10).

8.2.2 Interviewing children

For all children under 16 you must get permission from the child's parent(s) **before** you interview the child. If a child is not living with his/her natural or adoptive parent, permission should be obtained from the person(s) in the CU who is *in loco parentis* for that child on a permanent/long-term basis. For example, a foster parent or a grandparent who is bringing the child up instead of the parents. Such a person should **never** be used as a substitute if the natural or adopted parent is a member of the child's CU. Always give preference to the natural/adopted parent and, where appropriate, to the mother.

If the parent(s) are temporarily away from home and will be throughout your fieldwork period (for example, abroad on business or on an extended holiday without the children) and have left them in the care of a close relative, then if that relative feels they can give permission for a child to be interviewed, this is acceptable. A non-relative must never be taken as the person *in loco parentis* in this type of situation.

The parent or "guardian" of a child **must** be present at the time you carry out the interview. For children under 8, the interview will be mainly completed by the parent/guardian about their child. For children aged 8-10, the parent/guardian and the child should both be present whilst you carry out the interview, and the interview will be a "joint effort" between the child and their parent/guardian.
Older children (11-15 years) do the interview themselves. The parent/guardian need not necessarily be in the same room but they must be at home and be aware that you are carrying out the interview.

This protects both the child and yourself. You are asked to record the name of the parent/guardian who gave permission for their child to be interviewed on the ARF and in CAPI.

If there is any disagreement between parents, or between parent and child, in respect of willingness to co-operate in the survey, you should respect the wishes of the non-cooperating person. Obviously, you may not always know if both parents agree or disagree as you may not see them together. But if the disagreement is brought to your attention, then the above rule applies.

1.5 to 7 year olds	You should interview the parent or guardian about the child. As you will be measuring the height and weight of the child, the child has to be present in the home for that visit. Ideally they should be present during all visits as they may be able to provide information about themselves that their parent either does not know or has forgotten.
8 to 10 year olds	Both the parent/guardian and the child should be present at all visits as the child should be able to provide information about themselves, but with help from a parent or guardian.
11 to 15 years	Children of this age are interviewed in their own right (after obtaining parental permission).
16 to 17 year olds	It is not necessary to obtain formal parental agreement to interview these young people. It is however courteous to let resident parents know that you wish to interview them.

Should a parent wish to know the content of the survey, explain briefly the survey coverage.

8.2.3 Proxy interviews

Apart from interviews with children you should **not** complete individual interviews by proxy. If a person is unable to complete the interview in person and no translator (within the household) is available then use the appropriate code (e.g. language difficulties, physically or mentally unable/incompetent).

You may conduct the MFP interview with the selected adult if the MFP is not – and will not – be available.

8.2.4 Non-selection of pregnant/breastfeeding women

This survey does not include pregnant nor breastfeeding women, because of their special nutritional needs. The following instructions explain how to screen out pregnant/breastfeeding women and what to do if you have screened in someone who is pregnant or breastfeeding.

- On the doorstep, *before beginning the respondent selection process*, if possible find out whether any of the women or teenagers in the CU are pregnant/breastfeeding, and exclude them from the selection grid. The total number of people in the CU should not include a pregnant/breastfeeding person.

- If you select a woman between the ages of 16 and 50, you might want to check with her then that she is not pregnant/breastfeeding, before beginning the interview. If she is pregnant/breastfeeding, you will need to carry out another selection.

- If it is a single adult (19+) CU with children, and the adult is pregnant/breastfeeding, then you will attempt to interview a young person (1.5-18 years) only.

9. INTRODUCING THE SURVEY

9.1 Notifying the Police

You are responsible for notifying the police in your area about the work you will be undertaking on this survey. You will be given a special form for this purpose. Before you start any work hand this form in at the police station in your area together with a copy of the advance letter and leaflet (adult version).

You will be given two copies of the police letter; leave one at the station and keep one yourself. Request more copies of the letter if you need to register at more than one station.

Please note that you will not be registering your nurse partner at the police station. Nurses are responsible for registering themselves on this study.

9.2 Advance letters and Survey Leaflets

A letter, printed on FSA and DH headed paper, describing the purpose of the survey is sent by you to all sampled addresses a few days in advance of fieldwork. The letter briefly describes the study and states that you will be calling. There are two versions of the letter – one for the 'basic' addresses (1-11) where you are seeking to interview an adult (aged 19+) and a young person (aged 1.5-18 years) and another for the "young person" addresses (12-27). You have been given copies of the advance letters to use as a reminder. **You must include a copy of the stage 1 leaflet (adult version) with the advance letter.**

There are adult and child versions of the stage 1 leaflet. The appropriate version of the leaflet should be given to the respondents selected for full interview. Read the leaflets carefully - they will help you answer some of the questions people might have.

9.3 Dietary feedback example

In your laminate pack you will be provided with an example of the dietary feedback that the respondent can receive if they complete four diary days.

The feedback is made up of 8 graphs for 8 different nutrients. The first page of the feedback gives a simple explanation of how to read the graphs. The pink dotted line shows the average intake of a specific nutrient, based on the respondent's diet over the four days of recording. The blue line shows the UK guideline for the nutrient. The shaded area shows the range of observed intakes for the respondent's age group.

The respondent can use this information to see how they compare with other people of the same age and sex. The last page of the feedback form provides information on organisations that can give advice on a healthy diet.

9.4 Doorstep Introduction

The general rule is keep your initial introduction short, simple, clear and to the point. The way the survey is introduced is vital to obtaining co-operation. Before you go out into the field make sure you know about your survey. Keep your explanation as short as possible saying as little as you can get away with.

Show your identity card

Say who you are

Say who you work for

Say that you are carrying out an '*important Government survey about the diet and nutrition of people (living in the UK)*.'

Only elaborate if you need to. Introduce one new idea at a time. Do not give a full explanation right away - you will not have learned what is most likely to convince that particular person to take part.

On the doorstep, concentrate on obtaining the interview. Do **not** mention measurements. We do not want to risk losing an interview because a person is worried about being weighed or measured. These are decisions they can make later. The interview and dietary data collection are themselves very important, and we want them even if we do not get any measurements for a person.

What you might mention when introducing the survey

- It is a national (Government) survey (on behalf of the Food Standards Agency and the Department of Health).
- It is an extremely important survey.
- It will provide the government with accurate and up-to-date information on the diet and nutrition of the population.
- The information is available to all political parties.
- The information will be needed by whichever government is in office. To get an accurate picture, we **must** talk to all the sorts of people who make up the population - the young and the old, those with varied and unvaried diets, and those who like the current government's policies and those who do not.
- Each person selected to take part in the survey is **vital** to the success of the survey. Their address has been selected - not the one next door. No-one else can be substituted for them.
- No-one outside the research team will know who has been interviewed, or will be able to identify an individual's results.
- The government only gets a statistical summary of everyone's answers.
- Respondents who complete four diary days can receive feedback based on their diet over the four days of recording
- **THERE IS A £30 TOKEN OF APPRECIATION FOR EACH INDIVIDUAL TAKING PART.**

9.5 Doorstep introduction for the Young Person boost sample

At "young person" addresses (12 -27), we are only looking for young persons aged 1.5-18 years. We are therefore looking for people from what might be seen as a 'vulnerable' group. You need to think carefully about your doorstep approach in these cases and be ready with explanations if questioned by household members.

- This survey is sponsored by the Food Standards Agency and the Department of Health.

- You have registered at the local police station before starting to work in this area. If the police station stamped a copy of the advance letter you can show this to respondents. If you have CRB clearance this may also help to reassure people.
- The main reason we are targeting people in this age group is to get an accurate picture of diet and nutrition from all different people, including those who are younger.
- The diet, nutrition and health of children and young people are very important to us so we need to interview more people of this age to get accurate data. This is why in some addresses we will be focusing our attention on young people.
- Make it clear to parents that you can only interview children if the parent or legal guardian is present.
- There is a freephone number on the advance letter if the respondents want further clarification. Members of the Blue Team and the research team would be happy to answer any questions they may have.

9.6 Visits to the Catering Unit (CU)

You will make **three <u>main</u> visits** to a participating CU. For CUs with an adult and a young person respondent you should try to interview the adult and young person at the same visit, so that you do not need to make additional visits.

Section K of the "basic" ARF and Section L of the "young person" ARF have space for you to enter appointments made with respondents - you might find this helpful in keeping track of your progress and also provides a checklist of tasks to be completed at each visit.

If there is a long gap between diary placement and the start of the diary recording period, you may wish to contact the respondents to remind them to start their diary. It is a matter of judgement as to when (indeed whether) such a reminder would be necessary but as a rule of thumb, we envisage a reminder being considered for gaps of 4 days or longer and necessary for gaps of 7 days or longer. As respondents may use a reminder phone call as an opportunity to drop out, we suggest you post another reminder card if you are in the area, and only telephone the CU if that is not possible.

9.7 Introducing Height and Weight Measurements

The relationship between general build and health is of great interest to the FSA/DH. This is particularly so, as both the height and the weight of the population appear to have been changing very rapidly over the last two decades. These changes reflect the changes in the population's diet and lifestyle.

Explain that it will only take a very short time to do and that no one will be asked to undress. The respondent can have a record of their measurements but if they would prefer not to have them written down, then this is okay.

Introduce the height and weight measurements on your first visit, after you've introduced the diary. Do not turn up with your stadiometer and scales. Leave your car somewhere where you can retrieve these. You will not require them until the end of the interview and they can look very off-putting.

Once you have entered the height and weight into the computer, it will calculate the person's Body Mass Index (BMI) if aged 16 or older.

If the person would like to have their measurements, then fill in the measurement record card (which includes spaces for their height, weight and BMI (16+ only)). If the respondent is aged 16+, hand over the BMI leaflet with the measurement record card, as this provides information on what BMI is, and how to interpret the results.

10. THE ARF

10.1 Introduction

You will receive a pre-labelled ARF for each of the addresses in your sample. Note that there are two variants of the ARF:

- a **blue BASIC ADDRESS ARF** for addresses 01-11 where you will aim to select one adult (19+) and one child/young person (1.5-18 years).
- a **cream YOUNG PERSON ADDRESS ARF** for addresses 12-27 which includes a screen for young people aged 1.5-18 years.

The ARF header tells you whether the address is BASIC or YOUNG PERSON.

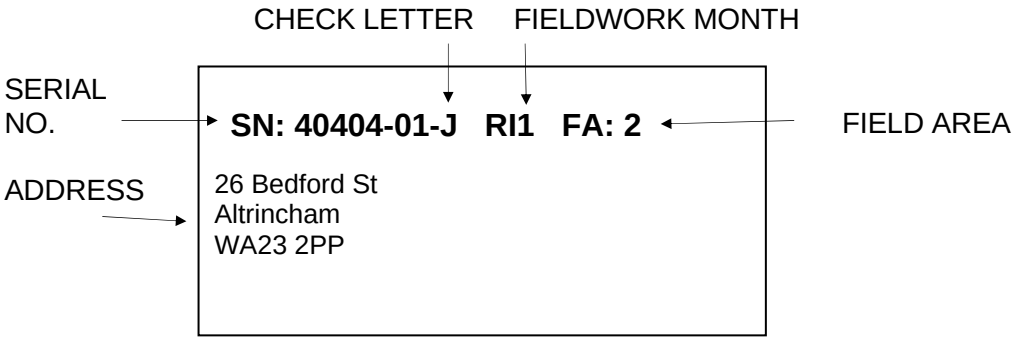
The ARF enables you to:

- record all attempts to make contact at the address, and keep track of the visits you make
- establish the number of DUs and where more than one, make a selection of one;
- establish the number of CUs (within the selected DU) and where more than one, make a selection of one;
- *At basic addresses*: establish the number of eligible adults (19+) within the selected CU and select one;
- establish the number of eligible young people (1.5-18 years) within the selected CU, and if more than one, select one;
- record the name of the legal guardian who gave consent for any 1.5-15 year olds to take part in the interview;
- record the final outcome for the selected respondent(s).
- It also provides a checklist of the tasks that you need to do.

10.2 Address label

The Address Label at the top of the ARF gives, in addition to the full address, a seven-digit serial number plus a check letter. It is made up of:

- One digit for the YEAR ('4' for year 4, 2010/11)
- Two digits for the MONTH (01=January; 04=April etc)
- Two digits for the Point number, within month (01..15)
- Two digits for the Address number, within point (01..27)
- A check letter.



The serial number is very important. It is the anonymised number assigned to that household. You will be asked to write it on a variety of documents, such as the self-completions. Doing this enables the office to match all the information from one household together.

You also use this serial number to access the interview in the CAPI. When you open a CAPI questionnaire you should make sure that you select the address number that corresponds to the address number of the ARF label.

Country boost points (for interviewers working in Wales, Scotland and Northern Ireland), will be indicated by *CB* in the top right hand corner of the address and selection labels.

10.3 Selection label

The selection label on the front page should be used where there are two or more DUs or CUs and you have to select one at which to interview. This label is also used when the selected CU contains two or more persons and you have to select one as the respondent. Further information on selection procedures and an example of the label is provided in section **Error! Reference source not found.**.

10.4 Final outcome

(top right corner of the ARF)

This is the outcome code for the **whole** CU. For addresses or CUs which are totally unproductive, this code will come from the ARF.

For CUs which were productive (or partially productive) it is calculated on the basis of the individual respondent interview(s). It can only be coded when you have completed all your tasks for that CU. This code will be given to you in the Admin block.

10.5 Calls record

(bottom half of front page of the ARF and p2 of ARF)

Keep a full record of all the visits you make to an address/CU – include abortive visits as well as productive ones. Any notes about what happened at each call should be made in the notes box. Label the notes with the call number.

There is also a grid (on the bottom half of page 2) where you can keep track of all telephone calls you make. At various stages of the interview process, you might need to phone the respondents, to check how they are doing and to remind them to start/keep going. All attempts and actual calls you make can be recorded here.

11. QUESTIONNAIRE OVERVIEW

11.1 Introduction

It is very important to feel you are familiar with the CAPI questionnaire **before** you to start interviewing. Practice serial numbers and check letters are provided in Appendix F for this purpose.

The CAPI questionnaire has **three main elements**:

- 'Household Structure' interview
- Main Food Provider (MFP) interview
- Individual interviews (including self-completions)

The Household Structure interview must be completed before you carry out an individual interview. You cannot open the MFP interview or an Individual interview until there is a complete Household (CU) interview. The CAPI program allows only one respondent to be interviewed at a time.

Interviewer instructions appear on the screen in capital letters, but further information about some questions is given in this document.

11.2 Household (CU) structure interview

The Household interview (or the 'CU interview') will be completed with the MFP or another adult respondent. If other CU members are present at the time it is useful for obtaining correct dates of birth etc.

If you are interviewing in a single-person CU, you must complete the Household/CU interview with that person. If that person is not capable of answering the questions, it is not permissible to collect the information by proxy from someone else.

The Household interview allows you to determine the composition of the household, for example, who lives in the CU's accommodation, their ages, sex and relationship to each other.

11.3 Household (CU) composition

The information collected about the composition and structure of the CU is the basis for all subsequent questions and filtering and therefore must be correct. In particular, please check that you have:

- not omitted any CU member (you need to enter all members, not just the selected respondents);
- not included anyone who is not a member of the CU;
- the correct date of birth/age for everyone.

The order in which you enter the respondents is not crucial, but you may find it easier later on if they are entered roughly in age order, with the MFP first. **At the very least, you should try to enter the details of parents before you enter those of children**.

11.4 Entering details of selected respondents

At questions ***AdNum1 – MFPNum*** you will be prompted to record the names of the respondents on the front page of the ARF. If the child respondent is under the age of 11 you will be prompted to record the name of the adult who will be answering questions alongside or on behalf of the child's. Where there are two or more adults you will also be asked to enter the MFP name from the front of the ARF. If you have not already done so, you will need to ascertain who the MFP is at this point (see

section 7.4 for definition).

11.5 The MFP interview

Once you have completed the Household (CU) Questionnaire, you will be routed to the start of the MFP questionnaire. The purpose of the MFP block is to gain information at CU-level about cooking facilities, food shopping and food preparation.

If the MFP is not one of your selected respondents and is not currently available for interview, you have the option of doing the interview 'Later' rather than 'Now'. If you select 'Later' the MFP questionnaire will be taken off route. When you go back to carry out the MFP questionnaire later, you will need to re-open the same household (CU) interview. Press <CTRL+ENTER> to bring up the parallel fields. Use the down arrow key until the module – 'Main Food Provider' – is highlighted, then press enter. You will be taken straight to *MFPNow* where you can change the code from 2 (Later) to 1 (Now). Please see section **Error! Reference source not found.** for more information about navigating via parallel blocks.

If the MFP is unlikely to be available during any of your visits to the CU, you can carry out the MFP questionnaire with any adult (aged 16 or older) member of the CU. The preference is for the person who has the best knowledge about the cooking facilities in the CU, shopping for food, food preparation, etc. To do this, select the 'Now' option at *MFPNow,* then code at the next question, *MFPProx* that the questionnaire is being completed by proxy.

11.6 Structure of the individual interviews

Once you have completed the Household (CU) Structure Questionnaire (and hopefully, the MFP questionnaire), you will conduct an individual interview with the respondent(s) you identified and recorded on the ARF.

At households in basic addresses there will be a **maximum of 2 individual questionnaires**:

- **Respondent 1**: first selected person (always an adult aged 19 or older)
- **Respondent 2**: second selected person (always a child/young person aged 18 months-18 years*).

**The rules for seeking permission to interview children are set out in Section 8.2.*

At households in young person addresses, there will be **just 1 individual questionnaire:**

- **Respondent 2:** ONLY selected person (always a young person aged 18 months-18 years). For consistency, the selected person in young person addresses will always be **Respondent 2**.

For each individual questionnaire (any age) there are **two main parts**:

- **CAPI 1**
- **CAPI 2**

Each section of **CAPI 1** and **CAPI 2** is shown in order on the next page, and the intended respondent(s) are indicated.

If a respondent is aged 4-15, and agrees to take part in the ActiGraph part of the study, there is an additional CAPI element to the questionnaire. Please see section 16 for information on CAPI questions relating to the ActiGraph.

There are also CAPI questions which introduce the nurse visit. Please see section 15 for information on these questions.

CAPI 1

CAPI1 Sections	Respondent
• Access to Food at school	All respondents 18 months-18 years (except if 16-18 and in full time employment)
• Usual Eating Habits	All respondents
• General Health	All respondents
• Oral/Dental Health	All respondents 16+
• Smoking[a]	All respondents 16+ (18-24 year olds may answer in a self-completion instead)
• Drinking[a]	All respondents 16+ (18-24 year olds may answer in a self-completion instead)
• Education	All respondents 16+
• Job/Income	All respondents 16+ (except if 16+ and in full time education)
• Measurements	All respondents
• ActiGraph introduction	All respondents 4-15

[a] Note that for respondents aged 8-17, these questions, along with the drinking questions, will be administered in a self-completion booklet (GREEN for 8-12 year olds, BLUE for 13-15 year olds and a PEACH booklet for 16 and 17 year olds). In addition, respondents aged 18-24 are given the option of completing the PEACH self-completion booklet or answering the questions via CAPI.

CAPI 2

CAPI2 Sections	Respondent
• Dietary supplements	All respondents
• Exposure to sunlight	All respondents
• NHS Central Register & Cancer Registry	All respondents 16+
• Stable address	All CUs
• Nurse introduction	All respondents

12. FOUR-DAY FOOD AND DRINK DIARY

Respondents are asked to keep a record of all they had to eat and drink over a four-day period. You will need to place the diary with the respondent, check it during the diary-recording period, and collect it after the four-day diary recording period is finished. The following sections provide you with a description of the diaries as well as instructions and information on placing, checking and collecting the four-day food diary.

12.1 The food diaries

12.1.1 Types of food diary in NDNS

As NDNS covers such a wide range of ages, there are four types of diary:

- **Adult diary (A5)** – for respondents aged 16+
- **Adult diary (A4)** – for respondents aged 16+ who wish to use a larger diary
- **Child diary (A4)** – for respondents aged 4-15
- **Toddler diary (A5)** – for respondents aged 1.5 to 3 years

12.1.2 Components of the food diary

Although there are different types of diaries, all are very similar in terms of how the information is collected. They all start with instructions for the respondent, followed by some example diary days and then a section for helping them describe the food and drink they had and how much. This is followed by the main diary itself that the respondent fills in and finally there are some questions on their usual eating habits to be completed at the end of the recording period. Please familiarise yourself with the important components of the food diary in order to explain these to your respondents when placing the diaries. The reason why we require so much detail on the food and drink consumed by the respondent is so that we can identify each food item correctly and allocate a corresponding food code from our NDNS nutrient databank as well as an appropriate portion code. Missing detail makes food and portion coding difficult and less likely to represent what the respondent actually had to eat. For those respondents who have requested dietary feedback (see section 9.3) inaccurate diaries result in misleading feedback

12.1.3 Child and toddler diaries

As mentioned above, the child and toddler diaries are very similar to the adult diary. However, because children, particularly young children and toddlers, eat differently from adults there are some points that should be considered when placing and checking these diaries.

Who completes these diaries?
For children aged 12 and under, the parent/carer will be asked to complete the diary with help from the child as appropriate. Children over 12 will be asked to complete the diary themselves but will be expected to confirm details, where necessary, with the MFP. Additional detail and information may need to be obtained from the MFP if they are not completing the diary on behalf of the child. The parent/carer will be asked to keep the diary for all toddlers.

Due to the young person boost, in some CUs, the child or toddler might be the only person keeping a diary and an adult might be asked to help a young child or toddler to complete a diary without having to keep one themselves.

Portion sizes and leftovers
There are no food pictures in the child and toddler diaries. This is because young children tend to have difficulty conceptualising portion sizes this way. For toddlers, the portion sizes depicted in the food pictures are not usually relevant to the foods or amounts that toddlers consume. Therefore,

children and parent/carers are encouraged to describe foods using household measures or weights from packaging instead.

Children tend to leave leftovers more often than adults and with very young children a lot of what is served ends up on the floor. In particular, parent/carers should be reminded that the portion size they record is the amount eaten, not the amount served.

Recipes
If a child/toddler eats a homemade dish and the recipe has already been recorded in the adult diary, it does not need to be recorded again in the child or toddler diary. The child or parent/carer can just write "see adult diary" in the recipe box. However, they still need to record how much of the recipe the child ate.

12.2 Interviewer Diary Assessment Schedule (IDAS)

The INTERVIEWER DIARY ASSESSMENT SCHEDULE (IDAS) provides a list of the documents you will need, instructions for placing the diary, what to look out for when checking the diary and other helpful reminders. **It is very important that you read through the IDAS before you start each assignment**. The IDAS PROMPT SHEET is a 2-sided abridged version of the IDAS to be used as a reference tool in the respondent's house. It can be found in your laminate pack.

12.3 Other diary documents

12.3.1 Instruction booklet

Each household should receive one instruction booklet. Although the instruction booklet is based on the adult diary (it contains the same instructions, example diary days and food pictures as the adult diary) it is still a useful reference tool regardless of whether an adult, child or toddler diary is being completed. In addition, it contains relevant description prompts for all ages. This means that all respondents can have the booklet open at the description prompts whilst filling in what they had to eat rather than having to flick back and forth in their diary.

12.3.2 Carer packs (child or toddler diary only)

The pack consists of (in a plastic zipper bag):
- 1 x carer letter.
- 4 x carer food and drink recording sheets (one for each diary day)

Young children and toddlers might have meals where the person keeping the diary on their behalf is not present e.g. at childminders, nursery, relative or friend's house. In order to get information on the foods consumed at these occasions, we need to ask the 'out-of-home' carer(s) to help. Ideally we want them to fill in the diary, but in some cases this won't be possible. These 'out-of-home' carers will not have received the same introduction to the diary as the parent; they may not be as motivated or committed; they may not have enough time or the level of understanding required. As an alternative to recording in the diary, they can fill in a carer food and drink recording sheet, which is a simpler form for recording key details about what the child ate whilst in their care.

Therefore, in households where a parent is going to be completing the diary for their child, you should check whether it is likely that someone else will be feeding their child over the four-day diary recording period. If yes, explain that we would like 'out-of-home' carer(s) to record what was eaten while the child was in their care. The parent/primary carer should show the 'out-of-home' carer(s) the carer letter and then give them either the diary or one of the carer food and drink recording sheet. It is easier and safer if they are all kept in the plastic zipper bag. When the parent collects their child they should pick up the diary or carer food and drink recording sheet. Ensure that the respondent's serial number is on any loose sheets before returning them as they may become separated from the main diary.

12.3.3 Reminder card

This card is to remind respondents when they should start keeping the diary. The respondent should put it somewhere prominent e.g. on their fridge door, bedroom mirror etc.

12.3.4 Extra pages

Extra pages are for all respondents filling in the A5 adult diary in case they run out of space in the main diary. Respondents need to make sure they enter the day and date on any extra pages they use. You must enter their serial number on any extra pages used before returning them as they may become separated from the main diary.

12.4 Placing the food diary

12.4.1 Introducing the food diary

Based on the day of the first individual CAPI interview, the laptop will select four consecutive days as the diary recording period. If a CU contains two respondents, both respondents will be assigned the same diary days. Please complete the details on the front cover of the diary with the respondent's name, male or female, date of birth and serial number and enter the date of the day they should start recording. It may also help if you write in the day and dates of the diary days allocated by CAPI in the diary itself. If there is a gap between diary placement and the start of the diary recording period, and you have concerns that the respondent will forget to start their diary, please contact the respondents to remind them. As respondents may use a reminder phone call as an opportunity to drop out, we suggest you post another reminder card if you are in the area, and only telephone the CU if that is not possible.

Generally respondents should stick to their allocated days even if they think that on some days their food and drink intake will be untypical: we do not want respondents to be picking "good" and "bad" weeks to keep their diary. However, if the respondent will be on holiday at any point during the allocated 4 days, assign 4 new days. This is because food and drink consumption on holiday is unlikely to represent the respondent's typical diet. You should replace like-with-like so if the original days were Saturday – Tuesday, the new days should also be Saturday – Tuesday.

It is important that after you have placed the diary with the respondent, they feel confident with what is expected of them and are aware of the information in the diary that will help them record what they have eaten as reliably as possible. Start by spending a few minutes working your way from the front to the back of the diary so that your respondent gets an overview. Then go back through giving the respondent more detailed instructions using the IDAS PROMPT SHEET (see section 12.2).

12.4.2 Practising with your respondent

The best way of ensuring your respondent has understood the instructions and is sufficiently familiar with the tools available to them is to get them to practise whilst you are still there to offer assistance and advice.

There are 2 types of practice diary pages (both A4); an adult one based on the adult/toddler diary and a child one based on the child's diary. Ask the respondent to recall a recent eating occasion (a few food items will suffice). If a parent is going to be completing the diary for their child, they should recall a recent eating occasion for their child. Show respondents how you would record those food items on the practice diary page, making sure you put them in the correct time slot and fill in the details such as time, where and with whom. Refer to the food description pages and demonstrate how these can ensure that you have recorded enough detail about the food. If appropriate, refer to the photos of portion sizes, the life size glass and the life size spoons. Remember to ask them if they ate or drank everything so that you ensure any leftovers have been accounted for.

Then ask your respondent to recall a different recent eating occasion and, this time, have *them* record the information on the practice diary page. Some respondents will need to record more practice items

than others, depending on how well they are coping. This will also give you an opportunity to see if your respondent would struggle with the small A5 adult diary. Adults with impaired vision, poor handwriting or other difficulties may prefer the larger A4 format.

12.4.3 Plastic bag for food labels

These are for respondents to collect labels, in particular, ready meals and seasonal foods. Each bag contains a double-sided card with instructions on what information on packaging is helpful. Respondents are asked to wash all labels/packaging that has come into contact with food. You should label plastic bags with the respondent's serial number.

12.4.4 Food eaten away from home

Respondents are asked to record food and drink consumed at home and away from home e.g. restaurant, friend's house and school. Therefore, they are expected to take the diary with them when they are away from home. For young children this may mean another adult such as a child minder or nursery teacher completing the diary for the child. In that case, they should be given a carer pack (see section 12.3.2). If a respondent forgets to take the diary out with them, they should make notes and transfer these into their diary as soon as possible.

We understand that it is difficult for respondents to collect the same level of detail for foods eaten outside the home. They should, however, try and record as much information as possible, describing what is in dishes rather than just giving the name. For example, if they have a vegetable curry in a restaurant, they should describe what vegetables were in it and whether it was a tomato based sauce or a creamy sauce.

12.4.5 Proxies

Where there are language barriers or other difficulties, you may find that another member of the household can act as a proxy for the respondent. For example, children could act as proxies if their parents do not speak English. If this is the case, please make a note in the Diary Evaluation (see section 12.7.1). Where proxies are used, you should still encourage the respondent themselves to contribute as much as possible to completing the diary.

12.4.6 Arranging check up visit

After placing the diary, please arrange a check-up visit with the respondent before you leave. The visit should be on the second day of the diary recording. CAPI will tell you which day to make the appointment. CAPI will also prompt you to make an appointment to collect the diary up to three days after the last diary day. **Please make a note of the respondent's phone number if they are willing to give it to you.**

The check up visit should be a home visit (i.e. personal). If this is not possible then you must at least phone the respondent on the second day of recording to check that they have started keeping their diary. You should ask them to recite a few entries so that you can gauge their completeness. Ask if they have any concerns or questions and encourage them to continue with the diary. In a few cases you may feel that more than one check-up visit is required and you should arrange to go back on the third or even the fourth day of recording, as appropriate. It is up to you to decide how much support each respondent needs. If a proxy is completing the diary then, whenever possible, both the respondent and the proxy should be present when you check it

12.4.7 Reminder phone call

If there is a gap of seven days or more between placing the diary and the respondent starting the

diary, you will need to make a reminder phone call running through the main points of completing the diary. These can be found on the REMINDER PHONE CALL checklist on page 8 of the IDAS. Arrange a mutually convenient time for you to call the respondent, a day or two before they are due to start, when they are at home so they can have the diary in front of them. Please cover everything on the document, referring respondents to the various sections in the diary where necessary. Make sure you also speak to respondent 2 if they are 12 years old or above. If this is not possible, ask respondent 1 to pass on the information.

12.5 Check up visit

This visit is an opportunity to provide encouragement and support and to point out things the respondent may be omitting, thereby improving recording for the remaining days. You should review what they have recorded so far. Try to go through the diary with adult respondents and children aged over 12 on their own. We appreciate that this might not be possible (given practical considerations as well as other issues such as cultural constraints) so do not enforce this as a rule. Obviously, where a respondent is not sure of the full details of the food he/she ate it will be necessary to refer to someone else in the house for clarification such as the MFP.

Remain neutral when reviewing the diary, as respondents may be defensive about what they have recorded. In order to maximise co-operation and improve future recording, we suggest you make the following points to the respondent when reviewing their diary:

1. “This visit is a quick check to see how you’re getting along and to answer any questions”.
2. “When you have completed the diary it will be sent back to our offices to be coded and so my job is to make sure that the people coding the diary have all the information they require and to fill in any gaps”.
3. “Remember if you wish, you can receive personalised feedback on your diet based on the data collected in your diary. The more information you provide, the more reliable the assessment of your diet will be”.
4. “While checking the diary I may need your help in clarifying anything that might not be clear".

12.5.1 Restarting the diary

If when you arrive for your check up visit or speak to the respondent on the phone and they have forgotten to start recording, they are allowed **ONE** restart. Ideally they would then start on **that day and complete four days from then**. For example, your respondent is asked to keep their diary from Saturday to Tuesday but when you arrive for your check up visit on the Sunday, the respondent has not started recording. Allocate them four new diary recording days starting with that Sunday through to Wednesday. Ensure that the respondent is in possession of their diary and write in the new dates in the diary. If you can, start them off by getting them to fill in the first thing they had that day. Arrange a new check up visit for the next day (now the second day of diary recording).

On some occasions, a respondent may not have started recording and may want to delay for some reason. Although we do not want respondents to be picking “good” and “bad” weeks to keep their diary, the alternative could be that we would lose the respondent. If this would be the case or it would be difficult to arrange subsequent visits, you can allocate them four new days. You should replace like-with-like so if the original days were Saturday – Tuesday, the new days should also be Saturday – Tuesday. Give your respondent a new reminder card and write the new dates in the diary. Also arrange a new check up visit for the second day of the diary recording period.

12.5.2 Checking the food diary

The reason why we require so much detail on the food and drink consumed by the respondent is so that we can identify each food item correctly and allocate a corresponding food code from our NDNS nutrient databank as well as an appropriate portion code. Missing detail makes food and portion coding difficult and less likely to represent what the respondent actually had to eat. Therefore it is

crucial that the diaries we receive from you are well completed with lots of detail and no missing information.
Missing information should be collected while you are at the respondent's home because this increases the chance of filling in any gaps. The IDAS PROMPT SHEET provides help on what you should be looking out for. **Not everything that the respondent has written (or not written) needs to be scrutinised. Priority should be given to missing portion sizes and inadequate descriptions of foods.**

If there are any omissions or ambiguities in the diary, you should clarify these with the respondent. Please use a green pen (or at least a different colour from that used by the respondent) when you write on the diaries so that we can see where you have needed to probe for additional information or made changes.

12.5.3 Regional and ethnic foods

A respondent may eat a regional food or use a local term for a food that others might not be familiar with e.g. stovies, empire biscuits. Please ask the respondent for a description that will help clearly identify the food especially if the food can be prepared in a variety of ways, as is the case for stovies. When collecting information about ethnic foods it is important to obtain as much information as possible about a food/recipe that is 'uncommon'.

12.5.4 Meals on Wheels

Respondents should give a description of the components of the meal (for example mashed potato, carrots and chicken breast etc) and, if possible, retain the packaging. Councils employ private catering companies to provide meals on wheels so try and obtain the name and telephone number of the catering company that provided the meals. You should be able to get this information from the respondent, as they will usually be given a menu with the company name, logo etc on it.

12.5.5 School meals

For young children, there may be very little detail given for meals provided by their school. Often parents have weekly menus of school lunches provided by the school. If this is available, you can use it either to prompt the child for missing detail or clarify the name or content of a dish. If the parents/carers do not have a copy of the school menu, ask if they could get one from the child's school. You can then use the school menu on your pick up visit when checking the diary. Please return the school menu along with the diary if possible.

When using a school menu to prompt the child for missing detail of a school meal, please remember to cover the following points:

- Find out the name of the dish by referring to the date and day of the diary and matching it with the correct weekly cycle and day of the school meal
- Find out whether anything else that was on the day's menu was eaten e.g. rice, garlic bread, salad, side vegetables etc.
- Get more information on the type of foods in the dish e.g. type of vegetable, dressing on the salad, boiled or roast potatoes etc.
- Ask about portion size of the foods consumed
- Find out if pudding was eaten and what was in it, e.g. type of fruit in fruit crumble, served with yogurt, custard, or ice cream etc.

Please note that items listed on the school menu may change due to what's available, therefore, record what the child has described.
Please also be aware that children who have packed lunches rather than school meals may swap foods and therefore record foods that their parents might question. For example, a child may have

recorded that she had a carton of Ribena and when you ask about it, her parent might say that she did not give a Ribena to the child. In these cases, you should leave in what the child has written in order to encourage the child to record what they actually ate rather than what their parent gave them.

12.5.6 Additional check up visits

In a few cases you may feel that more than one check-up visit is required and you should arrange to go back on the third or even the fourth day of recording, as appropriate. It is up to you to decide how much support each respondent needs.

12.5.7 The Young Person's Food Atlas

If the respondent is aged under 16 the atlas must be used when reviewing portion sizes.
To improve accuracy in estimating portion sizes for children, there are 3 separate photo atlases that should be used when reviewing their diaries:

- A pre-school age atlas (18 months to 4 years),
- A primary school age atlas (4 to 11 years) and
- A secondary school age atlas (11 to 15 years).

As there is overlap between the ages that each atlas can be used for, base your selection on the school stage that the respondent is at (i.e. primary, secondary, etc.). If this is not clear, for example, if the respondent is completing the diary during the school summer holidays, select the atlas for the younger age group. For example, if a 4 year old is between pre-school and primary, use the pre-school atlas. If an 11 year old is between primary and secondary school, use the primary atlas.

Information about the photos

Most of the foods that appear in the atlases are shown as a series of seven photos of the food served and seven photos of leftovers. There are exceptions to this, for example, there are no leftovers for jacket potato or Yorkshire pudding. In these cases, if respondents say there were leftovers, please ensure they are recorded in household measures. In addition, while most of the photos show a single serving of a food item on a plate or bowl, such as a bowl of ice-cream or a plate of pasta, there are exceptions. For example, the photos of carrots and cheese show three servings on a plate. It is the same amount but shown in three different ways (cheese can be served sliced, grated or cubed). Please make sure respondents are aware that, when selecting these photos, they are indicating that they consumed one of the three servings (not all three!).

Please note: the breakfast cereal photos are without milk, so please ensure respondents think about the cereal portion served before milk was added to it.

All of the photos were taken with the food displayed on a 9 inch diameter plate or 7.2 inch diameter bowl. At the back of each atlas is a life size photo of the plate and bowl and these should be shown to the child or parent before they select any photos and referred to throughout the review.

Equivalent Food List

In some cases the photos can be used to estimate amounts for other foods in addition to the actual foods in each photograph. For example, the photos of boiled cabbage can also be used for boiled leeks. These other foods are listed on a separate card called the Equivalent Foods List that can be found at the back of each atlas. Please make sure that you have the Equivalent Foods List to hand. **Do not refer to any photos if a food is not listed on this card**.

How to use the atlas

For each food consumed, check to see if it appears in the atlas or it is an equivalent food. If so, you must use the atlas to obtain a portion size in addition to that written by the respondent
Ask the respondent to select a photo of the amount served, write the code in the diary and then ask

them to select a photo for any leftovers and write down that code.

- For children of secondary school age; ask the child themselves to select the photo.
- For children aged 9-11; the child's parent/carer should select the portion with some contribution from the child.
- For children aged 8 and under; the child's parent/carer should select the portion.

Please note: The parent/carer can **only** select photos if they were present at the time of eating. If they were not present, and the child is aged under 8, do not use the atlas for that particular food.

Each photo is labelled with a unique code. Ask the respondent to select a photo which is closest to the amount served and write down the corresponding code.

Time	Where? With whom? TV on? Table?	What	Brand Name	Amount eaten
6am to 9am				PHoop06
7:00	Kitchen Alone	Cheerios	Nestle	Medium bowl

If the portion served was larger or smaller than any of the portions displayed they can describe the portion in terms of multiples or fractions of a photograph. If it is smaller than any of the 'as served' photos they can use a 'leftover' photo.

Time	Where? With whom? TV on? Table?	What	Brand Name	Amount eaten
6am to 9am				PHoop06 x 2
7:00	Kitchen Alone	Cheerios	Nestle	Medium bowl

If they did not consume all that was served, the respondent should estimate the amount leftover using one of the 'leftover' photos. Write down the corresponding code preceded by a minus sign. Please ensure that respondents know that you are asking them to select two pictures for each food (served and leftover).

Time	Where? With whom? TV on? Table?	What	Brand Name	Amount eaten
6am to 9am				PHoop06 – PHoop08
7:00	Kitchen Alone	Cheerios	Nestle	Medium bowl

Please note: some of the codes are very similar so please ensure that you write them clearly and accurately

Please remember that the atlas is only to be used when reviewing the diary. It should not be left with respondents under any circumstances. Respondents must still record how much they ate at the time of eating **for every item they record** either in household measures or weights from labels. It does not matter how accurately respondents have recorded what they ate; if the food is listed on the Equivalent Food List you should show them the photos in the atlas. Do not overwrite what the respondent has originally recorded. The photos codes are in addition to what the respondent has written.

Remember to return all 3 atlas booklets at the end of your assignments by Recorded Delivery.

12.6 Pick up visit

The pick-up visit should be no later than three days after the final day of recording. Again, you should check the diary for completeness, concentrating on the entries made since your last visit as described above for the check-up visit. If the respondent has followed your guidance, checking the remainder of the diary should not take very long. You must also ensure that the respondent has completed the General questions about food/drink in the last 4 days at the back of the diary. If not, please ask them to fill these in.

Remember to collect any additional items such as the plastic bag with labels, extra pages, school menus and carer packs.

12.7 Monitoring the quality of dietary data collection

In order to maintain a high standard of dietary data collection, we continually monitor and feedback to you the quality of the diaries you send in. Feedback comes in various forms and it is very important that you take note of any comments made.

12.7.1 Diary Evaluation

A diary evaluation should be completed for each respondent as soon as possible after collecting the diary. This form is for you to record any problems the respondent might have had with keeping the diary and how well you thought it reflected on what they actually ate. For example, if a respondent had language difficulties and their young son or daughter acted translated for them, you would note this in your evaluation. It also asks who filled in the majority of the diary (the respondent or another person e.g. their parent).

12.7.2 Early work feedback

This is based on your first completed diary and is sent via your Project Manager. It is only sent out if we pick up on any obvious omissions or errors so that these are not carried through to the other diaries.

Please ensure that you send your first completed diary back to Brentwood as soon as you have collected it from the respondent.

12.7.3 Pre-point feedback

This is based on all the diaries from your completed assignment and is sent to you before you start a subsequent assignment. It highlights where improvements could be made but also provides positive comments.

12.7.4 Post-briefing exercise

These are sent out if you have any lengthy gaps between being briefed and your first assignment or between assignments. You should complete the exercise and return as instructed. You will then receive feedback.

13. THE PHYSICAL ACTIVITY QUESTIONNAIRE

13.1 Background of the questionnaire

The Recent Physical Activity Questionnaire (RPAQ) is used to measure physical activity.

- It should be completed by all respondents aged 16 and over.
- Respondents should complete the questionnaire at the beginning of CAPI 2, while you are carrying out an initial check of the diary.
- You will need to go through the questionnaire with respondents to ensure they have filled in all relevant questions.
- You will need to record in the CAPI whether the respondent completed the questionnaire.
- If the respondent had any problems completing the questionnaire, please record this at the relevant field in the admin block.

13.2 The questionnaire

13.2.1 Section A: Home activities

This section asks about physical activity patterns in and around the house.

Q3 Computer use at home but not at work: This question refers to computer use whilst sitting. Respondents should not include computer use that involves active movement (e.g. Wii golf, tennis, boxing). Such activity should be recorded in Q17.

13.2.2 Section B: Activity at work / school or college

This section asks about activities **at work, school or college and travel to work, school or college**. If the respondent has two part-time jobs, is at school or college and also works part-time, respondents should think about their **main** activity and answer the questions about that activity or job.

Q7 Type of work while at work / school or college: If respondents' main activity is school or college, they should choose the answer option that best fits the type of activity they do while there.

Q10-Q13 Travel to and from your main place of work / school or college in the last 4 weeks: Below are some guidelines outlining how respondents who don't have a 'usual' place of work, (e.g. a salesperson):

a) If the respondent drives/cycles/walks to one central location, say an office, and then drives out from there, the standard questions apply (the commute would be the travel from home to and from that office, the type of work would then be driving around and whatever else their job involves). Depending on the actual job activities, the person may classify this as either sedentary or standing occupation.

b) If the respondent drives out from home without visiting a central office before and after, their daily commute would be zero ('he/she works from home') and their type of work is driving around and whatever else their job involves.

c) If the respondent does a mixture of the above, i.e. works from home one week and drives out from a central location the next, they will need to estimate the AVERAGE exposure over the last four weeks - this can be difficult for some but you can help out here if necessary, now that the general principles (hopefully) are a bit clearer.

If all else fails – **write a note** on the self-completion explaining the respondent's situation, so that we can decide what to do with it when it comes back to the office!

13.2.3 Section C: Leisure time activities

This section asks about physical activity that respondents participated in during their leisure time.

Q14 Grid for respondent to complete about specific leisure time physical activities

Important points to remember:

- Ensure that respondents have filled something out for each line. If respondents have not done an activity, then they should tick 'None'.
- If respondents have done an activity, please check that they have filled out the final two columns – 'Average time per episode – hours and minutes'.
- Check that respondents have looked at Q15.

Q16-Q17Any other activities

The list in the grid is not an exhaustive list of physical activities so this is a question asking if respondents have anything else to record. In particular, respondents should record the following at these questions:

- Playing on the Nintendo Wii (e.g. Wii Sports such as golf, bowling, boxing etc), any other computer use involving active movement.
- Housework.

14. FLAGGING ON THE NHS CENTRAL REGISTER AND THE CANCER REGISTRY

Respondents aged 16 and over are asked if they will consent to have their name flagged on two separate registers: the NHS Central Register and the Cancer Registry. Respondents must give permission jointly for NHS Central Register and Cancer registry together because if they are flagged for one, they are flagged for the other.

If respondents agree to be flagged on these lists, a marker will be put against the respondent's name to show that they took part in the NDNS. As the survey is planned to continue for many years, it will be useful to be able to follow up what happens to respondents in the future. For example, if somebody who has taken part in the survey dies or gets cancer, the cause of death or type of cancer can be linked with their answers to the survey. Such information could be extremely helpful to future medical researchers.

It is important to understand that the only information that the *National Centre*/UCL/HNR give to the NHS Register and the Cancer Registry is the respondent's full name, date of birth and address, and the fact that (s)he has taken part in the survey. The respondent's details are already on the register (they are put there when they receive their NHS number). We could ask for respondents' NHS number but not many people are likely to know this. For this reason we ask for other details which will help us identify them on the register.

No other information is given, not even the serial number used by the interviewer. A totally **different** case number is allocated to ensure anonymity.

If a respondent wishes to cancel this permission at any time in the future, they can do so by writing to us.

Further information on the two separate registers is given below.

NHS Central Register
The National Health Service has a Central Register, which lists all the people in the country and their NHS number. When the respondent dies, the NHS Register provides the NDNS team with a replica of the respondent's Death Certificate (something that is publicly available). The information on the Death Certificate is then attached to the data file.

Cancer Registry
The National Cancer Registry is run by the Office for National Statistics, and collects details about all types of cancer. If a respondent is diagnosed with cancer, a code indicating which sort of cancer it is will be added to the data file.

Once the respondent has signed the consent form please return the top copy to the office. The bottom copy is for the respondent to keep.

15. INTRODUCING STAGE 2: THE NURSE VISIT(S)

15.1 Background

Nurse fieldwork starts 8 weeks after the end of interviewer fieldwork. Nurses register themselves at the police station. You will record in CAPI Admin details of the police station at which you registered, as well as other details which could help the nurse make contact with respondents.

15.2 Introduction to the nurse visit

All respondents are eligible for the nurse visit. The nurse stage is mentioned in the leaflet which accompanied the advance letter.

The introduction to the nurse visit is given by the CAPI program at the question *NursInt*. The parallel blocks will appear at the end of CAPI2 and you will need to select the 'Nurse_Intro' parallel block (please refer to section **Error! Reference source not found.** for more information about parallel blocks).

The introduction to the nurse visit should be read exactly as worded. Sometimes you will need to provide further information in order to convince people of the importance of this stage. They may want to know more about what is involved. Some may be nervous of seeing a nurse and you will need to allay their concerns. As well as the usual "yes/no" answer codes, there is an "unsure" code. Nurses will contact 'unsure' people to see if they are now willing to be visited.

The measurements carried out by the nurse are an integral part of the survey data and without them the interview and diary data, although very useful, cannot be fully utilised. Try to convince respondents that seeing a nurse is a vital part of the study and that it is non-threatening. If the person is reluctant, use the arguments given in the box below to try to encourage them to change their mind:

- Explain that the nurse is the best person to describe what s/he wants to do. The respondent can always change his/her mind after hearing more about it
- Stress that by agreeing to be contacted by the nurse, the person is not committing themselves to helping with all, or any, of the measurements
- The nurse will ask for separate permission to carry out the various measurements
- We would still like a nurse to visit, even if a respondent says that (s)he will not want to consent to all of the measurements

If the respondent wishes, they and their GP can be given their blood pressure readings and blood sample results most closely related to their health. If you feel that this will help you get agreement to see the nurse, please explain this. **However, be careful to avoid calling the nurse visit a 'health check' – it is not.**

REMEMBER – We don't access the medical records of the respondents, so the only way to obtain medical information on them is to have a nurse visit. As with the doorstep introduction, say as little as possible in order to gain co-operation.

15.3 The Stage 2 leaflet

You will have Stage 2 leaflets to give to all respondents so they can make an informed decision about whether to progress to the nurse stage. The leaflet provides information that respondents might need to know before the nurse arrives, e.g. what measurements are taken. Note that there are different versions of the Stage 2 leaflet for different age groups. It is not your job to explain these leaflets, nor the measurements. The nurse will provide a more detailed leaflet and go through all of the measurements when he/she visits.

15.4 After you have secured agreement for the nurse to make contact

You will need to…

- complete additional Admin questions about the addresses and respondents, to help the nurse locate the address and Police station at which to register.

You do <u>not</u> need to…

- generate nurse documents (such as the NRF or NNV) nor will there be a "nurse link" to feed-forward information from you direct to the nurse

- contact the nurse - but please contact the office if you wish to relay any information personally (there may on occasion be information you do not want to enter onto the computer). The nurse will have your details in case s/he wishes to discuss particular aspects of the assignment with you.

16. THE ACTIGRAPH

16.1 Introduction

All respondents aged 4-15 will be asked to wear an ActiGraph (AG). The AG is a small lightweight accelerometer which measures physical activity. The AG is introduced at the end of CAPI1

The AG is worn on a belt above the right hip **for 7 consecutive days** (while they are awake). The seven day period will start on the day after the interview. It should be removed when sleeping, swimming, showering or having a bath.

Appendix A provides detailed information about AG recruitment and protocols.

16.2 CAPI recruitment questions

For eligible respondents, you will be prompted to introduce the AG at the end of CAPI1. On screen instructions guide you through what to say. For children aged 4-10, the questions will be directed at parents since proxy interviews are carried out for that age group. For children aged 11-15, the questions will be directed to the respondents themselves. ***AGCons*** is where you will record whether the respondent and their parent/guardian has agreed to take part. If the respondent is willing to take part, make sure you explain and fit the AG, as described in Appendix C.

16.3 Collecting the AG

When you return to collect the AG, you will need to enter the **ActiGraph_Collection** parallel block. Here, you will thank the respondent for taking part in the AG element and record information about their experiences of wearing it. You will be prompted to:

- record how many days the respondent wore the AG,
- the start and end dates,
- and whether you actually collected the AG.
- Finally, you will be prompted to give the respondent the £10 token of appreciation promissory note and to complete a despatch note (see section 17.2 for more information about the token of appreciation for AGs).

Please complete the **ActiGraph_Collection** block accurately, the information is required for monitoring purposes and the questions trigger certain fees to be paid to you.

16.4 Posting the AG back to the office

Due to the high cost of AGs, all AGs should be sent back to the office via Special Delivery - whether they have been used or not.

- Place the AG in a jiffy bag (only 1 AG per jiffy bag), with a despatch note, and record on the despatch note whether the AG was worn or not.
- The jiffy bag containing the AG should be placed in the special delivery envelope provided in your workpack.
- Up to 2 jiffy bags can go in one special delivery envelope.
- Send unused as well as used AGs back via Special Delivery.

You will need to send the AG(s) from a post office at the same time as one of visits to the post office to send your diaries back to the office. Please don't put the diaries in the same envelope as the AGs.

16.4.1 Instructions for sending the AGs back via Special Delivery:

1 Use a ball point pen to address the carbonated label to:

The NDNS Team
NatCen
Kings House
101-135 Kings Road
Brentwood
CM14 5BR

2 Tear off the **top copy of the carbonised address label** and note the serial number relating to the ActiGraph you are returning on the label. **Keep these safe** as we will need to use the tracking number on the address label and the serial number if any Actigraphs go missing in the post.

3 Write your name and address in the white box in the bottom left hand corner of the envelope in case they need to return to sender.

4 At the Post Office, hand over the special delivery envelope to the person behind the counter and they will give you any further instructions. The envelopes should be prepaid but should you need to pay any more then please claim back.

At the end of your assignment, you are responsible for returning ALL AGs and chargers back to the office. AGs are very expensive and so we only have a limited supply – therefore, please DO NOT hold onto them for use on future assignments.

Please also return any unused special delivery envelopes at the end of your assignment.

17. TOKENS OF APPRECIATION

17.1 Gift voucher token of appreciation for all fully productive respondents

NDNS offers a token of appreciation to those who complete a diary for three or four days (i.e. those defined as 'fully productive'). The tokens are **£30 in high street gift vouchers** for each respondent. The vouchers you will be given are in £10 denominations. Vouchers for children should be given to the parent.

If you anticipate needing more tokens, contact Brentwood, who will send you more. Do this as soon as you have done your selections so that the tokens will reach you before your final visit to the address.

When you give the token to the respondent, you will need to get them to sign a receipt. These are provided in your pack; you will need to complete one for each respondent. If the respondent is under 16, the receipt will need to be countersigned by the parent or guardian. Keep the top copy to send to the office, leaving the carbon copy with the respondent.

17.2 Gift voucher token of appreciation for AG participation

Any child aged 4-15 who wears an AG, and returns it in working order, will receive **£10** in high street gift vouchers. These will also be sent out from Brentwood (and will be sent to the parent).

Please give the respondent a promissory note (that states the vouchers will be sent to them and provides contact details if they do not receive them). Please leave this with the respondent. Please make sure that the respondent knows that the vouchers may take up to 4 weeks to arrive.

18. RETURNING WORK TO THE OFFICE

18.1 Transmitting CAPI work

You should transmit CAPI work at the end of each day. It is very important that work is returned promptly because it allows time for documents to be prepared for the nurse visit.

REMINDER: TRANSMITTING CAPI WORK

- Make sure you have a backup copy of your most recent work.
- Connect up your modem
- Select 'T' for Transmit/Return data to HQ **from the Action menu**, and follow the instructions on the screen.

CAPI questionnaire data will be transferred back to the office via the modem.

Don't forget to back-up work regularly.

Do I need to complete the admin block before transmitting?
No. It is important that you transmit after each day's work, so you should not wait until a household is complete before returning your work. You can complete the admin block at a later point.

18.2 Returning paper documents

Paperwork should also be returned promptly after work at an address is complete.

Before returning work for an address:

- ✓ check all paper dietary documents for correct serial numbering and completion – all diaries, self-completions, Token of Appreciation receipts.
- ✓ If a respondent has taken part in the ActiGraph, remember to check all related documents for correct serial numbering and completion.
- ✓ Collate documents in person number order.

Always return work in **two** separate envelopes, *posted at the same time*:

- Top copies of the £30 Token of Appreciation receipts.
- Diaries (and associated documents) & self-completions.

Diaries, and associated documents (including Young Person's Photo Food Atlases) must be returned to the office via **Recorded Delivery**, in up to four batches per assignment (apart from the first completed diary, which should be sent back straight away – sending this back does not account as one of your three batches). Self-completions should be returned in the same envelope.

Please ensure that you send your <u>first completed diary</u> back to Brentwood as soon as you have collected it from the respondent – please don't wait until you have several.

To claim for your expenses for sending the diaries back via Recorded Delivery please claim on your trip and send in receipts to Pay.

Your fee for visiting the post office will be generated in the CAPI. Remember you still should only make a maximum of three visits to the Post Office to send diaries back per assignment.

REMINDER: SENDING BACK PAPERWORK

Before sending work back:

- Check all paper documents are completed
- Check all paper documents have correct serial numbers
- Update your Interviewer Sample Sheet

Return work in **three separate envelopes**:

1. Consent forms & voucher receipts
2. Diaries (and associated documents) & self-completions
3. Young Person's Photo Food Atlases (set of 3)

This is very important to protect the respondent's anonymity. The consent forms contain names and addresses and the diaries and self-completions contain personal information that can be matched to the consent form by serial number. For this reason it is vital to keep documents separate.

18.3 Last return of work

At the **end of your assignment**, check that you have accounted for all your addresses on the Interviewer Sample Sheet.

When your assignment is completed, make your **last return of work** as follows:

- From the main menu system select **Working at Home/Support < Alt + S > / Technical Support Details** to display Support menu screen.

- Select '**End of Assignment clear out**' and follow on-screen instructions. For further help, consult page 73 of the CMS User Guide.

- Return to Brentwood in **two** separate envelopes, posted at the same time:
    - top copies of the Token of Appreciation receipts.
    - The last batch of diaries & self-completions

YOUR ASSIGNMENT IS NOT COMPLETE UNTIL THIS PROCEDURE HAS BEEN CARRIED OUT.

It is important that all these procedures are followed, to avoid delays in the processing of pay claims.

18.4 Unused documents

The following MUST be returned to Brentwood at the end of your assignment:
All 3 Young Person's Photo food atlases by Recorded delivery:

- Children's photo food atlas_Preschool
- Children's photo food atlas_ Primary
- Children's photo food atlas_ Seconday

The following documents are expensive to print, please return if you have any unused copies:

- Laminate pack_with dietary feedback
- CAPI show cards

  All unused diaries:
    - Diary - Adult (A4)
    - Diary - Adult (A5)
    - Diary - Child
    - Diary - Toddler
    - Diary instruction booklet

19. ANY PROBLEMS

If you have any problems about **the survey generally**, or with the questionnaires, contact any of the research team at the *National Centre*.

If you have a problem with your **fieldwork, equipment or supplies**, talk to your Area Manager or contact the Blue team in Brentwood.

If you have questions regarding any aspect of the **diary** please contact the survey nutritionist at NatCen.

You are provided with **incident report forms**. Please complete one of these if anything untoward occurs while you are in a respondent's home, or there is anything which you would like to be recorded.

APPENDIX A: ACTIGRAPH (AG) PROTOCOL

A. BACKGROUND & ELIGIBILITY

All children aged 4-15 will be asked to wear an AG. The AG is a small lightweight accelerometer which measures physical activity. It is worn on a belt above the right hip. Respondents will be asked to wear the AG for seven consecutive days while they are awake and remove it when they are sleeping, swimming, showering or having a bath. The seven day period will start on the day after the interview.

B. ACTIGRAPH EQUIPMENT AND DOCUMENTS

You will be provided with the following:

2 x ActiGraphs
AG charger
AG adapter
Roll of elastic
Belt buckles
Jiffy bags

Special Delivery envelopes
Parent belt instructions
AG leaflets - Parent leaflet
Child and Young Person leaflet
Young child leaflet
Promissory notes

ActiGraphs

ActiGraphs will no longer go out in workpacks as it means initialising and charging them too far in advance. AGs will go out (2 per interviewer) just in time for the FW start date. All AGs will be labelled with the date they were initialised. Please contact the Brentwood for further supplies. Please do this in good time so that they reach you when you need them.

Before placing an AG, you will need to check the date of initialisation (on the label). If it is within 2 weeks, you can use the AG. If it is more than two weeks, you must return the AG and request a newly initialised one.

At various stages of the interview you will be asked to record the AG serial number. This is a 4 digit code, which for NDNS will always begin with a 9, and check letter e.g. 9000H. This can be found on the back of the AG on a white label with black font (you do not need to record the 3 letters in green font).

Chargers

When you receive the AGs they will have been fully charged and initialised. However**, the battery life is only 14 days** so before you hand the AGs to respondents you must **boost the charge** on the AG. A charger and adapter are provided in your workpack.

CHARGING AGS

- Plug the AG into the charger using the leads provided
- Plug the charger into the mains supply, via the adaptor provided
- When the AG is fully charged it will display a steady red light

You should NEVER plug the AG into your computer.

How long will it take to charge the AG?

Charging time varies depending on how run down the battery is. To charge from flat **takes three hours**. When you first receive them, the battery will already have been charged by the Brentwood so it should just need a top-up charge which will take around one hour.

What does it mean if the red light flashes?

The red light on the ActiGraph displays different statuses to indicate how much battery is left:

Off	Fine. The ActiGraph is collecting data.
Flashing steadily	Fine. The ActiGraph is collecting data.*
Flashing twice every three seconds	Battery is low. ActiGraph needs recharging.
On (steady, not flashing)	This should only occur when the ActiGraph is plugged into the charger and indicates that the monitor is charging.

*Most NDNS ActiGraphs will have the flash disabled so that it only flashes if the battery is low. However if you receive one that constantly flashes (a steady flash) do not worry – the battery is fine.

Belts & buckles for ActiGraphs

You will be given a role of elastic in your workpacks rather than individual lengths, so that you will be able to cut the belt to the right size for the respondent. If you need to purchase scissors to cut the elastic you can claim for these.

Please follow the procedure below for attaching the belt to the belt buckles.

1. Thread the AG onto the elastic.
2. Start with buckle so the ridge is on the top i.e. it does not appear to be sunken when viewed from the top.
3. Thread the end of the elastic UP through Slot 1, allowing approximately 10cm (3½in) of overhanging elastic.
4. Thread the same end of elastic (the overhang) DOWN through Slot 2.
5. Thread the same end back up and over itself by threading DOWN Slot 1
6. Pull taught on the end of the elastic to tighten.
7. Fit the elastic, with the buckle, to the respondent so that the AG is positioned on their right hip.
8. Insert the free end of the elastic UP through Slot 1, of the other end of the buckle, allowing for some overhang.
9. Insert the same end DOWN through Slot 2.
10. At this point, adjust the belt so it sits comfortably by pulling on the end of the elastic to tighten and loosen it. The belt needs to be comfortable enough for the respondent to wear daily, but not so loose that the ActiGraph does not stay on the respondents' right hip.
11. Once the elastic belt is at the correct length, thread the overhanging elastic up and over itself by threading DOWN Slot 1, pulling the end to tighten.
12. Cut off any excess elastic.

Note: You can prepare up to Step 6 at home for the first AG, before you go to your appointment.

AG information leaflets

Three leaflets have been provided to help explain the AG to the respondents. There are two leaflets for children – one is aimed at very young children, the other at slightly older children and young people but you should use your judgement to decide which is most appropriate for your respondent. There is also a leaflet for their parent. Leaflets should be given to the respondent and their parent when you introduce the ActiGraph.

C. EXPLAINING THE AG TASKS

The parent or guardian and the child should both be present. You can explain the AG tasks to the child directly if they are able to understand the tasks, but the parent should understand the tasks and may need to help the child with the tasks. First, ensure the respondent has an AG leaflet then show the equipment and explain the AG tasks. The prompt to introduce the AG comes after the measurement section of the CAPI.

1. Show the AG to the respondent (and the parent/guardian) and ask the respondent (or the parent/guardian) to fasten the belt round their waist. Explain to the respondent (and the parent/guardian) the **protocol for putting on the AG** and check they understand each of the following points:

- The AG should be worn over a layer of light clothing. It should not be worn on top of thick outdoor clothing like coats.
- The AG should be positioned above the **right hip**. It does not matter if it rides up but the best place is above the right hip. We ask everyone to wear the belt in this position.
- Respondents must adjust the belt to be snug but not too tight. It should not 'flop around'.
- The respondent should know how to adjust the belt size. This is important in case they wish to loosen or tighten the belt to make sure it stays snug but not too tight throughout the day.
- Show the respondent how to unfasten the belt.

Does the respondent have to wear the AG around their waist?

Yes. We need to be able to compare the AG data for all of the respondents who agree to wear it. We cannot do this unless they all wear the monitor in exactly the same way. The monitor measures up and down movements and is designed to be worn on a belt around the waist.

What should the respondent do if they are finding the AG belt uncomfortable to wear?

They should wear the belt over a thin layer of clothing to avoid rubbing. They can also adjust the length of the belt if it is too tight. However they should make sure the belt is not too loose, otherwise it will record its own movement as it flops around rather than just the respondent's movement.

2. You will also need to explain to the respondent (and the parent/guardian) **when to wear the AG**:

- They should wear it for **seven full days** (beginning the day after the placement visit).
- They should put on the AG **first thing in the morning** on the day after the visit (unless you are giving it to them before 9.a.m. in which case they can wear it immediately).
- If they have a bath/shower immediately after they get up then they can put it on afterwards.
- They should keep it on at all times when they are awake during the day and take it off last thing at night. Again, if they have a bath or shower immediately before going to bed they do not need to put it back on in between.
- They should not wear the AG if they are doing any contact sport where the device could be struck. Examples of such sports include rugby, wrestling, or karate. This is to protect the people doing the sport rather than the device. Explain to the respondent that if they are concerned about safety while playing any sport they should take it off.
- The AG is **not waterproof** so the respondent cannot wear it when swimming or in the bath or shower. It is splash proof so it will not get damaged in the rain. If a respondent gets the AG wet by mistake the respondent will not be harmed.

3. Once the respondent understands the AG protocols, you need to make an appointment to collect the AG.

D. AG COLLECTION AND DESPATCH

The parent/guardian and the child should both be present at the **collection visit**. This should be as soon as possible after the 7 days of wearing the AG. Whenever possible, AG collection should take place at the same visit as diary collection.

During the collection visit you need to make sure you complete the following tasks:

1. Collect the AG.
2. Administer a short CAPI questionnaire.
3. If the respondent has completed all AG tasks, and returned the monitor in working order, give them a promissory note for **£10 in High Street Vouchers**. The vouchers will be automatically sent out from the office. Respondents should allow 4 weeks for this.

After the collection visit you need to send back the AG to Brentwood in the Special Delivery envelopes provided.

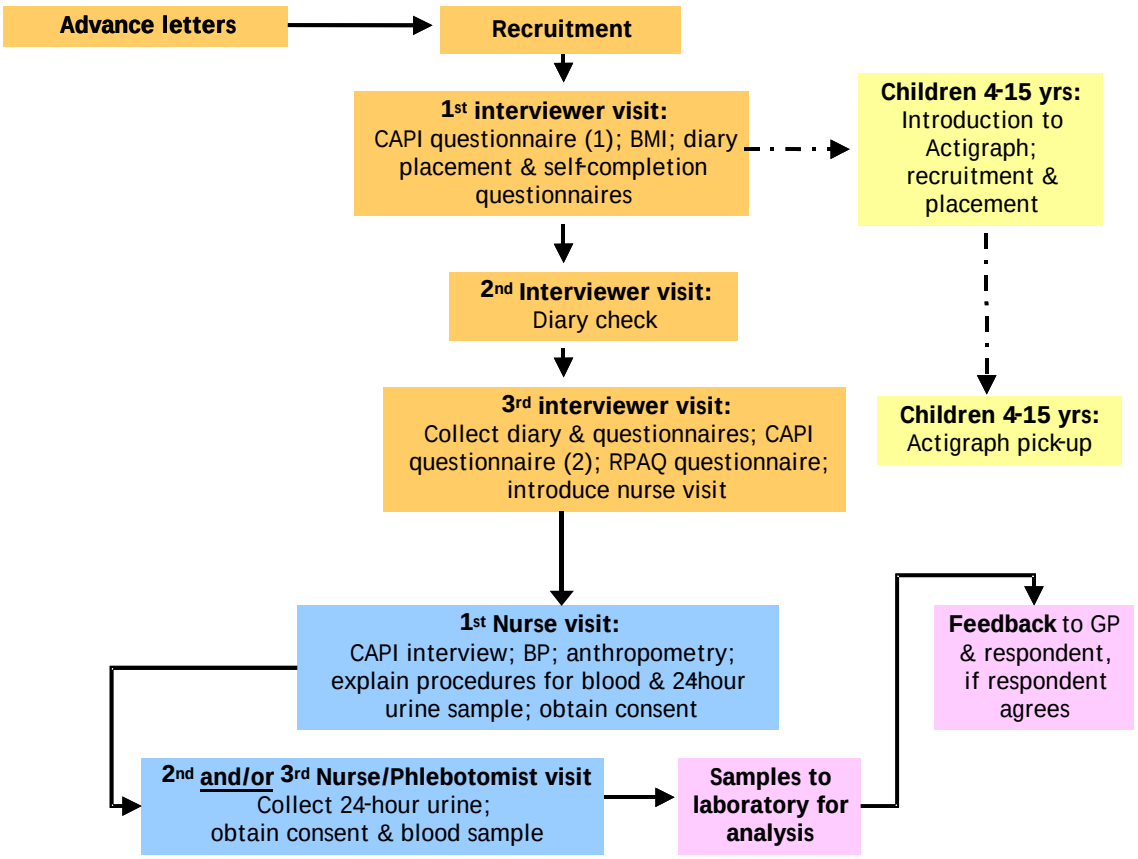
It is important that you do not place more than one AG in each per jiffy bag otherwise we risk confusing the data for different respondents. Remember you can put two jiffy bags (each containing an actigraph) in one Special Delivery envelope.

Some other surveys are also using AGs. It is important that you only use NDNS AGs on NDNS.

To discuss an ActiGraph delivery, call Brentwood.

APPENDIX B: Flow chart of NDNS survey design

Below is a flowchart of the NDNS process, which you might find useful when mapping out your visits.



NatCen National Centre for Social Research

UCL

MRC Human Nutrition Research

NATIONAL DIET AND NUTRITION SURVEY

Food and Drink Diary Instructions

NATIONAL DIET AND NUTRITION SURVEY

Food and Drink Diary Instructions

If you have any queries about how to complete the diary please contact a member of the NDNS Team at NatCen on freephone **0800 652 4572** between 8.30am-5.30pm.

PLEASE READ THROUGH THESE PAGES BEFORE STARTING YOUR DIARY

We would like you to keep this diary of <u>everything you eat and drink</u> over 4 days. Please include all food consumed at home and outside the home e.g. work, college or restaurants. It is very important that you do not change what you normally eat and drink just because you are keeping this record. Please keep to your usual food habits.

<u>Day and Date</u>
Please write down the day and date at the top of the page each time you start a new day of recording.

<u>Time Slots</u>
Please note the time of each eating occasion into the space provided.

<u>Where and with whom?</u>
For each eating occasion, please tell us what **room or part of the house** you were in when you ate, e.g. kitchen, living room, If you ate at your work canteen, a restaurant, fast food chain or your car, write that location down. We would also like to know **who you share your meals with**, e.g. whether you ate alone or with others. If you ate with others please describe their relationship to you e.g. partner, children, colleagues, or friends. We would also like to know **when you ate at a table** and **when you were watching television whilst eating**. For those occasions where you were **not** at a table or watching TV please write 'Not at table' or 'No TV' rather than leaving it blank.

<u>What do you eat?</u>
Please describe the food you eat in as much detail as possible. Be as specific as you can. Pages 28 - 33 will help with the sort of detail we need, like **cooking methods** (fried, grilled, baked etc) and any **additions** (fats, sugar/sweeteners, sauces, pepper etc).

- **<u>Homemade dishes</u>**
  If you have eaten any **homemade dishes** e.g. chicken casserole, please record the name of the recipe, ingredients with amounts (including water or other fluids) for the whole recipe, the number of people the recipe serves, and the cooking method. Write this down in the recipe section at the end of the record day. Record how much of the whole recipe you have eaten in the portion size column (see examples on pages 4 - 27).

- **<u>Take-aways and eating out</u>**
  If you have eaten **take-aways** or **made up dishes not prepared at home** such as at a restaurant or a friend's house, please record as much detail about the ingredients as you can e.g. vegetable curry containing chickpeas, aubergine, onion and tomato.

<u>Brand name</u>
Please note the **brand name** (if known). Most packed foods will list a brand name, e.g. Bird's eye, Hovis, or Supermarket own brands.

- ***Labels/Wrappers***
  Labels are an important source of information for us. It helps us a great deal if you enclose, in the plastic bag provided, labels from all **ready meals,** labels from **foods of lesser known brands** and also from any **supplements** you take.

Portion sizes
Examples for how to describe the **quantity** or **portion size** you had of a particular food or drink are shown on pages 28 - 33.

For foods, quantity can be described using:

- **household measures**, e.g. 1 teaspoon (tsp) of sugar, 2 thick slices of bread, 4 dessertspoons (dsp) of peas, ½ cup of gravy. Be careful when describing amounts in spoons that you are referring to the correct spoon size. Compare the spoons you use with the life size pictures at the back of this diary.
- **weights from labels**, e.g. 4oz steak, 420g tin of baked beans, 125g pot of yoghurt
- **number of items**, e.g. 4 fish fingers, 2 pieces of chicken nuggets, 1 regular size jam filled doughnut
- **picture examples** for specific foods on pages 34 - 36.

For drinks, quantity can be described using:

- the **size of glass, cup etc** (e.g. large glass) or the **volume** (e.g. 300ml). Examples of typical drinks containers are on 38 – 39.
- **volumes from labels** (e.g. 330ml can of fizzy drink).

We would like to know the **amount that was actually eaten** which means taking **leftovers** into account. You can do this in two ways:

1. Record what was served and note what was not eaten e.g. 3 dsp of peas, only 2 dsp eaten; 1 large sausage roll, ate only ½
2. Only record the amount actually eaten i.e. 2 dsp of peas; ½ a large sausage roll

Was it a typical day?
After each day of recording you will be prompted to tell us whether this was a typical day or whether there were any reasons why you ate and drank more or less than usual.

Supplements
At the end of each recording day there is a section for providing information about any supplements you took. Brand name, full name of supplement, strength and the amount taken should be recorded.

When to fill in the diary
Please record your eating as you go, **not from memory** at the end of the day. Use written notes on a pad if you forget to take your diary with you. Each diary day covers a 24hr period, so please include any food or drinks that you may have had during the night. Remember to include foods and drinks between meals (snacks) including water.

Overleaf you can see examples of 4 days that have been filled in by different people. These examples show you how we would like you to record your food and drink, for example a ready meal and a homemade dish.

It only takes a few minutes for each eating occasion!

Thank you for your time – we really appreciate it!

Day: *Thurs*		**Date:** *31 March*		
Time	**Where? With whom? TV on? Table?**	**Food/Drink description & preparation**	**Brand Name**	**Portion size or quantity <u>eaten</u>**
How to describe what you had and how much you had can be found on pages 28-34				
		6am to 9am		
6.30 am	*Kitchen Alone No TV Not at table*	*Filter coffee, decaffeinated milk (fresh, semi-skimmed) Sugar white*	*Douwe Egberts Silverspoon*	*Mug A little 1 level tsp*
7.30 am	*Kitchen Partner TV on At table*	*Filter coffee with milk and sugar Cornflakes Milk (fresh, semi-skimmed) Toast, granary medium sliced Light spread Marmalade*	*As above Tesco's own Hovis Flora Hartleys*	*As above 1B drowned 1 slice med spread 1 heaped tsp*
		9am to 12 noon		
10.15 am	*Office desk Alone No TV Not at table*	*Instant coffee, not decaffeinated Milk (fresh, whole) Sugar brown*	*Kenco*	*Mug A little 1 level tsp*
11 am	*Office desk Alone No TV Not at table*	*Digestive biscuit – chocolate coated on one site*	*McVities*	*2*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand Name	Portion size or quantity <u>eaten</u>
		12 noon to 2pm		
12.30 pm	*Work tea room* *With colleagues* *No TV* *At table*	*Ham salad sandwich from home* *Bread, wholemeal, thick sliced* *Light spread* *Low fat Mayonnaise* *Smoked ham thinly sliced* *Lettuce, iceberg* *Cucumber with skin* *Unsweetened orange juice from canteen* *Apple with skin from home, Braeburn*	*Tesco's own* *Flora* *Hellmans* *Tesco's own* *Tropicana*	*2 slices* *thin spread on 1 slice* *2 teaspoons* *2 slices* *1 leaf* *4 thin slices* *250ml carton* *medium size, core left*
		2pm to 5pm		
3 pm	*Meeting room* *With supervisor* *No TV* *Not at table*	*Tea, decaffeinated* *Milk (fresh, whole)* *Jaffa cake – mini variety*	*Twinings* *Tesco's own* *McVities*	*Mug* *Some* *6*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand Name	Portion size or quantity eaten
		5pm to 8pm		
6.30 pm	*Pub, partner* *No TV* *At table*	*Gin* *Tonic water diet* *Lager 3.8% alcohol* *Salted peanuts*	*Gordon's* *Schweppes* *Draught, Carlsberg* *KP*	*Single measure* *1/2 small glass* *1 pint* *1 handful*
8 pm	*Dining room* *Family* *No TV* *At table*	*Spaghetti, wholemeal* *Bolognese sauce (see recipe)* *Courgettes (fried in butter)* *Tinned peaches in juice (juice drained)* *Single cream UHT* *Orange squash No Added Sugar*	*Tesco's own* *Prince's* *Sainsbury's own*	*3b* *6 tablespoons* *4 tablespoons* *3 halves* *1 tablespoon* *200ml glass, 1 part squash, 3 parts tap water*
		8pm to 10pm		
9 pm	*Sitting room* *Alone* *TV on* *Not at table*	*Grapes, green, seedless* *Chocolates, chocolate creams* *Potato crisps, Prawn Cocktail*	 *Bendicks* *Walkers*	*15* *2* *25g bag from multipack*
		10pm to 6am		
10.30 pm	*Bed room* *Partner* *No TV* *Not at table*	*Camomile tea* *(no milk or sugar)*	*Twinings*	*1 mug*

Was the amount of **food** that you had today about what you usually have, less than usual, or more than usual?

Yes, usual [✓] No, **less** than usual [ ] No, **more** than usual [ ]

Please tell us why you had less than usual

Please tell us why you had more than usual

Was the amount you had to **drink** today, including water, tea, coffee and soft drinks [and alcohol], about what you usually have, less than usual, or more than usual?

Yes, usual [ ] No, **less** than usual [ ] No, **more** than usual [✓]

Please tell us why you had less than usual

Please tell us why you had more than usual

Went to pub after work

Did you **finish all the food and drink** that you recorded in the diary today?

Yes ☑ No ☐

If no, please **go back to the diary and make a note of any leftovers**

Did you take any **vitamins, minerals or other food supplements** today?

Yes ☑ No ☐

If yes, **please describe the supplements you took below**

Brand	Name (in full) including strength	Number of pills, capsules, teaspoons
Healthspan	*Omega3 fish oil with vitamin A, C, D & E*	*2 capsules*
Boots	*Calcium (1000mg) with vitamin D*	*1 tablet*
Holland & Barrett	*Vitamin C 60mg*	*1 tablet*

Please record over the page details of any recipes or (if not already described) ingredients of made up dishes or take-away dishes.

Write in recipes or ingredients of made up dishes or take-away dishes			
NAME OF DISH: *Bolognese sauce*		***SERVES:*** *4*	
Ingredients	***Amount***	***Ingredients***	***Amount***
Co-op low fat beef mince	*500g*	*Lea & Perrins worcester sauce*	*dash*
garlic	*3 cloves*		
onion	*1 medium*		
sweet red pepper	*1 medium*		
Napoli chopped tomatoes	*400g tin*		
Tesco tomato puree	*1 tablespoon*		
Tesco olive oil	*1 tablespoon*		
mixed herbs	*1 dessertspoon*		

Brief description of cooking method

Fry onion & garlic in oil, add mince and fry till brown.

Add pepper, tomatoes, puree, Worcester sauce & herbs. Simmer for 30 mins

Day: *Friday*		**Date:** *28.09.2007*		
Time	**Where? With whom? TV on? Table?**	**Food/Drink description & preparation**	**Brand Name**	**Portion size or quantity <u>eaten</u>**
How to describe what you had and how much you had can be found on pages 28-34				
		6am to 9am		
8.00 am	*Café take away – eating on my way to work* *Alone*	*Cappuccino, no sugar* *Blueberry muffin, regular not low fat*	*Starbucks* *Starbucks*	*Medium size* *One*
8.45 am	*Office desk* *Alone* *No TV* *Not at table*	*Tap water*		*300 ml glass*
		9am to 12 noon		
10am	*Office desk* *Alone* *No TV* *Not at table*	*Banana* *Black tea* *semi-skimmed milk, no sugar*	 *Typhoo* *Asda*	*One, medium size* *Large Mug* *A lot*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand Name	Portion size or quantity <u>eaten</u>
		12 noon to 2pm		
1 pm	*Work tea room* *With colleague* *No TV* *At table*	*Crayfish sandwich* *multiseed bread, medium cut,* *crayfish in lemon mayonnaise, no other spread* *rocket leaves* *Apple & Raspberry fruit drink - standard*	*M&S pre-packed* *Sandwich* *J2O*	*2 slices* *Medium filling* *6 to 8* *1 bottle, 275ml*
		2pm to 5pm		
4.30 pm	*Friends House* *Lounge* *With Friend* *Not at table* *TV on*	*Coffee, instant* *Semi-skimmed milk* *Fairy Cake, homemade, see recipe*	*Kenco*	*Medium mug* *A lot* *1cake*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand Name	Portion size or quantity <u>eaten</u>
		5pm to 8pm		
7.30 pm	*Kitchen/Diner* *With boyfriend* *At table* *No TV*	*Chicken in creamy mushroom and white wine sauce for 2, oven* *White rice (homemade), boiled* *Wine 13% alcohol*	*Sainsbury's, 370g (wrapper collected)* *Easy cook, Italian, Sainsbury's* *Sauvignon Blanc, New Zealand*	*½ pack* *1C* *1 small glass, 125ml*
		8pm to 10pm		
9.15 pm	*Sitting Room* *With boyfriend* *Not at table* *TV on*	*Squash, apple & blackcurrant, no added sugar,* *Crisps*	*Sainsbury's* *Pringles, sour cream and chives*	*1 average glass, 200ml* *5*
		10pm to 6am		
11.30 pm	*Bedroom* *Alone* *Not at table* *TV on*	*Water*	*tap*	*1 medium glass*

Was the amount of **food** that you had today about what you usually have, less than usual, or more than usual?

Yes, usual ☐ No, **less** than usual ☑ No, **more** than usual ☐

Please tell us why you had less than usual

Felt unwell

Please tell us why you had more than usual

Was the amount you had to **drink** today, including water, tea, coffee and soft drinks [and alcohol], about what you usually have, less than usual, or more than usual?

Yes, usual ☐ No, **less** than usual ☑ No, **more** than usual ☐

Please tell us why you had less than usual

Felt unwell

Please tell us why you had more than usual

Did you **finish all the food and drink** that you recorded in the diary today?

Yes ☑ No ☐

If no, please **go back to the diary and make a note of any leftovers**

Did you take any **vitamins, minerals or other food supplements** today?

Yes ☑ No ☐

If yes, **please describe the supplements you took below**

Brand	Name (in full) including strength	Number of pills, capsules, teaspoons
Holland & Barrett	*Evening Primrose Oil – 1000mg*	*1 capsule*
Holland & Barrett	*Super EPA fish oil – 1000mg*	*1 capsule*

Please record over the page details of any recipes or (if not already described) ingredients of made up dishes or take-away dishes.

Write in recipes or ingredients of made up dishes or take-away dishes			
NAME OF DISH: *Fairy Cakes*		***SERVES:*** *makes 20 cakes*	
Ingredients	***Amount***	***Ingredients***	***Amount***
Tate & Lyle caster sugar	*175g*	*Silver Spoon icing sugar*	*140g*
Anchor butter, unsalted	*175g*	*Yellow food colouring*	*3 drops*
Eggs from market	*3*	*water*	*2 tablespoons*
Homepride self-raising flour	*175g*		
Baking powder	*1 teaspoon*		

Brief description of cooking method

Mix together and bake for 15 min.

Mix icing sugar with water and add colouring. Approx. 1 teaspoon of icing on each cake

Day: *Monday*		**Date:** *11 June 20007*		
Time	**Where? With whom? TV on? Table?**	**Food/Drink description & preparation**	**Brand Name**	**Portion size or quantity <u>eaten</u>**
How to describe what you had and how much you had can be found on pages 28-34				
		6am to 9am		
7am	*Dining Room Wife TV on At table*	*Porridge Made with semi-skimmed milk Honey Orange Juice, 100% juice*	*Quaker Sainsburys Sainsburys Tropicana*	*30g sachet 200ml milk 2 tsp 1/4 pint*
		9am to 12 noon		
10am	*Work desk Colleagues No TV Not at table*	*Coffee, white, with sugar (bean to cup) Bourbon biscuits*	*Vending machine Tesco's*	*Regular size vending cup 2 biscuits*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand	Portion size or quantity <u>eaten</u>
		12 noon to 2pm		
1pm	*Work Restaurant* *Colleagues* *At table* *No TV*	*Pepperoni pizza with peppers and olives – thin crust* *Salad –* *Tomatoes* *Cucumber* *Lettuce (iceberg)* *Carrots* *Thousand Island Dressing* *Coca-cola, standard*	*Made in work restaurant* *Tesco* 	*9 inch, ate 1/3* *4 cherry* *About 6 slices* *About 4 leaves* *About 10 slices* *1 tbsp* *330ml can*
		2pm to 5pm		
3pm	*Work desk* *Alone* *No TV* *Not at table*	*Bottle of water* *Banana*	*Evian*	*500ml bottle* *1 large*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	*Brand*	Portion size or quantity <u>eaten</u>
		5pm to 8pm		
7pm	*Indian Restaurant* *Wife and Friends* *No TV* *At table*	*Papadum* *Mango Chutney* *Cucumber Raita* *Chicken Tikka* *Prawn Bhuna* *Niramish (Vegetable side dish, including okra, tomato)* *Pilau Rice* *Keema Nan* *Onion Bhaji* *Beer 4.6% alcohol* *Water*	 *Corona* *Don't know*	*1 and half* *About 4 teasp* *About 4 teasp* *1 chicken breast* *3 serving spoons* *1/2 of dish (about 4 table spoons)* *1 dish* *1/2 of a large size nan* *1 large bhaji* *3 bottles* *2 med glasses*
		8pm to 10pm		
9pm	*Pub* *Wife and Friends* *TV on* *At table*	*Beer, draught, 3.8% alcohol* *Salt and Vinegar Crisps, Crinkle cut*	*Carlsberg* *McCoys*	*2 pints* *1 handful*
		10pm to 6am		

Was the amount of **food** that you had today about what you usually have, less than usual, or more than usual?

Yes, usual [✓] No, **less** than usual [ ] No, **more** than usual [ ]

Please tell us why you had less than usual

Please tell us why you had more than usual

Was the amount you had to **drink** today, including water, tea, coffee and soft drinks [and alcohol], about what you usually have, less than usual, or more than usual?

Yes, usual [ ] No, **less** than usual [ ] No, **more** than usual [✓]

Please tell us why you had less than usual

Please tell us why you had more than usual

More beer than usual as celebrating birthday

Did you **finish all the food and drink** that you recorded in the diary today?

Yes ☑ No ☐

If no, please **go back to the diary and make a note of any leftovers**

Did you take any **vitamins, minerals or other food supplements** today?

Yes ☐ No ☑

If yes, **please describe the supplements you took below**

Brand	Name (in full) including strength	Number of pills, capsules, teaspoons

Please record over the page details of any recipes or (if not already described) ingredients of made up dishes or take-away dishes.

Write in recipes or ingredients of made up dishes or take-away dishes			
NAME OF DISH:		***SERVES:***	
Ingredients	***Amount***	***Ingredients***	***Amount***
Brief description of cooking method			

Day: *Friday*		**Date:** *7 Sept 2007*		
Time	**Where? With whom? TV on? Table?**	**Food/Drink description & preparation**	**Brand**	**Portion size or quantity <u>eaten</u>**
How to describe what you had and how much you had can be found on pages 28-34				
		6am to 9am		
7.30 am	*Dining room Friends No TV At table*	*Cooked breakfast: Pork sausages, fried in sunflower oil Unsmoked streaky bacon, grilled, fat eaten Mushrooms, fried Baked beans Hash browns, oven baked Tomato, grilled Orange juice Tea Whole milk White Sugar*	* Walls Tesco Heinz Birds Eye Tropicana Twinings Sainsbury's Silverspoon*	* 2 regular size 2 rashers 6 2 tbsp 2 1, medium Small glass 1 mug Dash 2 heaped teasp*
		9am to 12 noon		
10am	*Work desk Alone No TV Not at table*	*White coffee, no sugar*	*Vending machine*	*1 cup*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand	Portion size or quantity <u>eaten</u>
		12 noon to 2pm		
1pm	*Work canteen* *Colleagues* *No TV* *At table*	*Soup – minestrone* *White bread, thick slices from large loaf* *Butter, salted*	*Don't know* *Don't know* *Lakeland Dairies*	*1 soup bowl* *2 slices* *2 portion packs*
		2pm to 5pm		
3pm	*Work desk* *Alone* *No TV* *Not at table*	*White coffee* *Chocolate digestives (half coated)*	*Vending machine* *McVities*	*1 cup* *2*

Time	Where? With whom? TV on? Table?	Food/Drink description & preparation	Brand	Portion size or quantity <u>eaten</u>
		5pm to 8pm		
8pm	*Friend's house* *Friends (birthday party)* *Not at table* *No TV*	*Buffet:* *Cheese and tomato pizza* *Potato salad* *4 Sandwiches (all with spread):* *Tuna, sweetcorn and mayo on white bread* *Wafer thin ham & cucumber on wholemeal bread* *Smoked salmon and cream cheese on wholemeal bread* *Cheddar Cheese and pickle on white bread* *Quiche Lorraine* *Water biscuits* *Cheddar cheese* *Pickle* *Beer, 5% alcohol, canned*	*Don't know* *Don't know* *Tesco* *Carr's* *Branston's* *Heineken*	*1/6 of 9in pizza* *1 tbsp* *See recipe section* *1/8 quiche* *4* *4 thick slices* *2 tsp* *2 pints*
		8pm to 10pm		
9pm	*Friend's house* *Friends* *TV on* *Not at table*	*Beer, 5% alcohol, canned* *Salted peanuts*	*Heineken* *KP*	*2 pints* *2 handfuls*
		10pm to 6am		
11pm	*Living room* *Alone* *TV on* *Not at table*	*Dry white wine, 13.5% alcohol*	*Jacob's Creek*	*1 small glass*

Was the amount of **food** that you had today about what you usually have, less than usual, or more than usual?

Yes, usual [ ] No, **less** than usual [ ] No, **more** than usual [✓]

Please tell us why you had less than usual

Please tell us why you had more than usual

Went to party

Was the amount you had to **drink** today, including water, tea, coffee and soft drinks [and alcohol], about what you usually have, less than usual, or more than usual?

Yes, usual [ ] No, **less** than usual [ ] No, **more** than usual [✓]

Please tell us why you had less than usual

Please tell us why you had more than usual

Went to party

Did you **finish all the food and drink** that you recorded in the diary today?

Yes ☑ No ☐

If no, please **go back to the diary and make a note of any leftovers**

Did you take any **vitamins, minerals or other food supplements** today?

Yes ☐ No ☑

If yes, **please describe the supplements you took below**

Brand	Name (in full) including strength	Number of pills, capsules, teaspoons

Please record over the page details of any recipes or (if not already described) ingredients of made up dishes or take-away dishes.

Write in recipes or ingredients of made up dishes or take-away dishes			
NAME OF DISH: *Buffet sandwiches*		***SERVES:*** *1*	
Ingredients	***Amount***	***Ingredients***	***Amount***
Thick sliced white bread	*2 slices*	*Cheddar cheese*	*2 slices*
Thick sliced wholemeal bread	*2 slices*	*Pickle*	*2 tsp*
Unknown spread	*Medium spread on all slices*		
Tuna, sweetcorn & Mayo	*1 tbsp*		
Wafer thin ham	*1 slice*		
Cucumber	*2 slices*		
Smoked salmon	*1 slice*		
Cream cheese	*2 tsp*		
Brief description of cooking method			

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Bacon	Back, middle, streaky; smoked or un-smoked; fat eaten; dry-fried or fried in oil/fat (type used) or grilled rashers	Number of rashers
Baked beans	Standard, reduced salt or reduced sugar	Spoons, weight of tin
Beefburger (hamburger)	Home-made (ingredients), from a packet or take-away; fried (type of oil/fat), microwaved or grilled; economy; with or without bread roll, with or without salad e.g. lettuce, tomato	Large or small, ounces or in grams if info on package
Beer	What sort e.g. stout, bitter, lager; draught, canned, bottled; % alcohol or low-alcohol or home-made	Number of pints or half pints, size of can or bottle
Biscuits	What sort e.g. cheese, wafer, crispbread, sweet, chocolate (fully or half coated), shortbread, home-made	Number, size (standard or mini variety)
Bread (see also sandwiches)	Wholemeal, granary, white or brown; currant, fruit, malt; large or small loaf; sliced or unsliced loaf	Number of slices; thick, medium or thin slices
Bread rolls	Wholemeal, white or brown; alone or with filling; crusty or soft	Size, number of rolls
Breakfast cereal (see also porridge)	What sort e.g. Kellogg's cornflakes; any added fruit and/or nuts; Muesli – with added fruit, no added sugar/salt variety	Spoons or picture 1
Buns and pastries	What sort e.g. iced, currant or plain, jam, custard, fruit, cream; type of pastry; homemade or bought	Size, number
Butter, margarine & fat spreads	Give full product name	Thick/average/thin spread; spoons
Cake	What sort: fruit (rich), sponge, fresh cream, iced, chocolate coated; type of filling e.g. buttercream, jam	Individual or size of slice, packet weight, picture 10

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Cereal bars	What sort; with fruit/nuts, coated with chocolate/yoghurt; fortified with vitamins/minerals	Weight/size of bar; from multipack
Cheese	Type e.g. cheddar, cream, cottage, soft; low fat	Picture 9, or number of slices, number of spoons
Chips	Fresh, frozen, oven, microwave, take-away (where from); thick/straight/crinkle/fine cut; type of oil/fat used for cooking	Picture 4, as A, B, or C or 2 x B, etc
Chocolate(s)	What sort e.g. plain, milk, white, fancy, diabetic; type of filling;	Weight/size of bar
Coffee	With milk (see section on milk); half milk/half water; all milk; ground/filter, instant; decaffeinated. If café/takeaway, was it cappuccino, latte etc	Cups or mugs, size of takeaway e.g. small. medium
Cook-in sauces	What sort; pasta, Indian, Chinese, Mexican; tomato, white or cheese based; does meat or veg come in sauce; jar or can	Spoons, size of can or jar
Cream	Single, whipped, double or clotted; dairy or non-dairy; low-fat; fresh, UHT/Longlife; imitation cream e.g. Elmlea	Spoons
Crisps	What sort e.g. potato, corn, wheat, maize, vegetable etc; low-fat or low-salt; premium variety e.g. Kettle chips, Walker's Sensations	Packet weight, standard or from multipack
Custard	Pouring custard or egg custard; made with powder and milk/sugar, instant, ready to serve (tinned or carton); low fat, sugar free	Spoons
Egg	Boiled, poached, fried, scrambled, omelette (with or without filling); type of oil/fat, milk added	Number of eggs, large, medium or small
Fish (including canned)	What sort e.g. cod, tuna; fried (type of oil/fat), grilled, poached (water or milk) or steamed; with batter or breadcrumbs; canned in oil, brine or tomato sauce	Size of can or spoons (for canned fish) or picture 7 for battered fish

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Fish cakes & fish fingers	Type of fish; plain or battered or in breadcrumbs; fried, grilled, baked or microwaved; economy	Size, number, packet weight
Fruit - fresh	What sort; eaten with or without skin	Small, medium or large
Fruit - stewed/canned	What sort; sweetened or unsweetened; in fruit juice or syrup; juice or syrup eaten	Spoons, weight of can
Fruit – juice (pure)	What sort e.g. apple, orange; sweetened or unsweetened; pasteurised or UHT/Longlife; freshly squeezed; added vitamins/minerals, omega 3	Glass (size or volume) or carton size
Hot chocolate, cocoa malted drinks etc	Type; standard/low calorie/lite; instant; all water / half milk half water / all milk (see section on milk); any sugar added	Cup or mug plus how much powder e.g. teaspoons, weight on packet
Ice cream	Flavour; dairy or non-dairy alternatives e.g. soya; luxury/premium	Spoons/ scoops
Jam, honey	What sort; low-sugar/diabetic; shop bought/brand or homemade	Spoons, heaped or level, or thin or thick spread
Marmalade	Type; low-sugar; thick cut; shop bought/brand or homemade	Spoons, heaped or level, or thin or thick spread
Meat (see also bacon, burgers & sausages)	What sort; cut of meat e.g. chop, breast, minced; lean or fatty; fat removed or eaten; skin removed or eaten; how cooked; with or without gravy	Large/small/medium, spoons, or picture 6 for stew portion

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Milk	What sort; whole, semi-skimmed, skimmed or 1% fat; fresh, sterilized, UHT, dried; soya milk (sweetened/unsweetened), goats' milk, rice milk, oat milk; flavoured; fortified with added vitamins and/or minerals. Formula milks for toddlers	Pints, glass (size or volume) or cup. On cereal:*damp/average/ drowned*. In tea/coffee: *a little/some/a lot.* Formula: *proportion of formula to water*
Milkshake	Fresh or long life/UHT; dairy or non-dairy alternative e.g. soya; if powder, made up with whole, semi-skimmed, skimmed milk; flavour; fortified with vitamins and/or minerals	Glass (size or volume) cups or volume on bottle/carton
Nuts	What sort; dry roasted, ordinary salted, honey roasted; unsalted	Packet weight, handful
Pie (sweet or savoury)	What sort/filling; one pastry crust or two; type of pastry	Individual or slice, or picture 8
Pizza	Thin base/deep pan or French bread; topping e.g. meat, fish, veg; stuffed crust	Individual, slice, fraction of large pizza e.g. ¼
Porridge	Made with oats or cornmeal or instant oat cereal; made with milk and/or water; added sugar, honey, syrup or salt; with milk or cream	Bowls, spoons
Potatoes (see also chips)	Old or new; baked, boiled, roast (type of oil/fat); skin eaten; mashed (with butter/spread and with or without milk); fried/chips (type of oil/fat); instant; any additions e.g. butter	Mash – spoons, number of half or whole potatoes, small or large potatoes
Pudding	What sort; e.g. steamed sponge; with fruit; mousse; instant desserts; milk puddings	Spoons, picture 10 for slice of sponge
Rice	What sort; e.g. basmati, easy cook, long or short grain; white or brown; boiled or fried (type of oil/fat)	Spoons or picture 2

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Salad	Ingredients; if with dressing what sort (oil and vinegar, mayonnaise)	Amount of each component
Sandwiches and rolls	Type of bread/roll (see Bread & Rolls); butter or margarine; type of filling; including salad, mayonnaise, pickle etc. If shop-bought, where from?	Number of rolls or slices of bread; amount of butter/margarine (on both slices?); amount of filling
Sauce – cold (including mayonnaise)	Tomato ketchup, brown sauce, soy sauce, salad cream, mayonnaise; low fat;	Spoons
Sauce – hot (see also cook-in sauces)	What sort; savoury or sweet; thick or thin; for gravy - made with granules, stock cube, dripping or meat juices	Spoons
Sausages	What sort; e.g. beef, pork; fried (type of oil/fat) or grilled; low fat	Large or small, number
Sausage rolls	Type of pastry	Size - jumbo, standard, mini
Scone	Fruit, sweet, plain, cheese; type of flour; homemade	Small, medium or large
Savoury snacks - in packet	What sort: e.g. Cheddars, cheese straws, Twiglets, Pretzels	Size (standard or mini variety), packet weight
Smoothies	If homemade give recipe. If shop-bought, what does it contain e.g. fruit, milk/yoghurt, fruit juice	Glass or bottle (size or volume)
Soft drinks – squash/ concentrate/cordial	Flavour; no added sugar/low calorie/sugar free; “high” juice; fortified with added vitamins and/or minerals	Glass (size or volume)
Soft drinks – carbonated/fizzy	Flavour; diet/low-calorie; canned or bottled; cola – caffeine free	Glass, can or bottle (size or volume)

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Soft drinks – ready to drink	Flavour; no added sugar/low calorie/sugar free; real fruit juice? If so, how much?; fortified with added vitamins and/or minerals	Glass, carton or bottle (size or volume)
Soup	What sort; cream or clear; fresh/chilled, canned, instant or vending machine. If home-made, give recipe	Spoons, bowl or mug
Spaghetti, other pasta	What sort; fresh/chilled or dried; white, wholemeal; canned in sauce; type of filling if ravioli, cannelloni etc	Spoons (or how much dry pasta) or picture 3
Toddler foods	Food in jars: description and ingredients (e.g. vegetable risotto, fruit puree); Dry Foods: description (e.g. baby rice, cauliflower cheese); made up with milk and/or water	Size of jar or packet, spoons for powdered foods (volume of water/milk used to mix with cereal or powder)
Spirits	What sort: e.g. whisky, gin, vodka, rum	Measures as in pub
Sugar	Added to cereals, tea, coffee, fruit, etc; what sort; e.g. white, brown, demerara	Heaped or level teaspoons
Sweets	What sort: e.g. toffees, boiled sweets, diabetic, sugar-free	Number, packet weight
Tea	With/without milk (see section on milk); decaffeinated, herb	Mugs or cups
Vegetables (not including potatoes)	What sort; how cooked/raw; additions e.g. butter, other fat or sauce	Spoons, number of florets or sprouts, weight from tins or packet
Wine, sherry, port	White, red; sweet, dry; % alcohol or low-alcohol	Glass (size or volume)
Yoghurt (inc drinking yoghurt), fromage frais	What sort: e.g. natural/plain or flavoured; creamy, Greek, low-fat, very low fat/diet, soya; with fruit pieces or fruit flavoured; twinpot; fortified with added vitamins and/or minerals; longlife/UHT; probiotic	Pot size or spoons

Spoon size does matter!!!! When describing amounts check the spoons you use with the life size pictures at the back of this diary

Food/Drink	***Description & Preparation***	***Portion size or quantity***
Home-made dishes	Please say what the dish is called (record recipe or details of dish if you can in the section provided) and how many persons it serves	Spoons – heaped or level, number, size
Ready-made meals	Full description of product; does it contain any accompaniments e.g. rice, vegetables, sauces; chilled or frozen; microwaved, oven cooked, boil-in-the-bag; low fat, healthy eating range. Enclose label and ingredients list if possible in your plastic bag	Packet weight (if didn't eat whole packet describe portion consumed)
Take-away food or food eaten out	Please say what the dish is called and give main ingredients if you can. Give name of a chain restaurant e.g. McDonalds	Spoons, portion size e.g. small/medium/large

Use the pictures to help you indicate the size of the portion you have eaten.
Write on the food record the picture number and size A, B or C nearest to your own helping.

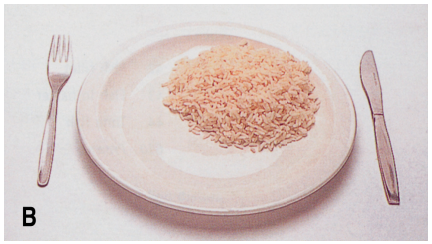
Remember that the pictures are much smaller than life size.
The actual size of the dinner plate is 10 inches (25cm), the side plate, 7 inches (18cm), and the bowl, 6.3 inches (16cm).

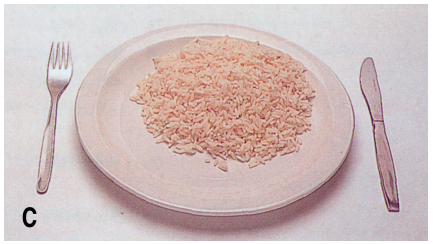
The tables on pages 16-21 also give examples of foods that you might eat and how much information is required about them.

Please note, these photographs should not be used to describe children's portions – please use household measures

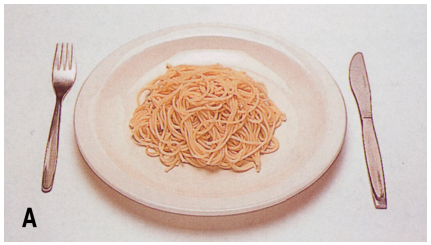
1. Breakfast cereals

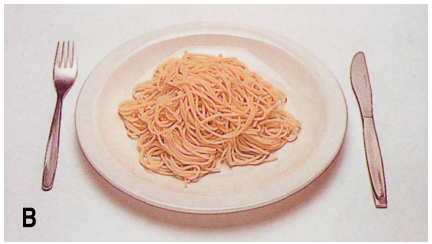
2. Rice

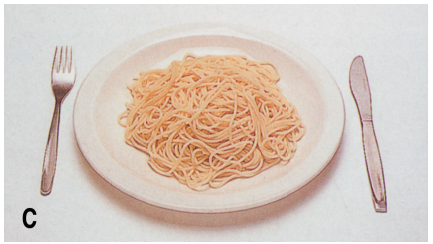




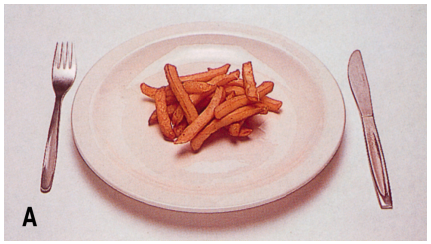
3. Spaghetti

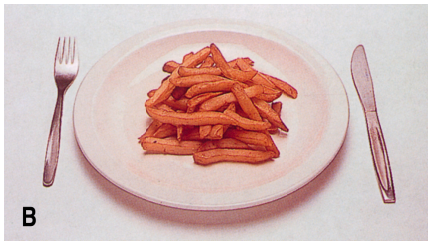






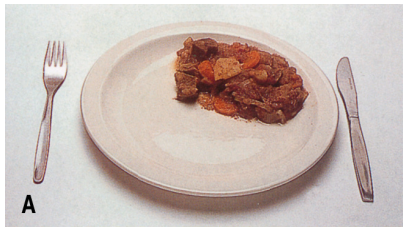
4. Chips

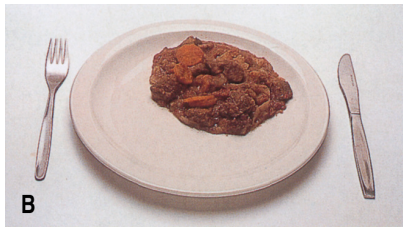


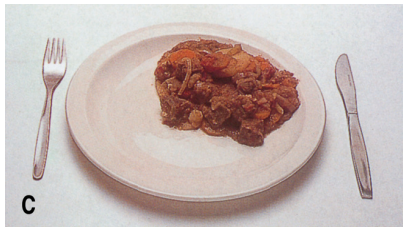


5. Broccoli or cauliflower

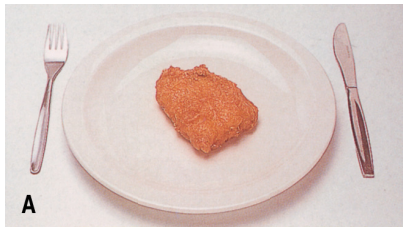
6. Stew or curry

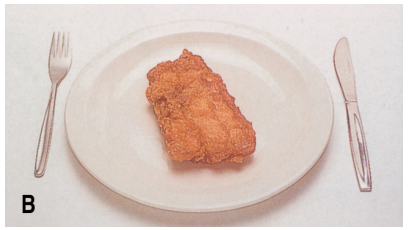


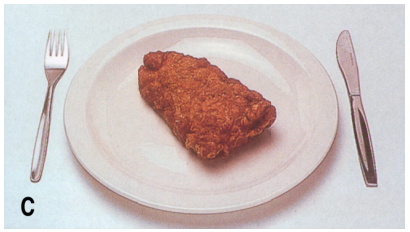




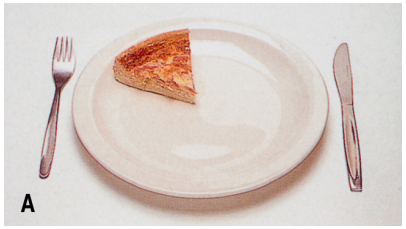
7. Battered fish

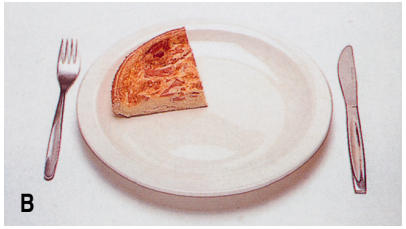


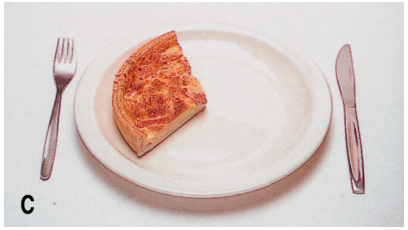




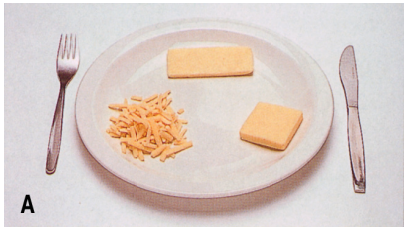
8. Quiche / Pie

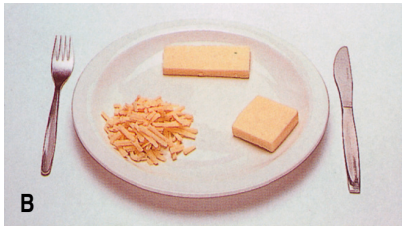


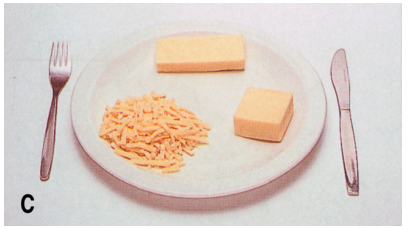




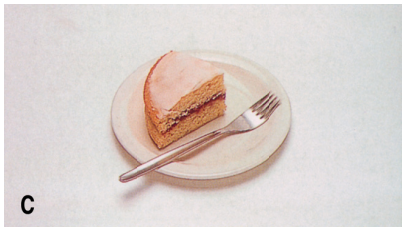
9. Cheese







10. Sponge cake

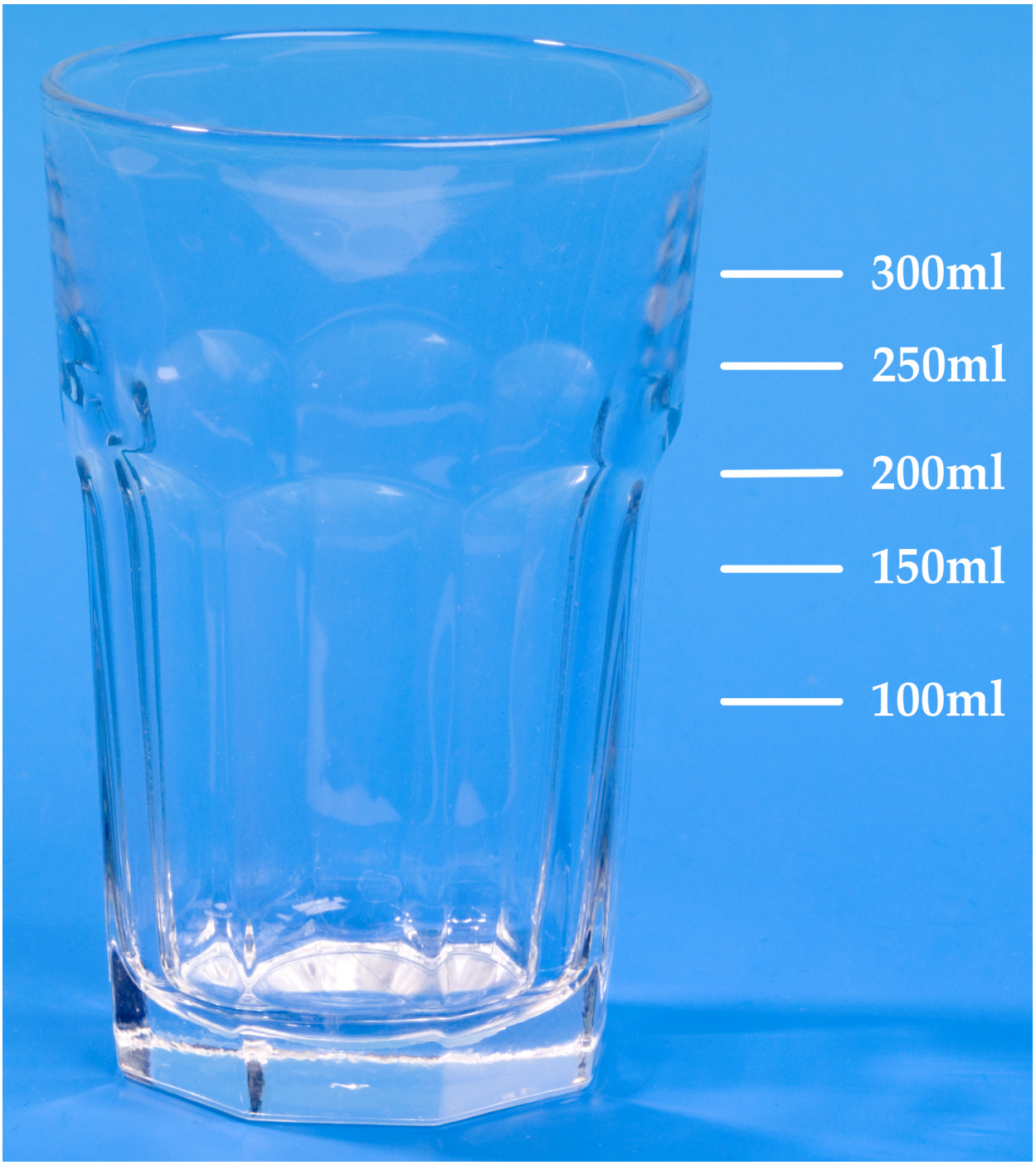


Typical quantities of drinks in various containers measured in millilitres (ml)

	Small glass	Average glass	Large glass	Vending cup	Cup	Mug
Soft drinks	**150**	**200**	**300**			
Wine	**125**	**175**	**250**			
Hot drinks				**170**	**190**	**260**

Glasses come in different shapes and sized. On the next page is a life size glass showing approximate volumes. You can use this picture as a guide for estimating how much volume of drink the glass holds you are drinking from.

Life Size Glass



Acknowledgements

Thanks for permission to use pictures from:

Nelson, M., Atkinson, M.
& Meyer, J. (1997).
A Photographic Atlas of Food Portion Sizes.
London, MAFF Publications.

NDNS

INTERVIEWER DIARY ASSESSMENT SCHEDULE

This document contains the following information for interviewers:

SECTION A: INSTRUCTIONS FOR PLACING THE DIARY

Diary documents

You will need the following documents ***for each respondent***:

- Adult diary (ages 16+), child diary (ages 4 - 15) or toddler diary (ages 1½ - 3 to be completed by parent/carer)
- Separate instructions booklet (one per household)
- Plastic bag for food labels. Each bag will contain a double-sided card with instructions on what information on packaging is helpful.
- Practice diary pages
- One carer pack containing one carer letter, four double sided food and drink recording sheets and a zip lock bag (child or toddler diary only)
- Reminder card
- Extra diary pages (2 double-sided sheets) (adult or toddler diary only)

Placing the Diary

It is important that when you leave the household, the respondent(s) feels confident with what is expected of them and is aware of the information in the diary that will help them record what they have eaten as accurately as possible.

You will need to give them key instructions as to how to complete the diary. Remember for toddlers and younger children, a parent/carer will be doing the recording on their behalf.

The diary should include **all food and drinks** (including water) consumed throughout the **day and night**, including snacks, and food and drink consumed away from the home.

It is important that the respondent(s) do **not** change what they normally eat just because they are keeping a diary. The **dietary feedback** we give them is based on what they have recorded. So it is important they give us as much information as they can, then this feedback will be representative of what they actually ate.

They should write down everything **at the time of eating** rather than from memory later. This means taking the diary with them when they go out. If they do forget the diary then they should make notes while they are out and transfer them to the diary later.

Although there are different types of diaries, all are very similar in terms of how the information is collected. They all start with instructions for the respondent, followed by some example diary days and then a section for helping them describe the food and drink they had and how much. This is followed by the main diary itself that the respondent fills in and finally there are some questions on their usual eating habits to be completed at the end of the recording period. Please familiarise yourself with the important components of the food diary in order to explain these to your respondents when placing the diaries. Use the **examples** within the diaries themselves to demonstrate what information is needed. These can be found on:

PAGE 4-15 OF ADULT DIARY
PAGE 4-11 OF CHILD DIARY
PAGE 4-15 OF TODDLER DIARY

a) Day and Date

This should be filled in either by you at the first visit when you place the diary or by the respondent as they go along.

b) Time Slots

For easy use each day is divided into sections, from the first thing in the morning to late evening and through the night. Respondents should note the time of each eating occasion in the column provided.

c) Where and with whom, at table and TV on?

For each eating occasion, respondents need to tell us what **room or part of the house** they were in e.g. kitchen, living room, If they ate at work canteen, a restaurant, fast food chain or car, they should write that location down. We would also like to know **who they share their meals with**, e.g. whether they ate alone or with others. If they ate with others they should describe the relationship e.g. partner, children, colleagues. We would also like to know **if they ate at a table** and **whether they were watching television whilst eating**. For those occasions where they were **not** at a table or watching TV they should write 'Not at table' or 'No TV' rather than leaving it blank. All this information is useful in two ways: 1) it helps us decide how to code certain foods depending on where they were eaten such as school lunches or food eaten in restaurants; 2) it tells us about the environment in which people are eating so that we can look at how that might influence what people chose to eat and how much. Explain to your respondents why we collect this detail as a way of encouraging them to record it for each eating occasion.

d) Food/Drink description and preparation

Respondents need to record as much detail as they can about the type of food and drink they consumed including how it was prepared. There are prompts for most foods in the diary (listed mainly in alphabetical order) which tell respondents the sort of detail needed. For example, if a respondent has squash to drink, they can look up squash under soft drinks and it tells them what they need to record. The **prompts** can be found on:

PAGE 16-21 OF ADULT DIARY
PAGE 12-17 OF CHILD DIARY
PAGE 16-21 OF TODDLER DIARY

Respondents should also record as much detail as possible about takeaways or other made-up dishes not prepared at home such as those eaten in restaurants or at a friend's house.

e) Recipes

There are special pages for any homemade recipes e.g. shepherds pie, vegetable lasagne, apple crumble and respondents should list the ingredients, the amount of each ingredient (including water or other fluids), how many people the recipe was for and how much of the recipe the respondent ate. If necessary respondents should get all the recipe details from whoever cooked the dish

f) Brand name

Wherever possible we ask that respondent's record brand names as this is very helpful for coding. Please note it is the brand name we want not the supermarket where the product was bought.

g) Portion sizes

It is important that we do not guess at how much a respondent is eating. Therefore, we need the respondent to describe the amount consumed using **household measures** e.g. one teaspoon (tsp) of sugar, two thick slices of bread, 4 tablespoons (tbsp) of peas, ½ cup of gravy or **weights from packaging** e.g. 420g tin of baked beans, 125g pot of yoghurt, 330ml can of fizzy drink.

Respondents should be careful when describing amounts in spoons that they are referring to the correct spoon size. They should compare the spoon they are using with the life size pictures in the diary.

[FOR RESPONDENTS COMPLETING ADULT DIARY ONLY]
If the respondents is 16 and over they can describe the amount of certain foods using the picture examples on **pages 22-25** e.g. 4B, 6A, 9C.

The picture examples can **only** be used to describe foods stated in the adjacent label. For example any type of breakfast cereal can be described using pictures 1A, 1B and 1C. However pictures 2A, 2B and 2C can only be used to describe rice."

For drinks, quantity can be described using: the **size of glass, cup etc** (e.g. large glass) or the **volume** (e.g. 300ml). In the adult and child diaries there is a picture of a life size glass and some other guidance on volumes. This is to ensure consistency when respondents are describing, for example, a small glass. They should refer to the table and life size glass so that their 'small glass' is the same volume as ours!

PAGE 26-27 OF ADULT DIARY
PAGE 18 OF CHILD DIARY

For **composite foods** respondents need to list individual components. Composite foods consist of more than one food, consumed together but not cooked together, that can be split into their component parts. Examples of composite foods are salads or sandwiches but they also apply to drinks such as gin and tonic, tea with milk and sugar. So a sandwich would be split into bread, spread and filling(s) and the amount of each component recorded separately. For example:

Sandwich:	bread	2 thin slices
	butter	thin spread on both slices
	ham	1 medium slice
	tomato	½ medium slice

Splitting foods up like this means we get accurate portion sizes no matter how small the amount i.e. half a teaspoon of sugar in tea or a slice of cucumber in a sandwich.

h) Questions on that day's food and drink intake
These need to be filled out by respondents at the end of each diary day to indicate whether the day's consumption of food and drink was typical, and provide reasons if it was more or less than their usual intake.

i) Leftovers
This is a prompt for respondents to check that the amounts they have recorded in the diary reflect what was actually eaten and that they have taken into account any leftovers. This is particularly important with toddlers and young children or other proxies.

j) Dietary supplements
If respondents have taken supplements, they need to record them in the table provided including brand, type and strength of the supplement, and how many taken.

Practise makes perfect!

The best way of ensuring your respondent(s) have understood the instructions and are sufficiently familiar with the tools available to them, is to get them to practise whilst you are still there to offer assistance and advice.

Using the A4 practice diary pages (there are 2 types: an adult/toddler one which is based on the adult/toddler diary and a child one based on the child's diary), ask the respondent(s) to recall a recent eating occasion (a couple of food items will suffice). If a parent is going to be completing the diary for their child, they should recall a recent eating occasion for their child. Show them how you would record those food items in the diary making sure you put them in the correct time slot and fill in the details such as where and with whom. Refer to the food description pages, demonstrating how these ensure you have recorded enough detail about the food. If appropriate, refer to the photos of portion sizes, the life size glass and the life size spoons.

Then ask your respondent(s) to recall a different recent eating occasion and, this time, have them record the information on the practice diary page. Some respondents will need to record more practice items than others, depending on how you feel they are coping. Some adult respondents, especially those with impaired vision, may struggle so offer them the larger A4 version of the adult diary. Others may prefer to use the A4 diary for other reasons. Remember you will be returning to the household on the second day of recording so if you have concerns about a respondent's ability, you will have another chance to go over things and check what they have done so far.

Finally…..

- **Plastic bag for food labels**

These are for respondents to collect labels, in particular, ready meals and seasonal foods. Each bag contains a double-sided card with instructions on what information on packaging is helpful. Respondents are asked to wash all labels/packaging that has come into contact with food. You should label plastic bags with the respondent's serial number.

- **Reminder card**

When handing over the diary please complete the details on the front cover of the diary including the date of the day they should start recording. You should also write this date on the Reminder Card and ask them to put this somewhere prominent such

as on their fridge door, bedroom mirror etc. It may also help the respondent if you write in the day and dates of the diary days allocated by CAPI in the diary itself.

- **Extra pages**

You also have extra pages to give to respondents filling out the adult or toddler diaries. These are to use if they run out of space in the main diary. Please point out to respondents that they need to enter the day and date on any extra pages they use. Before returning any used extra pages, you must enter the serial number at the top in case they become separated from the main diary.

- **Carer pack**

The pack consists of (in a plastic zipper bag):

- 1 x carer letter.
- 4 x carer food and drink recording sheets (one for each diary day)

Young children and toddlers might have meals where the person keeping the diary on their behalf is not present e.g. at childminders, nursery, relative or friend's house. Ideally we want 'out-of-home' carer(s) to fill in the diary or, as an alternative, they can fill in a carer food and drink recording sheet, which is a simpler form for recording key details about what the child ate whilst in their care.

In households where a parent is going to be completing the diary for their child, you should check whether it is likely that someone else will be feeding their child over the four-day diary recording period. If yes, explain that we would like 'out-of-home' carer(s) to record what was eaten while the child was in their care. The parent/primary carer should show the 'out-of-home' carer(s) the carer letter and then give them either the diary or one of the carer food and drink recording sheet. It is easier and safer if they are all kept in the plastic zipper bag. When the parent collects their child they should pick up the diary or carer food and drink recording sheet. They do not need to transcribe information recorded on the carer food and drink recording sheet into the diary but they must keep any loose sheets safe until you collect them.

Before returning any used carer recording sheets, you must enter the serial number at the top in case they become separated from the main diary

- **Instruction booklet**

Please provide respondents with an instruction booklet (one per household). The instruction booklet contains the same instructions as in the diary. It is aimed to make filling out the diary easier by providing all the instructions, description prompts, and photos in a separate booklet, saving the respondents from having to flick back and forth in the diary.

- **Arrange check up visit and reminder phone call**

Please arrange a check-up visit, with the respondent before you leave. The visit should be on the second day of the diary recording to enable you to check the respondent understands what is required and is recording sufficient details for coding. If a home visit is not possible, then you should phone on the second day to check that the respondent has started the diary and to ask if they have any concerns or questions. Try and get them to describe a few diary entries over the phone so that you can gauge if they have understood and are recording sufficient details.

If there is a gap of seven days or more between the diary placement and start date (first date of diary recording), please arrange a mutually convenient time with the respondent when they are at home for you to make a reminder phone call (one or two days before the start date). When you call, run through everything on the reminder phone call list (below), referring the respondent to the corresponding pages in their diary when necessary.

Reminder phone call list to respondents

What you should cover:

- Remind respondents about the voucher
- Remind respondents about the dietary feedback
- Run through main points of completing diary

Food/Drink description and preparation

- Respondents need to record **as much detail as they can**.
- There are **prompts** for most foods in the diary [refer respondent to pages 16-21 of adult, 21-17 of child or 16-21 of toddler diary].
- **Cooking methods** (fried, grilled, baked etc) should be recorded.
- Any **additions** (sugar/sweeteners, sauces, pepper etc) should be recorded.
- Respondents should record as much detail as possible about dishes not prepared at home such as in takeaways or restaurants.

Brand name

Please note we want brand names, not the supermarket where products were bought.

Portion sizes

- Use household measures or weights from packaging.
- For some foods portion sizes are next to their **food description prompts** [as above].
- Respondents should refer to the life-size **spoons** and **glass**.
- **Adults only can use photos of foods**.
- Composite foods such as salads or sandwiches should be split into their component parts and the amount of each component recorded separately.

Recipes

- Respondents should use the special pages for any homemade recipes.
- They should list the ingredients, the amount of each ingredient (including water or other fluids), how many people the recipe serves and how much of the recipe the respondent ate.
- If necessary respondents should get all the recipe details from whoever cooked the dish.

Leftovers

- Respondents need to record any leftovers. The 'quantity eaten' column should be what they actually consumed, not the portion served.

Food labels/packaging

- Encourage respondents to collect all food labels.
- **Ready meals** and **seasonal** foods packaging are particularly useful.

Remind respondents about the instructions and examples at the front of the diary.

B: REVIEWING THE DIARY

We want the diary to be as complete and accurate as possible. Missing information should be collected while you are still at the respondent's home because this increases the chance of filling in any gaps. If you are visiting the respondent after 1 or 2 days of recording, this is an opportunity to point out things they may be omitting, and therefore improve recording for the remaining days. Please use a green pen when you write on the diaries so that we can see where you have needed to probe for additional information or made changes.

Focus on checking:

- **Portion size:** does each food and drink item have a corresponding portion size? Double check that leftovers have been taken into account particularly with children and elderly respondents. If the MFP or a carer has completed the diary, check portion sizes with the respondent

[IF THE RESPONDENT IS AGED UNDER 16]

THE ATLAS MUST BE USED WHEN REVIEWING PORTION SIZES
To improve accuracy in estimating portion sizes for children, there are 3 separate photo atlases that should be used when reviewing their diaries: a pre-school atlas for 18 months to 4 years, a primary school atlas for 4 to 11 years and a secondary school atlas for 11 to 15 years.

Most of the foods that appear in the atlases are shown as a series of 7 photos of the food served and 7 photos of leftovers. When reviewing the diary, if you come across a food that appears in the atlas, you should show the photos to the respondent. Ask them to select a photo of the amount served, write the code in the diary and then ask them to select a photo for any leftovers and write down that code.

- For children of secondary school age; ask the child themselves to select the photo.
- For children aged 9-11; the child's parent/carer should select the portion with some contribution from the child.
- For children aged 8 and under; the child's parent/carer should select the portion.

Please note: The parent/carer can only select photos if they were present at the time of eating.

In some cases the photos can be used to estimate amounts for other foods in addition to the actual foods in each photograph. These are listed on a separate card called the Equivalent Foods List that can be found at the back of each atlas. **Do not refer to any photos if a food is not listed on this card**.

All of the photos were taken with the food displayed on a 9 inch diameter plate or 7.2 inch diameter bowl. At the back of each atlas is a life size photo of the plate and bowl and these should be shown to the child or parent before they select any photos and referred to throughout the review.

IMPORTANT:

The atlas is only to be used when reviewing the diary. Respondents must still record how much they ate at the time of eating either in household measures or weights from labels.

It does not matter how accurately respondents have recorded what they ate; if the food is listed on the Equivalent Food List you should show them the photos in the atlas.

Do not overwrite what the respondent has originally recorded. The photos codes are in addition to what the respondent has written. Remember, it does not matter how accurately respondents have recorded their portion sizes, it is always necessary to use the atlas with children aged 16 years and under.

HOW TO USE THE PHOTO ATLAS

The majority of foods in the atlas are displayed as 7 '**as served**' portions on one page and 7 **'leftover'** portions on the following page. Each photo is labelled with a unique code. Ask the respondent to select a photo which is closest to the amount served and write down the corresponding code.

Time	Where? With whom? TV on? Table?	What	Brand Name	Amount eaten
6am to 9am				PHoop06
7:00	Kitchen Alone	Cheerios	Nestle	Medium bowl

If the portion served was larger or smaller than any of the portions displayed they can describe the portion in terms of multiples or fractions of a photograph. If it is smaller than any of the 'as served' photos they can use a 'leftover' photo.

Time	Where? With whom? TV on? Table?	What	Brand Name	Amount eaten
6am to 9am				PHoop06 x 2
7:00	Kitchen Alone	Cheerios	Nestle	Medium bowl

If they did not consume all that was served, the respondent should estimate the amount leftover using one of the 'leftover' photos. Write down the corresponding code preceded by a minus sign.

Time	Where? With whom? TV on? Table?	What	Brand Name	Amount eaten
6am to 9am				PHoop06 – PHoop08
7:00	Kitchen Alone	Cheerios	Nestle	Medium bowl

Note: some of the codes are very similar so please ensure that you write them clearly and accurately

- **Descriptions of food and drink:** have sufficient details been recorded? Be as specific as you can. Use the prompts in the INSTRUCTION BOOK pages 28-34 to check. Use section C: FOOD AND DRINK DESCRIPTION PROMPTS of this booklet to probe the respondent for missing information, like **cooking methods** (fried, grilled, baked etc) and check for any **additions** (fats, sugar/sweeteners, sauces, pepper etc).
  There are some foods that are often missed out after the first few days of diary keeping:
    - Drinks (especially water)
    - Crisps & savoury snacks
    - Biscuits, cakes & confectionery

  Inquire about such foods and fill the gaps if necessary
  For foods eaten away from the home and takeaways, have details been recorded of what these dishes contain, either in the diary itself or on the recipe pages?

- **Homemade recipes:** if the respondent has consumed any homemade dishes, have details been recorded on the relevant pages along with the cooking method? Probe for ingredients they might have forgotten e.g. water for boiling/stewing, oil for frying, milk or spread for mashing, herbs, spices. Has the respondent recorded the amount they ate of the recipe?

- **Missing meals and snacks:** are there empty time slots? Ask the respondent to confirm whether they ate or drank anything during that time. If a respondent has a hot drink between 10pm and 6am for 3 days and then that time slot is blank on Day 4, it alerts you to the possibility that they forgot to record the drink.Try and fill in any gaps with the respondent. ***Do not try and fill in <u>entire</u> missing days retrospectively.*** If they have genuinely not eaten anything in that time period, write this into the diary i.e. “Nothing eaten or nothing taken” so that it is clear that you have confirmed this. If the respondent is unwell, make sure this is recorded in the question at the end of each diary day.

Note: if time allows, try and fill in any missing **Where**/**With whom**/**At Table**/**TV on**. Encourage respondents to record this as they go along.

Remember also to check after each diary day….

Typical day: has the respondent told us whether the day was usual or unusual? If they ate more or less than usual, have they given a reason why?

Leftovers: has the respondent ticked that they ate EVERYTHING they recorded and if not, have they gone back and written in the leftovers?

Dietary supplements: have sufficient details been recorded for any supplements taken? If the strength of the supplement is missing e.g. 100mg or 25µg, ask to see the container.

[FOR PICK UP VISIT ONLY] General questions about eating habits: has the respondent completed the questions at the back of the diary? If not, please ask them to fill these in. Ensure that they have recorded sufficient details about the fat spread, cooking oil and bread they used over the 4 diary days.

After collecting the diary don't forget to complete a DIARY EVALUATION and return it with the diary.

REMEMBER TO SEND IN YOUR FIRST COMPLETED DIARY AS SOON AS YOU HAVE COLLECTED IT.

C: FOOD DESCRIPTION PROMPTS

In general the following information is required:

- **Type of food or drink**
- **How was it bought – fresh, canned, frozen, dehydrated etc?**
- **Was it home-made – if so – what was in it?** ***Don't forget to check that any recipes are recorded on the Recipe Pages.***
- **How was it cooked – boiled, grilled, fried etc?**
- **If it was cooked in fat, or fat was used in pastry or cakes or any other dish, what sort of fat or oil was used?**
- **If it was a dried / dehydrated product, was it reconstituted using water, milk or both?**
- **Was the item coated before cooking – if so – was it flour, batter, egg, breadcrumbs etc?**
- **Was it unsweetened, sweetened with sugar/honey, or artificially sweetened?**
- **Was it low fat / low calorie?**

Remember to use neutral prompts to gather the above information and to prompt for foods that may be eaten in combination e.g. dressing on salad, jam on toast.

❑ **School lunches**

Often parents will have been given weekly menus by the school and you can use this either to prompt the child for missing detail or clarify the name or content of a dish. Ask if you can keep the menu or make a photocopy and return it with the diary.

National Diet and Nutrition Survey

Rolling Program 2008 – 2013

Food Coding & Editing Instructions

1.Contents

2.Introduction

2.1 NDNS Diet coding

Interviewers for the National Diet and Nutrition Survey (NDNS) provide all respondents with a food diary. In this diary they are asked to record all food and drink items they consume for two weekend days and two weekdays. During these four days the interviewer visits the respondent to ensure a good level of detail is provided in the diary. In many cases the interviewer will probe for further details on foods/portion sizes and write further information in the diary using a green pen. The diaries are then sent to the diet coders at HNR.

Diet coding is the process of entering this information into the database known as DINO (Diets In Nutrients Out). Each food recorded is assigned two codes, a food number and a portion size. These codes are linked to the NDNS nutrient composition database that contains the nutritional information for over 6000 foods (in 2008).

In some cases queries are created when coding, as there is not enough information in the diary to select a code. This could be due to a lack of detail or ambiguous information. There are a number of standardised procedures used to solve queries, a process known as editing. Once diaries are coded, edited and fully complete the food and nutrient intakes can be calculated and the data analysed in a number of different ways.

2.2 Food Diaries

Three types of diary are used in the study:

- Adults (16yrs+) – available in A5 and A4 versions
- Child (4-15yrs)
- Toddler (1.5-3yrs)

Each of these diaries has been designed to take into account factors specific to the age of the respondent filling in the diary.

3.Getting started

3.1 Diary questions

Enter the gender and date of birth then complete the form using the diary questions at the end of each day and the diary evaluation form.

Day 1 enter:

- The date of the first diary day
- Whether the respondent had any dietary supplements
- Whether the respondent ate more or less than usual and the reason
- Whether the respondent drank more than usual, less than usual and the reason why
- Salt use (found at the back of the food diary)

- Whether the respondent is on a special diet or not and any corresponding details (found at the back of the food diary)
- Interviewer feedback (from the peach coloured NDNS diary evaluation form – see section 3.2)

Day 2 to Day 4 (change days using the tabs under the General Comments box):

- The date of each diary day
- Whether the respondent had any dietary supplements
- Whether the respondent ate and drank, more or less than usual

3.2 General comments

In the ***general comments*** box enter the interviewers comments from the NDNS Diary evaluation form. This box can also be used to enter your own comments should you have any. You may want to comment on the overall quality of the diary or if you notice anything especially unusual. State either interviewer or coder in brackets after each comment e.g. "the respondent drank 6 pints of milkshake each day" (interviewer).

4.Using DINO to code a food diary

4.1 Coding Details

Enter the subject ID, date of birth and gender as before. Then from the first day of the diary enter the default details i.e. date, day of the week and the time slot of the first recorded meal.

All fields on this form are mandatory. Once the form has been completed click OK. The form will then 'look' at the appropriate subject to ensure that the subject ID is valid by checking the corresponding Gender and Date of Birth. If either of these fields do not match a message is displayed. The form will also check that the Diet Record Date matches the Day of Week. Again a message will be displayed if they do not agree. These tests have been devised to help prevent accidental typing errors.

4.2 Dietary Coding screen

4.2.1 Default data

The top left hand side of the screen displays the default data for the subject. This is the information entered on the previous two forms.

4.2.2 Additional data

The bottom left hand frame contains fields for;

- Food codes and portion sizes
- Consumption time
- Coding type – To save frequently consumed items
- Takeaway item? – To flag food if eaten as part of a takeaway
- Recipe group – For manually entered recipes

- Query type – For classifying queries by type
- Notes – For information on queries
- Flagging icon – Use this to highlight queries
- Food name – This is the name linked to the coding number

4.2.3 Questions

For each food a code needs to be allocated describing **where** the food was consumed, **with whom**, if the respondent was **watching TV** and whether they were **sitting at a table**. Table opposite shows the categories for coding where and with whom.

WHERE	WITH WHOM
Home - kitchen	A - Alone
Home - living room	B- Partner
Home - dining room	C- Partner&children
Home - bedroom	D - Child/Children
Home - garden	E- Family (incl relatives)
Home - other	F - Friends
Home - unspecified	
Friend's or Relative's house	G - Family & Friends
Restaurant, pub, night club	H- Parent(s)/Carer
Coffee shop, shop, deli, sandwich bar	I - Siblings
Fast food outlet	J - Parent(s)/Carer&Siblings
School canteen - Food from home	K - Carer & other children
School canteen - Bought food	L - Work colleagues
School canteen - other	M - Flatmate
School playground	N - Other
School classroom	O - Not specified
School other	P - Others - General Public
Work canteen - Food from home	Q - Others - Known to Respondent
Work canteen - Bought food	
Work canteen - other	
Work desk	
Work other	
Nursery/Kindergarten	
Carer's home	
Sports club, Sports leisure venue	
Street	
Bus, car, train	
Other place	
Outside other	
Not at home - unspecified	
Unspecified	
Place of worship	
Holiday accommodation	
Leisure activities, shopping, tourist attractions, cinema, places of interest	
Public Hall/Function Room	
Community Centre/Day Centre/Drop in	

Here are a few examples/clarifications:

Where

- You will notice that the **where** code options for school canteen and work canteen distinguish between **food from home** and **bought food**. **Bought food** refers to food purchased at school/work or an

alternative venue e.g. the local sandwich shop. **Food from home** refers to homemade foods e.g. homemade salad.

- **Fast food outlets** are distinguished from restaurants by the use of cutlery e.g. Pizza Hut is a restaurant as they provide cutlery whereas KFC is a fast food outlet as they don't.
- The distinction between the **Restaurant, pub, nightclub** option and the **Coffee shop, shop, deli, sandwich bar** option is that in the former alcohol would be available.
- **Leisure activities, shopping, tourist attractions, cinema, places of interest** this would also include Hairdressers, hobbies, car dealers etc. Sports activities should be coded under **Sports club, sports leisure venue**.
- **Other Place** should be used for Hospital, Nursing home, Garage/service station & Parties where the party place is unspecified.
- **Community Centre/Day Centre/Drop in** should be used to capture community meals (more common in older respondents).
- **Bus, car, train** should only be coded when being used as a mode of transport. If the respondent works as a taxi driver or a trucker, **Work other** should be used.
- **Sports club, sports leisure venue** should only be used if the respondent is participating in a sport/activity – **Outside other** or **Other place** can be used if they are a spectator; **Restaurant...** or **Coffee shop...** can be used if they are eating a meal at, for example, a gym or sports centre.
- If a respondents states that they were sitting at the table at home with their family, but they do not specify which room they were in check the other days to see if the room has been recorded elsewhere.
- If a child respondent's parents live apart, eating in the sampled household only should be coded as **Home**. Eating at the other parent's house should be coded as **Friend's or Relative's house**. The information in the Subject's tab on the coding page may give an indication of whether they live with their mother or father.
- Sitting room should be coded as **Home – Living room**.
- If a respondent states 'front room' or 'back room' you can make a judgement on whether it is their **Living room** or **Dining room** based on whether they have a TV or a table in that room. If no information is given or it is unclear, code as **Home - other**
- If the respondent has not stated where they are but you are confident that they were at home then code as **Home – unspecified.** For example, a toddler having a cup of milk at 8pm and their dinner earlier had been at home. Likewise, if the place has not been stated but you think they were NOT at home then code as **Not at home – unspecified**. For example, an adult is drinking pub measures and says that they drank more because they were 'on a girls' night out', then you can assume that they were not at home even if you are unable to say exactly where they were. If it is unclear either way, code as **Unspecified**.

With whom

- For **with whom**, **E – Family (incl relatives)** refers to unspecified family or wider family e.g. grandparents, aunts.

- For adult respondents who eat with their parents or siblings, with whom should be coded as **E – Family**, rather than H or I; this would be the same for respondents who eat with their grown-up children.
- A 'carer' is defined as an adult who is taking charge of a child (or other adult). 'Carer' would be used for a childminder/babysitter, but not for a teacher or a nursery nurse – for young children at nursery, the place option selected would capture that the child would not be eating unsupervised.
- The code **H – Parent(s)/Carer** or **K – Carer & other children**, however, should not be used if a relative e.g. grandmother or older sibling is taking care of the child – this should be coded as **E – Family** or **I – Sibling**.
- If the respondent is at work, go by their definition of who they eat with (**Friend** or **Colleague**) for deciding what to code for with whom. Clients should be coded under **Colleague**.
- If a respondent under the age of 18 years states they ate with their girlfriend or boyfriend, this should be coded as **Friend**. For a respondent aged 18 years or over, **Partner** should be coded.

Table/TV

- Respondents should only record information about watching TV/sitting at the table not any other activities like listening to the radio/sitting on the sofa/playing on the computer. If they provide this details, but do not say about TV/table tell the Research Assistant in the interviewer feedback you send.
- Do not assume from other details you give that the respondent is or is not watching TV/sitting at the table e.g. just because they are on the sofa does not mean they are not eating with a table pulled up in front of them. If unsure, code as **unspecified**.
- If a respondent states they ate at their **Work desk** the option for table should be coded as **No** – the place option selected will capture that they were eating at their desk.

If any of this information is not recorded in the diary please select the relevant **not specified** code. If in doubt ask the Research Assistant or Dietary Assessment coordinator or code as **not specified**. However, people often record less detail towards the end of the diary – you may be able to work out some of the missing information from the first days.

5.Coding foods

5.1 Food name

If you are familiar with a food name you can enter the text directly into the **food name** field. If you are unsure of a food name use the **string** field and **food trees** to limit the number of foods in the list.

5.2 String

This field is used to limit the foods in the food name field. Type text into this box and only food names containing that text will appear in the food name box e.g. type *bread* and only foods with bread in the name with appear in the food name field.

The text you enter may contain 'wildcards'. Wildcards are used to substitute for unknown characters. '?' will ignore one character e.g. 'coca?cola' will find 'coca cola' and coca-cola'. '*' will ignore any characters e.g. 'corn*flakes' would find 'Cornflakes' and 'Corn Flakes', 'bacon*boiled' would find 'Bacon Collar, Lean only, boiled' and 'Bacon, collar joint, lean and fat, boiled'.

5.3 Coding number and food codes

Each food held within DINO is assigned to a food code and also a coding number, which are different (see the red box below). For example, aubergine fried in blended vegetable oil has a food code of 1659, but the coding number is 1263.

Once you are familiar with some of the more common foods on DINO and know their respective food code you may wish to enter this number directly, which will save you needing to search using the string field or food trees. *NB Foods should not be coded directly using the coding number.*

5.4 Portion sizes

The portion sizes shown will only be those applicable to the food selected in Food Name. If you have a weight in grams or volume in mililitres, select 'grams' or 'mls' from the drop down list. Then use the 'X' field to enter the number of grams or millilitres (if millilitres is not an option and you are coding a liquid, select 1g and flag this entry). Portion sizes can also be described using the pictures in the adult diary. These will be recorded as 1-10 with A, B or C. 1-10 being the different picture numbers; A, B and C small, medium and large respectively.

5.5 Children's and Toddler's portion sizes

You will notice that not many foods in the database have a corresponding child or toddler portion size. This is because we encourage respondents to record foods in household measures e.g. 2 tbsp of mashed potato or 1 tsp of ice cream. However in some cases the respondent will not record a portion size, or may record "small, medium or large". A spreadsheet NDNS_Kids_portion_sizes is available to help you code these.

The worksheets in this spreadsheet are categorised into age groups 1-3, 4-6, 7-10, 11-14 and 15-18. There are two extra sheets for 7yr and 10yr portions. These sheets provide average portion sizes for a range of commonly consumed foods e.g. an eight yr portion of chicken curry is 148g. If small or large portion sizes are recorded multiply the average portion by 0.75 for small and 1.5 for large e.g. a small eight yr portion of chicken curry is 0.75 X 148 = 111g. Use worksheet "age 1-3" when small, medium and large toddler portions are recorded.

If you are coding a diary for a respondent aged 16-18 years and they have described portion sizes using food photographs, use the corresponding adult portion sizes, rather than the portion size from the spreadsheet.

See sections 7.2 and 7.4 for information on how to deal with a portion size query.

5.6 Time

Enter the time of each eating occasion in 24hr or 12hr format e.g. 18.00 or 6pm. The recording period for a diary day is from 6am to 5.59am the next day. Therefore if a food is recorded at 3am on day one you would not code this food, however if food was recorded at 3am on day 5 (the night of day 4) you would code this food.

Each food diary should cover four 24-hour periods.

5.7 Recipe group

Recipe groups are allocated to homemade dishes, toddler foods and manufactured items. These groups link together the component ingredients of mixed dishes and classify them as a single item. Each ingredient in a homemade recipe should be allocated a homemade recipe group (see section 6.4 for guidance) e.g. when coding individual ingredients for a homemade Spaghetti Bolognese you would allocate each item to the 'other beef and veal – homemade recipe' group.

Occasionally manufactured foods will be recorded in diaries that are not in the database. As discussed in section 7 you will need to query these items. The food composition coordinator will decide whether the new food should be added to the database, or whether the composite ingredients should be coded as separate items. In the latter case you will need to allocate each ingredient to the appropriate recipe group e.g. 'commercial toddler foods' or 'manufactured chicken products including ready meals'. If the appropriate recipe group isn't available raise a query and it can be added.

6. Weight changes on cooking and calculating recipes

6.1 Weight changes on cooking

Occasionally respondents record portion sizes in uncooked measurements e.g. 25g dry white rice (boiled) or 8oz rump steak (grilled). The cooked weights of these foods need calculating before the food can be coded. Refer to McCance and Widdowson 6th Edition (pg 431-435) for estimated weight changes on cooking. e.g.

25g dry white rice
% weight change boiled = +177
(25 X 1.77) = 44.25g
25 (dry weight) + 44.25g (cooking gain) = **69.25g white rice boiled**

Or

8oz steak (227g)
% weight change grilled = -28
(227 X 0.28) = 64g
227g (raw) – 64g (cooking loss) = **163g rump steak grilled**

These calculations are also used to deduce the raw weight of a cooked ingredient e.g. chicken used in a recipe. The FSA 'Food portion sizes' book only provides the weight of cooked chicken breasts so the raw weight would need calculating to enter chicken breasts in a recipe e.g.

4 medium sized chicken breasts cooked = 130g (weight of 1 cooked chicken breast) X 4 = 520
% weight change casseroled = -25 (i.e. cooked weight is 75% of raw)
Raw weight = (cooked weight / per cent remaining after cooking) X 100.
(130g/75) x 100 = **173.3g (per breast)**
173.3g (per breast) X 4 = 693g raw chicken breast.

6.2 Calculating recipes

When home-made dishes are eaten respondents are asked to record the recipes in the space provided after each diary day. If sufficient details are recorded (including a full list of ingredients, each with an amount) you can calculate the proportion of the recipe that the respondent ate and enter the individual ingredients into DINO as described below.

If the respondent eats the whole recipe you simply enter a cooked food code for each ingredient but the "raw" weight of each ingredient and then link them together by allocating a recipe group to each ingredient (see section 6.4). If a respondent eats half or a quarter of the recipe, then again, code each item using cooked codes but divide the raw weight of each ingredient by 2 or 4 respectively.

Recipe: Chicken risotto	
Ingredients	Amount
onions	1 medium
chicken breast	2 medium
butter	20g
rice	300g
stock	600g
parsley	tbsp

When a respondent describes the amount of the recipe eaten as a weight or in tablespoons we do not know what proportion of the dish this is i.e. we know how much a tablespoon of cooked chicken risotto weighs but not how much of each ingredient of the recipe is in that tablespoon. This is when you would use the ***recipe calculator*** in DINO. It calculates the proportion (amount/g) of each ingredient that the respondent has eaten.

- Enter the recipe name in the top box
- Enter the subject ID
- Enter the ingredients listed in the diary into the first column
- Enter the amounts in the 'weight' column in grams. Always enter the raw weight in this column, except where dry ingredients are used:

In the example below the raw weight of chicken was calculated from the cooked weights in the FSA portion size book (section 6.1)
As rice is a dry ingredient the cooked weight was entered after deducting the amount of water absorbed on cooking from the stock in the recipe [300g rice absorbs 531g stock on cooking (weight gain factor +177), leaving 69g stock from 600g in the original recipe].
Make any notes on further calculations in the source notes box
Water, stock and tinned tomatoes are the most common types of liquids used in recipes so deduct water absorbed on cooking dry ingredients from these
If more than 100mls of liquid are used in a recipe you will need to calculate the weight of this volume in grams. Do this by multiplying the volume with the specific gravity from the FSA 'food portion sizes book' e.g. 200mls condensed milk = 232g (specific gravity 1.16)

- Use the McCance and Widdowson supplements to find an estimated weight loss for the whole recipe. If the recipe for the dish you are calculating is not available, use the weight loss from a similar dish as a substitute. Take into account the cooking method used along with the proportions and types of liquid; and the amounts of meat and vegetables used when selecting an alternative. Record which recipe you use in the source notes (risotto example shows recipe 198 from the meat dishes supplement)
- Enter this figure into the percentage weight loss box

- Enter the portion size as recorded by the respondent as a weight in grams in the box below. You may need to use DINO or the FSA 'food portion sizes' book to find this weight
- The weight of each of the component ingredients will be automatically calculated in the 'portion size' column.
- Save the recipe.
- You then need to code each ingredient in DINO in the usual way remembering to always select a cooked code and allocate it to a recipe group (see section 6.3 for a list of cooked codes).
- Where ingredients are present in very small amounts e.g. herbs, spices, salt, the final portion weight may be less than 0.01g. This would be calculated as 0 by DINO so it is important that these ingredients are entered as 0.01g so that they show up as an ingredient.

NOTE: The method described above results in an overestimation of the total weight (g) of food consumed. However it gives us a 'best fit' in terms of nutrient content and is more reliable for disaggregating vegetables, meat etc.

6.3 Cooked food codes

When entering recipes in DINO always select codes for cooked ingredients. The following list gives examples of some cooked codes in the database:

Batter with losses
Chicken Flesh with losses
Cod, Haddock with losses
Egg after baking/boiling
Egg and crumb after frying losses
Flour, plain after baking
Flour, self raising after baking
Flour, strong bread with cooking losses
Flour, brown with cooking losses
Flour, wholemeal with cooking losses
Lemon juice, 50% vit C loss
Liver, calves with frying losses
Liver, lambs with frying losses
Milk, whole after boiling
Milk, semi-skimmed after boiling
Milk, skimmed after boiling
Oatmeal with cooking losses
Oats with losses on boiling
Onion with frying losses
Pizza base with losses
Plaice with losses
Potatoes, old with frying losses
Potatoes, new with frying losses
Rice white with losses
Tomato puree with losses
2682 Wine or sherry after cooking in stews

6.4 Recipe grouping - Rules

Each food in the recipe should be assigned to the appropriate recipe group. All homemade dishes will fall into the homemade categories. Recipes are generally grouped according to their main ingredient e.g. Chicken risotto is a rice dish as the main component is rice. However, there are some exceptions to this e.g. Cottage pie is likely to contain more potato than beef mince but it is classified as a meat dish.

7.Queries

Most queries can be classified into one of four categories;

- Missing food code
- Missing portion code
- Insufficient information to code food
- Insufficient information to code portion size

7.1 Missing food code

Foods will appear in diaries that don't have a corresponding food code in DINO. They may be new products, or existing foods that we haven't come across before. Collect as much information about the product as you can from the Internet, or any other sources available, and pass it on to the food composition coordinator.

7.2 Missing Portion codes

Occasionally respondents will record portion sizes in the diaries that we don't have. Record all the necessary details in the query spreadsheet. The food composition co-ordinator will review the query and if necessary weigh the food and add the portion size to the database.

7.3 Insufficient information to code a food

Sometimes you will not have sufficient detail on the diary page to be able to code a food accurately. The first thing to do is see if the food features on another dietary day and whether relevant information has been recorded there. If not, other sources of information are:

- **Subject information** – click on the subject information in the bottom left hand side of the screen. This brings up details of how some foods are prepared in the household, as well as household structure and ethnic group.
- **General questions about food/drink** – At the back of each diary the respondent provides information on frequently consumed items in their kitchen e.g. bread, squash, oil etc. You may need to refer to the details collected on the relevant pages when allocating food codes for these particular foods. For Toddler diary only there are also some questions about the frequency of eating outside the home.
- **Food labels/wrappers –** Respondents are asked to collect wrappers from unusual foods and ready meals. They will be in a plastic bag labelled with the respondents subject ID.

- **Default foods** – Default codes are available for frequently consumed foods. They should only be selected when a food is recorded without enough detail to pick an alternative code e.g. someone may record gravy without stating whether the gravy is thickened, or has had the fat skimmed off. You should only use a default if there is nothing else on the diary that can help inform a more accurate decision and in conjunction with the points made in the rest of this section. There is no need to raise a query if you use a default unless you have any doubts about your decision.
- **Catering questionnaire –** When school meals are recorded with insufficient detail to select the appropriate codes we can contact the school to obtain more information i.e. on recipes or type of oil used etc.

7.4 Insufficient information to code portion size

If a portion size is missing in the food diary and packaging has not been sent in, an estimate can be made using the following methods (in order of preference of use):

Adults:

- If item consumed on another day base on this size
- Base size on usual portion size for this particular respondent e.g. if the respondent tends to have small portions, code a small portion
- Use average portion size from FSA Food Portion Sizes book
- Use medium portion size from DINO

It is important to try and maintain consistency of data input, record in the notes section on DINO the reason for choosing portion size.

Children:

- If item consumed on another day base on this size
- Base size on usual portion size for this particular respondent e.g. if the respondent tends to have small portions, code a small portion.
- Refer to NDNS_Kids_portion_sizes spreadsheet and use an average portion for their age group. For children aged 7 and for children aged 10, refer to the list specific to their age.

Toddlers:

- If item is consumed on another day base on this size
- Base size on usual portion size for this particular respondent e.g. if respondent tends to have small portions, code a small portion
- Refer to NDNS_Kids_portion_sizes spreadsheet, worksheet ages 1-3
- Refer to toddler food rules worksheet and use rules to estimate a portion size based on adults portion sizes

School meals:

- If item is consumed on another day base on this size
- For primary school children (4-11) use the infant and junior school meals spreadsheet in NDNS_Kids_portionsizes depending on the age.
- For secondary school children (11-18) use the secondary school meals spreadsheet in NDNS_Kids_portionsizes.

- For children at nursery use the nursery column in the nursery school meals spreadsheet in NDNS_Kids_portionsizes.
- NB: as there is an overlap for children aged 11, please check with the NDNS research scientist as to whether they are at primary or secondary school.

7.5 Query spreadsheet

All queries that can't be solved using the information provided above will be added to a query spreadsheet. Each Dietary Assessment Assistant has their own personal query spreadsheet and you should use this to record your queries. Add your queries for each week to the master copy by Friday so that they can be reviewed by the food composition coordinator on a Monday. These queries will then be discussed in more detail at the weekly meeting where actions to solve them are devised.

8.Young Person's Photo Atlas (Q2 coding only)

8.1 Using the food atlas

There are 3 separate photo atlases used with children of:

- pre-school age (18 months to 4 years)
- primary school age (4 to 11 years)
- secondary school age (11 to 15 years).

When interviewers are reviewing the diary with respondents, where foods have been eaten that appear in the atlas, the portion size should also be described using the photos e.g. Cheerios. The atlas is only to be used when reviewing the diary. Respondents must still record how much they ate at the time of eating either in household measures or weights from labels.

For children of secondary school age it is appropriate to ask the child themselves to select the portion sizes of the foods consumed. For children of pre-school and primary school age, the child's parent/carer should select the portions. Whether it is the child or the parent selecting the photos, the interviewer should lead this review, finding the photos and showing them to the respondent. The interviewer should be the one writing the photo numbers in the diary.

All of the photos were taken with the food displayed on a 9 inch diameter plate or 7.2 inch diameter bowl. At the rear of the atlas is a life size photograph of the plate and bowl on which the photographs have been taken. This should be shown to the respondent before showing them any of the food photographs.

'As served' and 'leftover' portions

The majority of foods in the atlas are displayed as seven '**as served'** portions on one page and seven **'leftover'** portions on the following page. Each photo is labelled with a unique code. The respondent should be asked to select a photo which is closest to the amount served and the interviewers should write down the corresponding code.

If the portion served was larger or smaller than any of the portions displayed they can describe the portion in terms of multiples or fractions of a photograph. If it is smaller than any of the 'as served' photos, a 'leftover' photo can be used.

If respondents did not consume all that was served, they should estimate the amount leftover using one of the 'leftover' photos. The interviewer should write down the corresponding code preceded by a minus sign.

In some cases the photos can be used to estimate amounts for other foods in addition to the actual foods in each photograph. These are listed on a separate card called the ***Equivalent Foods List (EFL)*** that can be found at the back of each atlas. Interviewers should not refer to any photos if a food is not listed on this card.

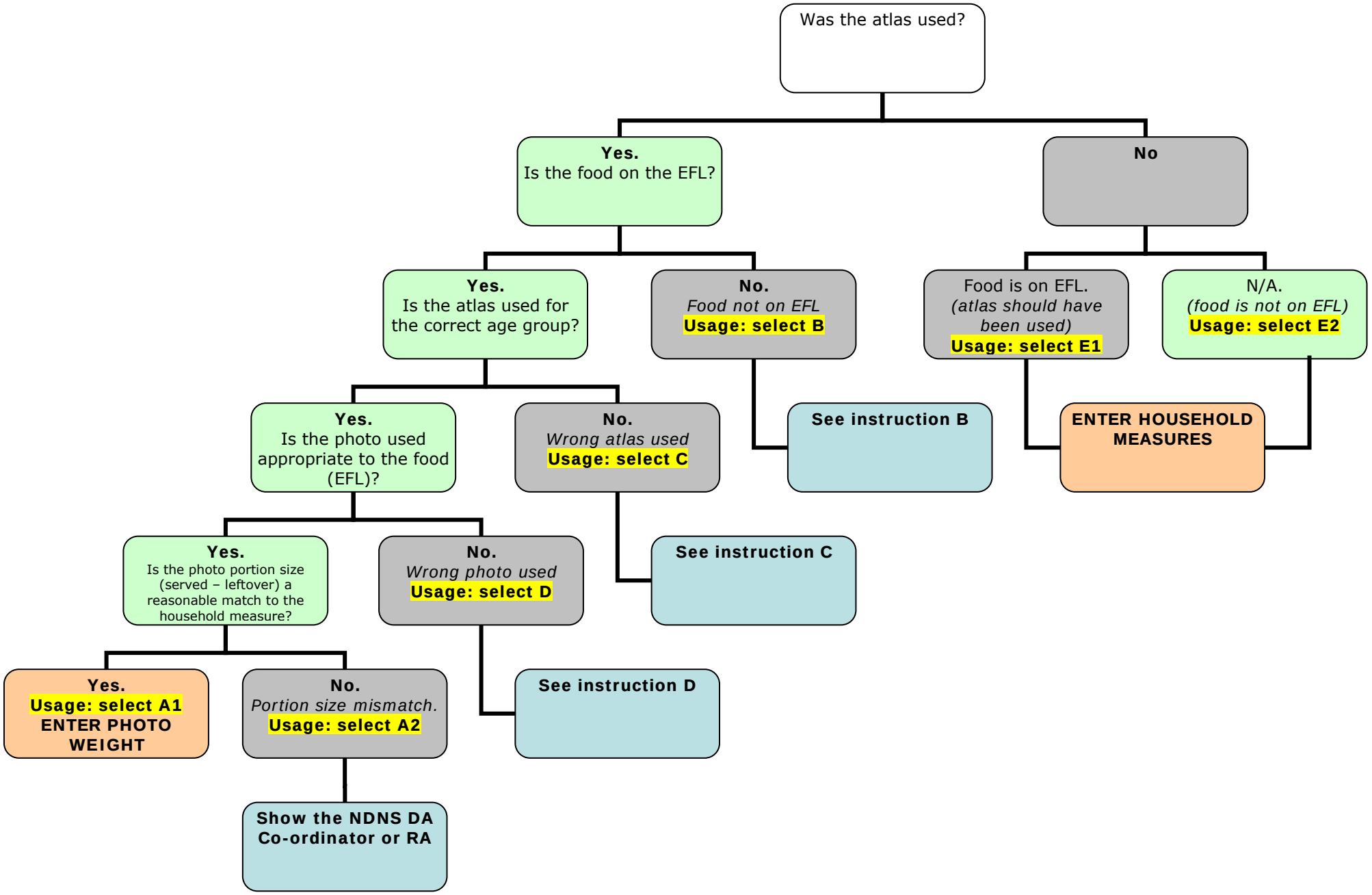
8.2 General comments

In the ***general comments*** box, write any feedback that you have about how the atlas has been used. You may need to go back to this form after coding the diary if you have something to add that was not apparent before coding. This may be comments like, 'respondent always selected middle photo', 'difficult to decipher codes written in' 'interviewer seemed to have left atlas with respondent as no household measures recorded', 'atlas used with respondent over 16 years'.

8.3 Coding foods

Open the coding form as usual (see sections 4 and 5). For respondents in Q2 and under 16 years some additional questions on the atlas will be shown on the coding form.

Use the decision tree opposite to decide whether to use a photo weight or a household measure and how to answer the *Atlas Used* and *Atlas Usage* questions.


Was the atlas used?
Yes.
Is the food on the EFL?
No
Yes.
Is the atlas used for the correct age group?
No.
Food not on EFL
Usage: select B
Food is on EFL.
(atlas should have been used)
Usage: select E1
N/A.
(food is not on EFL)
Usage: select E2
Yes.
Is the photo used appropriate to the food (EFL)?
No.
Wrong atlas used
Usage: select C
See instruction B
ENTER HOUSEHOLD MEASURES
Yes.
Is the photo portion size (served – leftover) a reasonable match to the household measure?
No.
Wrong photo used
Usage: select D
See instruction C
Yes.
Usage: select A1
ENTER PHOTO WEIGHT
No.
Portion size mismatch.
Usage: select A2
See instruction D
Show the NDNS DA Co-ordinator or RA

If the atlas has **not** been used you will code household measures. In the *Atlas Usage* box select **E1** if the food is on the EFL and the atlas should have been used. Select **E2** if the food is not on the EFL so use of the atlas is not applicable.

If the atlas has been used and you can answer 'yes' to all the questions in the decision tree, use the ***food atlas weights look-up file***, clicking on the tab corresponding to the atlas used, to find the weight for the selected photo. The foods are ordered as they are in the atlas. Search for the photo specified in the diary. If two photos are referred to because there were leftovers, calculate the amount eaten by subtracting the leftover quantity from the 'as served' quantity. If an interviewer writes 'half way between photo M706 and M707' for example, calculate the weight in the middle of the weights for the two photos, and make a note that the interviewer has written this in the notes box at the bottom of the coding form. Enter the weight in grams in the portion size box. Select **A1** in the *Atlas Usage* box to indicate that the atlas has been used correctly.

Note: For foods that include the inedible weight as well as the edible, please ensure just the edible weight is coded (for melon, edible portion = 66%).

For foods that may be homemade or composite that are shown by one photo in the atlas (stew for example), only answer 'yes' to the *Atlas Used* question for one of the ingredients, but make sure all of the ingredients are grouped together by recipe group. For other ingredients, choose 'no' in the *Atlas Used* question, and select **E2** in the *Atlas Usage* box to indicate that use of the atlas is not applicable.

8.3.1 Equivalent foods requiring an adjustment factor

For some foods on the EFL an adjustment factor is required to account for the different weights between the foods being described and the food in the photo. For example, the photograph of stew shows a chicken stew, but this photo can be used to describe all types of stew.

8.3.2 Incorrect use of the atlas

We want to get the best portion data possible for each food and in some cases the best available data may come from a photo even if an interviewer has not followed the rules in using the photos.

If the atlas has been used but you answer 'no' to one of the questions in the decision tree, see the corresponding instruction referred to. Select the given letter in the *Atlas Usage* box.

Instructions

B As a rule, do not use the photo weight if the food is not on the EFL. However, if no household measure has been given and the food in the photo is a reasonable match to the food in the diary, it may be appropriate to use the photo weight. Please discuss these cases with the DA Co-ordinator or RA.

C If the Atlas for the wrong age group is used, look at the size of the discrepancy between the household measure and the photo weight. If the discrepancy is small and the value seems feasible for a child of that age, code the photo weight. If you are at all unsure please see the DA Co-ordinator or RA.

D As a rule, do not use the photo weight if the wrong photo has been used. However, if no household measure has been given and the food in the photo is a reasonable match to the food in the diary, it may be appropriate to use the photo weight. Please discuss these cases with the DA Co-ordinator or RA.

A2 Portion size mismatch refers to a mismatch between photo weights and portion sizes given in clear household measures (ie tablespoons **NOT** medium amount, full plate, etc). Where a default kids portion size would have to be used for the household measure, this should not be recorded as a portion size mismatch, no matter how large the discrepancy. If there is a mismatch make a note of the household measure weight in the notes box at the bottom of the form. Whilst this isn't strictly incorrect use of the atlas, it is important that we capture each occurrence of this.

If the atlas has been used to describe a school meal in a child under 11y (i.e. the parent/carer has selected the photograph), do not use the photo weight unless no household measure is given. In these cases in the pilot, for the atlas usage question code 'portion size mismatch' to capture that the usage is not correct but that the error is not in the way that the atlas has been used.

NOTE: if the atlas has been used for respondents over 16 years make a note of this in the general comments box (see above) and code household measures as usual. If no household measures are given use the photo atlas rather than an average portion size, but only if the photo value appears feasible and it is taken from the 11-15 year old atlas. Do not use the photo weight if the food is not on the EFL or a photo for the wrong food has been used.

The National Diet and Nutrition Survey (NDNS)

Year 4: 2011/12

Nurse Project Instructions

P8753

For use from 06/10/2011

This manual must be used in conjunction with the Nurse Protocols Manual and existing Clinical Procedure Guidelines (CPGs).

Contents

1 NDNS WEBSITE FOR RESPONDENTS

NDNS has its own website. It is designed to give respondents more information about the survey. You can refer respondents to the website if they would like further information. The website address is also on advance letters.

The website address is: **www.natcen.ac.uk/NDNS**

2 NDNS REPORT PUBLICATIONS

A few months after the nurse fieldwork is completed, a report is put together for the FSA and Department of Health which is published on their website: www.food.gov.uk/science/dietary surveys/ndnsdocuments. The report contains key results of the survey for the year, such as response rates, sample characteristics and figures on key nutrients such as intake of saturated fat, fibre and fruit and vegetable consumption. At the end of the current four-year rolling programme, a more detailed report will be published.

The first NDNS headline results report was published on the FSA website in February 2010 – this contained results from Year 1 of NDNS. The year 2 report was published on the Department of Health's website in summer 2011. Please have a look at the summary of the report, which highlights the key findings.

3 BACKGROUND & AIMS

3.1 Key features of NDNS

Subject	Diet, nutrition, health and physical activity
Sponsor	The Food Standards Agency (FSA)/ Department of Health
Eligibility	People aged 18 months and over, resident within private households / catering units
Sample size	Approx 1000 people per year, plus country boosts in Scotland, Wales, and Northern Ireland
Data collection method	Face-to-face CAPI interview, self completion, food & drink diary, objective measurements, blood and urine samples

3.2 The purpose of NDNS

The National Diet and Nutrition Survey (NDNS) rolling programme was originally commissioned by the UK Food Standards Agency (FSA).

The FSA was set up in April 2000 to 'protect public health and the interests of consumers in relation to food'. Its nutrition remit was to encourage and facilitate the eating of healthy diets in order to improve the nutrition and diet of the UK population.

Since October 2010, the nutrition remit of the FSA in England has been transferred to the Department of Health and nutrition policy in Wales has been transferred to the Assembly Government in Wales. At present, these functions remain the responsibility of the FSA in Scotland and Northern Ireland.

The FSA and Department of Health's information needs are obtained through its dietary survey programme, of which the NDNS is the major component. In the past, the NDNS involved a series of cross-section surveys, each covering a different age group: pre-school children (1.5 to 4 years); school-aged children and young people (4 to 18 years); adults aged 19-64 years; and older adults aged 65 and over. The first survey was carried out in 1986/87, and since then there has been a survey about every three years, with the most recent carried out in 2000/01. Each has been conducted as a 'one-off' survey. Following a review of the dietary survey programme in 2003, FSA's Board agreed in principle that future surveys should be carried out on an ongoing basis in order to strengthen the ability to track changes over time arising from rapidly changing eating habits, lifestyles, cooking skills, the availability of different types of food, and re-formulations of manufactured foods. The new format of continuous fieldwork provides a more responsive framework for dietary surveys, giving more ability to identify emerging policy issues, responding more rapidly to changing data needs and giving better opportunities to identify and analyse trends. This will enable the development, implementation and monitoring of effective policies to improve the nation's diet and nutritional status. This is particularly important at a time when under-nutrition, particularly for some micronutrients, is accompanied by over-nutrition, particularly for calories, fats, salt, and added sugars, all of which have adverse implications for health.

The main aims of the continuous NDNS survey are:

- to provide annual data about the nation's dietary intake and nutritional status;

- to estimate the proportion of individuals with compromised nutritional status; and
- to estimate the proportions attaining recommended intakes.

The data from the NDNS will be used to estimate the nation's diet and nutritional status, and that of sub-groups of the population. These data will play an important role in monitoring progress towards some specific targets relating to government strategies from both the Department of Health and FSA.

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.

Fieldwork for the fourth year of the study launched in April 2011 for interviewers and July 2011 for nurses.

3.3 Data collected

The key elements to the survey are as follows:

- face-to-face interview and self-completion questionnaires.
- dietary data collection (4-day unweighed diary).
- taking of physical measurements (e.g. height, weight, waist & hip, demispan, mid upper arm circumference, blood pressure).
- wearing of physical activity monitors (Actigraphs).
- blood sample collection (and analysis of nutritional status indices).
- 24-hour urine collection.

The study will sample people living in private residential Catering Units (CUs) only. The sample will include adults and children (aged 18 months and older). Pregnant and breastfeeding women are to be excluded, because they have different nutritional needs.

Information about the survey, its objectives and design has been submitted to a Multi-Centre Research Ethics Committee (MREC), which approves the ethical aspects of medical research. Committee members represent medical, professional and patient interests. They have approved the National Diet and Nutrition Survey.

4 SUMMARY OF SURVEY DESIGN

4.1 Sampling

A total of 5,265 addresses have been drawn from 195 postcode sectors (points) across all four countries of the UK. The mainstage sample comprises a core sample plus a boost to increase the sample size in Wales, Scotland and Northern Ireland. The addresses are issued to interviewers on a monthly basis over the year.

Each interviewer assignment contains 27 addresses.

Basic Addresses: In 11 of the 27 addresses (addresses 1-11), one adult (aged 19+) and one child (aged 18months-18years) is selected at random. In CUs with no such children, just one adult will be selected.

Young Person Boost Addresses: The remaining 16 addresses (addresses 12-27) are for a "young person" boost – here, the interviewer will select one person aged between 18months-18years and *no* adults; and any households containing people aged 19+ only (i.e. no-one aged 18months-18years) are screened out.

For selected respondents there are two main parts to the survey, an interviewer-administered first stage (Stage 1), and a visit by a nurse (Stage 2). Co-operation is entirely voluntary at each stage.

Nurse assignments

You will be provided with full details of respondents at each address in your sample. This will consist of all respondents who agreed to be contacted by a nurse at the interviewer stage and are eligible for a nurse visit. To be eligible a respondent must have been interviewed by the interviewer AND must have provided 3 or more days of diary data.

Please note that people who have not provided 3 or more days of diary data are not eligible to see the nurse. This is because we do not have enough nutritional information with which to correlate the findings of the nurse measurements. You won't receive any information about unproductive households or households where no-one agreed to be contacted by the nurse. In a household where one respondent agreed a nurse could contact but the other refused, you *will* receive information about the respondent who refused, in case they change their mind.

5 FIELDWORK OVERVIEW

5.1 Stage 1: the interviewer visit

Interviewers make three main visits to a participating Catering Unit. The interviewer visits cover:

- Questionnaire administration:
    - Most of the interview will be an interviewer-administered CAPI questionnaire carried out face-to-face.
    - Self-completion booklets to record smoking and drinking habits of children and young people.
    - Self-completion booklet to record physical activity, for respondents aged 16 and over.
- Collection of dietary data for four consecutive days using a diary.
- Taking of physical measurements of standing height and weight.

All children aged 4-15 will be asked to wear an Actigraph. There may be an additional visit, for interviewers, to collect the Actigraph.

At the end of the interviewer stage, the token of appreciation (£30 high street gift card) is given, the second stage of the survey is introduced (the nurse visit) and the interviewer asks for permission for the nurse to contact.

5.2 Stage 2: the nurse visit

Respondents who agree a nurse can contact will be sent a **£5 high street voucher as a token of appreciation** for agreeing to be contacted. This will be sent from the office, with a nurse stage advance letter, prior to the nurse fieldwork start date.

A qualified nurse carries out the second stage of the survey 8 weeks after the end of interviewer fieldwork. As a result, their sample size (i.e. number of respondents to visit) is known at the start of the fieldwork period. Nurses register themselves at the police station and any useful information including the police station interviewers registered at will be fed through in CAPI Admin.

The nurse will collect details of any prescribed medications before taking, with agreement, the following physical measurements:

- Infant length (18 months to 2 years).
- Waist and hip circumferences (ages 11 and over).
- Mid-upper arm circumference (ages 2-15).
- Demi-span (ages 65+, and ages 16-64 where standing height is not obtained during the interviewer stage).
- Blood pressure (ages 4 and over).

Nurses aim to take 24-hour urine samples (from all respondents aged 4 and older) and blood samples (from all respondents, 18 months and older). Where the NatCen nurse does not have recent experience in paediatric phlebotomy, paediatric phlebotomists have been recruited to take blood from those aged 1.5-10years. The NatCen nurse will then accompany the phlebotomist to the respondent's home (see sections 16 and 17 for further details of the urine and bloods visits).

Before the nurse carries out any measurements, the respondent will be given, and asked to read, a leaflet that describes the measurements the nurse will take and their purpose. Before the urine and blood samples are taken, agreement will be obtained in writing.

Blood will only be taken from the arm, which is less painful than the hand; only two attempts are allowed in adults, one in children. With the respondent's permission, blood pressure readings and the results of the blood tests most relevant to their health will be sent to their GP. This information will also be sent to the respondent, if they so wish.

The following table summarises the nurse tasks on NDNS. Bloods and/or urines may be collected on the second or third visit depending on individual scenarios.

1st visit	CAPI interview. Carry out measurements. Introduce the 24-hour urine sample. Introduce the blood sample.
2nd visit *for those agreeing*	Collect the 24-hour urine sample. Take blood sample.
3rd visit *for those agreeing*	Collect the 24-hour urine sample, if not done on 2nd visit. Take blood sample, if not done on 2nd visit.

5.2.1 Nurse content summary

Some of the measures are limited to particular age groups. The table below shows which measures the nurse will attempt to collected from each age group.

	18-23 mths	2-3	4-10	11-12	13-15	16-64	65+
Nurse visit							
Infant length measurements	●						
Prescribed medicines	●	●	●	●	●	●	●
MUAC		●	●	●	●		
Blood pressure			●	●	●	●	●
Waist and hip circumference				●	●	●	●
BMI						●	●
Demi-span						●[a]	●
24 hour Urine			●[b]	●	●	●	●
Non-fasting blood sample	●	●					
Fasting Blood Sample (include venepuncture check list)[c]			●	●	●	●	●

[a] This will only be taken for those aged 16-64 where the interviewer collected valid weight measurement but not valid height measurement.

[b] Urine will only be taken from children fully out of nappies

[C] Diabetics can provide a non-fasting sample, if not willing to fast.

6 THE NURSE VISIT(S) IN YEAR 4

Following careful consideration, we have made a few changes to various protocols for Year 4. The key changes are outlined below and further information is provided elsewhere in these instructions and at briefings.

6.1 Sample – Basic and Young person split

For Year 4, we have increased the number of basic addresses and reduced the number of young person addresses for each assignment. Year 4 interviewer assignments will include 27 addresses as usual, of which 11 will be basic address (up from 9) and 16 young person addresses (down from 18). As usual your NRFs will be delivered in your workpacks pre-labelled. We have made this change to increase the number of adult participants (respondent 1).

6.2 Visits to the post office

For Year 4, we have increased the allowance for returning consent booklets to the Post Office. You will now be allowed up to **four** visits. Please ensure that you return consent booklets on a regular basis.

6.3 CAPI

The CAPI remains almost identical to Year 3 of NDNS. The key change is listed below, but you may also notice some minor changes when you run through an example interview. If you notice anything that seems unusual, however, please contact us.

Question if unable to take a blood pressure reading: The separate ‘PC’ and ‘laptop’ response options have now been combined. The ‘error 844’ reading, which only applied to Dinamap machines, is now simply an ‘error’ reading.

6.4 Doubly Labelled Water (DLW)

DLW is NOT an element of Year 4 interviewer visit so you are not likely to come across respondents who have partaken in a urine collection previously.

7 PAPERWORK

7.1 Nurse sample cover sheet

At the start of each assignment you will be given a list of addresses where at least one respondent has agreed to be contacted by a nurse in the point you are covering. You will also be given a nurse sample cover sheet. This tells you the postcode sector or area in which you will be working and its point number. There is room on the sample cover sheet to record your own progress. This is useful for when your nurse supervisor calls, so that you have in one place the details of your workload and planned appointments.

At the end of the fieldwork period you should be able to account for all addresses on your sample cover sheet. Keep your sample cover sheet for a couple of months after you finish your month's fieldwork as they are sometimes useful when sorting out a query from the office.

7.2 Nurse Record Forms (NRFs)

You will receive a **Nurse Record Form (NRF)** for each household where there is work for you to do.

The NRFs have two functions:

- they tell you the address of the households where there is work for you (shown on the address label on the front page).
- they are also the forms on which you report to the office how successful you have been at those households.

The NRFs will arrive from the office with an address label stuck at the top of page 1. On the Address Label you will find the:

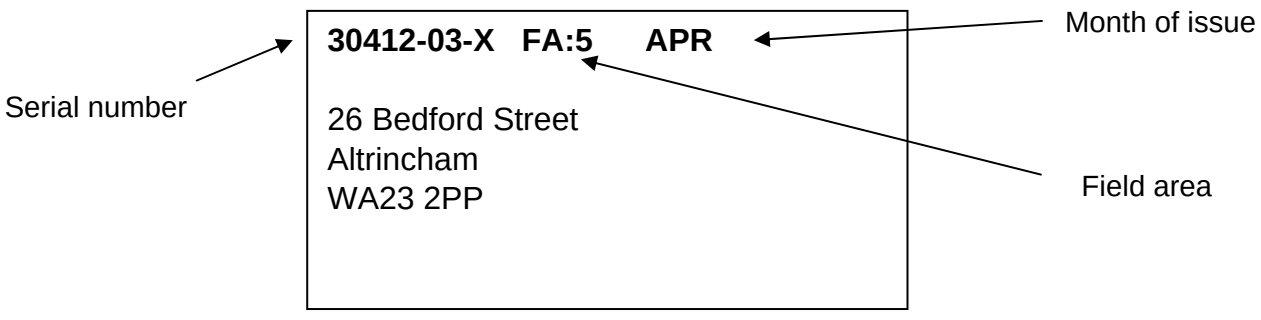
- address
- household serial number

You complete **ALL** parts of the NRF.

Occasionally you may find someone in a household who has been interviewed but refused the nurse visit (code 2) and then decides to take part. You **can** take the measurement as these people have already completed a full interview. Make a note on the NRF explaining what has happened. If they have **not** been interviewed you **cannot** take any measurements. Under no circumstances must you ever measure an individual if an interviewer has not completed a full interview on CAPI.

7.3 NRF Labels/Serial Numbers

The NRF address label looks like this:



Each address/household/person in the survey has been assigned a unique identity number – the serial number. It allows us to distinguish which documents relate to which person.

The serial number consists of the following digits:

Year - 1 digit to show the year within the NDNS series (i.e. 20011/12 = year 4)

- Month - Two-digit number to show the month of issue (i.e. March = 03)
- Point number - Two-digit number to show the point number, within month (between 01 and 15)
- Address number - Two-digit number to show the address number within the point, (01-11 = Basic; 12-27 = Young Person)

Check letter (CKL) – A letter of the alphabet which allows the computer to check that a correct serial number has been entered.

The year, month, point and address plus the check letter are all found on the address label at the top of the nurse record forms (NRFs), as well as on the respondent information sheets. An NRF and corresponding respondent information sheet for each household (where at least one respondent has agreed to be contacted by a nurse) will be included in your work packs.

7.4 Respondent information sheets

The respondent information sheet is separated into a number of sections. The first section will provide you with the following information:

- Household serial number
- The household's telephone number, if known
- Address
- Date of first interview (with the interviewer)
- Name of interviewer

The second section will provide you with the following information about Respondent 1 and / or Respondent 2:

- Respondent serial number
- Whether each respondent answered ‘yes’ or ‘unsure’ when asked for agreement to be contacted by the nurse. This will help you to gauge how to pitch your initial contact with each respondent
- Respondent name
- Parent(s) name (only for respondents under the age of 16)
- Respondent age
- Respondent date of birth
- Sex of respondent

The third section of the information sheet will provide you with the following information:

- Detail relating to the location of the household within the address
- Unusual circumstances – specific information for you including best times to call, information about the household occupants etc. that the interviewer feels you might find useful
- the police station at which the interviewer registered (you will need to register yourself).
- Other information – any other additional information, provided by the interviewer, that might be of relevance to you

Please note: Any sensitive information will be phoned through from the office rather than being included on the respondent information sheet.

Serial Numbers:

Each individual respondent's section on the respondent info sheets will show a serial number. The person number is the additional number at the end of each serial number. The person number is a one-digit number assigned by the interviewers to each person in a household. Only selected and eligible people are given a person number.

Rules are:
Person number 1 = selected respondent aged 19+
Person number 2 = selected respondent aged 1.5 yrs to 18 yrs

Great care must be taken to ensure that the correct serial number for a particular person is used on all documents and blood / urine tubes for that respondent. It is vital that the information the interviewer collects about someone is matched to the information you collect about him or her. If the wrong serial numbers are entered on documents or on the samples, data from one person will be matched with that of someone else.

Household location:

GR is the Ordnance Survey grid reference for the address. This is to help those in rural areas to locate addresses. You will be sent a map with all the addresses selected for the assignment you are working in marked on it. If this is not clear, the postcode can also be used to locate addresses and to obtain a map using one of the following web pages: www.multimap.co.uk or www.streetmap.co.uk. If you cannot search these yourself, please contact Brentwood who will be happy to help.

There may also be some household location details on the bottom of the respondent info sheet – this information will have been provided by the interviewer.

WHAT DO I DO IF A RESPONDENT HAS A BIRTHDAY BETWEEN THE INTERVIEWER AND NURSE VISIT?

The age of the respondent is 'frozen' at the time the interviewer has made her/his visit and administered the household questionnaire. The age that is shown on the **respondent information sheet** is the age you must use.

This means that even if an individual has had a birthday which moves them into a category where they would have had a particular measurement you **do not do that particular test**. For example, if a respondent was 3 years old at interview but becomes 4 years by your visit, do not measure their blood pressure even though (s)he is 4 years old when you see him/her. If respondents query this or ask you to perform the measurement/test you must explain to them that you are not able to because the age of the

individual is based on the **age at interview**. The computer will automatically calculate which measurements you should take in this situation.

8 WHAT DO RESPONDENTS KNOW ABOUT YOUR VISIT?

8.1 The interviewer introduction

The interviewer introduces your visit at the end of their interview by reading out the following:

> "We would like you to help us with the second stage of this study. This is a visit by a qualified nurse to collect some medical information and, if you agree, carry out some measurements. The nurse would like to come round in a couple of months and explain some more about what is involved and answer any questions you have. May I get him/her to contact you?"

Respondents have three options at this question: **'Yes', 'Unsure' and 'No'**. All respondents who answered **'yes' or 'unsure'** will be included in your sample. The respondent information sheets will indicate whether a respondent answered 'yes' or 'unsure' so you can alter your introductions appropriately. In addition, in a two-person household where one of the fully productive respondents agreed to / was unsure about the nurse contacting them, and the other refused, you will receive information about both. This is just in case the respondent who refused later changes their mind. Your respondent information sheet will indicate if one respondent refused.

Interviewers provide the following information to potential questions about the nurse visit:

- It is an integral part of the survey - the information the nurse collects will make the survey even more valuable.
- The nurse is highly qualified. They have all had extensive experience, working in hospitals, health centres etc and have also been specially trained for this survey.
- If the respondent wants, he/she will be given the results of the measurements carried out by the nurse, including the results of any blood pressure (age 4 years and over). If he/she likes, this information will also be sent to their GP.
- Respondents are <u>not</u> committing themselves in advance to agreeing to everything the nurse wants to do. The nurse will ask separately for permission to do each test - so the respondent can decide at the time if he/she does not want to help with a particular one.
- The Multi-Centre Research Ethics Committee has approved this study.

At the end of the interview each respondent is given a Stage 2 survey leaflet by the interviewer. The leaflet briefly describes the purpose of your visit. A copy of the Stage 2 survey leaflet is in your supplies for information. Nurses have a *separate* version of the Stage 2 leaflet, which explains the measurements and samples in more detail. When you arrive for your appointment, make sure that the respondent has the interviewer Stage 2 leaflet (and has read it) and give them the nurse version of the leaflet. Allow them to read the leaflet and then explain in detail the measurements and samples involved in your visit. Note there are different Stage 2 leaflets for different age groups.

After interviewers have secured agreement for the nurse to contact respondents Interviewers will complete additional Admin questions about the addresses and respondents, to help you locate and get respondents on board.

Interviewers do <u>not</u> generate nurse documents (such as the NRF or NNV) nor will there be a "nurse link" to feed-forward information from the interviewer directly to you. NRFs, Respondent Information Sheets and feed-forward data will be generated centrally, from the office. Note that you will not receive any NNVs (No Nurse Visit sheets) on this survey – your sample will be set in advance of your

fieldwork start date so all addresses you receive will definitely contain at least one respondent who has agreed to see you / has said they are unsure about a nurse contacting.

There will be no formal liaison between you and the interviewer but please feel free to contact the interviewer or the office if you wish to talk through any information in person (we understand that there may on occasion be information that an interviewer does not want to enter onto the computer). Likewise, the interviewer will be provided with your details in case he/she wishes to discuss any particular respondents or other practical aspects of the assignment with you.

8.2 Nurse advance letters

A week before the nurse fieldwork start date, a stage 2 advance letter will be sent from the office to all respondents who said ‘yes’ or ‘unsure’ when asked if a nurse could contact. The letter will remind respondents about stage 2 and will include the £5 token of appreciation. The office will also record the nurse name on the letter so the respondent will know who to expect. When contacting respondents, remind them about the stage 2 advance letter as they may have forgotten. Examples of the nurse advance letters are supplied during briefings and included in your work packs.

9 ACHIEVING HIGH RESPONSE RATES

In most cases respondents will be looking forward to your visit. Having completed the interview and the diary they have already invested time in our survey, and most will be willing to complete the second stage. In addition, they will have had a break from the first part of the survey so will hopefully be ready to take part in the next stage. However, some respondents may need persuading – especially those respondents who said they were 'unsure' about being contacted by a nurse. Please think carefully about what to say to respondents, and make sure you know whether they said 'yes' or 'unsure' before making contact, so that you can pitch your introductions appropriately.

9.1 The importance of high response

Past experience shows that achieving high nurse response rates requires continuous hard effort. A high response rate at both stages of the survey is crucial if the data collected are to be worthwhile. Otherwise, we run the risk of getting findings that are biased and unrepresentative, as people who do not take part are likely to have different characteristics from those who do. Keeping respondent co-operation through to this important second stage of the survey is therefore vital to its success.

Keep your introduction short

While you will need to answer queries that respondents may have, you should keep your introduction short and concise. As already noted, some of the people you approach may be hesitant about continuing with the survey, particularly those who answered 'unsure', and if you say too much you may simply put them off. The general rule is to keep your initial introduction short, simple, clear and to the immediate point. Points to remember about your doorstep introduction:

- Show your identity card
- Say who you are
- Say who you work for
- Remind respondents about agreeing to the second stage of the survey
- Remind respondents about the stage 2 advance letter and £5 incentive they will have recently received

For most people this will be enough. They will be happy to make an appointment and all you will have to do is explain what your visit will cover and what you want them to do. Others will be reluctant and need further persuading. Build on what has gone before. Be prepared to answer questions about the survey. Some respondents may have forgotten what the interviewer told them about the survey's purpose or about what your visit involves, especially since there is a fairly long gap between interviewer and nurse fieldwork. You may also need to answer questions about how the household was sampled. Some points you might need to cover are shown in the box later in this chapter.

Only elaborate if you need to, introducing one new idea at a time. Do <u>not</u> give a full explanation right away. You will not have learned what is most likely to convince that particular person to take part. Do not quote points from the boxes except in response to questions raised by the respondent.

9.2 "Selling the nurse stage…"

Most people will be looking forward to your visit and will be keen to help. But some may have become reluctant to co-operate, perhaps because they have become nervous. You will need to use your powers of persuasion to reassure and re-motivate such people. It is important that they take part.

Be careful to avoid calling your visit a "health check". One of the most common reasons given for respondents refusing to see the nurse is "I don't need a medical check - I have just had one". Avoid getting yourself into this situation. You are asking the respondent to help with a survey.

Tokens of appreciation. Remember that respondents will receive tokens of appreciation for taking part in the 24 hour urine part of the study (a £10 high street gift card) and for providing a blood sample (a £15 high street gift card). This should **not** be seen as 'payment' for urine and blood, but as a way of saying thank you for taking part in the various elements of the study.

"You won't want to test me…". Some people think that they are not typical (they are old, they are ill, they are young and healthy, and so on) and that it is therefore not worthwhile (from both your and their point of view) to take part in the survey. You will have to explain how important they are. The survey must reflect the whole population, young and old, well and ill. We need information from all types of people, whatever their situation. If someone suggests that you see someone else instead of them, explain that you cannot do this as it would distort the results. Our target is to interview and measure all eligible respondents. The measurements carried out by the nurse are an integral part of the survey data and without them the interview data, although very useful, cannot be fully utilised.

Diet and nutrition is interesting and important. People are interested in diet and nutrition and are concerned about it. This is a high profile survey on topical issues, such as diet, salt intake, obesity, smoking, drinking, and high blood pressure. Survey reports receive wide press coverage. It is also of immense interest in the media (with programmes such as Jamie's School Dinners) BUT take care in emphasising this too much, we need to get complete representation from those with good and poor dietary habits.

Respondents are not patients

Your previous contact with the public as a nurse will normally have been in a clinical capacity. In that relationship, the patient needs the help of the professional. Your contacts with people in the course of this survey will be quite different. Instead of being patients, they will be people who are giving up their leisure time to help us with this survey. You need their help to complete your task. The way you deal with them should reflect this difference.

They are under no obligation to take part, and can decline to do so. They can also agree, but then decline to answer particular questions or provide particular measurements. But of course we want as few as possible to decline, and we rely on your skills to persuade them to participate.

Tailor your visit to specific needs

Sometimes a respondent may want the nurse visit carried out in a particular way. For example, an older person may want a family member to be present during the nurse visit, or they may prefer a male nurse or female a nurse to take their measurements. The interviewer will usually have collected this information when introducing the nurse visit, and informed you of the special requirement. We want our respondents to take part in the nurse visit, so as far as possible please try to meet the requests of the respondent. Usually a bit of reassurance from you is all that is needed, but if there is something else you need, for example a chaperone, please call your supervisor.

9.3 Being persuasive

It is essential to persuade reluctant people to take part, if at all possible.

What you might mention when persuading someone to take part in the survey:

If the respondent is unsure about the measurements:

- You will ask for their permission before taking each measurement and sample.
- The respondent does not have to do anything - perhaps you could just ask the questions about medicines, and take the blood pressure? (once inside, you may find that the respondent then agrees to more measurements)

Why the NDNS is important (and a good use of government money):

- It is a very important survey.
- It is carried out annually.
- It is the largest national survey to look in depth at the diet and nutrition of the nation
- Results will be published annually and reported in the national press.
- It is a national (government) survey.
- It provides the government with accurate and up-to-date information on the diet and nutrition of the population.
- The information is available to all political parties.
- The information will be needed by whichever government is in office.

Why we want to include everyone:

- The survey covers the whole population, including people who have varied and unvaried diets.
- To get an accurate picture, we **must** talk to all the sorts of people who make up the population - the young and the old, the healthy and the unhealthy, and those who like the current government's policies and those who do not.
- Each person selected to take part in the survey is **vital** to the success of the survey. Their address has been selected – not the one next door. No one else can be substituted for them.

If they have concerns about confidentiality

- No-one outside the research team will know who has been interviewed, or will be able to identify an individual's results.
- The government only gets a statistical summary of everyone's answers.

10 CONTACTING RESPONDENTS

10.1 Making appointments

A personal visit to arrange an appointment is preferable because it is easier for respondents to refuse over the telephone than face-to-face. However we realise this won't always be possible and so if the household has provided a telephone number (this will be provided on the respondent information sheet) you could try to make an appointment over the telephone. You can then arrange an appointment date that is convenient to you both.

Remember to be clear in your mind whether a respondent has said 'yes' to a nurse contacting them or that they were 'unsure'. This is essential so that you can tailor your doorstep approach.

Key points to cover in your introduction:

- *Who you are working for* – the *National Centre for Social Research* (in collaboration with Human Nutrition Research (HNR), Cambridge and University College London (UCL)).
- *Who the survey is for* - for the government (it has been commissioned by the Food Standards Agency and the Department of Health)
- *Why the survey is being carried out*
- *What you are going to do*
- *How the respondent was selected* - it was the address that was selected. Addresses in this area were selected from the Postcode Address File. This is a publicly available list of addresses to which the Post Office delivers mail. The addresses have been picked at random from areas across the country in order to get a good representation of the groups in which we are interested. Once an address is selected, we cannot replace it with another address. Otherwise we would no longer have a proper sample of the population.
- *The confidential nature of the survey* – individual information is not released to anyone outside the research team.
- *How much time you need* - this varies a bit but it is best to allow around 30 minutes for each person plus another 15 minutes per household (to put equipment away and so on).

10.2 Broken appointments

If someone is out when you arrive for an appointment, make every effort to re-contact the person and fix another appointment. Start by leaving a **Broken Appointment Card** at the house saying that you are sorry that you missed them and that you will call back when you are next in the area. Add a personal note to the card. You may also try telephoning them if you feel this is appropriate.

10.3 Number of calls you must make

You must make at least **6 personal visits per household** before you can give up. Each of these calls must be at different times of the day and on different days of the week, including evenings and weekends. However, we hope you will make a lot more than four calls to get respondents that are difficult to contact. If you fail to make contact you should try again but let the office know as they may be able to help you.

You are asked to keep a full account of each call you make at a household on page 1 of the **Nurse Record Form**. Complete a column for each call you make. Include telephone calls to the household as well as personal visits. Note the exact time (using the 24-hour clock) you made the call, and the date on which you made it. In the notes section keep a record of the outcome of each call. Label your notes with the call number.

11 CARRYING OUT THE INTERVIEW

11.1 Feed-forward data

Information recorded by the interviewer is transmitted back to the office, by the interviewer. On the first date of your fieldwork period, the relevant information from the interview is available as feed-forward data to load onto your machine.

IMPORTANT

- The person number assigned to someone **by the interviewer** is the number that **must be used on every document and every blood/urine tube for that person**.

IMPORTANT

- Connect to the host machine at the start of your assignment to pick up your work.
- Before you go to a household check that the feed-forward data **for each respondent** is on your laptop, by entering the household serial number. If the interviewer's information has been successfully transferred, the computer will show you the information about the members of that household, and you can go ahead with that household.
- If you cannot access the feed-forward data because of a technical problem you will need to contact the help desk for assistance.

11.2 The nurse interview documents

The nurse questionnaire is on computer (CAPI). As well as the computer schedule, you will use other documents during the interview itself. The CAPI program will prompt you when to use certain information leaflets and sections of the consent form.

Nurse interview documents include:

- the Stage 2 information leaflets
- the office consent booklet
- the personal consent booklet
- the urine information leaflets
- the PABA information sheet
- the Ametop information leaflet
- the 'why give blood?' leaflet
- the coding prescribed medications booklet
- measurement record card

Please see Appendix B for a full list of survey documents.

Immediately before you start to carry out measurements on a respondent, complete the first half of page 1 of both Consent Booklets. Never do this before your visit to the household.

11.3 Organising the interview

.
Make sure you fully understand the differences in the protocols for children and adults.

When you arrive at the household, check whether any of the people you have come to see have eaten, smoked, drunk alcohol or done any vigorous exercise in the last 30 minutes. This could affect their measurements. If someone has done any of these things, arrange to see other member of the household (if there is one) first in order to give time for the effects to wear off. Similarly if someone in the household wants to eat, smoke or drink alcohol in the near future (e.g. one person is going out and wants a snack before they leave) then try to measure that person first. Adapt your measurement order to the needs of the household.

11.4 Getting into the nurse schedule (CAPI)

Once you have logged on to CMS, the first menu displayed is the **MAIN MENU** screen from which all subsequent menus and screens are selected. The **MAIN MENU** allows you to select several options on the work you want to commence. To access NDNS nurse work, you will need to select **VIEW AMEND LOADED WORK.** This displays the projects/slots by survey month that have been loaded on to your laptop.

To get into the nurse schedule, select **P8753** and the relevant point number you are working on. This will then display a screen with the serial numbers of all the addresses in your sample (plus related information). Use the arrow keys to select the household you would like to work on, then press <Enter>.

You are now in the nurse schedule and ready to start entering data.

If you want to practice at home before 'going live', at the **MAIN MENU** you can select working at home **_PRACTICE INTERVIEW _** select project. The screen displays all the serial numbers for practice interviewing (calls will not be made/entered when practice interviewing). **Do not** use a practice interview slot for a visit to a respondent's home.

11.5 Household information instructions

The household information should be checked **before** making the visit.

OpenDisp
This will be one of the first screens you see. Note that it will only display information about fully-productive individuals who were interviewed by the interviewer (as these are the only individuals who *you* can interview). Other household members may be listed on the paper documents, but they will not be listed on the computer.

For all individuals who were seen by the interviewer, *OpenDisp* shows the person number, name, sex, age, and whether or not a nurse visit was agreed. For those aged 0-15, it will also show the person numbers of the parents (under the columns headed Par1 and Par2). The parental status is shown under the columns headed *NatPs1* and *NatPs2* for Parent 1and Parent 2 respectively.

Once you have checked the grid at *OpenDisp*, press <Ctrl+Enter> to bring up the Parallel Blocks screen from which you can either exit the household (by pressing <Alt+Q>), or select an individual schedule (by highlighting the schedule and pressing <Enter>), or go into the admin block.

11.6 Parallel blocks

The computerised nurse schedule consists of four main components:

- the household information
- the individual schedule comprising potentially of :
    - Nurse schedule (Nurse visit 1)
    - Nurse visit 2
    - Nurse visit 3
- the drug coding block
- the admin block

Each component is known as a ‘parallel block’. This means that you can enter any component at any time, no matter where you are in the schedule (after you have reached O*penDisp)*. For example, you can enter the drug-coding block at any convenient moment in the individual schedule.

The way to move between parallel blocks is by pressing <Ctrl+Enter>, which brings up a screen called ‘Parallel Blocks’. This screen is the ‘gateway’ to the other components of the schedule. It lists all the possible blocks you could go into, and looks like this:

The list of blocks will vary depending on the number of people in the household and the extent to which you have completed the drug coding. There will always be a ‘NNDNS’ and an ‘Admin’ for each household. In addition, there will be a ‘Nurse_Schedule’ for each eligible individual in the household (in the above example, there are two eligible respondents). As soon as you tell the computer that an individual has some prescribed drugs, it will create a ‘Drugcode’ block for that individual. Thus, you may have fewer ‘Drugcode’ blocks than ‘Nurse_Schedule’ blocks.

Each nurse schedule/visit has the person’s name listed after it. The drug-coding block also lists the person’s name, so that you can be sure you are interviewing the correct person and coding their drugs correctly.

The final thing to note about the parallel blocks screen is the ‘+’ or ‘-’ which precedes each block. All blocks will have a ‘-’ to start with, and this will turn into a ‘+’ when the computer is satisfied that that block has been fully completed. In the above example, the nurse has completed the household grid, nurse visits 1, 2 and 3, and the drug coding for Anna and William, but not the admin block.

11.7 Individual information

The individual information should be collected when you are in the household. This section includes the protocols for measurements, as well as some background and CAPI information on each measurement. This section aims to deal only with CAPI questions, which are particularly problematic or important. If you have another problem you can usually solve it in one of these ways:

- If someone does not understand the question, repeat it, before trying to rephrase
- If you are given an answer we have not provided for, open a note by pressing <Ctrl+M>, to write in the nature of the query.

11.8 Is anyone pregnant?

Anyone who is pregnant should have been screened out during the selection process carried out by interviewers. Pregnant people are not included in this survey since they have different nutritional needs from those who are not pregnant. However, just in case an error has occurred during the selection stage or someone has become pregnant since the interviewer stage, when you are at a household where you will be interviewing a girl aged 10-15, start off by making a general statement to everyone of all ages: "Before I start, can I check is anyone pregnant? I need to know as some measurements do not apply to pregnant women." This will give a pregnant girl the opportunity to tell you, if she wishes to. We have not put a formal question into the schedule, as we do not wish to embarrass girls of this age group in front of their parents. In addition, the interviewer selection process should have screened out any pregnant women. In the unlikely event you encounter a pregnant girl aged below 16 years, question *UPreg* will prompt you to enter this fact once you have asked the questions which apply to all respondents. The computer will then terminate the interview at the appropriate point.

11.9 Prescribed medications (all respondents)

This is about prescribed medicines currently used only. Ignore anything else. Medicines should be being taken now, or be current prescriptions for use "as required".

Make sure you get details of all medicines by checking "Are you taking any other medicines, pills, ointments or injections prescribed for you by a doctor?" Try to see the containers for the medicines. Respondents should be prepared for this, but if they are not ask early on in your visit for the containers to be fetched. Check the name of the medicine very carefully and type it in accurately. Record the brand name or generic name so that you can code it.

Do not probe for contraceptive pills, as this may be embarrassing or awkward for some respondents. If it is mentioned, record it. Pills for hormone replacement therapy should also be included. Include suppositories, injections, eye drops, and hormone implants if they are on prescription.

One of your tasks is to enter a six-digit code for the drug. You do not have to do this as soon as you enter the names of the drugs, but the computer will not let you leave the schedule until it is done – it will give you the chance to query any hard-to-find drugs and to ask a respondent what a drug is used for if it has several uses. There are also one or two follow-up questions to ask if the drug is one commonly prescribed for CVD conditions to find out whether or not it has been prescribed for one or more of these conditions.

You can do the drug coding whenever you wish by pressing <Crtl+Enter> and selecting ‘DrugCode’. If you are doing more than one interview in a household, you will be given the choice of several drug-coding blocks. You should choose the one which matches the individual schedule, e.g. if you are completing ‘Nurse_Schedule [Anna] that person’s drug coding block will be called ‘DrugCode[Anna]’. If you go into the wrong drug-coding block by mistake, just press <Ctrl+Enter>, then select the right one.

To get out of the drug-coding block, press <Ctrl+Enter> and select whichever ‘Nurse_Schedule’ you are currently completing. This will take you to back to the start of that individual schedule, so you will have to press <End> to get back to where you were before.

The ideal time to code the drugs is while the respondent is resting with the cuff on prior to the blood pressure measurement. With practice, you will get to know the more common drugs and will be able to code them quickly.

Drugs are to be coded using their British National Formulary (BNF) classification codes - down to the third level of classification. These should be recorded in a six-digit format, using a leading zero where

appropriate. You have a copy of the BNF (make sure it is the **March 2011 edition**), in your nurse bag. You also have a drug coding booklet which lists the 400 (or so) most commonly used drugs in alphabetical order and gives their BNF classification code.

Taking *Premarin* tablets as an example, the alphabetic listing gives the entry 06 04 01. Enter this as a continuous string of numbers, i.e. 060401 (no spaces or dashes). Alternatively, if you had looked up *Premarin* (tablets) in the BNF itself, you would have found it listed in section 6.4.1.1. It is classified down to a fourth level. For our purposes we are only interested in the reference 6.4.1. With leading zeros, this becomes 06 04 01.

If you are unable to find the correct code, enter '999999'.

If you cannot find a drug in the BNF, or it is has more than one reference and you are not sure how to deal with it, record its full name clearly and what it is being taken for.

If the respondent takes aspirin, record the dosage as this can vary.

12 INTRODUCING YOUR MEASUREMENT TASK

12.1 The introduction

The interviewer will have introduced your visit, but has been told to give only a brief outline of what it is about. He/she will have told respondents that you are the best person to explain what your visit is about. So, before you take any measurements, you will need to explain what you hope to do during your visit and to reassure nervous respondents that every stage is optional.

If the respondent wishes, they and their GPs will be sent their blood pressure, results of some clinically relevant blood samples and for those aged 16+, BMI (by letter).

12.2 The Stage 2 leaflet

A copy of the interviewer Stage 2 leaflet will be given by the interviewer at the interview stage. This will tell respondents about the nurse visit and content before you call. After you have explained what you are going to do and the order in which you wish to see the respondents, you should ask respondents if they have read their copy of the interviewer Stage 2 leaflet. Remember to also give respondents the nurse Stage 2 leaflets, which provide respondents with more detailed information than the interviewer versions. Respondents **must** read the nurse version of the leaflet before you start doing any measurements. It describes what you will be doing and sets out the insurance implications of allowing the information to be passed to GPs. This will give them something to do, allow them time to read it and give you time to sort yourself out. Be prepared to answer any questions they may have at this point.

There is also a nurse version of the **child and young person** Stage 2 leaflet, for use with younger respondents who may find the adult leaflet difficult to understand.

13 THE CONSENT BOOKLET

13.1 Completing the consent booklet

Complete a consent booklet for all individuals who have a nurse visit and consent to at least one sample or measurement listed below.

The consent booklets contain the forms the respondent/parent of respondent has to sign to give written consent for:

- blood pressure readings to be sent to their GP (child (4+) or adult).
- BMI measurements to be sent to their GP (16+).
- a sample of blood to be taken, results sent to respondent/GP, sample for storage.
- 24hr urine sample including separate consents for: 1) Use of PABA; 2) Lab analysis, and; 3) Storage.

Consent booklet format

There are two consent booklets: a respondent copy and an office copy.

The procedure for obtaining consent is the same for both booklets. The respondent must **initial** beside each procedure they give consent to, and print and sign their name at the end. As soon as they have initialled for one consent, ask them to sign, just in case they don't agree to any further samples or measurements. Always make sure respondents **initial AND sign**. It is the initials and signature in the office consent booklet that are important. Without these there is no consent and we cannot use the measurements and samples obtained.

You should ensure that initials and signatures are obtained in BOTH copies and that the personal consent booklet is left with the respondent at the end of the visit. This is their legal record of what they have consented to.

The office consent booklet must be filled out for **every** respondent regardless of whether measurements requiring consents are to be taken. This is because it provides an important check in the office. Every piece of information on the front is important. It will form the basis of the BP and blood result letters which are sent to GPs (we won't send results letters if the respondent has not given consent). You are asked to record the date of birth again. This is an important identity check, along with your nurse number and the date of interview.

> Complete Items 1 to 5 **before** you start using the computer to collect information from the respondent. Items 6 to 9 are completed during your interview, and you will be prompted to do so by CAPI.

Fill in the full name and complete address of the GP on every consent booklet for a household, even when both members have the same GP. Each individual is treated separately once the booklets reach the office.

Throughout your visit you will need to record the outcome of the respondent's consent for the following samples or measurements:

9.	SUMMARY OF CONSENTS - RING CODE FOR EACH ITEM	YES	NO
	a) Blood pressure to **GP**	01	02
	b) Body Mass Index (BMI) to **GP**	03	04
	c) Take PABA tablet	05	06
	d) Lab analysis of Urine	07	08
	e) Urine sample for **storage**	09	10
	f) Sample of blood to be taken	11	12
	g) Blood sample result to **GP**	13	14
	h) Blood sample for **storage**	15	16
	i) Blood sample result to **respondent**	17	18

By the end of all nurse visits, every respondent should have **nine** codes ringed at Item 9 (either a 'yes' or a 'no' for each of items a-j).

The last few pages of the office consent booklet are despatch notes for blood samples and urine samples. These are to be sent to Addenbrookes laboratory, the field laboratories and HNR. These despatch notes are tear off sheets to go with the blood and urine samples to the respective labs. There is also a despatch note (on the back page) for you to record blood and urine details for the office. The office despatch note is to be completed and returned to the the office with the rest of the booklet. Again, it is essential that the information on these despatch notes is accurate. The Addenbrookes research analysis request (despatch) forms are carbonised three times so you will only need to fill in the top copy – please make sure you do this in **black biro** and press hard enough so that the information transfers properly to the two other forms. **All three** copies need to be completed and labelled accurately and sent back to Addenbrookes (inside the postal packs).

13.1.1 Respondent signatures

Use a black pen when completing the booklets, and ensure that signatures are always in pen, not pencil. Each respondent must **initial** each box if they have consented to the measurement or sample to be taken. It is very important they initial not tick. The respondent must also sign and print their name on each consent form. Do not erase any of the personal information. If necessary, cross out errors and rewrite so that any corrections can be seen.

Without signed and initialled consents we cannot use the samples.

13.1.2 Child Assent

For children aged 4 and over, nurses should attempt to get a countersigned signature from the child on the office and respondent consent booklets showing that they agree to the procedures. In the case of children who cannot sign their consent, provided they do not appear to or verbally disagree with the procedure, written consent can be sought from the parent/guardian only.

14 OBTAINING CONSENT TO INTERVIEW MINORS

The rules to follow depend on whether the minor is aged 16/17 years or is between 1.5 and 15 years of age. **Never break any of these rules**:

16/17 year olds:
You need to get consent from the respondent but you do not need parental consent to interview someone of this age. If the respondent lives with their parent(s), out of courtesy advise the parents what you will be doing.

1.5-15 year olds:
For children aged 15 and under, you will know from what is recorded on the respondent information sheet who the parents or guardians are; these are the people from whom you need to get permission before you interview or measure a child.

The term 'parent' means the child's natural or adoptive parent. All other people who claim parental status have been classified on the respondent information sheet as having legal parental responsibility.

It is only the person(s) listed on the respondent information as being a parent/having legal parental responsibility that can give verbal consent to interview and verbal/written consent to measure someone aged 1.5 to 15 years. So, if for example, a grandparent, other relative or childminder is looking after the child respondent when you call (and is acting in 'loco parentis' while providing child care) they cannot give consent to interview or for any of the measurements,

The agreement of the child should of course also be sought. Written consent is also required from the parent to send results to the GP, take blood and give urine. Where appropriate, child assent is also sought.

If disagreement arises between parents and/or parent and child about whether or not to co-operate, always respect the wishes of the non co-operator.

For children of all ages 1.5 to 15 you should always ensure that a parent/person with legal responsibility for the child (named on the respondent information sheet) is present during your interview. This is to protect both the child and you. You will also require their presence in order to obtain written consents during the interview.

15 PROTOCOLS MANUAL

There is a protocols manual to be used on all NatCen Surveys involving nurse work. You should refer to the manual and follow the protocols for all Year 4 measurements and samples. These include:

- Infant length measurement (under 2 years)
- Mid-Upper Arm Circumference (aged 2-15)
- Blood pressure (aged 4+)
- Waist and hip measurement (aged 11+)
- Fasting blood sample (aged 4+)
- Non-fasting blood sample (aged 1.5 to under 4 years)

Further information is provided in the following chapters about the blood samples, for NDNS specifically, and about the 24-hour urine samples. Information is also provided about the despatch of these samples.

16 BLOOD SAMPLING PROTOCOL

16.1 Introduction

Blood sample donation and subsequent correct sample distribution is a very important part of the NDNS. One of the main objectives of the NDNS programme is to measure indicators of blood function, nutrition and other measures of health to relate these to dietary and social data.

The blood will be analysed for a large number of analytes including haematology measures (white blood count, haemoglobin, platelets etc), serum lipids (cholesterol, triglycerides), markers of inflammatory status, and markers of mineral and vitamin status.

The samples will not be tested for any viruses, such as HIV, or for bacterial infections, nor will they be used for genetic testing.

16.2 Eligibility Criteria

Respondents are eligible for this measurement if they are aged 1.5 years and over. Respondents aged 4 years and over may only give a fasting blood sample. Respondents aged less than 4 years may give a non-fasting sample. Most diabetics can provide fasting blood samples, but there are some precautions to take into account, as outlined below. CAPI will take you through the relevant questions.

16.2.1 Obtaining blood samples from diabetics

Most diabetics can provide fasting blood samples, but there are some precautions to take into account, as outlined below. CAPI will take you through the relevant questions. The preference is to obtain a fasting sample, if possible. You will provide reassurance about this, but if the respondent remains anxious a non-fasting sample can be taken.

***Acceptable procedures according to medication**:*

- Respondents on oral hypoglycaemic medication should be able to fast without complications
- Respondents on a combination of night time insulin and daytime tablets should also be able to fast unless they are known to have low blood sugar levels first thing in the morning. If they do have low blood sugar in the morning, they could still fast but should reduce their night-time insulin by a small amount and have breakfast as soon as possible after the blood is taken.
- Respondents on insulin alone can also provide a fasting sample, but should be given special consideration. They should postpone their morning insulin and should be seen as early in the day as possible.

In every case, diabetics should have breakfast as soon as possible after blood is taken.

Note that the option of providing a non-fasting sample is only open to diabetics and respondents under the age of 4. Blood should not be taken from respondents who are willing to provide a sample but are not prepared to fast.

16.3 Overview of blood collection procedures

A fasting blood sample will be obtained from those aged 4 years and above. Those aged less than four years will not be asked to fast but CAPI includes questions about whether the child has had something to eat or drink that morning, to ascertain whether it is a fasting or non-fasting sample. A maximum of two attempts at blood taking are permitted with adults (16 years and over) and only one attempt with children.

The volume of blood taken will vary according to the age of the respondent, as follows:

Age	Volume	No. of specimen tubes to be filled
Adult 16+yrs	35.1 mL	8
Child 7-15yrs	21.1 mL	6
Child 1.5-6yrs	10.9 mL	4

The volume differs to ensure that we abide by guidelines for taking blood from children for research purposes. To keep children's blood sample volume as low as possible, some analytes will not be measured in younger children.

Blood samples will be taken by you from respondents aged 11 years and over. For respondents aged 1.5 to 10 years, the sample will be taken by someone with skills and recent experience in paediatric phlebotomy. If this is not you, you will accompany the paediatric phlebotomist during the visit to the respondent's home.

Some blood samples will be posted to Addenbrooke's Hospital in Cambridge for analysis of routine analytes. Most of the blood tubes will be taken to local laboratories where samples will be centrifuged and aliquots of blood, serum, and red blood cells will be frozen for temporary storage.

16.4 Taking blood from children

Unless the NDNS nurse is a trained paediatric phlebotomist, bloods from those aged 10 years and younger will be taken by a trained paediatric phlebotomist. NDNS nurses will be taking blood samples themselves from those aged 11 and over. It is important to make the child feel as comfortable and as at ease as possible. Smiling, making eye contact and speaking so that the child can understand easily are ways to facilitate this. Also, ask the child for permission to do something rather than insisting or telling. This can encourage a sense of control in the child and minimises fear.

Precautionary Restraint (A.K.A. Cuddle Restraint)
If the parent/guardian is willing (note this is optional), they can help you to gently restrain the child to reduce any accidents due to pulling away at the pin prick or panicked movements. Ask the child to sit on the parent's lap. The child should be sitting so that their legs are between the parent's legs. The child should have their arm wrapped around the parent's back and vice versa for the parent. This exposes the chosen arm to the nurse while occupying the child's arms and legs.
NOTE: It is important to ask the child to sit on the same side of the parent as the arm identified for venepuncture.

Please note that if the child has turned 11 since the interviewer visit and is 11 years of age when you are gaining agreement for blood sampling, <u>you</u>, the nurse, should take the blood from this child. This is the only scenario where you should base age on actual, current age rather than the age set at the interviewer visit. CAPI will prompt you to arrange to take blood if the child has turned 11 years of age since the interviewer stage.

16.5 Scheduling appointments

Due to restrictions on when laboratories can process samples and the fact that the vast majority of respondents will be providing fasting samples, blood sampling can only take place on Monday-Thursday mornings. We appreciate that these restrictions mean you will need to make a second or even third visit to a household to collect blood samples (e.g. you may have to make one evening visit to collect all the measurements except the blood sample then another morning visit to take the blood sample(s)). In order to minimise the number of visits, if a household contains two respondents you should schedule appointments for when both respondents are available.

When a household contains a respondent aged 10 or younger, you also need to schedule the blood taking appointment to fit in with the availability of your paediatric phlebotomist partner

16.6 Liaison with the paediatric phlebotemist

Blood from young children, aged 10 years or younger, will be taken from someone with recent experience in paediatric phlebotomy. If this is not you, you will be allocated a paediatric phlebotomist partner who will accompany you on visits to take blood from young children.

The earlier you know whether you have a child aged 18 months to 10 years, the better. This means both you and the phlebotomist, as well as the office, can be better prepared to deal with this. As soon as you know you will be visiting an address with a child aged 18 months to 10 years, you should call The Nurse Unit.

The Nurse Unit have a list of paediatric phlebotomists who have been recruited and trained for NDNS. They will be able to tell you the name, phone number and address of the best placed phlebotomist.

You should then call the phlebotomists to make them aware that you potentially have an address where there might be some work for them to do. At this initial contact, you should ascertain the phlebotomists general availability during the fieldwork period (e.g. any days when the phlebotomist is on holiday or otherwise engaged). This will help when arranging blood-taking visits.

During the first visit when willingness to give a blood sample is ascertained, you can call the phlebotomist to arrange the follow-up visit whilst you are still in the household. Ideally, you will have the phlebotomist availability in advance and can make an appointment then and there. If this is not possible, you will need to arrange the visit as soon as possible afterwards and confirm details with the household over the phone.

Important points when working with a phlebotomist:

- The NDNS nurse is responsible for providing and taking all equipment, including tubes, labels, and needles to the respondent's address.
- The NDNS nurse is responsible for obtaining written consent and making sure signed consents are obtained in the consent booklet.
- The NDNS nurse is responsible for entering information into the laptop and must follow the usual blood taking block in the CAPI.
- The phlebotomists will be asked to complete and sign a paper version of the venepuncture checklist. NDNS nurses will need to enter this information into the CAPI and should post the paper version to the office.
- The NDNS nurse is responsible for all labelling, despatch and delivery of samples.

In essence – the phlebotomists will take the blood sample only – the NDNS nurse does everything else. This is because you are more experienced and have better training in all these areas.

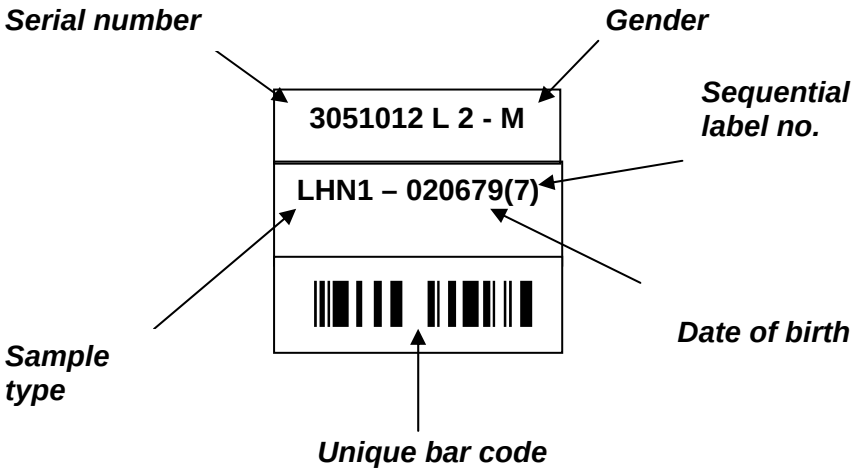
16.7 Equipment and Consumables

16.7.1 Labels

You will be provided with a set of labels for labelling specimen tubes and documents. You will receive a set of labels for each respondent that has agreed or said they are unsure about a nurse visit. All possible labels are pre-printed for a particular respondent. This means that you will receive labels that will not be used if the respondent does not provide a blood sample. These can be disposed of.

On each label there will be:

- The serial number, followed by a check letter
- The respondents' gender
- The sample type
- The sequential label number
- The respondents' date of birth
- A unique barcode number (for HNR's use).



CAPI will guide you through which labels are to be used for each respondent, and which should be affixed to which tube or sent onto the laboratory. The table in section 3.2 also outlines which label should be used for each blood tube.

It is recommended that where labels will not be used that you cross through the top two lines of each label. This will help to reduce the likelihood of a label being used by mistake. When crossing through the label it is best to leave the barcode intact, in case of an error, in which case the label may still be used.

Also, please note that it is your responsibility to label Monovette tubes for all respondents, even when blood is being taken from young children by a paediatric phlebotomist.

16.7.2 Blood tubes

Blood will be collected using the Sarstedt Monovette blood collection system. The following table details the number and type of blood tubes that must be collected for each age group, the destination for each tube and which label should be used. It also shows the priority order in which the tubes should be taken:

Tube:	Goes to:	Label:
Respondents aged 16+ years		
1. 2.6mL EDTA (red top)	Addenbrooke's	EN1 (3)
2. 4.7mL serum gel (brown top)	Addenbrooke's	SEN1 (5)
3. 4.5mL serum (white top)	Field Lab	SEN2 (6)
4. 7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
5. 7.5mL LiHep TM (orange top)	Field Lab	LHN2 (8)
6. 1.2mL Fluoride (yellow top)	Field Lab	FN1 (10)
7. 4.5mL Li Hep (orange top)	Field Lab	LHN3 (9)
8. 2.6mL EDTA blood tube (red top)	Field Lab	EN2 (4)
Respondents aged 7-15 years		
1. 2.6mL EDTA (red top)	Addenbrooke's	EN1 (3)
2. 7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
3. 2.6mL serum gel (brown top)	Addenbrooke's	SEN1 (5)
4. 4.5mL serum (white top)	Field Lab	SEN2 (6)
5. 2.7mL Li Hep (orange top)	Field Lab	LHN2 (8)
6. 1.2mL Fluoride (yellow top)	Field Lab	FN1 (10)
Respondents aged 1.5 to 6 years		
1. 2.6mL EDTA (red top)	Addenbrooke's	EN1 (3)
2. 4.5mL Li Hep (orange top)	Field Lab	LHN1 (7)
3. 1.1mL serum (brown top)	Addenbrooke's	SEN1 (5)
4. 2.7mL serum (white top)	Field Lab	SEN2 (6)

16.7.3 Equipment

You will be provided with the following equipment for blood taking:

- Monovettes for blood specimen collection:
- Tourniquet
- Disinfectant gel
- Alcohol swabs/cotton wool balls or gauze swabs/plasters
- Micropore tape
- Adhesive dressing
- Ametop gel & tegaderm dressing
- Disposable vinyl gloves
- Sarstedt multifly needles: 21G with 60mm or 200mm tube length and 23G with 60mm tube length
- Sarstedt fixed needles: 21G and 22G
- Milton wipes
- Scissors
- Pen (permanent marker)
- Biohazard sharps box
- Biohazard labelled mini-grip bag

You will also be provided with the following equipment for the packaging and delivery/posting of samples:

- Plastic postal containers
- Pre-addressed padded envelopes
- Specimen and document bags
- Parcel tape
- Pre-printed labels for all tubes including those to be passed on to the laboratory
- Pulp tray for specimen tubes
- Pre-packs of 2ml empty micro tubes to be delivered to local lab

- Carrying box for specimen delivery to local lab
- Cold packs
- Instant cold packs (limited to use in emergencies and on overnight assignments)

16.8 Blood consent

Written consents are needed for the following:

- Giving a blood sample
- Notifying GP of clinically relevant blood analyte results
- Providing clinically relevant blood analyte results to the respondent (or parent/guardian of child respondents)
- Storage of blood sample.

There are three variants of the blood sampling consent forms in the consent booklets:

- Consent sheet CF (A2) is for respondents aged 16+
- CF (C2) is for respondents aged 4-15 years
- CF (YC1) is for respondents aged 1.5-3 years

The appropriate blood consent form must be signed at the visit at which blood is taken, **before** blood is taken.

The different sections of the consent forms should be pointed out to the respondent and the form should be given to the respondent to read. After the respondent (parent/guardian) has read the consent form please encourage him/her to ask any questions they may have with regards to the procedure. Once they are content to sign, please ensure the respondent (or parent/guardian) **initials** all those boxes (procedures) they would like to consent to.

There are also tick boxes on the child consent sheets CF(C2) and CF(YC1) to indicate whether the respondent/parent consented to give a blood sample with or without the use of Ametop gel. **Please ensure the appropriate box is ticked.**

You must check that all appropriate boxes are **initialled** and signatures collected. If a respondent is aged 1.5-15 years, you must make sure that you obtain the signature of their parent or the person who has parental responsibility. Children should be encouraged to provide written assent if they wish (and are able) to do so.

Please also note that if the respondent (or parent/guardian of a child respondent) does not wish to receive a report of their (child's) blood analyte results nor do they want results to be sent to the GP, **they must sign the disclaimer form on page 8 of the consent booklet**. This is to ensure that they understand that if there are any findings outside the normal range, we will not be able to notify their GP or anyone else as we do not have their permission to do so.

16.9 Blood sampling procedure

Before taking blood, check that the respondent has understood the purpose of the blood sample, and the protocols for taking it and read the information leaflets. You will also obtain the necessary consents and follow the protocol outlined below:

16.9.1 Collecting the blood sample:

1. Check one last time if the respondent has a bleeding or clotting disorder, is on anticoagulant drugs or has ever had a fit (for 16 years and under) / has had a fit in the last 5 years (for 16 years and over). If such a problem is identified then do not attempt to obtain a blood sample.

2. Follow appropriate protocols if respondent is diabetic

3. Explain the purpose and procedures for taking blood

4. If aged 4 years and over, check not had anything to eat or drink for 8hours. If not fasted, ask to make a new appointment if respondent still willing to provide a fasting blood sample.

5. If respondent is aged under 16 years, explain the option of using Ametop gel

6. Obtain necessary written consents

7. Prepare the phlebotomy items required, for ready accessibility.

8. Make sure that the respondent is at ease and seated comfortably or reclining for the phlebotomy procedure and ensure they cannot hurt themselves if they should faint.
9. Ask the respondent to roll up their left sleeve and rest their arm on a suitable surface. Ask them to remove their jacket or any thick clothing, if it is difficult to roll up their sleeve.

10. The antecubital fossae may then be inspected. It may be necessary to inspect both arms for a suitable choice to be made, and the respondent may have to be repositioned accordingly. Do **not** ask the respondent to clench his/her fist.

11. Select a suitable vein and apply the tourniquet around the respondent's arm, using minimal pressure and for the shortest duration of time. Do not leave the tourniquet in place for longer than 2 minutes.

12. Ask the respondent to keep his/her arm as still as possible during the procedure.

13. Put on your gloves at this point.

14. Clean the venepuncture site gently with an alcohol swab. Allow the area to dry completely before the sample is drawn.

15. Make sure the Sharps bin is readily available to receive used Multifly or other needles, and take the usual rigorous precautions against needle-stick accidents. Never resheath a used needle.

16. Tape the Multifly to the arm with Micropore tape across only half the width of the butterfly section, and with one end folded over, so as to make a non-adhesive flap for easy removal.

17. Collect the blood samples according to priority by placing the specimen tubes in the correct order in the sample tray provided. The tubes should be collected in the order given in the table in section 3.2. This table is also reproduced in CAPI and as a laminated colour-coded guide in each monovette pack.

18. You may use the Monovettes in the 'vacuum' mode, by withdrawing the plunger to the 'click'-point. It is a good practice to attach the first Monovette to the Multifly before insertion into the vein: this ensures a 'flash' of blood when the needle enters the vein.

19. Check for plaster allergies before applying a plaster. If allergic, use a cotton ball secured with micropore tape.

20. Ask the respondent to press afterwards on the bleeding point with their arm slightly raised, which helps reduce bruising.

21. Mix all tubes by gentle inversion five times except for the white and brown topped serum tubes (which do not need to be inverted).

22. Record details in CAPI.

16.9.2 Labelling the blood monovettes:

23. Label the monovette tubes with the serial ID labels as follows depending on the age group of the respondent:

Tube:	**Goes to:**	**Label:**
Respondents aged 16+ years		
9. 2.6mL EDTA (red top)	Addenbrooke's	EN1 (3)
10. 4.7mL serum gel (brown top)	Addenbrooke's	SEN1 (5)
11. 4.5mL serum (white top)	Field Lab	SEN2 (6)
12. 7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
13. 7.5mL LiHep TM (orange top)	Field Lab	LHN2 (8)
14. 1.2mL Fluoride (yellow top)	Field Lab	FN1 (10)
15. 4.5mL Li Hep (orange top)	Field Lab	LHN3 (9)
16. 2.6mL EDTA blood tube (red top)	Field Lab	EN2 (4)
Respondents aged 7-15 years		
7. 2.6mL EDTA (red top)	Addenbrooke's	EN1 (3)
8. 7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
9. 2.6mL serum gel (brown top)	Addenbrooke's	SEN1 (5)
10. 4.5mL serum (white top)	Field Lab	SEN2 (6)
11. 2.7mL Li Hep (orange top)	Field Lab	LHN2 (8)
12. 1.2mL Fluoride (yellow top)	Field Lab	FN1 (10)
Respondents aged 1.5 to 6 years		
5. 2.6mL EDTA (red top)	Addenbrooke's	EN1 (3)
6. 4.5mL Li Hep (orange top)	Field Lab	LHN1 (7)
7. 1.1mL serum (brown top)	Addenbrooke's	SEN1 (5)
8. 2.7mL serum (white top)	Field Lab	SEN2 (6)

This guide is reproduced in CAPI and is also provided as a laminated colour- coded guide in each blood monovette pack.

24. Ensure that the correct labels go on the correct tube. Be sure to check that the date of birth on the labels matches the respondent's.

25. The tubes should be labelled as follows: line up the top of the serial ID label with the top of the label on the monovette. The clear area on the labels must be aligned with the clear area on the monovettes. This is to assist the lab in processing the sample.

It is very important that the correct labels are used for each respondent. If incorrect serial numbers/labels are used there is a risk of matching the blood results to the wrong respondent. The respondent's GP could therefore be sent the wrong results, possibly leading to unnecessary worry or a problem not being picked up.

16.9.3 Despatching blood tubes to Addenbrooke's

26. Most blood tubes (Sarstedt Monovettes®) will be taken by you to the field laboratories for the blood to be processed, but some will need to be sent in the post to Addenbrooke's Hospital, Cambridge. **It is absolutely crucial that tubes are delivered to the correct destination.**

27. The type of blood tubes to be posted to Addenbrooke's depends on the age of the respondent and is summarised in the table below.

Tube:	**No of tubes:**	**Goes to:**	**Label:**
Respondents aged 16+ years			
2.6mL EDTA blood tube (**red** top) 4.7mL serum gel blood tube (**brown** top)	1 1	Addenbrooke's Addenbrooke's	EN1 (3) SEN1 (5)
Respondents aged 7-15 years			
2.6mL EDTA blood tube (**red** top) 2.6mL serum gel blood tube (**brown** top)	1 1	Addenbrooke's Addenbrooke's	EN1 (3) SEN1 (5)
Respondents aged 1.5-6 years			
2.6mL EDTA blood tube (**red** top) 1.1mL serum gel blood tube (**brown** top)	1 1	Addenbrooke's Addenbrooke's	EN1 (3) SEN1 (5)

28. The Office Consent booklet contains 3 carbonised copies of the Addenbrooke's research analysis request form (Research Analysis Request -952), **all** of which **must** be sent with the samples posted to Addenbrooke's.

29. You should clearly and legibly complete the following information in the **top section** of the first copy of the Addenbrooke's research analysis request form (the bottom section of the form will be completed by the laboratory):
    - The respondent's date of birth.
    - Whether the respondent is male or female.
    - Whether the respondent provided a fasting or non-fasting blood sample.
    - The date the sample was taken.
    - The time the sample was taken.
    - Whether a full or partial sample was obtained for **each** of the two tubes.

    The Addenbrooke's research analysis request forms are carbonised, but please ensure that the information you have written has transferred through to each of the three copies.

30. You should then affix the following labels onto the three copies of the Addenbrooke's research analysis request form:
    - **FIRST COPY:** Affix serial number label **Adx1 (11)** in the specified box.
    - **SECOND COPY:** Affix serial number label **Adx2 (12)** in the specified box.
    - **THIRD COPY:** Affix serial number label **Adx3 (13)** in the specified box.

A correctly completed Addenbrooke's research analysis request form is shown in Appendix F.

31. Labels FOL1 (37) and FOL2 (38) are used by the Addenbrooke's laboratory staff for labelling blood sub-sample tubes. These 2 labels should be cut from the bottom of the label strip, attached to the 3 carbonised copies of the Addenbrooke's research analysis request form with a paperclip and enclosed with blood samples sent to Addenbrooke's.

32. The labelled red-topped EDTA tube and the labelled brown-topped serum gel tube should be placed in the green-topped rigid tubes with absorbent lining and then placed inside the video box-style postal container.

33. Include the labelled and completed Addenbrooke's research analysis request form in the video box-style postal container and place the whole box into the pre-addressed envelope.

34. The postal pack containing the blood tubes should be posted on the way to the local laboratory. Be sure to check that the post box has a same day collection.

16.9.4 Despatching the blood samples to the field laboratory:

35. The remaining blood tubes should be taken by you to the local laboratory **within 2 hours of venepuncture**. The number of blood tubes to be taken to the local laboratory depends on the age of the respondent and is summarised in the table below.

Tube:	**Goes to:**	**Label:**
Respondents aged 16+ years		
4.5mL serum (white top)	Field Lab	SEN2 (6)
7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
7.5mL Li Hep TM (orange top)	Field Lab	LHN2 (8)
1.2mL Fluoride (yellow top)	Field Lab	FN1 (10)
4.5mL Li Hep (orange top)	Field Lab	LHN3 (9)
2.6Ml EDTA blood tube (red top)	Field Lab	EN2 (4)
Respondents aged 7-15 years		
7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
4.5mL serum (white top)	Field Lab	SEN2 (6)
2.7mL Li Hep (orange top)	Field Lab	LHN2 (8)
1.2mL Fluoride (yellow top)	Field Lab	FN1 (10)
Respondents aged 1.5 to 6 years		
4.5mL Li Hep (orange top)	Field Lab	LHN1 (7)
2.7mL serum (white top)	Field Lab	SEN2 (6)

36. The Office Consent booklet contains three different types of field laboratory despatch note, FL2.1, FL2.2 FL2.3 for adults, 7-15 year olds and 1.5-6 year olds, respectively. One of these forms should be delivered to the local laboratory along with the samples.

37. You should label the appropriate despatch note for the age of your respondent, using label FL2 (14), and clearly and legibly complete all parts of section A. The remainder of the form will be completed by the laboratory staff.

38. After the blood samples have been taken and when transporting them to the field laboratory it is important that they are kept in the cool box provided. The samples for the respondent should be put in a plastic bag and placed in the cool box so they stay upright during transportation. If two respondents (from the same or different households) have given blood samples in a morning, their samples can be transported together in the cool box; in this case it is particularly important that the samples are labelled and bagged correctly.

39. Upon arriving at the laboratory reception, ask for your main contact and hand the blood tubes, despatch note, microtube pack and field laboratory labels (labels 15-30 on the label strip) over to them.

Please remember to fill in the time of delivery on the field laboratory despatch note before handing it over to the laboratory staff.

16.10 Ametop gel

16.10.1 Use of Ametop gel

All children (aged 15 years and younger) who consent to give a blood sample must be offered a local anaesthetic; Ametop gel. Ametop gel cannot be used on open wounds, eczematous skin, or if the respondent has had an allergic reaction to any local or general anaesthetic. This means that you may not take a blood sample from these respondents, unless they consent to giving a sample without using Ametop.

Ametop is a prescription medication and contains amethocaine (the active ingredient), which is applied to the skin. It is important that you ask the question below (also within CAPI) to determine whether the respondent has any known anaesthetic allergies.

> *Has the person giving this blood sample ever had a bad reaction to a local or general anaesthetic bought over the counter at a chemist, or given at the doctor, the dentist or in hospital?*

Use a new Ametop tube for each respondent and make sure you remove tubes from the household on completion of phlebotomy. For safety, Ametop must not be left lying around where young children could get at it. Any Ametop tubes you have left at the end of your assignment should be returned to the Brentwood office.

16.10.2 Storing Ametop gel

Ametop gel should be stored between 2-8^{o}C (i.e. in a fridge) prior to use, to ensure the shelf life stamped on the product. The Ametop gel should not be frozen nor exposed to heat as this reduces the shelf life rapidly.

16.10.3 The pros and cons of using Ametop gel

The advantages of Ametop gel are that it reduces sensation of needle prick, it is easy to apply and it is generally safe.

One disadvantage is that it takes 30 minutes to work, and so may increase anxiety. Ametop gel also has minimal side-effects and occasionally mild local skin reactions are experienced in people known to be allergic to similar drugs. Other possible side effects include reddening of skin (this is the action of the amethocaine & is to be expected) and a slight swelling or itching where the gel has been applied.

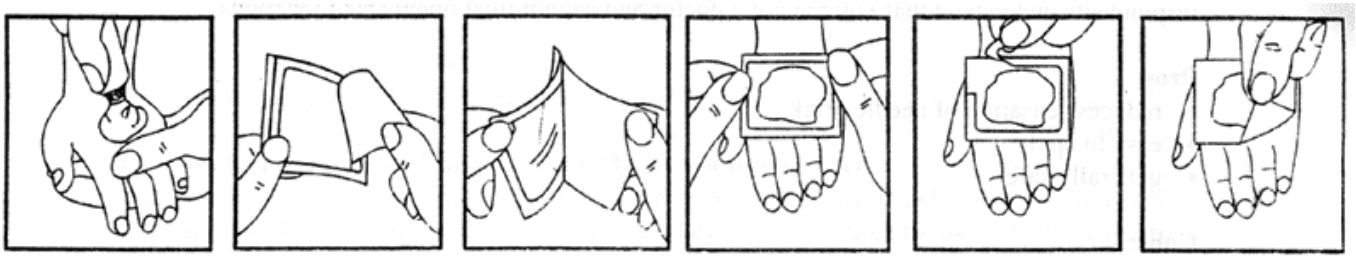
None of the local skin side-effects (if they occur) requires treatment. The reddening will disappear by itself over a period of hours. A local allergic reaction may involve itching, but is unlikely to require treatment. In the very rare instance of a blister forming, remove the Ametop gel immediately.

You will need to explain the pros and cons of using Ametop gel to each respondent and parent, in addition to giving them the leaflet to read. It is important that respondents understand that you are not a doctor and cannot treat unexpected reactions.

16.10.4 Applying Ametop gel

Ametop gel must only be applied to healthy skin; therefore it must not be applied to sore or broken skin (eg. eczema or cuts). Make sure the Ametop gel is kept away from eyes or ears.

If the young person requires Ametop gel to be applied prior to venepuncture, inspect the antecubital fossae and decide which arm you will use for blood-taking. If both arms are suitable, use the left arm. Apply Ametop gel over the antecubital fossa. Cover with a Tegaderm dressing (a vapour permeable and self-sticking film dressing) to keep the Ametop in place. See details about how to apply Ametop below. **Please note the illustration shows** Ametop **being used on the hand. *National Centre* policy is to only take blood samples from the arm.**



1. Squeeze ¾ of a tube in a mound on the area to anaesthetised. **Do not rub in.**

2. Peel the beige coloured 'centre cut-out' from the dressing.

3. Peel the paper layer marked 3M Tegaderm from the dressing.

4. Apply the adhesive dressing with its paper frame to cover the Ametop. **Do not spread the gel**.

5. Remove the paper frame using the cut mark. Smooth down the edges of the dressing carefully and leave in place for 30 minutes. The time of application can be written on the occlusive dressing.

6. After 30 minutes (max. 60mins), remove the dressing. Wipe off the Ametop. Clean entire area with alcohol and begin procedure.

As you may well be aware, removing the Tegaderm is sometimes painful so take care on hairy arms!

NB. THE CONCEPT OF BLOOD TAKING AND USE OF AMETOP GEL MUST NOT BE RAISED WITH THE RESPONDENT BEFORE THE APPROPRIATE POINT IN THE CAPI SCHEDULE. DO NOT INTRODUCE BLOOD TAKING BEFORE THIS, AS THIS MIGHT RISK AFFECTING OTHER MEASUREMENTS (E.G. BLOOD PRESSURE).YOU MUST NOT APPLY AMETOP GEL TO ANY RESPONDENT BEFORE YOU ARE PROMPTED TO DO SO IN THE CAPI SCHEDULE.

16.11 Blood sampling token of appreciation

Respondents of all ages will receive a £15 high street gift card as a thank you for providing a blood sample. Remember this should **not** be presented as 'payment' but as a token of appreciation. Gift cards will be sent out from the office but you will need to complete the **yellow** promissory note and leave it with the respondent.

16.12 Cancellation of blood sampling appointments – what to do in CAPI

If a respondent agrees to give a blood sample, but the appointment is subsequently cancelled for whatever reason (and **not** rearranged), you **must** do the following to ensure the case is signed off properly:

1. Using View/Amend, enter the CAPI program for the relevant address.
2. Using the parallel blocks, select either visit 2 or visit 3 (depending on what other visits you have already made to the household).
3. Confirm the date given by CAPI .
4. At SumV2/SumV3, enter code 1 – that you are going to 'Take blood sample only'.
5. Go through the usual blood eligibility questions, answering 'No' at each one.
6. Code 'No' at TBSWill.
7. At TRefBSC, code the relevant reason for the blood sampling appointment not taking place – e.g. if the respondent says they've changed their mind because they no longer have time, code 8 'Too busy'; if the respondent is under the age of 11 and it wasn't possible to arrange for a paediatric phlebotomist to take the sample, code 6 'No paediatric phlebotomist available'.
8. Circle the relevant codes on the office consent booklet, as specified at TBSStop.
9. Press 1+enter at ThankV2/ThankV3.
10. If there is no more work to do at the address, complete the Admin block as normal and transmit back to the office.

Please note, the above instructions should be used if you have an appointment JUST to take blood. If you have an appointment to take blood AND sub-sample the respondent's urine collection, you will need to use 'Live interviewing' as you will be at the respondent's home. You should then follow steps 2-8 above, but enter code 3 'Collect 24 hour urine AND take blood sample' at SumV2/SumV3 (step 4). The program will then allow you to proceed with taking the respondent's urine collection.

If you are in any doubt about what to do when a blood taking appointment is cancelled (and **not** rearranged), please contact the office.

16.13 Other important points

Please refer to the Nurse Protocols for important information regarding:

- Venepuncture checklist
- Fainting respondents
- Needle stick injuries

The Nurse Protocol also provides general information regarding the handling and disposal of needles and other materials. Also note that for NDNS, sharps bins can be filled with needles from several respondents and taken to the local field laboratory for disposal when full. Other contaminated waste generated should be placed in the biohazard labelled mini-grip bag provided and taken to the local field laboratory for disposal.

17 24-HOUR URINE SAMPLES

17.1 Introduction

The 24 hour urine component of the NDNS is intended to provide accurate information about the levels of specific nutrients in people's diets. Previous studies have found 24 hour urine collection to be a more accurate method of collecting this information than taking spot samples, as nutrient levels such as sodium and potassium fluctuate in the urine during the day, regardless of dietary sodium.

The 24 hour urine collection will be used to measure nutrients including sodium (a marker of salt intake), potassium (a marker of fruit and vegetable intake), urea and nitrogen (represents a measure of protein intake).

We are **not** testing for drugs or viruses.

Respondents will receive a £10 high street gift card as a thank you for taking part in the 24 hour urine part of the study.

17.2 Eligibility criteria

All respondents aged 4 years and over are eligible to provide a 24 hour urine sample, with the exception of children aged 4 and over who are not fully potty trained (i.e. those that wear nappies or training nappies during the day or at night). Also eligible are:

- Children aged 4 and over who are fully potty trained (i.e. do not wear nappies or training nappies during the day or at night) ***are*** eligible
- Respondents who refuse to take PABA (para-aminobenzoic acid) tablets but are willing to carry out the 24 hour urine collection ***are*** eligible
- Respondents who CANNOT take PABA (e.g. those allergic to hair dye, sunscreen or vitamins or those on sulphonamides) but are willing to carry out the 24-hour urine collection without PABA ***are*** eligible

17.3 Overview of 24 hour urine procedures

Respondents will be asked to take three para-aminobenzoic acid (PABA) tablets evenly throughout the waking hours of the day, which enable analysis of the completeness of the urine sample. Please refer to the Nurse Protocol document for further information about PABA.

During the period of collection, the respondent will be asked to pass all urine into the plastic jug provided. They will then pour it into the large 5 litre plastic container using the funnel provided. They should start collecting urine to include the second morning void and stop collecting after their first morning void the following day. Respondents will also be provided with a 2.0 litre container for collection outside of the home.

You will then take 4 aliquots of urine from the 24 hour collection and these will be mailed to HNR in Cambridge where they will be frozen for temporary storage prior to analysis.

17.4 Scheduling urine appointments

In order to minimise the number of visits, if a household contains two respondents you should, as far as possible, schedule appointments for when both respondents are available. If the respondent is also providing a blood sample, if possible try and schedule the appointment for 24 hour urine collection and taking blood for the same time.

You should discuss with the respondent when to collect their 24 hour urine sample. It is recommended that children collect urine on non-school days only. Due to practicalities the majority of adults will also collect on non-working days. However, it is important that some samples are collected on a weekday as our diet differs between weekdays and weekends. Therefore, adult respondents willing to collect on a weekday should be encouraged to do so. It is recommended that children collect on non-school days. Females should be instructed to collect urine on non-period days.

17.5 Equipment and consumables

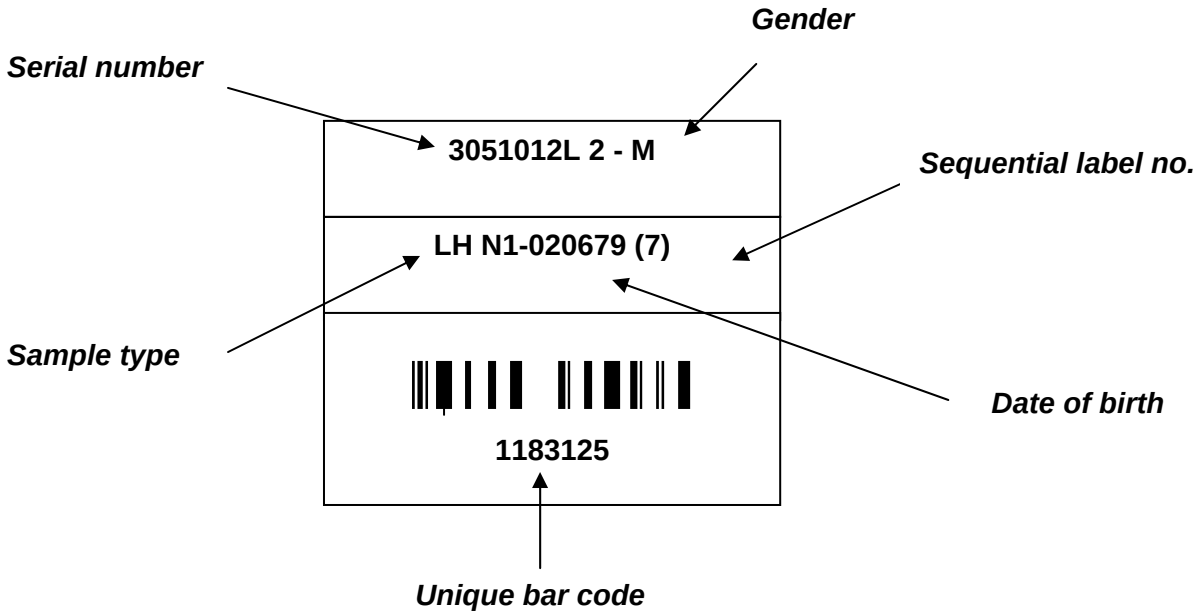
You will be provided with the following equipment for the 24 hour urine collection:

17.5.1 Labels

You will be provided with a set of labels for labelling specimen tubes and documents. You will receive a set of labels for each respondent that has agreed or said they are unsure about a nurse visit. All possible labels are pre-printed for a particular respondent. This means that you will receive labels that will not be used if the respondent does not provide a urine sample. These can be disposed of.

On each label there will be:

- The serial number, followed by a check letter
- The respondents' gender
- The sample type
- The sequential label number
- The respondents' date of birth
- A unique barcode number (for HNR's use).



You will have the following labels for labelling the urine monovettes and documents:

- **U1 –** urine monovette label
- **U2–** urine monovette label
- **U3–** urine monovette label
- **U4–** urine monovette label
- **UCOLL**- urine collection record sheet label
- **UDESP –** urine despatch note label

CAPI will guide you through which labels are to be used for each respondent, and which should be affixed to which tube and document.

17.5.2 First nurse visit:

- 3 PABA tablets
- 5 litre container
- 2 litre container
- 1 litre plastic jug and resealable bag
- Funnel and resealable bag
- Yellow sticky dots
- Plastic carrier bags
- Safety pin
- Urine collection sheet

17.5.3 Sub-sampling visit:

- Urine scales
- 4 x 10ml Sarstedt syringe-type urine Monovettes, plus extension straws
- Disposable gloves
- Disposable work mat
- Disposable apron
- Postal container and packing material
- Labels for syringe-type Monovettes
- Despatch sheet (DESP URINE in Consent booklet: Office copy)

17.6 Urine collection procedure

An outline of the 24 hour urine collection protocol and tasks carried out at each visit are listed below:

17.6.1 During the first nurse visit:

1. Assess the respondent's eligibility for the 24 hour urine collection

2. Give the respondent the 24 hour urine leaflet and explain procedure in detail and answer any questions they may have

3. Obtain the respondent's written consent for the 24 hour urine collection. Written consents are required for the following:

    - Taking PABA tablets to support the 24 hour urine collection
    - Laboratory analysis of the 24 hour urine collection
    - Storage of the 24 hour urine collection for tests in the future

4. Agree a day for the 24 hour collection with the respondent and arrange an appointment with respondent to return to collect the urine sample and despatch. This should be on the same day the collection is completed or, at the latest, the day after the collection is complete

5. Label the urine collection record with label UCOLL(35) and complete the first part of form. The remainder of the form should be completed by the respondent

6. Give the respondent their equipment

7. If there are 2 respondents, use yellow coloured sticky dots on equipment and urine record sheet for children so that there is no risk of respondents mixing up their collection equipment

8. Record relevant details in CAPI

17.6.2 The 24 hour urine sample collection:

1. Respondents collect all of the urine that they pass from the second urine pass of the morning until the first pass of the second morning.

2. Eligible respondents will take 3 PABA tablets over the course of the 24-hour urine collection period. Please refer to Nurse Protocol Section 17.4.1 for more information about PABA.

3. Respondents should record the following information on the 24-hour urine collection record sheet:
    - Date and time of start of collection
    - Date and time of end of collection
    - Date and time that each PABA tablet was taken

4. Respondents should pass all urine into the 1 litre plastic jug and then pour into the 5 litre collection container using the funnel. Please warn respondents that the 5 litre plastic bottle contains preservative and could cause skin or eye irritations by contact, or could cause stomach upset if swallowed. They should therefore not pass urine directly into the 5 litre container.

5. Respondents should use the 2 litre container when away from the home and/or to store urine if the 5 litre bottle is filled to capacity.

6. Please instruct respondents to store their collection in a cool dry place until you arrive to collect the sample.

17.6.3 During the sub-sampling visit:

1. Explain that you are there to sub-sample their 24 hour urine sample and ask to work in their bathroom.

2. Check that the respondent has completed their urine collection record sheet and assist them in filling in any missing details.

3. Enter the details from the respondent's urine collection record sheet in to CAPI.

4. Obtain the PABA tablet packaging from the respondent so that it may be returned to the HNR along with the urine samples.

5. In the respondent's bathroom, weigh the urine container using the scales provided, ensuring that the scale display reads zero before weighing. Record the weight of the container on the urine despatch note (in the Office Consent booklet). Weigh the bottle a second time and record the 2nd

weight on the urine despatch note. If the first and second weights differ by more than 0.02kg, weigh the bottle a third time and record the result.

6. Check that the lid of the urine container is on tightly and mix the urine thoroughly by rotating the bottle at least 20 times. Be careful not to shake the bottle as this will cause the urine to froth and make sub-sampling difficult.

7. Pour a small amount of the urine in to the 1L jug and collect 4 samples of urine using the monovette syringes provided as follows:
    - Remove the small yellow cap from the end of the urine monovette
    - Place a yellow extension tube over the tip of the monovette
    - Place the end of the tube in to the urine
    - Slowly retract the syringe
    - Snap off the syringe
    - Replace the cap tightly

8. You should sub-sample from the 5 litre bottle of urine, as this is the bottle that contains the boric acid. If the respondent has also collected urine in the 2 litre bottle, weigh both bottles separately before mixing the conents together to sub sample the urine. If the urine in the 2 litre bottle **cannot** be transferred into the 5 litre bottle, do not attempt to transfer. Note the weight of the 2 litre bottle but **only** sub-sample from the 5 litre bottle. The 24 hour urine sample despatch note (DESP URINE) in the office consent booklet also guides you through this procedure.

9. Label the urine monovettes using labels U1 (31), U2 (32), U3 (33) and U4 (34) on the label strip. The top of the label should be placed on the tube and the label wrapped horizontally around the tube, avoiding any creases.

10. Complete the urine despatch note and label it with label UDESP (36)

11. Place each of the monovettes in to the green-lidded rigid outer tube and replace the lid. Then place the tubes in to the video box-style postal container.

12. The postal container should be placed in to the pre-addressed envelope, along with the fully completed and labelled urine collection record sheet and urine despatch note.

13. Leave the £10 24-hour urine collection promissory note with respondent.

17.6.4 Immediately after the visit:

1. Post the packaged samples, urine collection record form, urine despatch note and PABA packaging to HNR immediately. If the sub-sampling visit takes place on a Saturday, the samples should be posted on Monday morning. Store the samples in a cool dry place between the urine sub-sampling visit and postage.

17.7 Token of appreciation

Respondents of all ages will receive a £10 high street gift card as a thank you for taking part in the 24 hour urine part of the survey. Remember this should not be presented as ‘payment’ but as a token of appreciation. Gift cards will be sent out from the office but you will need to complete the grey promissory note, and leave it with the respondent.

17.8 Cancellation of 24 hour urine sub-sampling appointments – what to do in CAPI

If a respondent agrees to provide a 24 hour urine sample, but subsequently changes their mind, for whatever reason, and does not provide the sample, you **must** do the following to ensure the case is signed off properly:

1. Using View/Amend, enter the CAPI program for the relevant address.
2. Using the parallel blocks, select either visit 2 or visit 3 (depending on what other visits you have already made to the household).
3. Confirm the date given by CAPI .
4. At SumV2/SumV3, enter code 2 – that you are going to 'Collect 24 hour urine only'.
5. Press 1+enter at UrCInt.
6. Code 'No' at UrColl.
7. Press 1+enter at ThankV2/ThankV3.
8. If there is no more work to do at the address, complete the Admin block as normal and transmit back to the office.

Please note, the above instructions should be used if you have an appointment JUST to sub-sample the urine collection. If you have an appointment to sub-sample AND take blood, you will need to use 'Live interviewing' as you will be at the respondent's home. You should then follow steps 2-6 above, but enter code 3 'Collect 24 hour urine AND take blood sample' at SumV2/SumV3 (step 4). The program will then allow you to proceed with taking the respondent's blood sample.
If you are in any doubt about what to do when a respondent changes their mind about providing a 24 hour urine sample, please contact the office.

17.9 Other important points

The Nurse Protocol provides details of the procedures for 24 hour urine collections including:

- General exclusion criteria
- Consent
- Equipment
- PABA blister pack and procedure for taking PABA
- Respondent procedure for collecting the sample
- Nurse procedure for collecting sub-samples

18 RETURN OF WORK

18.1 Nurse Record Form

Recording the outcome of your attempts to interview and measure
You should complete sections 2 to 5 of the Nurse Record Form (NRF) to report to the office the outcome of your attempts to interview persons in the households in your sample.

Question 1 Record all attempts to make contact with the household. Note all personal visits and telephone calls, even if there was no reply.

Question 2 Complete a column for each respondent in the household (maximum of 2 per household). Your entry here tells the outcome of your attempts to interview these people. The codes in this column are referred to as Outcome Codes.

Enter each person's Respondent Number and first name at the head of the column. Enter them in the order listed on the respondent information sheet. Then for each person ring one of the codes 800-890 to indicate the outcome of your attempts to interview them.

Some rules:

- Use code 800 if the person who refused at the interviewer stage does not change their mind when you visit. There is nothing for you to do.
- Use code 810 if you went through the whole schedule with the respondent and completed all the relevant questions. This code applies even if the respondent refused any of the measurements.
- If someone breaks an appointment and you never manage to make contact with them again, ring code 850, not code 820.
- A proxy refusal (840) is the situation where someone refuses on behalf of someone else - for example, a husband who says he will not allow his wife to be seen by a nurse. Obviously you should do your best to try and see the person yourself but sometimes this is not possible.
- Codes 860-880 should be used only if the respondent is unavailable for interview for these reasons throughout the whole of your fieldwork period. If they are likely to return, and be fit to be seen, during that time, then try again later.

Question 3: Complete this for each respondent who refused to allow you to interview them (ie those you coded 830-840 at Question 6).

Question 4: Complete this for each respondent coded 850-890 at Question 6.

Question 5: Always enter the number of consent booklets obtained. The office need to know this so they know the number to expect back.

18.2 Returning work to the office

If you are measuring both respondents in a household at one time, post the NRF and the Office Consent Forms back to the office the same day as you take the blood samples to the local laboratory (or in time the following day to catch that day's post). Transmit the nurse schedules on the same day as you post the paper materials.

If you do need to make more than one visit to the household and there is a gap between visits, keep all the work to be returned together for that household. But post it back as soon as you have

completed your task there. Referral back to GPs and respondents, in the event of any serious abnormalities, can be seriously delayed if work is not returned in time.

Before returning work, check that you have all the documents you should have and that they are properly completed and serial numbered. Check that they match with your NRF entries. You should return an Office Consent Booklet for each person with an Outcome Code of 810.

Send the NRF to the office when you have completed everything you have to do at a household.

- **Please send ALL office consent booklets back to the office by recorded delivery.** It is essential to send them back by recorded delivery – it is very important that we keep such confidential information safe. In addition, it would be very disappointing not to be able to use blood samples and urine samples that you have worked so hard to get, just because we don't receive the consent booklet. Your fees will cover up to **4** visits to the post office and you should claim for this by submitting a paper claims form.

- **Do not entrust other people to post your envelopes - always post them yourself.**

CAPI questionnaire data will be transferred back to the office via the modem. The computer will decide what to transmit - you do not need to tell it which addresses to take and which to leave. Remember you still need to return the paper documents.

At the end of your assignment, check that you have accounted for all the serial numbers on the Nurse Sample Sheet (NSS). Keep this NSS. It will help sort out queries, should there be any, about work done by you.

18.3 Returning documents and equpiment to the office

As soon as you have finished an assignment, please return all left over documents and equipment to the office in Brentwood so that we can re-use them for other work packs. This is particularly important for blood monovettes – these are very expensive and have a use-by date so it is much better if we can re-use them for subsequent work packs, where at all possible.

APPENDIX A SUMMARY OF NURSE MEASUREMENTS & SAMPLES

Measure	What the measurement is testing	Consent forms	Exclusion criteria	Eligibility criteria	Equipment
Infant length	Measure of infant height	None	None	Infants aged 18 months - 2 years	Rollameter baby measure mat. Infant Frankfort place card. Kitchen roll.
Blood pressure	High blood pressure risk factor for cardiovascular disease	Sending blood pressure readings to GP	Pregnant women (should have been screened out early on)	Aged 4 and over	OMRON HEM blood pressure monitor. Child/Small adult cuff (17-22cm). Standard adult cuff (22-32). Large adult cuff (32-42cm). AC adapter.
Waist & hip	Measure of distribution of body fat. Important indicator of CVD risk	None	If respondent: • is chair bound • has a colostomy / ileostomy • is pregnant (should have been screened out early on)	Aged 11 and over	Insertion tape (with metal buckle at one end if used).
Demi-span	Proxy measure of respondent's height	None	Is respondent is unable to straighten either arm	• All respondents 65+ • Respondents 16-64 if interviewer obtained valid weight but not valid height	Thin retractable demi-span tape with hook at one end. Skin marker pen.
Mid-upper arm circumference (MUAC)	Provides information on muscle mass and subcutaneous fat – key indicator of nutritional status in children	None	None	Aged 2-15	'Lasso' MUAC tape. Skin marker pen.

Fasting Blood sample	Total cholesterol HDL cholesterol Glycated haemoglobin	• Taking blood sample • Storing blood for future analysis • Sending clinically relevant blood results to GP • Sending clinically relevant blood results to respondent • Use of Ametop gel (if <16)	If respondent: • has a clotting or bleeding disorder • is taking anticoagulant drugs • has ever had a fit (<16) • has had a fit in the last 5 years (16+) • is not willing to give written consent • is aged 4 and over, not diabetic and not willing to fast. • is diabetic and not willing to fast	Aged 4 and over	Blood collection materials – see section 16.5 and Nurse Protocols Manual + CPG

Non-Fasting Blood sample	Total cholesterol HDL cholesterol Glycated haemoglobin	• Taking blood sample • Storing blood for future analysis • Sending clinically relevant blood results to GP • Sending clinically relevant blood results to respondent • Use of Ametop gel (if <16)	If respondent: • has a clotting or bleeding disorder • is taking anticoagulant drugs • has ever had a fit (<16) • has had a fit in the last 5 years (16+) • is not willing to give written consent	• Aged 1.5-3 • Aged 4+, diabetic and not willing to fast	Blood collection materials – see section 16.5 and Nurse Protocols Manual + CPG

24-hour urine sample	• Taking PABA tablets • Anaysing urine • Storing urine for future analysis	If respondent: • is not fully out of nappies (aged 4-6) • is not willing to give written consent for lab analyses.	Aged 4 and over	24hour urine collection materials – see section 17.

APPENDIX B NURSE EQUIPMENT

Pilot bag

British National Formulary (BNF 61), March 2011 version

OMRON HEM-907

Blood collection materials:

- Monovettes for blood specimen collection:
  - Bag of 8 tubes for respondents aged 16+
  - Bag of 6 tubes for respondents age 7-15
  - Bag of 4 tubes for respondents aged 18 months-6 years
- Pulp tray for specimen tubes
- Tourniquet
- Disinfectant gel
- Alcohol swabs/cotton wool balls or gauze swabs/plasters
- Micropore tape
- Adhesive dressing
- Ametop gel & tegaderm dressing (See section 17.9)
- Disposable vinyl gloves
- Sarstedt multifly needles: 21G with 60mm or 200mm tube length and 23G with 60mm tube length
- Sarstedt fixed needle: 21G and 22G
- Milton wipes
- Scissors
- Pen (permanent marker)
- Biohazard sharps box
- Biohazard labelled mini-grip bag
- Pre-packed empty micro tubes (to be delivered to local lab)
- Cool box
- Cold packs
- Instant cold packs
- Postal container and packing material
- Pre-printed labels for all tubes, including those to be passed on to the laboratory

24-hour collection materials:

- 3 PABA tablets
- 5 litre container (containing boric acid)
- 2 litre container
- 1 litre plastic jug and resealable bag
- Funnel and resealable bag
- Yellow sticky dots
- Plastic carrier bags
- Safety pin
- Urine record sheet
- Scales
- 4 x 10ml Sarstedt syringe-type urine Monovettes
- Disposable gloves
- Disposable work mat
- Disposable apron
- Postal container and packing material
- Labels for syringe-type Monovettes

Rollameter baby measure mat & Frankfort plane card

Mid-Upper Arm Circumference Tape

Demispan tape

Waist and hip tape

APPENDIX C ORGANISING AND TIMING NURSE VISITS

There are a number of potential visits a nurse could make to a household to collect all measures as part of NDNS. These can be summarised as:

Nurse visit 1: Collect all measures except blood and urine.
Introduce blood sample.
Introduce 24 hour Urine sample.

Nurse visit 2: Collect Urine sample and/or take blood sample

Nurse visit 3: Collect urine sample and/or take blood (if not done already, for whatever reason).

There are a number of limitations about when a nurse visit 2 and 3 can be scheduled. This depends on the age of the respondent, what they have agreed to and how many people there are in the household. Potential scenarios and optimum times to schedule appointments are summarised in the table below. (People living in the same household should have their visits at the same time).

Age group	Measures agreed to	Timing appointments	Considerations
Age 18mth – 3 years	Agrees blood (not eligible for urine)	♦ Appointment to be scheduled before midday, Monday – Thursday only.	♦ For these respondents, nurses will need to be accompanied by a paediatric phlebotomist.
All aged 4 and over	Agrees blood only	♦ Appointment to be scheduled before 10 am, Monday - Thursday only.	♦ For those age 4-10, nurses will need to be accompanied by a paediatric phlebotomist.
Age 4 – 15	Agrees urine only	♦ Urine only to be collected on a non-school day (typically Sat/Sun).	♦ Urine ideally sub-sampled on same day as respondent finishes collection (i.e. Sunday or Monday). ♦ Otherwise, sample must be collected the following day and put in a “same day collection” post.
Age 4 – 15	Agrees blood and urine	♦ Urine only to be collected on a non-school day (typically Sat/Sun). ♦ Blood taking appointments to be scheduled before 10 am, Monday - Thursday only.	♦ Respondent can start urine collection on Saturday and finish on Sunday morning OR start on Sunday and finish on Monday morning. **If respondent starts urine collection on a Saturday:** ♦ Best way to combine these visits is to schedule 1 appointment before 10am on Monday morning to complete the urine sub-sampling and take the blood sample. ♦ If this can’t be done, urine should be collected ideally on the Sunday (or Monday morning at the very latest) and a blood visit arranged for another day, before 10am, Monday – Thursday. **If respondent starts urine collection on a Sunday:** ♦ Best way to combine these visits is to schedule 1 appointment before 10am on Tuesday morning to complete the urine sub-sampling and take the blood sample. ♦ If this can’t be done, urine should be collected on the Monday and a blood visit arranged for another day, before 10am, Monday – Thursday.

Age group	Measures agreed to	Timing appointments	Considerations
Aged 16 +	Agrees blood and urine	♦ Urine can be collected on any day **EXCEPT THURSDAY/FRIDAY** ♦ (in reality collection likely to be at the weekend for most of adult / working population). ♦ Blood taking appointment to be scheduled before 10am, Monday - Thursday only.	♦ Best way to combine these visits is to schedule 1 appointment (before 10am) on the day *after* the respondent has stopped collecting their urine (providing this is Monday – Thursday). Then, in one visit, you can complete the urine sub-sampling and take the blood sample. ♦ If this can't be done, urine should ideally be collected on same day as the respondent finishes collection and a blood visit arranged for another day, before 10am, Monday – Thursday.
Age 16 and over	Agrees Urine only	♦ Urine can be collected on any day **EXCEPT THURSDAY/FRIDAY** ♦ (in reality likely to be a weekend for most of adult/working population).	♦ Urine ideally collected on same day as the respondent finishes their collection. ♦ Otherwise, urine must be collected the following day and put in a "same day collection" post.

APPENDIX D BLOOD ANALYTES

The list below shows the analytes that the blood samples will be analyses for.

Analyte	What it measures
Total, LDL and HDL cholesterol (fasting)	Raised total cholesterol and LDL cholesterol levels are associated with an increased risk of cardiovascular disease, while HDL cholesterol has a protective role.
Triglycerides (fasting)	Together with total and HDL cholesterol, triglycerides provide a lipid (fat) profile which can give information on the risk of cardiovascular disease.
Glucose (fasting)	A fasting blood glucose level is a marker of diabetes risk.
Glycated Haemoglobin	Glycated haemoglobin is a measure of the respondent's glycaemic status. High levels are indicative of diabetes.
Haemoglobin, ferritin, and transferrin receptors	Haemoglobin, ferritin, and fransferrin receptors are measures of iron status. Frequently, an inadequate iron supply can imply a more general nutritional problem.
C-reactive protein	The level of C-reactive protein in the blood gives information on inflammatory activity in the body, and it is also associated with risk of heart disease.
Plasma Creatinine	Creatinine is a waste product of protein metabolism and is used in the assessment of kidney function. An abnormally high level of creatinine is seen in individuals with kidney insufficiency and failure.
White blood cells	White blood cells are made by bone marrow and help the body fight infection and other diseases. There are many different types of white blood cells all performing different functions.
Homocysteine	Elevated levels of homocysteine have been associated with certain forms of heart disease. In folate or vitamin B12 deficiency homocysteine accumulates in the serum, and concentrations increase.
Folic acid (folate)	Folic acid is a B vitamin. It is used in our bodies to make new cells and helps prevent birth defects of the brain or spine.
Vitamin B12 (cyanocobalamin)	Vitamin B12 is required to make new cells as well as for normal blood formation and function. It is also needed for the normal structure and function of nerves. Dietary intake is exclusively from animal sources, e.g. eggs, milk and meat, and fortified foods.
Vitamin B1 (Thiamin)	Vitamin B1 is required for energy production and carbohydrate metabolism. It is also involved in the normal function of the nervous system and the heart.
Vitamin B2 (Riboflavin)	Vitamin B2 is needed for the release of energy from fats, carbohydrates and protein and the production of red blood cells. It is also needed for the normal structure and function of mucous membranes and skin.
Vitamin B6 (Pyridoxine)	Vitamin B6 is essential for the metabolism of protein. It is also involved in iron metabolism and transport.
Vitamin A and carotenoids	Vitamin A is essential to the normal structure and function of the skin and mucous membranes (*e.g.* lining the digestive system and lungs). It is also required for cell differentiation and therefore for normal growth and development, and for normal vision and for the immune system. Some carotenoids have provitamin A activity. Others don't but most carotenoids act as antioxidants to protect cells against oxidative damage.
Vitamin C	Vitamin C is required for normal structure and function of skin, cartilage and bone as it is involved in the production of collagen - the protein in connective tissue. It is therefore involved in the healing process. It is also involved in the normal structure and function of blood vessels and neurological function. Vitamin C also contributes to the absorption of iron from some food sources, in particular plant foods.

D	Vitamin D is formed by the action of ultra violet rays (sun shine) on the skin and this is the most important source for the majority of people as few foods contain significant amounts of vitamin D, e.g. oily fish, eggs and meat. Vitamin D is converted into another (active) form in the liver and then undergoes further changes in the kidney. In this form it works as a hormone in controlling the amount of calcium absorbed by the intestine. It is also essential for the absorption of phosphorus and for normal bone mineralization and structure. Vitamin D is also involved in the process of cell division in many other body tissues.
Vitamin E	Vitamin E is a group of compounds called tocopherols, of which alpha tocopherol is the most active. It acts as an antioxidant and is required to protect cells against oxidative damage by free radicals, for example oxidation of the lipids in the cell membranes.
Minerals Se and Zn	Selenium is a component of some of the enzymes which protect the body against damage due to oxidation (free radical mediated damage). It is also necessary for the use of iodine in thyroid hormone production and for immune system function. Zinc is present in many enzymes and is essential for cell division and, therefore, for growth and tissue repair. It is also necessary for normal reproductive development. Zinc is also required for the functioning of the immune system and in the structure and function of the skin and, therefore, in wound healing.

NDNS P2751

Interviewer Measurements

PROTOCOL FOR TAKING HEIGHT MEASUREMENT

A. THE EQUIPMENT

You are provided with a portable stadiometer. It is a collapsible device with a sliding head plate, a base plate and three connecting rods marked with a measuring scale.

Please take great care of this equipment. It is delicate and expensive. Particular care needs to be paid when assembling and dismantling the stadiometer and when carrying repacking it in the box provided.

- Do not bend the head or base plate
- Do not bend the rods
- Do not drop it and be careful not to knock the corners of the rods or base plate pin
- Assemble and dismantle the stadiometer slowly and carefully

The stadiometer will be sent to you in a special cardboard box. Always store the stadiometer in the box when it is not in use and always pack the stadiometer carefully in the box whenever you are sending it on by courier. Inside the box with the stadiometer is a special bag that you should use for carrying the stadiometer around when you are out on assignment.

If you have any problems with your stadiometer, report these to Brentwood immediately. Do not attempt measurements with a stadiometer that is broken or damaged.

The rods
There are three rods marked with a measuring scale divided into centimetres and then further subdivided into millimetres. (If you are not familiar with the metric system note that there are ten millimetres in a centimetre and that one hundred centimetres make a metre). The rods are made of aluminium and you must avoid putting any kind of pressure on them which could cause them to bend. Be very careful not to damage the corners of the rods as this will prevent them from fitting together properly and will lead to a loss of accuracy in the measurements.

The base plate
Be careful not damage the corners of the base plate as this could lead to a loss of accuracy in the measurements.

Protruding from the base plate (see diagram overleaf) is a pin onto which you attach the rods in order to assemble the stadiometer. Damage to the corners of this pin may mean that the rods do not stand at the correct angle to the base plate when the stadiometer is assembled and the measurements could be affected.

The head plate
There are two parts to the head plate; the blade and the cuff. The blade is the part that rests on the respondent's head while the measurement is taken and the cuff is the part of the head plate that slips over the measurement rods and slides up and down the rods. The whole unit is made of plastic and will snap if subjected to excessive pressure. Grasp the head plate by the cuff whenever you are moving the headplate up or down the rods, this will prevent any unnecessary pressure being applied to the blade which may cause it to break.

Assembling the stadiometer
You will receive your stadiometer with the three rods banded together and the head plate

attached to the pin so that the blade lies flat against on the base plate. Do not remove the head plate from this pin.

Note that the pin on the base plate and the rods are numbered to guide you through the stages of assembly. (There is also a number engraved onto the side of the rods, this is the serial number of the stadiometer). The stages are as follows:

1. Lie the base plate flat on the floor area where you are to conduct the measurements.

2. Take the rod marked number 2. Making sure the yellow measuring scale is on the right hand side of the rod as look at the stadiometer face on, place rod 2 onto the base plate pin. It should fit snugly without you having to use force.

3. Take the rod marked number 3. Again make sure that the yellow measuring scale connects with the scale on rod 2 and that the numbers run on from one another. (If they do not check that you have the correct rod). Put this rod onto rod number 2 in the same way you put rod 2 onto the base plate pin.

4. Take the remaining rod and put it onto rod 3.

Dismantling the stadiometer
Follow these rules:-

1. Before you begin to dismantle the stadiometer you must remember to lower the head plate to its lowest position, so that the blade is lying flat against the base plate

2. Remove one rod at a time

B. THE PROTOCOL - ADULTS (16+)

1. Ask the respondent to remove their shoes in order to obtain a measurement that is as accurate as possible.

2. Assemble the stadiometer and raise the headplate to allow sufficient room for the respondent to stand underneath it. Double check that you have assembled the stadiometer correctly.

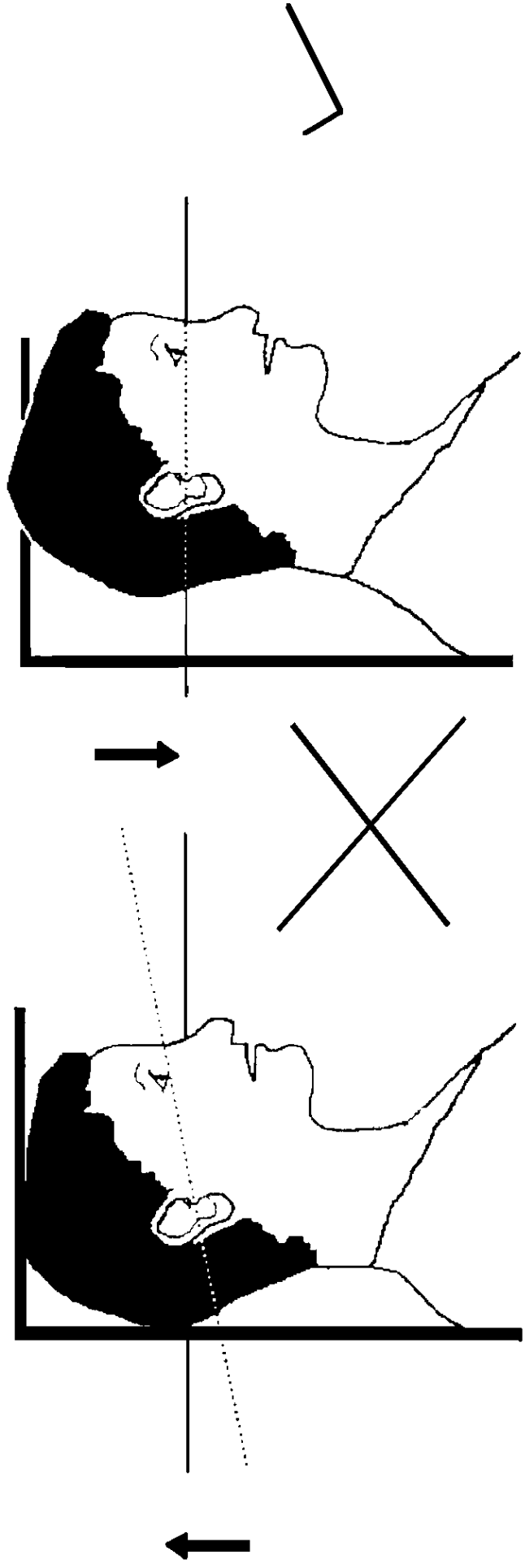
3. The respondent should stand with their feet flat on the centre of the base plate, feet together and heels against the rod. The respondent's back should be as straight as possible, preferably against the rod but NOT leaning on it. They should have their arms hanging loosely by their sides. They should be facing forwards.

4. Move the respondent's head so that the Frankfort Plane is in a horizontal position (i.e. parallel to the floor). The Frankfort Plane is an imaginary line passing through the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye (see diagram). This position is important if an accurate reading is to be obtained. An additional check is to ensure that the measuring arm rests on the crown of the head, i.e. the top back half. To make sure that the Frankfort Plane is horizontal, you can use the Frankfort Plane Card to line up the bottom of the eye socket with the flap of skin on the ear. The Frankfort Plane is horizontal when the card is parallel to the stadiometer arm.

5. Instruct the respondent to keep their eyes focused on a point straight ahead, to breath in

deeply and to stretch to their fullest height. If after stretching up the respondent's head is no longer horizontal, repeat the procedure. It can be difficult to determine whether the stadiometer headplate is resting on the respondent's head. If so, ask the respondent to tell you when s/he feels it touching their head.

FRANKFORT PLANE – ADULTS



6. Ask the respondent to step forwards. If the measurement has been done correctly the respondent will be able to step off the stadiometer without ducking their head. Make sure that the head plate does not move when the respondent does this.

7. Look at the bottom edge of the head plate cuff. There is a green arrowhead pointing to the measuring scale. Take the reading from this point and record the respondent's height in centimetres and millimetres, that is in the form 123**.**4, at the question *Height*. You may at this time record the respondent's height onto their Measurement Record Card and at the question *MbookHt* you will be asked to check that you have done so. At that point the computer will display the recorded height in both centimetres and in feet and inches. At *RelHiteB* you will be asked to code whether the measurement you obtained was reliable or unreliable.

8. Height must be recorded in centimetres and millimetres, e.g. 176.5 cms. If a measurement falls between two **millimetres,** it should be recorded to the **nearest even millimetre.** E.g., if respondent's height is between 176.4 and 176.5 cms, you should round it down to 176.4. Likewise, if a respondent's height is between 176.5 and 176.6 cms, you should round it up to 176.6 cms.

9. Push the head plate high enough to avoid any member of the household hitting their head against it when getting ready to be measured.

C. THE PROTOCOL - CHILDREN (2-15)

The protocol for measuring children differs slightly to that for adults. You must get the co-operation of an adult household member. You will need their assistance in order to carry out the protocol, and children are much more likely to be co-operative themselves if another household member is involved in the measurement. If possible measure children last so that they can see what is going on before they are measured themselves.

Children's bodies are much more elastic than those of adults. Unlike adults they will need your help in order to stretch to their fullest height. This is done by stretching them. This is essential in order to get an accurate measurement. It causes no pain and simply helps support the child while they stretch to their tallest height.

It is important that you practice these measurement techniques on any young children among your family or friends. The more practice you get before going into the field the better your technique will be.

1. In addition to removing their shoes, children should remove their socks as well. This is not because the socks affect the measurement. It is so that you can make sure that children don't lift their heels off of the base plate. (See 3 below).

2. Assemble the stadiometer and raise the head plate to allow sufficient room for the child to stand underneath it.

3. The child should stand with their feet flat on the centre of the base plate, feet together and heels against the rod. The child's back should be as straight as possible, preferably against the rod, and their arms hanging loosely by their sides. They should be facing forwards.

4. Place the measuring arm just above the child's head.

5. Move the child's head so that the Frankfort Plane is in a horizontal position (see diagram). This position is as important when measuring children as it is when measuring adults if the measurements are to be accurate. To make sure that the Frankfort Plane is horizontal, you can use the Frankfort Plane Card to line up the bottom of the eye socket with the flap of skin on the ear. The Frankfort Plane is horizontal when the card is parallel to the stadiometer arm.

6. Cup the child's head in your hands, placing the heels of your palms either side of the chin, with your thumbs just in front of the ears, and your fingers going round towards the back of the neck. (See diagram).

7. Firmly but gently, apply upward pressure lifting the child's head upwards towards the stadiometer headplate and thus stretching the child to their maximum height. Avoid jerky movements, perform the procedure smoothly and take care not to tilt the head at an angle: you must keep it in the Frankfort plane. Explain what you are doing and tell the child that you want them to stand up straight and tall but not to move their head or stand on their tip-toes.

8. Ask the household member who is helping you to lower the headplate down gently onto the child's head. Make sure that the plate touches the skull and that it is not pressing down too hard.

9. Still holding the child's head, relieve traction and allow the child to stand relaxed. If the measurement has been done properly the child should be able to step off the stadiometer without ducking their head. Make sure that the child does not knock the head plate as they step off.

10. Read the height value in metric units to the nearest millimetre and enter the reading into the computer at the question “Height.” At the question “MbookHt” you will be asked to check that you have entered the child's height onto their Measurement Record Card. At that point the computer will display the recorded height in both centimetres and in feet and inches.

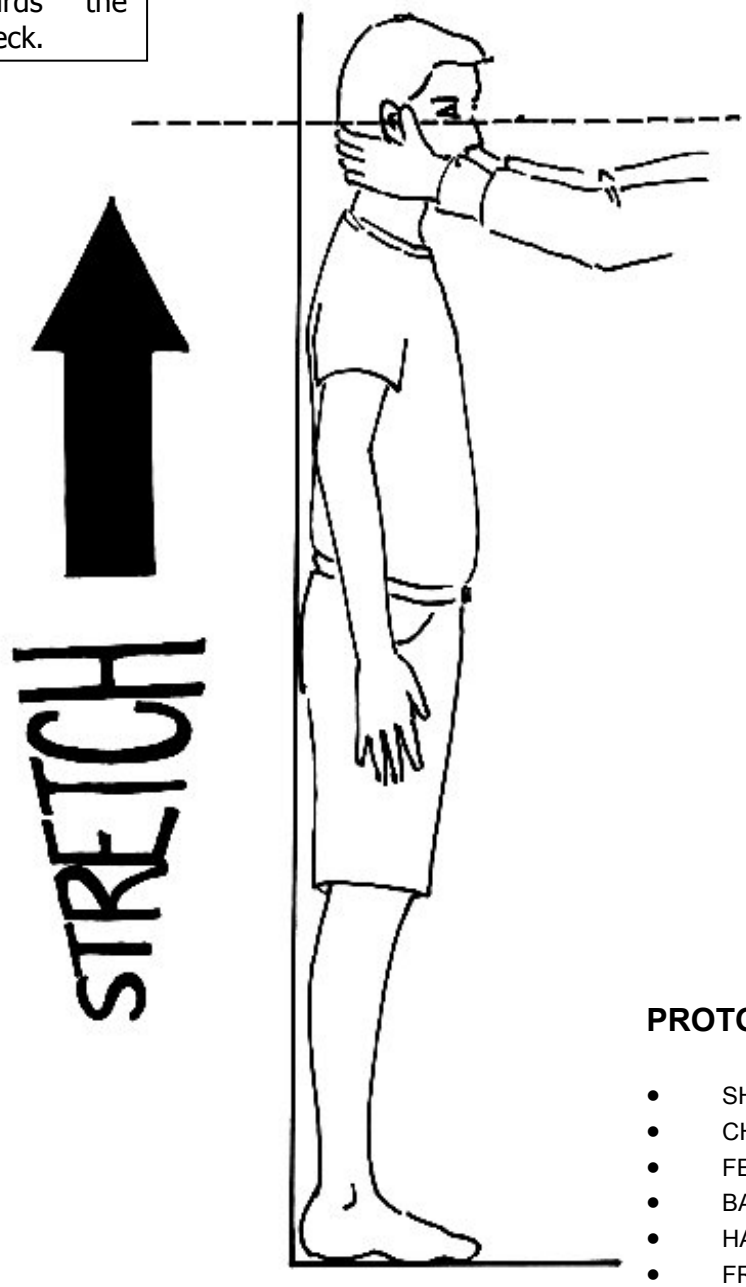
11. Push the head plate high enough to avoid any member of the household hitting their head against it when getting ready to be measured.

REMEMBER YOU ARE <u>NOT</u> TAKING A HEIGHT MEASUREMENT FOR CHILDREN UNDER 2 YEARS OLD.

D. HEIGHT REFUSED, NOT ATTEMPTED OR ATTEMPTED BUT NOT OBTAINED

At *RespHts* you are asked to code whether the measurement was taken, refused, attempted but not obtained or not attempted. If for any reason you cannot get a height measurement, enter the appropriate code at this question and you will automatically be routed to the relevant follow up questions (*ResNHi* and *NoHtBC*) which will allow you to say why no measurement was obtained.

Cup the child's head in your hands, placing the heels of your palms either side of the chin, with your thumbs just in front of the ears, and your fingers going round towards the back of the neck.



PROTOCOL

- SHOES OFF
- CHILDREN – SOCKS OFF
- FEET TO THE BACK
- BACK STRAIGHT
- HANDS BY THE SIDE
- FRANKFORT PLANE
- LOOK AT A FIXED POINT
- CHILDREN – STRETCH & BREATHE IN
- ADULTS - BREATHE IN
- LOWER HEADPLATE
- BREATHE OUT
- STEP OFF
- READ MEASUREMENT

E. ADDITIONAL POINTS - ALL RESPONDENTS

1. If the respondent cannot stand upright with their back against the stadiometer and have their heels against the rod (e.g. those with protruding bottoms) then give priority to standing upright.
2. If the respondent has a hair style which stands well above the top of their head, (or is wearing a turban), bring the headplate down until it touches the hair/turban. With some hairstyles you can compress the hair to touch the head. If you can not lower the headplate to touch the head, and think that this will lead to an unreliable measure, record this at question *RelHite.* If it is a hairstyle that can be altered, e.g. a bun, if possible ask the respondent to change/undo it.

3. If the respondent is tall, it can be difficult to line up the Frankfort Plane in the way described. When you think that the plane is horizontal, take one step back to check from a short distance that this is the case.

PLEASE NOTE: the child head stretch on NDNS is the same as used on HSE but different to that used on Child of the New Century. Please use the NDNS/HSE stretch when measuring children for NDNS interviews.

PROTOCOL FOR TAKING WEIGHT MEASUREMENTS

A. THE EQUIPMENT

There are several different types of scales used on NDNS. They differ in the type of power supply they use, where the weight is displayed and the way the scales are turned on. Before starting any interviewing check which scales you have been given and that you know how they operate. The most common types are:

Soehnle Scales

- These scales display the weight in a window on the scales.
- The Soehnle scales are turned on by pressing the top of the scale (e.g. with your foot). There is no switch to turn the scales off, they turn off automatically.
- The scales take 1 x 9v rectangular MN1604 6LR61 batteries.

Seca 850

- These scales display the weight in a window on the scales.
- The Seca 850 is switched on by pressing the top of the scales (e.g. with your foot). There is no switch to turn the scales off, they turn off automatically.
- The scales take 4 x 1.5v AA batteries/1 x 9v rectangular MN1604 6LR61.

Seca 870

- These scales display the weight in a window on the scales.
- The Seca 870 is switched on by briefly covering the solar cell (for no more than one second). The solar cell is on the right hand side of the weight display panel. **NB** You may experience difficulties switching the scales on if there is insufficient light for the solar cell. Make sure that the room is well lit.
- The scales have an fixed battery which cannot be removed.

Tanita THD-305

- These scales display the weight in a window on the scales.
- The Tanita is switched on by pressing the button on the bottom right hand corner of the scales. The scales will automatically switch off after a few seconds.
- The scales take 4 x 1.5v AA batteries.

When you are storing the scales or sending them through the post please make sure you remove the battery to stop the scales turning themselves on.
(This does not apply to the Seca 870 scales)

Batteries (Soehnle, Seca 850 and Tanita)
It should not be necessary to have to replace the batteries, but always ensure that you have some spare batteries with you in case this happens. If you need to change the battery, please buy one and claim for it. The batteries used are commonly available.

The battery compartment is on the bottom of the scales. When you receive your scales you will need to reconnect the battery. Before going out to work, reconnect the battery and check that the scales work. If they do not, check that the battery is connected properly and try new batteries. If they do still not work, report the fault to your Area Manager/NDNS Manager or directly to Brentwood.

The reading is only in metric units, but as for height, the computer provides a conversion. If the respondent would like to know their weight in stones and pounds you will be able to tell them when the computer has done the calculation. You also have a conversion chart on the back of the coding booklet.

WARNING
The scales have an inbuilt memory which stores the weight for 10 minutes. If during this time you weigh another object that differs in weight by less than 500 grams (about 1lb), the stored weight will be displayed and not the weight that is being measured. This means that if you weigh someone else during this time, you could be given the wrong reading for the second person.

So if you get an identical reading for a second person, make sure that the memory has been cleared. Clear the memory from the last reading by weighing an object that is more than 500 grams lighter (i.e. a pile of books, your briefcase or even the stadiometer). You will then get the correct weight when you weigh the second respondent.

You will only need to clear the memory in this way if:

a) You have to have a second or subsequent attempt at measuring the same person

b) Two respondents appear to be of a very similar weight

c) Your reading for a respondent in a household is identical to the reading for another respondent in the household whom you have just weighed.

If you have any problems with your scales, report these to Brentwood immediately. Do not attempt measurements with scales that are broken or damaged.

B. THE PROTOCOL

1. Turn the display on by using the appropriate method for the scales. The readout should display 888.8 (1888 for the Seca 870) momentarily. If this is not displayed check the batteries, if this is not the cause you will need to report the problem to the *National Centre* at Brentwood. While the scales read 888.8 do not attempt to weigh anyone.

2. Ask the respondent to remove shoes, heavy outer garments such as jackets and cardigans, heavy jewellery, loose change and keys.

3. If necessary, turn the scales on again. Wait for a display of 0.0 before the respondent stands on the scales.

4. Ask the respondent to stand with their feet together in the centre and their heels against the back edge of the scales. Arms should be hanging loosely at their sides and head facing forward. Ensure that they keep looking ahead - it may be tempting for the respondent to look down at their weight reading. Ask them not to do this and assure them that you will tell them their weight afterwards if they want to know.

   The posture of the respondent is important. If they stand to one side, look down, or do not otherwise have their weight evenly spread, it can affect the reading.

5. The scales will take a short while to stabilise and will read 'C' until they have done so. (The Seca 870 displays alternate flashing lines in the display window. With the Tanita scales the weight will flash on and off when stabilised). If the respondent moves excessively while the scales are stabilising you may get a false reading. If you think this is the case reweigh, but first ensure that you have erased the memory.

6. The scales have been calibrated in kilograms and 100 gram units (0.1 kg). Record the reading into the computer at the question *XWt1* before the respondent steps off the scales. At question *MBookWt* you will be asked to check that you have entered the respondent's weight into their Measurement Record Card. At that point the computer will display the measured weight in both kilos and in stones and pounds.

WARNING
The maximum weight registering accurately on the scales is 130kg (20½ stone). (The Seca 870 can weigh up to a maximum of 150kg or 23 ½ stone). If you think the respondent exceeds this limit code them as “Weight not attempted” at *RespWts*. Do not attempt to weigh them.

Weighing Children
You must get the co-operation of an adult household member. This will help the child to relax and children, especially small children are much more likely to be co-operative themselves if an adult known to them is involved in the procedure.

Children wearing nappies should be wearing a dry disposable. If the nappy is wet, please ask the parent to change it for a dry one and explain that the wetness of the nappy will affect the weight measurement.

In most cases it will be possible to measure children's weight following the protocol set out for adults. However, if accurate readings are to be obtained, it is very important that respondents stand still. Ask the child to stand perfectly still - “Be a statue.” For very young children who are unable to stand unaided or small children who find this difficult you will need to alter the protocol and first weigh an adult then weigh that adult holding the child as follows:-

a) Code as “Weight obtained (child held by adult)” at *RespWts*

b) Weigh the adult as normal following the protocol as set out above. Enter this weight into the computer at *WtAd1*.

c) Weigh the adult and child together and enter this into the computer at *WtChA1.*

The computer will then calculate the weight of the child and you will be asked to check that you have recorded the weight onto the child's Measurement Record Card at *MBookWt*. Again the computer will give the weight in both kilos and in stones and pounds.

Weight refused, not attempted or attempted but not obtained

At *RespWts* you are asked to code whether the measurement was taken, refused, attempted but not obtained or not attempted. If for any reason you cannot get a height measurement, enter the appropriate code at this question and you will automatically be routed to the relevant follow up questions (*ResNWt* and *NoWtBC*) which will allow you to say why no measurement was obtained.

MEASUREMENT RECORD CARD

When you have taken the respondent's height and weight, offer the respondent a record of his/her measurements. Make out a Measurement Record Card and give it to the respondent. There is room on the Measurement Record Card to write height and weight in both metric and imperial units if the respondent wants both. The computer does the conversion for you. There is space to write in the respondent's Body Mass Index (BMI) as well, if the respondent is aged 16+ (the computer will calculate this for you). Remember to give respondents the BMI leaflet if you give them their BMI.

NDNS P8753

Protocols for Nurse Measurements

(Blood sampling, waist & hip circumferences, demispan, blood pressure, infant length, mid-upper arm circumference)

BLOOD SAMPLING

BLOOD SAMPLING

1.1 Introduction

Blood sample donation and subsequent correct sample distribution is a very important part of the NDNS. One of the main objectives of the NDNS programme is to measure indicators of blood function, nutrition and other measures of health to relate these to dietary and social data.

The blood will be analysed for a large number of analytes including haematology measures (white blood count, haemoglobin, platelets etc), serum lipids (cholesterol, triglycerides), markers of inflammatory status, and markers of mineral and vitamin status.

The samples will **not** be tested for any viruses, such as HIV/AIDS, or for bacterial infections, nor will they be used for genetic testing.

Respondents will receive £15 in high street vouchers as a thank you for providing a blood sample.

Blood sampling is extremely important on NDNS and we need to obtain high response rates. Some respondents will be reluctant to provide a blood sample but try to introduce it simply as 'the next stage' of the nurse visit. Reassure respondents that you (or the paediatric phlebotomist, where relevant) are highly trained and experienced in taking blood samples. Explain that a blood sample will make the information they have already provided us with even more useful. Also use the fact that they can receive clinically relevant results as a selling point – many respondents feel this is a very positive incentive to providing a blood sample, often even more so than the £15 token of appreciation.

1.2 Eligibility for blood sampling

- ***General eligibility***

All respondents aged 1.5 years and over, with the exceptions outlined in the Nurse Protocols, section 18.2, are eligible to give blood.

Respondents aged 4 and older will be asked to fast for 8 hours overnight before providing a blood sample. Respondents under the age of 4 will not be asked to fast.

- ***Obtaining blood samples from diabetics***

Most diabetics can provide fasting blood samples, but there are some precautions to take into account, as outlined below. CAPI will take you through the relevant questions. The preference is to obtain a fasting sample, if possible. You will provide reassurance about this, but if the respondent remains anxious a non-fasting sample can be taken.

***Acceptable procedures according to medication**:*

- Respondents on oral hypoglycaemic medication should be able to fast without complications
- Respondents on a combination of night time insulin and daytime tablets should also be able to fast unless they are known to have low blood sugar levels first thing in the morning. If they do have low blood sugar in the morning, they could still fast but should reduce their night-time insulin by a small amount and have breakfast as soon as possible after the blood is taken.
- Respondents on insulin alone can also provide a fasting sample, but should be given special consideration. They should postpone their morning insulin and should be seen as early in the day as possible.

In every case, diabetics should have breakfast as soon as possible after blood is taken.

Note that the option of providing a non -fasting sample is only open to diabetics and respondents under the age of 4. Blood should <u>not</u> be taken from respondents who are willing to provide a sample but are not prepared to fast.

1.3 Overview of blood taking procedures

A fasting blood sample will be obtained from those aged 4 years and above. Those aged less than four years will not be asked to fast but CAPI includes questions about whether the child has had something to eat or drink that morning, to ascertain whether it is a fasting or non-fasting sample.

A maximum of two attempts at blood taking are permitted with adults (16+) and only one attempt with children.

The volume of blood taken will vary according to the age of the respondent, as follows:

Age	*Volume*	*No. of specimen tubes to be filled*
Adult 16+yrs	35.1 mL	8
Child 7-15yrs	21.1 mL	6
Child 1.5-6yrs	10.9 mL	4

The volume differs to ensure that we abide by guidelines for taking blood from children for research purposes. To keep children's blood sample volume as low as possible, some analytes will not be measured in younger children.

Blood samples will be taken by you from respondents aged 11 and over. For respondents aged 1.5 to 10 years, the sample will be taken by someone with skills and recent experience in paediatric phlebotomy. If this is not you, you will accompany the paediatric phlebotomist during the visit to the respondent's home.

Some blood samples will be posted to Addenbrookes Hospital in Cambridge for analysis of routine analytes. Most of the blood tubes will be taken to local laboratories where samples will be centrifuged and aliquots of blood, serum, and red blood cells will be frozen for temporary storage.

An outline of the blood sampling tasks carried out prior to and at each visit is provided below:

During the first nurse visit

Assess eligibility for blood sampling and explain procedure in detail.
Obtain verbal consent to make appointment to revisit for blood sampling and instruct about overnight fast (age 4 and above only).
If respondent is aged <11, inform respondent (and parent/guardian) that blood will be taken by a paediatric phlebotomist (if necessary).
Arrange appointment with paediatric phlebotomist (if necessary).
Record details in CAPI.

Prior to second visit

If not yet done, arrange appointment with nurse/paediatric phlebotomist (if necessary).
Ensure you have all phlebotomy items.
Ensure cold packs are ready for use (i.e. placed in freezer).
Prepare label strips.

Second nurse visit

Re-check eligibility for blood sampling and ensure respondent understands procedures.
Confirm and obtain appropriate written consents.
Obtain blood sample, filling tubes in priority order.
Label Monovettes with pre-printed labels (**only** once blood has been obtained).
Record details in CAPI.
Leave blood sampling promissory note with respondent.

Immediately after the visit

Send tubes and associated documentation (3x carbonised Addenbrookes research analysis request forms) to Addenbrookes using the correct postal pack.
Take blood specimens, storage tubes, relevant labels, contaminated waste, and documentation to the local laboratory.
Record details in CAPI.
Use Milton wipes to wipe the cold packs before placing them into a new plastic bag in the freezer in preparation for the next appointment.
Use Milton wipes to clean the insides of the carrying box.

1.4 The blood tubes (Sarstedt Monovettes®)

Up to 8 tubes need to be filled, depending on the age of the respondent. The tubes should be filled in the following order so that, if a situation arises where there will be insufficient blood to fill all the tubes, the analyses with the highest priority can still be undertaken.

The tubes, plus details of the analytes carried out on the sample contained in each, are detailed below. The destination for each tube is also provided.

Tube:	**Goes to:**	**Label:**
Respondents aged 16+ years		
1. 2.6mL EDTA (red top)	Addenbrookes	E N1 (3)
2. 4.7mL serum gel (brown top)	Addenbrookes	SE N1 (5)
3. 4.5mL serum (white top)	Field Lab	SE N2 (6)
4. 7.5mL Li Hep TM (orange top)	Field Lab	LH N1 (7)
5. 7.5mL LiHep TM (orange top)	Field Lab	LH N2 (8)

6. 1.2mL Fluoride (yellow top) **7.** 4.5mL Li Hep (orange top) **8.** 2.6mL EDTA blood tube (red top)	Field Lab Field Lab Field Lab	F N1 (10) LH N3 (9) E N2 (4)
Respondents aged 7-15 years		
1. 2.6mL EDTA (red top) **2.** 7.5mL Li Hep TM (orange top) **3.** 2.6mL serum gel (brown top) **4.** 4.5mL serum (white top) **5.** 2.7mL Li Hep (orange top) **6.** 1.2mL Fluoride (yellow top)	Addenbrookes Field Lab Addenbrookes Field Lab Field Lab Field Lab	E N1 (3) LH N1 (7) SE N1 (5) SE N2 (6) LH N2 (8) F N1 (10)
Respondents aged 1.5 to 6 years		
1. 2.6mL EDTA (red top) **2.** 4.5mL Li Hep (orange top) **3.** 1.1mL serum (brown top) **4.** 2.7mL serum (white top)	Addenbrookes Field Lab Addenbrookes Field Lab	E N1 (3) LH N1 (7) SE N1 (5) SE N2 (6)

We are aware that typical clinical practice is not to use EDTA tubes first due to risk of contamination of subsequent samples. However, this is considered less of an issue with Sarstedt monovettes compared to other tubes because of the way the rubber comes down over the end of the tube as you remove each one. So far, obtaining blood in EDTA tubes first has not proved to be a problem with samples in other surveys (National Survey of Health and Development) where a very similar priority protocol is used. Although there is a slight risk of contamination, there is agreement that priority should be set by the analyte order agreed by the consortium, including the FSA.

1.5 Equipment and Consumables

The blood samples will be collected using the Sarstedt Monovette® blood-collection system with multifly needle (or Monovette fixed needle if preferred). Using the syringe rather than vacuum mode reduces the chance of haemolysis. This Monovette system offers trace element contamination control and is manufactured from plastic which allows for safe transport of sample through the postal system.

You will be provided with the following equipment for blood taking:

- Monovettes for blood specimen collection:
  - 2.6mL, EDTA Monovette (red top)
  - 7.5mL Lithium heparin Monovette for trace metal analysis (orange top)
  - 4.5mL, 2.7mL Lithium heparin Monovette (orange top)
  - 4.5mL, 2.7mL serum Monovette (white top)
  - 4.7mL, 2.6mL, 1.1mL serum Monovette (brown top)
  - 1.2mL fluoride Monovette (yellow top)
- Tourniquet
- Disinfectant gel
- Alcohol swabs/cotton wool balls or gauze swabs/plasters
- Micropore tape
- Adhesive dressing
- Ametop gel & tegaderm dressing (See section 17.9)
- Disposable vinyl gloves

- Sarstedt multifly needles: 21G with 60mm or 200mm tube length and 23G with 60mm tube length
- Sarstedt fixed needles: 21G and 22G
- Milton wipes
- Scissors
- Pen (permanent marker)
- Biohazard sharps box
- Biohazard labelled mini-grip bag

You will also be provided with the following equipment for the packaging and delivery/posting of samples:

- Plastic postal containers
- Pre-addressed padded envelopes
- Specimen and document bags
- Parcel tape
- Pre-printed labels for all tubes including those to be passed on to the laboratory
- Pulp tray for specimen tubes
- Pre-packs of 2ml empty micro tubes to be delivered to local lab
- Carrying box for specimen delivery to local lab
- Cold packs
- Instant cold packs (limited to use in emergencies and on overnight assignments)

1.6 Obtaining written consents for blood sampling

Written consents are needed for the following:

- Giving a blood sample
- Notifying GP of clinically relevant blood analyte results
- Providing clinically relevant blood analyte results to the respondent (or parent/guardian of child respondents)
- Storage of blood sample.

There are three variants of the blood sampling consent forms in the consent booklets:

- Consent sheet CF (A2) is for respondents aged 16+
- CF (C2) is for respondents aged 4-15 years
- CF (YC1) is for respondents aged 1.5-3 years

The appropriate blood consent form must be signed at the visit at which blood is taken, **before** blood is taken.

The different sections of the consent forms should be pointed out to the respondent and the form should be given to the respondent to read. After the respondent (parent/guardian) has read the consent form please encourage him/her to ask any questions they may have with regards to the procedure. Once they are content to sign, please ensure the respondent (or parent/guardian) **initials** all those boxes (procedures) they would like to consent to.

There are also tick boxes on the child consent sheets CF(C2) and CF(YC1) to indicate whether the respondent/parent consented to give a blood sample with or without the use of Ametop gel. **Please ensure the appropriate box is ticked.**

You must check that all appropriate boxes are initialled and signatures collected. If a respondent is aged 1.5-15 years, you must make sure that you obtain the signature of their parent or the person who has parental responsibility. Children should be encouraged to provide written assent if they wish (and are able) to do so.

Please also note that if the respondent (or parent/guardian of a child respondent) does not wish to receive a report of their (child's) blood analyte results nor do they want results to be sent to the GP, **they must sign the disclaimer form on page 8 of the consent booklet**. This is to ensure that they understand that if there are any findings outside the normal range, we will not be able to notify their GP or anyone else as we do not have their permission to do so.

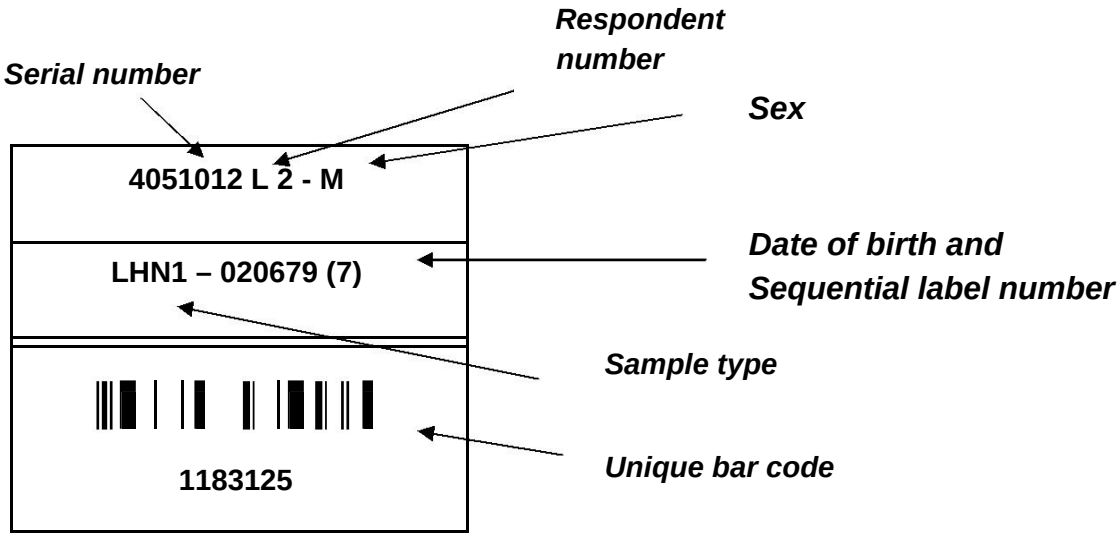
1.7 Labelling the blood tubes

♦ ***Introduction***

All possible labels are pre -printed for a particular respondent. This means that you will receive sets of labels that will not be used if the respondent does not provide a blood sample. These can be disposed of.
On each label there will be:

- the serial number (including the respondent number), followed by the check letter
- a code showing the sample type (see table in section 17.4) and the sequential label number in brackets; and
- a barcode with unique number (for HNR's use).

The labels will be used on documents and on blood and urine tubes. For each respondent a full set of labels (38) in a pre-specified order will be provided rolled up as a continuous strip. This strip provides all labels needed by the nurse and the field laboratory for processing the samples.



Note that it is your responsibility to label Monovette tubes for all respondents, even when blood is being taken from young children by a paediatric phlebotomist.

CAPI will guide you through which labels are to be used for each respondent, and which should be affixed to which tube or sent onto the laboratory. The protocol is also outlined in the following section.

Note that the full set of labels covers 24 hour urine samples, as well as blood.

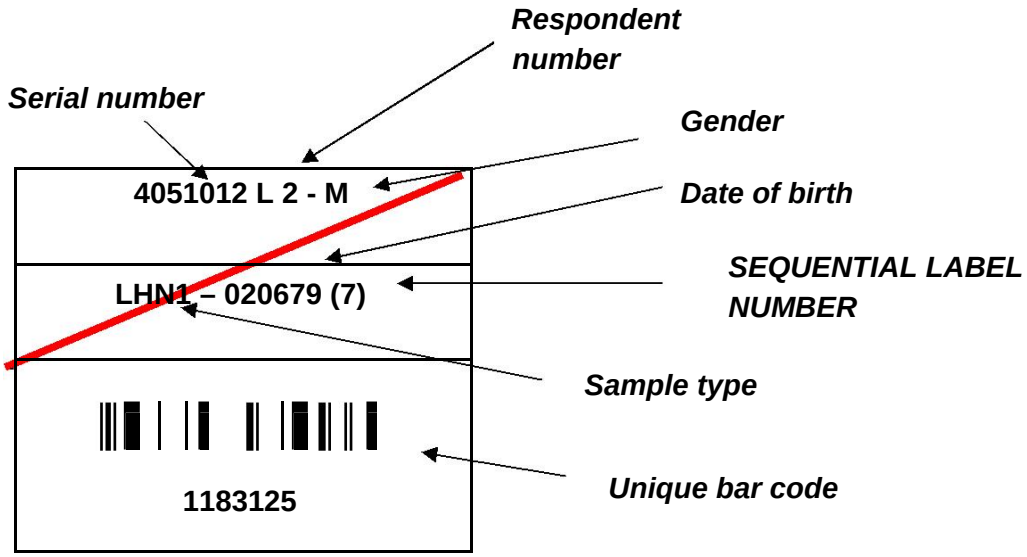
♦ ***Identifying labels to be used***

All of the 38 labels will be used for respondents aged 16+ who give blood and urine. This means all respondent 1s, as well as respondent 2s aged 16-18. Respondents aged 1.5 - 15 years require fewer labels: 32 for respondents aged 7-15, 22 for respondents aged 4-6 years, and 18 for respondents aged 1.5 to 3 years.

The sequential label number (in brackets next to the sample type) will assist you in crossing through the labels that are not required for the 3 younger age groups.
The following labels are **NOT** required for:

7 – 15 years	**4 – 6 years**	**1.5 – 3 years**
E N2 (4)	E N2 (4)	E N2 (4)
LH N3 (9)	LH N2 (8)	LH N2 (8)
LH WB (15)	LH N3 (9)	LH N3 (9)
E1 (16)	F N1 (10)	F N1 (10)
LH8 (25)	LH WB (15)	LH WB (15)
LH9 (26)	E1 (16)	E1 (16)
	LH4 (21)	LH4 (21)
	LH5 (22)	LH5 (22)
	LH6 (23)	LH6 (23)
	LH7 (24)	LH7 (24)
	LH8 (25)	LH8 (25)
	LH9 (26)	LH9 (26)
	SE3 (29)	SE3 (29)
	F1 (30)	F1 (30)
		U1 (31)
		U2 (32)
		U3 (33)
		U4 (34)
		UCOLL (35)
		UDESP (36)

For labels not required for the above age groups, the top two label sections (i.e. serial number and sample type) can be crossed through – the bar code should **not** be crossed through (see below) . Crossing through the serial number and sample type so they become illegible should also be avoided, in case of mistakes. Labels remaining on the strip include those for Monovettes and micro tubes not needed clearly marked by a diagonal line as shown below. The lab is instructed to return those with the samples to HNR (see also next section). The other remaining valid labels will be used by the field laboratory to label the microtubes for plasma and serum storage.



♦ ***Labelling blood tubes***

For each respondent you will be given a pre-packed set of blood specimen tubes (Monovettes) and a pre-packed set of empty storage tubes (micro-tubes). **You must pass the micro-tubes on to the field laboratory** when you deliver the filled Monovette tubes. See chapter 18 'Despatching Blood Samples'.

The plastic bags containing the Monovettes and micro-tubes will show the corresponding age range. On the Monovette packs, the expiry date of the tube with the shortest expiry date will also be shown. Please check the date and if the expiry date has passed, use a different pack. The expired Monovette tube set should be returned to the Brentwood office.

It is your responsibility to label the Monovette tubes **only**. We recommend that for child respondents you prepare the phlebotomy visit by crossing out the labels not needed as described above. As there are no spare labels, the Monovette tubes should only be labelled **after the blood is taken**.

The correct label for each tube should be peeled off and the top of the label should be positioned onto the tube first and then wrapped round the tube horizontally, ensuring the label does not crease. It is important that the label is not creased, otherwise the bar-code scanner cannot read the bar-code. If applied correctly even on the smallest tube there is no risk of overlap that would obscure any label information.

It is very important that the correct labels are used for each respondent. If incorrect serial numbers/labels are used there is a risk of matching the blood results to the wrong respondent. The respondent's GP could therefore be sent the wrong results, possibly leading to unnecessary worry or a problem not being picked up. To prevent mislabelling always ask the respondent to confirm that the date of birth on the serial ID labels is correct before you start labelling.

NB. The following 6 labels (31-36) are for the 24 hour urine collection:

U1 (31)
U2 (32)

U3 (33)
U4 (34)
UCOLL (35)
UDESP (36)

The following 2 labels (37-38) should be sent to Addenbrookes along with the blood sample:

FOL1 (37)
FOL2 (38)

Please remember to take the label strip to all visits, especially if blood sampling and 24hr urine are being carried out at different visits.

Label strips for respondents that do not consent to either urine or blood sampling or both should be sent back to Sue Duffy in the Blue team as soon as their non-participation in these procedures has been confirmed. This minimises the risk of mixing up labels for new respondents.

1.8 Protocol for taking the blood sample.

Before taking blood, check that the respondent has understood the purpose of the blood sample, and the protocols for taking it, and read the information leaflets. You will also obtain the necessary consents and follow the protocol outlined below:

Check one last time if the respondent has a bleeding or clotting disorder, is on anticoagulant drugs or has ever had a fit (for under 16s) / has had a fit in the last 5 years (for 16+). If such a problem is identified then do not attempt to obtain a blood sample.

Follow appropriate protocols if respondent is diabetic.

Explain the purpose and procedures for taking blood.

If aged 4+, check not had anything to eat or drink for 8hours. If not fasted, ask to make a new appointment if respondent still willing to provide a fasting blood sample.

If respondent is aged <16, explain the option of using Ametop

Obtain necessary written consents.

Prepare the phlebotomy items required, for ready accessibility.

Make sure that the respondent is at ease and seated comfortably or reclining for the phlebotomy procedure and ensure they cannot hurt themselves if they should faint.

Ask the respondent to roll up their left sleeve and rest their arm on a suitable surface. Ask them to remove their jacket or any thick clothing, if it is difficult to roll up their sleeve.

The antecubital fossae may then be inspected. It may be necessary to inspect both arms for a suitable choice to be made, and the respondent may have to be repositioned accordingly. Do **not** ask the respondent to clench his/her fist.

Select a suitable vein and apply the tourniquet around the respondent's arm, using minimal pressure and for the shortest duration of time. Do not leave the tourniquet in place for longer than 2 minutes.

Ask the respondent to keep his/her arm as still as possible during the procedure.

Put on your gloves at this point.

Clean the venepuncture site gently with an alcohol swab. Allow the area to dry completely before the sample is drawn.

Make sure the Sharps bin is readily available to receive used Multifly or other needles, and take the usual rigorous precautions against needle-stick accidents. Never resheath a used needle.

Tape the Multifly to the arm with Micropore tape across only half the width of the butterfly section, and with one end folded over, so as to make a non-adhesive flap for easy removal.

Collect the blood samples according to priority by placing the specimen tubes in the correct order in the sample tray provided.

You may use the Monovettes in the 'vacuum' mode, by withdrawing the plunger to the 'click'-point. It is a good practice to attach the first Monovette to the Multifly before insertion into the vein: this ensures a 'flash' of blood when the needle enters the vein.

Check for plaster allergies before applying a plaster. If allergic, use a cotton ball secured with micropore tape.

Ask the respondent to press afterwards on the bleeding point with their arm slightly raised, which helps reduce bruising.

Mix all tubes by gentle inversion five times except for the white and brown topped serum tubes (which do not need to be inverted).

Record details in CAPI.

1.9 Ametop gel

♦ ***Use of Ametop gel***

All children (aged 15 and younger) who consent to give a blood sample must be offered a local anaesthetic; Ametop gel. Ametop gel cannot be used on open wounds, eczematous skin, or if the respondent has had an allergic reaction to any local or general anaesthetic. This means that you may not take a blood sample from these respondents, unless they consent to giving a sample without using Ametop.

Ametop is a prescription medication and contains amethocaine (the active ingredient), which is applied to the skin. It is important that you ask the question below (also within CAPI) to determine whether the respondent has any known anaesthetic allergies.

> *Has the person giving this blood sample ever had a bad reaction to a local or general anaesthetic bought over the counter at a chemist, or given at the doctor, the dentist or in hospital?*

Use a new Ametop tube for each respondent and make sure you remove tubes from the household on completion of phlebotomy. For safety, Ametop must not be left lying around where young children could get at it. Any Ametop tubes you have left at the end of your assignment should be returned to the Brentwood office.

♦ *The pros and cons of using Ametop gel*

The advantages of Ametop are that it reduces sensation of needle prick, it is easy to apply and it is generally safe.

One disadvantage is that it takes 30 minutes to work, and so may increase anxiety. Ametop gel also has minimal side-effects and occasionally mild local skin reactions are experienced in people known to be allergic to similar drugs. Other possible side effects include reddening of skin (this is the action of the amethocaine & is to be expected) and a slight swelling or itching where the gel has been applied.

None of the local skin side-effects (if they occur) requires treatment. The reddening will disappear by itself over a period of hours. A local allergic reaction may involve itching, but is unlikely to require treatment. In the very rare instance of a blister forming, remove the Ametop immediately.

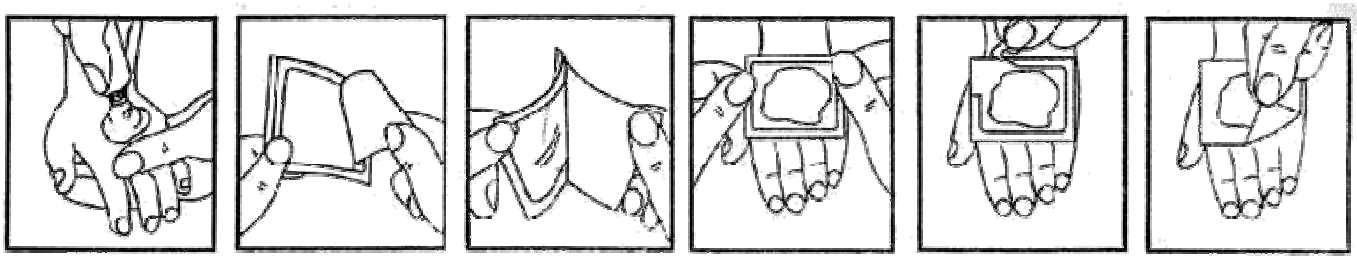
You will need to explain the pros and cons of using Ametop to each respondent and parent, in addition to giving them the leaflet to read. It is important that respondents understand that you are not a doctor and cannot treat unexpected reactions.

♦ *Applying Ametop gel*

Ametop gel must only be applied to healthy skin; therefore it must not be applied to sore or broken skin (eg. eczema or cuts). Make sure the Ametop gel is kept away from eyes or ears.

If the young person requires Ametop to be applied prior to venepuncture, inspect the antecubital fossae and decide which arm you will use for blood-taking. If both arms are suitable, use the left arm.

Apply Ametop gel over the antecubital fossa. Cover with a Tegaderm dressing (a vapour permeable and self-sticking film dressing) to keep the Ametop in place. See details about how to apply Ametop below. **Please note the illustration shows** Ametop **being used on the hand. *National Centre* policy is to only take blood samples from the arm.**



1. Squeeze ¾ of a tube in a mound on the area to anaesthetised. **Do not rub in.**

2. Peel the beige coloured 'centre cut-out' from the dressing.

3. Peel the paper layer marked 3M Tegaderm from the dressing.

4. Apply the adhesive dressing with its paper frame to cover the Ametop. **Do not spread the gel**.

5. Remove the paper frame using the cut mark. Smooth down the edges of the dressing carefully and leave in place for 30 minutes. The time of application can be written on the occlusive dressing.

6. After 30 minutes (max. 60mins), remove the dressing. Wipe off the Ametop. Clean entire area with alcohol and begin procedure.

As you may well be aware, removing the Tegaderm is sometimes painful so take care on hairy arms!

NB. THE CONCEPT OF BLOOD TAKING AND USE OF AMETOP GEL MUST NOT BE RAISED WITH THE RESPONDENT BEFORE THE APPROPRIATE POINT IN THE CAPI SCHEDULE. DO NOT INTRODUCE BLOOD TAKING BEFORE THIS, AS THIS MIGHT RISK AFFECTING OTHER MEASUREMENTS (E.G. BLOOD PRESSURE).YOU MUST NOT APPLY AMETOP GEL TO ANY RESPONDENT BEFORE YOU ARE PROMPTED TO DO SO IN THE CAPI SCHEDULE.

1.10 Taking blood from children

Unless the NDNS nurse is a trained paediatric phlebotomist, bloods from those aged 10 and younger will be taken by a trained paediatric phlebotomist. NDNS nurses will be taking blood samples themselves from those aged 11 and over. It is important to make the child feel as comfortable and as at ease as possible. Smiling, making eye contact and speaking so that the child can understand easily are ways to facilitate this. Also, ask the child for permission to do something rather than insisting or telling. This can encourage a sense of control in the child and minimises fear.

Precautionary Restraint (A.K.A. Cuddle Restraint)

If the parent/guardian is willing (note this is optional), they can help you to gently restrain the child to reduce any accidents due to pulling away at the pin prick or panicked movements. Ask the child to sit on the parent's lap. The child should be sitting so that their legs are between the parent's legs. The child should have their arm wrapped around the parent's back and vice versa for the parent. This exposes the chosen arm to the nurse while occupying the child's arms and legs.

NOTE: It is important to ask the child to sit on the same side of the parent as the arm identified for venepuncture.

Please note that if the child has turned 11 since the interviewer visit and is 11 when you are gaining agreement for blood sampling, you, the nurse, should take the blood from this child. This is the only scenario where you should base age on actual,

current age rather than the age set at the interviewer visit. CAPI will prompt you to arrange to take blood if the child has turned 11 since the interviewer stage.

1.11 Scheduling appointments

Due to restrictions on when laboratories can process samples and the fact that the vast majority of respondents will be providing fasting samples, **blood sampling can only take place on Monday-Thursday mornings.**

We appreciate that these restrictions mean you will need to make a second or even third visit to a household to collect blood samples (e.g. you may have to make one evening visit to collect all the measurements except the blood sample then another morning visit to take the blood sample(s)).

In order to minimise the number of visits, if a household contains two respondents you should schedule appointments for when both respondents are available.

When a household contains a respondent aged 10 or younger, you also need to schedule the blood taking appointment to fit in with the availability of your paediatric phlebotomist partner.

1.12 Liaison with paediatric phlebotomist

Blood from young children, aged 10 or younger, will be taken from someone with recent experience in paediatric phlebotomy. If this is not you, you will be allocated a paediatric phlebotomist partner who will accompany you on visits to take blood from young children.

The earlier you know whether you have a child aged 18 months to 10 years, the better. This means both you and the phlebotomist, as well as the office, can be better prepared to deal with this. As soon as you know you will be visiting an address with a child aged 18 months to 10 years, you should call XXXX. XXXX has a list of paediatric phlebotomists who have been recruited and trained for NDNS. She will be able to tell you the name, phone number and address of the best placed phlebotomist.

You should then call the phlebotomists to make them aware that you potentially have an address where there might be some work for them to do. At this initial contact, you should ascertain the phlebotomists general availability during the fieldwork period (e.g. any days when the phlebotomist is on holiday or otherwise engaged). This will help when arranging blood-taking visits.

During the first visit when willingness to give a blood sample is ascertained, you can call the phlebotomist to arrange the follow-up visit whilst you are still in the household. Ideally, you will have the phlebotomist availability in advance and can make an appointment then and there. If this is not possible, you will need to arrange the visit as soon as possible afterwards and confirm details with the household over the phone.

Important points when working with a phlebotomist:

- The NDNS nurse is responsible for providing and taking all equipment, including tubes, labels, and needles to the respondent's address.
- The NDNS nurse is responsible for obtaining written consent and making sure signed consents are obtained in the consent booklet.

- ♦ The NDNS nurse is responsible for entering information into the laptop and must follow the usual blood taking block in the CAPI.
- ♦ The phlebotomists will be asked to complete and sign a paper version of the venepuncture checklist. NDNS nurses will need to enter this information into the CAPI and should post the paper version to the office.
- ♦ The NDNS nurse is responsible for all labelling, despatch and delivery of samples.

In essence – the phlebotomists will take the blood sample only – the NDNS nurse does everything else. This is because you are more experienced and have better training in all these areas.

1.13 Blood sampling token of appreciation

Respondents of all ages will receive £15 in high street vouchers as a thank you for providing a blood sample. Remember this should **not** be presented as 'payment' but as a token of appreciation. Vouchers will be sent out from the office but you will need to complete the **yellow** promissory note and leave it with the respondent.

1.14 Other important points

Please refer to the Nurse Protocols for important information regarding:

- Venepuncture checklist
- Fainting respondents
- Needle stick injuries

The Nurse Protocol also provides general information regarding the handling and disposal of needles and other materials. Also note that for NDNS, sharps bins can be filled with needles from several respondents and taken to the local field laboratory for disposal when full. Other contaminated waste generated should be placed in the biohazard labelled mini-grip bag provided and taken to the local field laboratory for disposal.

Labelling & Despatch of BLOOD samples

Most blood tubes (Sarstedt Monovettes®) will be taken by you to the field laboratories, for the blood to be processed; but some will need to be sent in the post to Addenbrookes Hospital, Cambridge.

It is absolutely crucial that tubes are delivered to the correct destination.

1.15 Despatching blood samples to Addenbrookes

♦ ***Overview***

The type of blood tubes to be posted to Addenbrookes depends on the age of the respondent and is summarised in the table below.

Tube:	No of tubes:	Goes to:	Label:
Respondents aged 16+ years			
2.6mL EDTA blood tube (**red** top)	1	Addenbrookes	E N1 (3)
4.7mL serum gel blood tube (**brown** top)	1	Addenbrookes	SE N1 (5)
Respondents aged 7-15 years			
2.6mL EDTA blood tube (**red** top)	1	Addenbrookes	E N1 (3)
2.6mL serum gel blood tube (**brown** top)	1	Addenbrookes	SE N1 (5)
Respondents aged 1.5-6 years			
2.6mL EDTA blood tube (**red** top)	1	Addenbrookes	E N1 (3)
1.1mL serum gel blood tube (**brown** top)	1	Addenbrookes	SE N1 (5)

It is essential that the tubes are properly labelled as the Addenbrookes pathology laboratory will be receiving blood tubes from many different studies and respondents from around the UK.

♦ ***Packaging the tubes for posting***

The packaging for posting the tubes has to comply with Royal Mail guidelines. The packaging consists of the following:

- *Primary receptacle* – blood-filled Monovette tube
- *Secondary packaging* – Noax tube (recyclable)
- *Rigid outer packaging* – plastic 'video-cassette' box
- Labelled jiffy bag

Each blood-filled Monovette tube must be placed into a Noax tube (screw cap) before placing it into the rigid outer box. Labels FOL1 (37) and FOL2 (38) (see next section) should be attached to the 3 carbonised copies of the completed Addenbrookes biochemistry despatch note (see below) with a paperclip. The rigid outer box and the Addenbrookes biochemistry despatch notes, with attached label should be placed into the labelled jiffy bag and posted.

Tubes from respondents from the same household going to Addenbrookes can be posted together. Documentation for both respondents must be included in the packet.

The blood samples must be posted as soon as possible after they were taken, so that they arrive at Addenbrookes within 24 hours. The jiffy bags will fit in a post box. Before posting you must always check that you have not missed the same day collection. Only if it is unlikely that you will find a post box with a same day collection that has not passed yet in an acceptable driving distance can you post the sample in a post-box where collection will take place the next day.

Sub-sample Labels for Addenbrookes

Labels FOL1 (37) and FOL2 (38) are used by the Addenbrookes laboratory staff for labelling blood sub-sample tubes. These 2 labels should be cut from the bottom of the label strip, attached to the 3 carbonised copies of the Addenbrookes research analysis request form with a paperclip and enclosed with blood samples sent to Addenbrookes.

Blood Sample Despatch Notes for Addenbrookes

The Office Consent booklet contains three carbonised copies of the Addenbrookes biochemistry despatch note (Research Analysis Request – 952), **all** of which **must** be enclosed with samples posted to Addenbrookes.

You should clearly and legibly complete the following information in the top section of the **first** copy of the biochemistry despatch note (the bottom section will be completed by the laboratory):

- The respondent's date of birth.
- Whether the respondent is male or female.
- Whether the respondent provided a fasting or non-fasting blood sample.
- The date the sample was taken.
- The time the sample was taken.
- Whether a full or partial sample was obtained for **each** of the two tubes.

The Addenbrookes despatch notes are carbonised but please ensure the information you have recorded has transferred through to each of the three copies.

You should then affix the following labels onto the three copies of the despatch note:

- **FIRST COPY:** Affix serial number label **AddxB1 (11)** in the specified box.
- **SECOND COPY:** Affix serial number label **AddxB2 (12)** in the specified box.
- **THIRD COPY:** Affix serial number label **AddxB3 (13)** in the specified box.

Please ensure that you complete all necessary information fully as each part is a vital piece of information.

IMPORTANT: Please remember to fill in the carbonised despatch notes contained in the Office Consent booklet – Addenbrookes need all three of these in order to process the samples correctly. If they do not receive all three copies, correctly labelled and completed, they will not process the samples.

When the samples have been posted, you should record details of the samples collected, and the date of posting to Addenbrookes on the "Despatch Note for all Samples" form (DESP OFFICE) which is at the back of the Office Consent booklet.

1.16 Taking blood samples to local field laboratory for immediate processing

♦ ***Overview***

Most blood tubes will be taken to the field laboratories, for the blood to be processed. The number of blood tubes to be taken to the local laboratory depends on the age of the respondent and is summarised in the table below.

Tube:	**Goes to:**	**Label:**
Respondents aged 16+ years		
4.5mL serum (white top)	Field Lab	SE N2 (6)
7.5mL Li Hep TM (orange top)	Field Lab	LH N1 (7)
7.5mL Li Hep TM (orange top)	Field Lab	LH N2 (8)
1.2mL Fluoride (yellow top)	Field Lab	F N1 (10)
4.5mL Li Hep (orange top)	Field Lab	LH N3 (9)
2.6mL EDTA blood tube (red top)	Field Lab	E N2 (4)
Respondents aged 7-15 years		
7.5mL Li Hep TM (orange top)	Field Lab	LH N1 (7)
4.5mL serum (white top)	Field Lab	SE N2 (6)
2.7mL Li Hep (orange top)	Field Lab	LH N2 (8)
1.2mL Fluoride (yellow top)	Field Lab	F N1 (10)
Respondents aged 1.5 to 6 years		
4.5mL Li Hep (orange top)	Field Lab	LH N1 (7)
2.7mL serum (white top)	Field Lab	SE N2 (6)

♦ ***Packaging and delivering the tubes to the field laboratory***

The samples must be delivered to the laboratory within **2 hours** of the sample being taken. You must <u>not</u> take a blood sample if you cannot deliver it to the local laboratory within this time.

After the blood samples have been taken and when transporting them to the field laboratory it is important that they are kept in the cool box provided. The samples for the respondent should be put in a plastic bag and placed in the cool box so they stay upright during transportation. If two respondents (from the same or different households) have given blood samples in a morning, their samples can be transported together in the cool box; in this case it is particularly important that the samples are labelled and bagged correctly.

Each respondent's set of samples must be handed over to the designated person at the field laboratory together with the relevant despatch note, FL2 (see next section), the corresponding set of labelled pre-packed empty storage tubes, and remaining labels.

♦ ***Blood Sample Despatch Notes for field laboratory***

You should clearly and legibly complete all parts in section 1 of the Despatch Note. Always complete ALL parts of this section in full as each piece is a vital bit of information (section 2 will be completed by the laboratory).

♦ ***Liaison with field laboratory***

Samples may be delivered to your designated field laboratory on Mondays to Thursdays in the morning. It is very important that you **always notify the field laboratory of sample deliveries in advance**. Delivery times should be discussed with your contact person. As you will usually be taking fasting blood samples in the morning there is minimal risk that you are likely to deliver samples outside the normal opening hours of the laboratory but if this does happen (e.g. you get stuck in traffic), you must endeavour to contact the field laboratory to let them know. You must also notify the laboratory immediately you know that a scheduled delivery is not going to take place, e.g. because of a broken appointment or the respondent not being able/willing to provide a sample. This notification is a matter of courtesy to save the laboratory preparing the stabilising agents unnecessarily and then waiting for a delivery that is never going to arrive.

Contact details (i.e. name, address and telephone number) of the local laboratory recruited for your area will be given in a separate document, along with any special delivery instructions. Each document contains the name and telephone number of the contact person (including a deputy) at the local laboratory, opening hours of the laboratory, and any helpful information on parking and location.

Any difficulties encountered with the local laboratory during the study should be reported to HNR as soon as possible. It is the responsibility of HNR to resolve any difficulties between local laboratories and study nurses. You will be provided with a named contact person at HNR that can be contacted by phone or e-mail.

Please remember to record details of the samples collected on the “Despatch Note for all Samples” form (DESP OFFICE) which can be found at the back of the Office Consent booklet.

WAIST & HIP CIRCUMFERENCES

WAIST AND HIP CIRCUMFERENCES (AGED 11+) PROTOCOL

Purpose

There has been increasing interest in the distribution of body fat as an important indicator of increased risk of cardiovascular disease. The waist -to-hip ratio is a measure of distribution of body fat (both subcutaneous and intra-abdominal). Analyses suggest that this ratio is a predictor of health risk like the body mass index (weight relative to height).

Equipment

Insertion tape calibrated in mm (with a metal buckle at one end – if used).

The tape is passed around the circumference and the end of the tape is inserted through the metal buckle at the other end of the tape.

Eligibility

Waist and hip measurements will only be carried out on respondents **aged 11 and over.** The respondent is ineligible for the waist and hip measurement if:

a. Chairbound
b. Has a colostomy/ileostomy
c. Pregnant

If (a) and/or (b) apply, record this on the computer (question WHPNABM). If there are any other reasons why the measurement was not taken, record this on the computer and type in the reason.

Preparing the respondent

The interviewer will have asked the respondent to wear light clothing for your visit. Explain to the respondent the importance of this measurement and that clothing can substantially affect the reading.

If possible, without embarrassing you or the respondent, ensure that the following items of clothing are removed:

- all outer layers of clothing, such as jackets, heavy or baggy jumpers, cardigans and waistcoats
- shoes with heels
- tight garments intended to alter the shape of the body, such as corsets, lycra body suits and support tights

If the respondent is wearing a belt, ask them if it would be possible to remove it or loosen it for the measurement.

Pockets should be emptied.

Some respondents may be wearing religious or other symbols which they cannot remove and which may affect the measurement. Do not embarrass or offend the respondent by asking them to remove such things.

If the respondent is not willing to remove bulky outer garments or tight garments and you are of the opinion that this will significantly affect the measurement, record this on the Schedule at questions WJRel and/or HJRel. Some respondents may be wearing articles of clothing which cannot be removed and will affect the measurement (e.g. saris) – this should also be recorded.

If possible, ask the respondent to empty their bladder before taking the measurement.

Using the insertion tape

All measurements should be taken to the nearest millimetre. If the length lies half-way between two millimetres, then round to the nearest even millimetre. For example, if the measurement is halfway between 68.3 and 68.4, round up to 68.4. And if the measurement is halfway between 68.8 and 68.9, round down to 68.8. Please note that you must enter the measurement to one decimal place - do not round it to the nearest centimetre. For example, enter '78.2', not just '78'. If you do not enter a decimal point, the computer will give you a warning. If the measurement is exactly, say, 78cm, then all you need to do is suppress the warning and it will automatically fill in the '.0' for you. Otherwise, you must go back and amend your answer. As a further check, the computer will also ask you to confirm that a measurement ending in '.0' is correct.

Ensure the respondent is standing erect in a relaxed manner and breathing normally. Weight should be evenly balanced on both feet and the feet should be about 25-30cm (1 foot) apart. The arms should be hanging loosely at their sides.

If possible, kneel or sit on a chair to the side of the respondent.

Pass the tape around the body of the respondent and insert the plain end of the tape through the metal ring at the other end of the tape.

To check the tape is horizontal you have to position the tape on the right flank and peer round the participant's back from his/her left flank to check that it is level. This will be easier if you are kneeling or sitting on a chair to the side of the respondent.

Hold the buckle flat against the body and flatten the end of the tape to read the measurement from the outer edge of the buckle. Do not pull the tape towards you, as this will lift away from the respondent's body, affecting the measurement.

Measuring waist circumference

The waist is defined as the point midway between the iliac crest and the costal margin (lower rib). To locate the levels of the costal margin and the iliac crest use the fingers of the right hand held straight and pointing in front of the participant to slide upward over the iliac crest. Men's waists tend to be above the top of their trousers whereas women's waists are often under the waistband of their trousers or skirts.

Do not try to avoid the effects of waistbands by measuring the circumference at a different position or by lifting or lowering clothing items. For example, if the respondent has a waistband at the correct level of the waist (midway between the lower rib margin and the iliac crest) measure the waist circumference over the waistband.

Ensure the tape is horizontal. Ask the participant to breathe out gently and to look straight ahead (to prevent the respondent from contracting their muscles or holding their breath).

Take the measurement at the end of a normal expiration. Measure to the nearest millimetre and record this on the schedule.

Repeat this measurement again.

If you are of the opinion that clothing, posture or any other factor is significantly affecting the waist measurement, record this on the schedule.

Measuring hip circumference

The hip circumference is defined as being the widest circumference over the buttocks and below the iliac crest. To obtain an accurate measurement you should measure the circumference at several positions and record the widest circumference.

Check the tape is horizontal and the respondent is not contracting the gluteal muscles. Pull the tape, allowing it to maintain its position but not to cause indentation. Record the measurement on the schedule to the nearest millimetre, e.g. 95.3. If the length lies half-way between two millimetres, then round to the nearest even millimetre.

If clothing is significantly affecting the measurement, record this on the schedule.

Repeat this measurement again.

General points

The tape should be tight enough so that it doesn't slip but not tight enough to indent clothing. If clothing is baggy, it should be folded before the measure is taken.

If the respondent is large, ask him/her to pass the tape around rather than having to "hug" them. Remember though to check that the tape is correctly placed for the measurement being taken and that the tape is horizontal all the way around.

If your second waist or hip measurement differs by 3cm or more from the first, the computer will give you a warning. If you have made a mistake when entering the figures (e.g. typed 78.2 instead of 68.2), you should type over the mistake. If it was not a mistake, you should suppress the warning and take a third measurement.

If you have problems palpating the rib, ask the respondent to breathe in very deeply. Locate the rib and as the respondent breathes out, follow the rib as it moves down with your finger. If your respondent has a bow at the back of her skirt, this should be untied as it may add a substantial amount to the waist circumference.

Female respondents wearing jeans may present a problem if the waistband of the jeans is on the waist at the back but dips down at the front. It is essential that the waist measurement is taken midway between the iliac crest and the lower rib and that the tape is horizontal. Therefore in this circumstance the waist measurement would be taken on the waist band at the back and off the waist band at the front. Only if the waistband is over the waist all the way around can the measurement be taken on the waistband. If there are belt loops, the tape should be threaded through these so they don't add to the measurement.

Recording problems

We only want to record problems that will affect the measurement by more than would be expected when measuring over light clothing. As a rough guide only record a problem if you feel it affected the measurements by more than 0.5cm. We particularly want to know if waist and hip are affected differently.

At WJRel and HJRel, record how reliable the waist and hip measures are, and whether any problems that were experienced were likely to increase or decrease the measurement. This information is important for analysis of the results. As a general rule, if you believe that the measurements you took are 0.5cm more or less than the true measurement because of problems you encountered (e.g.. clothing the respondent was wearing), this should be counted as unreliable.

Respondent feedback

Offer to write the measurements on the Measurement Record Card.

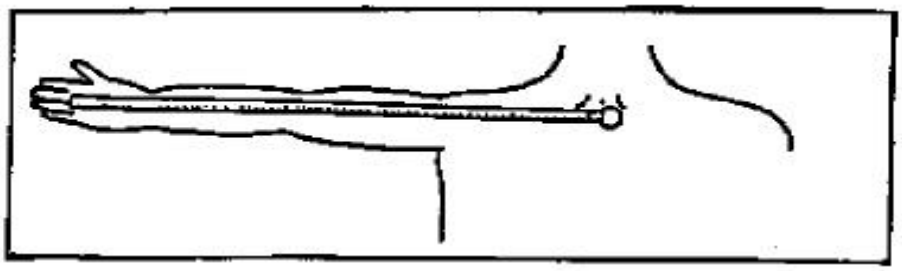
The measurements will be given in inches as well as centimetres by the computer. You can record the measurements on the MRC using centimetres, inches or both.

DEMISPAN MEASUREMENT

DEMISPAN PROTOCOL (FOR 65+ OR 16-64 WHERE THE INTERVIEWER COLLECTED A VALID WEIGHT MEASUREMENT BUT WAS NOT ABLE TO COLLECT A VALID HEIGHT MEASUREMENT)

Purpose

The demispan measurement is an alternative measure of height. It is the distance between the midline of the sternal notch and the base of the fingers between the middle and ring fingers, with the arm out-stretched laterally (see Figure below).



The demispan measurement is taken when it is difficult to measure height accurately. For example if the respondent cannot stand straight or is unsteady on their feet as is quite often in the case of the elderly and some disabled people. It is used as a proxy for a height measurement as there is a relationship between demispan and 'true height'. Additionally, height decreases with age to a varying degree depending on individuals, and thus the standard measure of height may be less useful for some older respondents. The long bones in the arm do no get shorter however, and thus can be used to estimate accurately a respondent's 'true height'.

Eligibility

Demispan measurements will be carried out on respondents **aged 65 and over.** Demispan measurements will be carried out on those aged 16-64 where the interviewer collected a valid weight measurement but was not able to collect a valid height measurement.

Exclusion criteria

Respondents are excluded from the demispan measurement if:

- They cannot straighten either arm without pain or discomfort.

Equipment

You will need:

- A thin retractable demispan tape calibrated in cm and mm
- A skin marker pencil
- Micropore tape
- Alcohol and non-alcohol swab

Using the demispan tape

A hook is attached to the tape and this is anchored between the middle and ring fingers at the finger roots. The tape is then extended horizontally to the sternal notch.

The tape is fairly fragile. It can be easily damaged and will dent or snap if bent or pressed too firmly against the respondent's skin. Also the ring connecting the hook to the tape is a

relatively weak point. Avoid putting more strain on this ring than necessary to make the measurements. When extending the tape, hold the tape case rather than the tape itself as this puts less strain on the hook and tape. When placing the tape against the sternal notch, do not press into the sternal notch so much that the tape kinks.

Preparing the respondent

Explain to the respondent the purpose of conducting the demispan measurement and explain the procedure. Further explain that the measurement requires minimal undressing because certain items may affect the accuracy of the measurement. The items of clothing that will need to be removed include:

- Ties
- Jackets, jumpers and other thick garments
- Jewellery items such as chunky necklaces/bracelets
- Shoulder pads
- High heeled shoes
- Shirts should be unbuttoned at the neck

If the respondent does not wish to remove any item that you think might affect the measurement, record that the measurement was not reliable in CAPI.

For the purpose of consistency, where possible the **right arm** should always be used. If this is not possible, carry out the measure on the left arm and make a note of this in CAPI.

Procedure

1. Locate a wall where there is room for the respondent to stretch his/her arm. They need to stand with their back to the wall but not support themselves on it, standing approximately 3 inches (7cm) from the wall.

2. Ask the respondent to stand with weight evenly distributed on both feet, head facing forward.

3. Have them raise their **right arm** and extend it horizontally to their side until it is parallel with the floor. The right wrist should be in neutral rotation and neutral flexion. Rest your left arm against the wall allowing the respondent's right wrist to rest on your left wrist.

4. When the respondent is in the correct position, mark the skin at the centre of the sternal notch using the skin marker pencil. This mark must be made when the respondent is standing in the correct position. Explain to the respondent that the mark will wash off afterwards.

5. If clothing, jewellery or subcutaneous fat obscures the sternal notch, use a piece of micropore tape on the clothing or jewellery. If the respondent refuses to the use of the marker pen or the tape, proceed with the measurement but record it as unreliable in CAPI.

6. Ask the respondent to relax while you get the demispan tape.

7. Place the hook between the middle and ring fingers of the respondent so that the tape runs smoothly across the arm.

8. Ask the respondent to get into the position they were in previously, with their arm raised horizontally, the wrist in neutral flexion and rotation. Check they are in the correct position.

9. Extend the tape to the sternal notch. If no mark was made, feel for the correct position and extend the tape to this point.

10. Ask the respondent to stretch his/her arm checking that they remain in the same position, the hook has not moved on their fingers and that the respondent is not leaning on the wall or bending at the waist.

11. Record the measurement in CAPI, in centimetres and millimetres. Always report to one decimal place. If the length lies halfway between 2 millimetres, then round to the **nearest even millimetre** (see section 2.4).

12. Ask the respondent to relax and loosen up the right arm by shaking it gently.

13. Repeat steps 2-11. Explain to the respondent that the measure needs to be taken again for accuracy. If the second measure is significantly different to the first, CAPI will give you an error message. At this point you can check to make sure that you have entered the readings correctly or take a third measure if there is another reason for the measurements being different. This is to be taken in the same way as the previous two. CAPI will work out which two of the three readings to use.

14. If the respondent wishes, record the results on their measurement record card. You can use the conversion chart on your showcards to convert the results into inches.

15. If the skin marker is used, offer the alcohol or non alcohol wipe to the respondent to wipe the skin mark off.

Additional points

- If the respondent is unable to stand in the correct position or finds it difficult to stand steadily, ask them to sit for the measurement. Use an upright chair and position it close to a wall. If a respondent is unable to sit or stand, the measurement can be taken when the respondent is lying down. In both cases still try to support the arm if possible. You may need to sit or kneel to take the reading.

- Record in CAPI how the measurement was taken (i.e.. with respondent standing, sitting, etc).

- If there is no wall available for the respondent to stand in front of and extend their arm horizontally, have them stand in front of any other flat surface e.g. in front of a cupboard or window, ensuring that they are not supporting their body weight on this surface.

- If the respondent is much taller than you take the measurement with the respondent sitting.
- If the respondent's arm is much longer than yours is, support the arm close to the elbow rather than wrist level. Your arm must not be between the elbow and shoulder, as this will not provide sufficient support.
- Before packing the tape away ensure the hand hook and length of tape is wiped to reduce potential cross infection between households.

BLOOD PRESSURE

BLOOD PRESSURE PROTOCOL

Blood Pressure (Aged 4+)

High blood pressure is an important risk factor for cardiovascular disease. It is important that we look at the blood pressure of everyone in the survey using a standard method so we can see the distribution of blood pressure across the population. This is vital for monitoring change over time, and monitoring progress towards lower blood pressure targets set in the Health of the Nation.

Timing- Blood pressure can be higher than normal immediately after eating, smoking, drinking alcohol or taking vigorous exercise. This is why respondents are asked to avoid doing these for 30 minutes before you arrive. As already suggested, if you can juggle respondents within a household around to avoid having to break this "half-hour" rule, do so. But sometimes this will not be possible and you will have to take their blood pressure within this time period. In which case enter all the codes that apply at *ConSubX.*

Eligibility

The only people not eligible for blood pressure measurement are those who are pregnant (who will have been screened out anyway) or aged less than 4 years old.

Protocol For Blood Pressure Recording: Omron Hem-907

This section describes the protocol for measuring blood pressure using the Omron HEM 907. More detailed information may be obtained from the instructions booklet inside the box. If you have any further questions or problems then please contact XXXX.

Equipment

Omron HEM 907 blood pressure monitor
Child/ small adult cuff (17-22 cm)
Standard adult cuff (22-32 cm)
Large adult cuff (32-42 cm)
AC adapter

The Omron HEM -907 blood pressure monitor is an automated machine. It is designed to measure systolic blood pressure, diastolic blood pressure and pulse rate automatically at pre-selected time intervals. On this study three readings are collected at one-minute intervals.

The Omron 907 is equipped with a rechargeable battery, which is usable for approximately 300 measurements when fully charged. To recharge the battery, connect the monitor to the mains. A battery symbol will appear in the CHARGING display when the battery is charging. When ready to use the symbol will disappear. A dark battery symbol in the BATTERY display indicates that the battery is charged and the machine is usable. The battery can be charged in approx. 12 hours. When the battery symbol in the BATTERY display starts to flash there are 20- 30 measurements left, you need to charge the battery soon. When a light battery symbol appears in the BATTERY display the battery needs to be put on charge immediately. The Omron 907 is **NOT** designed to work off the mains adaptor; it should be run off the battery power pack. The mains adaptor should ONLY be used to charge the battery pack.
PLEASE REMEMBER TO CHARGE THE BATTERY !!

The picture on page 28 shows the main features of the Omron HEM-907.

Preparing the respondent

The respondent should not have eaten, smoked, drunk alcohol or taken vigorous exercise in the 30 minutes preceding the blood pressure measurement as blood pressure can be higher than normal immediately after any of these activities. As already suggested, if you can juggle respondents within a household around to avoid having to break this "half-hour" rule, do so. But sometimes this will not be possible and you will have to take their blood pressure within this time period. In which case enter all the codes that apply.

Ask the respondent to remove outer garments (e.g. jumper, cardigan, jacket) and expose the right upper arm. The sleeve should be rolled or slid up to allow sufficient room to place the cuff. If the sleeve constricts the arm, restricting the circulation of blood, ask the respondent if they would mind taking their arm out of the sleeve for the measurement.

Selecting the correct cuff

Adults aged 16 and over: Do **not** measure the upper arm circumference. Instead, choose the correct cuff size based on the acceptable range which is marked on the inside of the cuff. You will note that there is some overlap between the cuffs. If the respondent falls within this overlap range then use the **standard** cuff where possible.

Children aged 4 to 15: It is important to select the correct cuff size. The appropriate cuff is the largest cuff which fits between the axilla (underarm) and the antecubital fossa (front of elbow) without obscuring the brachial pulse and so that the index line is within the range marked on the inside of the cuff. You will be provided with a child's cuff as well as the other adult cuffs. Many children will not need the children's cuff and instead will require an adult cuff. You should choose the cuff that is appropriate to the circumference of the arm.

Adults and Children: The appropriate cuff should be connected via the grey air tube to right end side of the monitor.

Procedure

Wrap the correct sized cuff round the upper **right** arm and check that the index line falls within the range lines. Use the left arm only if it is impossible to use the right. If the left arm is used, record this on the schedule. Locate the brachial pulse just medial to the biceps tendon and position the arrow on the cuff over the brachial artery. The lower edge should be about 1-2 cm above the cubital fossa (elbow crease).

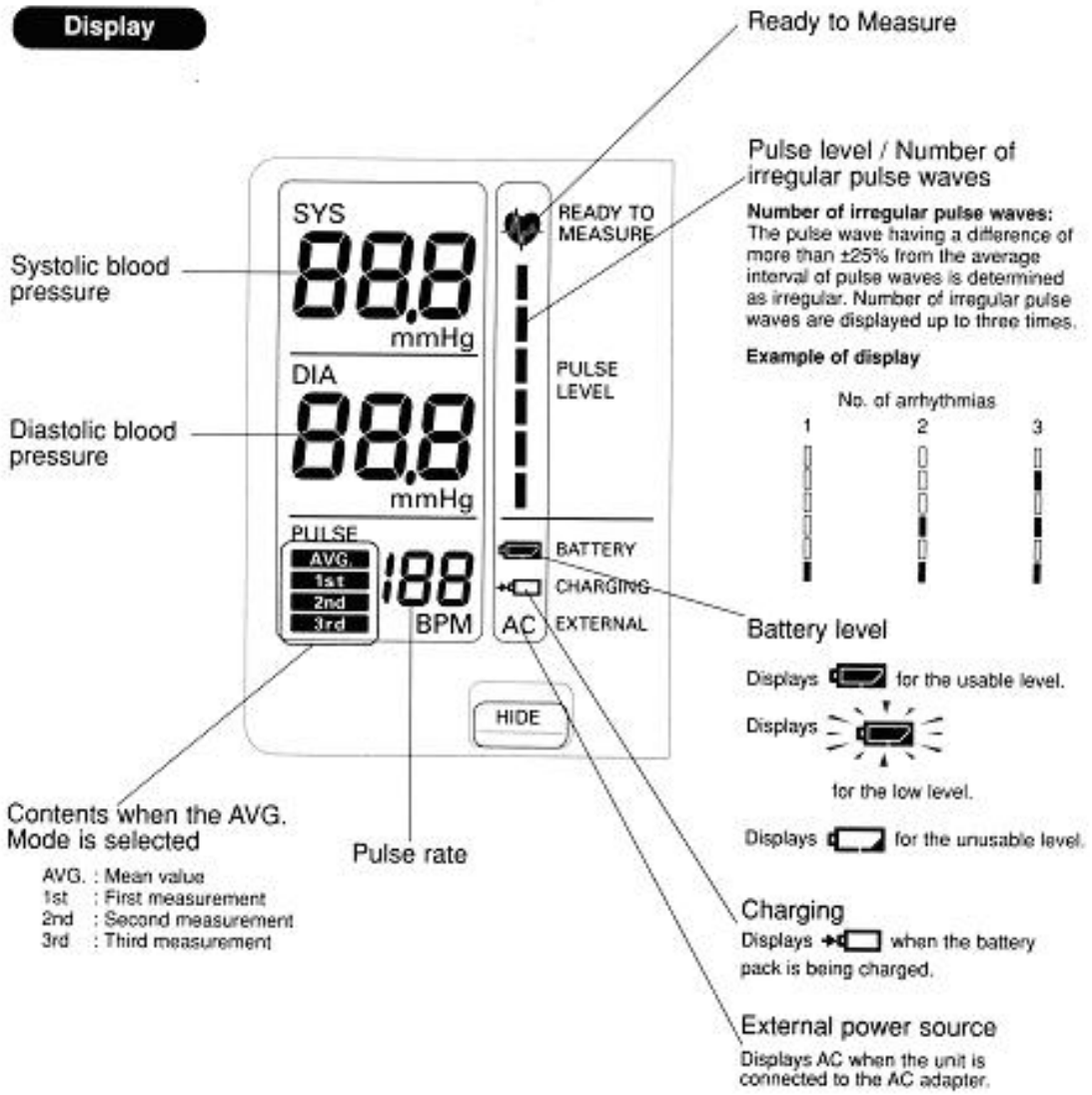
Do not put the cuff on too tightly as bruising may occur on inflation. Ideally, it should be possible to insert two fingers between cuff and arm. However, the cuff should not be applied too loosely, as this will result in an inaccurate measurement.

The respondent should be sitting in a comfortable chair with a suitable support so that the right arm will be resting at a level to bring the antecubital fossa (elbow) to approximately heart level. They should be seated in a comfortable position with cuff applied, legs uncrossed and feet flat on the floor.

Explain that before the blood pressure measurement we need them to sit quietly for five minutes to rest. They should not smoke, eat or drink during this time. Explain that during the measurement the cuff will inflate three times and they will feel some pressure on their arm during the procedure.

It is important that children as well as adults rest for five minutes before the measurement is taken. However, making children sit still for five minutes can be unrealistic. They may move around a little, but they should not be running or taking vigorous exercise. As with adults, they should not eat or drink during this time.

After five minutes explain you are starting the measurement. Ask the respondent to relax and not to speak until the measurement is completed as this may affect their reading.



How to operate the monitor

See Picture of Omron HEM-907 monitor above.

1. Switch the monitor on by pushing the **ON/OFF** button. Wait for the **READY TO MEASURE** symbol to light, indicating the machine is ready to start the measurement (approx 2 sec).

2. Check that the **MODE** Selector is set to **AVG** and the **P-SET** (pressure setting) Volume is set to **AUTO**.

3. Press the **START** button to start the measurement. The cuff will now start to inflate and take the first measurement. When the first measurement is complete the LCD displays

show systolic pressure, diastolic pressure, and pulse rate. Record the readings on the interview schedule.

4. Blood pressure will then be recorded at one-minute intervals thereafter. After each interval record the reading from the LCD displays on the interview schedule.

5. After the three measurements are complete press the **ON/OFF** button to turn off the power and remove the cuff.

If there are any problems during the blood pressure measurements or the measurement is disturbed for any reason, press the **STOP** button and start the procedure again. If the respondent has to get up to do something, then ask them to sit and rest for five minutes again.

Error readings

They appear on the LCD display:

Er1, Er2. Check that the tube connecting the cuff to the monitor is properly inserted and it is not bent. Check that the cuff is properly wrapped around the arm. Repeat the measurement.

Er3. Check that the tube connecting the cuff to the monitor is not bent. Repeat the measurement.

Er4. This could be because of a motion artefact. Ask the respondent to sit as still as possible and take the measurement again. If you still get another Er4 error reading, it could be because the respondent has a very high blood pressure. Set the P-SET Volume to 260 and repeat the measurement.

Er5, Er6. Check that the cuff is properly wrapped around the arm. Repeat the measurement.

If any of these errors readings persist, record that it wasn't possible to get a reading and explain to the respondent that this sometimes happens. Then contact Brentwood and inform them that there is a problem with the monitor.

Er7, Er8. Check that the respondent does not move, ask the respondent to sit as still as possible and take the measurement again. If you still get an error reading the pulse may be irregular. Do NOT palpate the pulse. Record that it wasn't possible to get a reading and explain to the respondent that this sometimes happens.

Er9. Technical fault. Contact Brentwood immediately and inform them that there is a problem with the monitor.

CAPI:

Readings - Record the blood pressure readings in the order shown on the screen. Double check each entry as you make it to ensure you have correctly entered the reading. If you have got to this point and then become aware that you are not going to be able to get a reading after all, you should enter '996' then press <End>. This will automatically enter '999' in each box, to save you having to type it in 12 times. Blood pressure readings given by the Omron are systolic blood pressure, diastolic blood pressure and pulse: the Omron does not give MAP.

NAttBP - If you failed to get a reading, or you only managed to obtain one or two readings, enter a code to show what the problem was. If necessary, write in full details at *OthNBP*.

Feedback to respondents

Offer the respondent his/her blood pressure readings. If (s)he would like them, enter them on the Measurement Record Card (MRC). If an adult respondent has a raised blood pressure you must give her/him advice based on the result. This will be calculated by the computer and will appear on the screen for you to read out exactly as written. Write any advice given onto the MRC. The interviewer should have given them a MRC with the height and weight recorded on it. If the respondent has lost it, or claims never to have had one, make out a new one, ensuring the name is on the front of the card.

It is not the purpose of this survey to provide respondents with medical advice. Nevertheless, many respondents will ask you what their blood pressure readings mean. Make sure you are very familiar with the guidance below. We wish it to be strictly followed. It is very important that as little anxiety as possible is caused but at the same time we have a duty to advise people to see their GPs if blood pressure is raised.

a) Child respondents (age 4 to 15)

We do **not** wish you to comment on the child's blood pressure readings to the parents. If they seek comment, reiterate what you have already said about not being able to interpret a single blood pressure measurement without checking to see whether it is normal for the child's age and height. Reassure them that if it is found to be abnormal, the Survey Doctor will get in touch with them or their child's GP, if they give permission for the results to be sent to their child's GP, and advise them as to what steps they should take. This rule applies for **all** readings you obtain.

b) Adult respondents (aged 16+)

In answering queries about an adults blood pressure it is very IMPORTANT to remember that it is **not** the purpose of the survey to provide respondents with medical advice, nor are you in a position to do so as you do not have the respondent's full medical history. But you will need to say something. What you say in each situation has been agreed with the survey doctor. The computer screen will tell you what to say in each situation. It is very important that **you make all the points relevant to the particular situation and that you do not provide a more detailed interpretation as this could be misleading**. Read the information below very carefully and make sure you always follow these guidelines. This information will be based on the highest systolic and highest diastolic reading from the last two readings. This will usually, but not always, be from the same reading. For example, occasionally it may be the systolic from the second reading and the diastolic from the third reading.

Definitions of raised blood pressure differ slightly. We are using the ones given below for this survey. They are the same as those used in the Health Survey for England. It is important that you adhere to these definitions, so that all respondents are treated in an identical manner. These are shown below.

ADULTS ONLY

SURVEY DEFINITION OF BLOOD PRESSURE RATINGS

For men and women aged 16+

Rating	Systolic		Diastolic
Normal	<140	and	<85
Mildly raised	140 - 159	or	85 – 99
Raised	160 - 179	or	100 – 114
Considerably raised	180 or more	or	115 or more

Points to make to a respondent about their blood pressure (given on screen):

Normal:

'Your blood pressure is normal'

Mildly raised:

'Your blood pressure is a bit high today.'

'Blood pressure can vary from day to day and throughout the day so that one high reading does not necessarily mean that you suffer from high blood pressure.'

'You are advised to visit your GP within 2 months to have a further blood pressure reading to see whether this is a once-off finding or not.'

Raised:

'Your blood pressure is a bit high today.'

'Blood pressure can vary from day to day and throughout the day so that one high reading does not necessarily mean that you suffer from high blood pressure.'

'You are advised to visit your GP within 2 weeks to have a further blood pressure reading to see whether this is a once-off finding or not.'

Considerably raised:

'Your blood pressure is high today.'

'Blood pressure can vary from day to day and throughout the day so that one high reading does not necessarily mean that you suffer from high blood pressure.'

'You are strongly advised to visit your GP within 5 days to have a further blood pressure reading to see whether this is a once-off finding or not.'

Note: If the respondent is elderly and has considerably raised blood pressure, amend your advice so that they are advised to contact their GP within the next week or so about this reading. This is because in many cases the GP will be well aware of their high

blood pressure and we do not want to worry the respondent unduly. It is however important that they do contact their GP about the reading within 7 to 10 days. In the meantime, we will have informed the GP of their result (providing the respondent has given their permission).

Action to be taken by the nurse after the visit

If you need to contact the Survey Doctor, do not do this from the respondent's home - you will cause unnecessary distress.

a) Children

No further action is required after taking blood pressure readings on children. All high readings are viewed routinely by the Survey Doctor. However, in the rare event that you encounter a child with a very high blood pressure, i.e. systolic 160 or above or diastolic 100 or above please call the Survey Doctor.

b) Adults

The chart on the next page summarises what action you should take as a result of the knowledge you have gained from taking an adult's blood pressure readings. For this purpose you should only take into account **the last two of the three readings** you take. We do not want you to use the first reading as it is prone to error for the reason stated above.

BLOOD PRESSURE	ACTION
Normal/mildly raised/raised BP *2nd or 3rd reading:* Systolic less than 180 mmHg **and** Diastolic less than 115 mmHg	No further action necessary If you feel that the circumstances demand further action, inform the Survey Doctor who will then inform the respondent's GP urgently if she deems it necessary.**
Considerably raised BP *2nd or 3rd reading:* Systolic at or greater than 180 mmHg **or** Diastolic at or greater than 115 mmHg	Contact the Survey Doctor at the earliest opportunity and she will inform the respondent's GP.** If the respondent has any symptoms of a hypertensive crisis* call an ambulance immediately. The Survey Doctor must be informed at a later stage.

* A hypertensive crisis is an extremely rare complication of high blood pressure. Its signs and symptoms include diastolic bp > 135 mmHg, headache, confusion, sleepiness, stupor, visual loss, seizures, coma, cardiac failure, oliguria, nausea & vomiting.

** You must still contact the Survey Doctor even if respondents tell you that their GP knows about their raised BP.

All high or unusual readings will be looked at by the Survey Doctor when they reach the office. If the reading is high, then the Survey Doctor will contact the respondent directly.

In all instances, follow the protocol.

Survey Doctor contact details

The Survey Doctor is **Dr. Jennifer Mindell** of the Department of Epidemiology and Public Health, at UCL. She is available on XXXX during working hours. Out of office hours, Dr. Mindell has a mobile phone (on which you can leave a message, if necessary), phone no. **XXXX**. Her phone is not switched on all the time but she will usually check for messages and call back within a couple of hours. You are likely to need to speak to a doctor more urgently than that only in circumstances in which you should be calling an ambulance.

If you need to leave a message, leave the following details:

- Your name
- Contact telephone number
- The survey
- Briefly, the type of problem
- If you want the Survey Doctor to ring you back at a specific time etc, leave those details as well.

Do not hesitate to contact Dr Mindell whenever you feel you need advice about what to do after seeing a respondent. If you need to speak with the Survey Doctor in the evening please try to do so before 10 pm.

If you cannot make contact with Dr. Mindell, speak to XXXX, who will contact her on your behalf.

When Dr Mindell will be unavailable for more than a couple of hours (e.g. annual leave), she will divert her calls to XXX (another doctor in the same department) or another doctor. Just dial Dr Mindell's mobile phone number as usual but do not be surprised if XXXX or someone else answers on occasion.

3 INFANT LENGTH MEASUREMENT

3.1 Introduction

The infant length measurement, when taken in conjunction with other growth parameters, can be used as an indicator of an infant's nutritional status. Taking this measurement across many years allows trends in infant length to be monitored and provides a means for the evaluation of current policies, interventions and treatments relating to infant health and nutrition. The measurement is taken for children aged six weeks or more and under two years.

3.2 Equipment

You will need:

- A Rollameter baby measure mat
- A Frankfort Plane card
- Milton wipes

3.3 Preparing the respondent

Explain to the parent or legal guardian of the infant the reason for taking the length measurement. Further explain that you will need their assistance in taking this measure and how they can help.

3.4 Procedure

1. Ask the parent to remove any bulky clothing or shoes that the infant is wearing as it may result in an inaccurate measurement. It is not necessary for them to remove the infant's nappy.

2. Unroll the Rollameter and lay it flat on any suitable flat, firm surface, preferably the floor. It is essential that the Rollameter is fully unrolled and as flat as possible, therefore doing the measurement on a deep pile carpet or rug is not appropriate. If the carpet is too thick, take the measurement in another uncarpeted room, e.g. kitchen or bathroom.

3. Wipe the surface of the Rollameter with a Milton Wipe and allow to dry for 30 secs.

4. The measurement can be taken with the infant on a Rollameter on a raised surface, e.g. a table, ONLY if the baby is held by an adult at all times, even if the baby has never previously rolled over.

4. Place the child on the foam bed of the Rollameter with his/her head touching the headpiece on which the name Rollameter is printed.

5. Move the child's head so that Frankfort Plane is in a position at right angles to the floor/table. The Frankfort Plane is an imaginary line passing through the external ear canal and across the top of the lower bone of the eye socket, immediately under the eye (see Figure 1). This position is important if an accurate reading is to be obtained. Ask the parent to hold the child in this position and make sure their head is in contact with the headpiece.

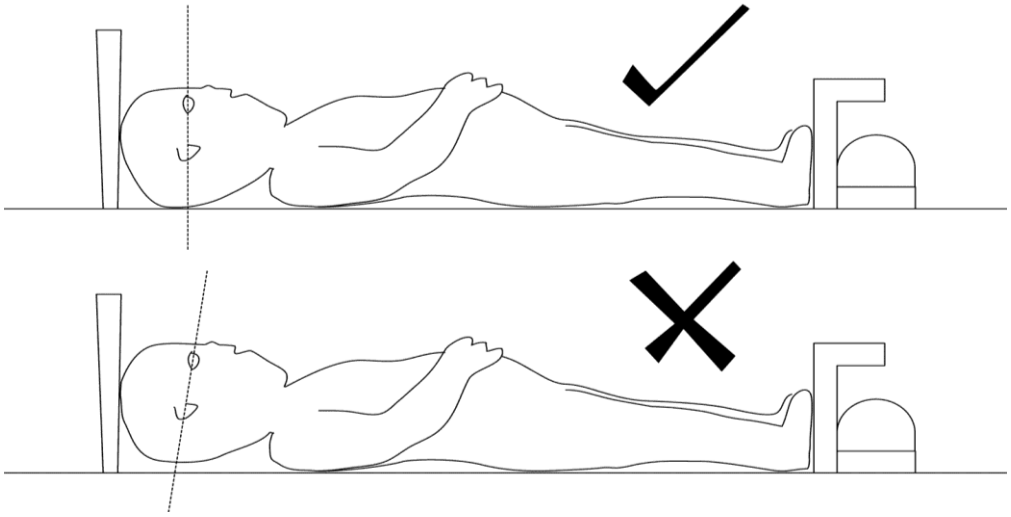


Figure 1 The infant Frankfort Plane

6. Straighten the child's legs by holding the legs by the ankles with one hand and applying a gentle downward pressure.

7. With your free hand, move the footrest on which the measuring tape is mounted to touch the child's heels by depressing the red button on the tape measure.

8. The measurement is read from the red cursor in the tape window. The measurement is recorded in centimetres and millimetres to the nearest millimetre. If the measurement lies between two millimetres then you should round to the **nearest even millimetre** (see section 2.4)

9. Wipe Rollamat with Milton wipe before placing back into carry pot.

7 MID UPPER ARM CIRCUMFERENCE

7.1 Introduction

Mid upper arm circumference is an anthropometric measure providing information on muscle mass and subcutaneous fat. Changes in arm circumference are relatively easy to detect and as such the mid upper arm circumference is a key indicator of the nutritional status of children and adults. The measure is reduced substantially in the undernourished and substantially increased in people who are overweight. Like other anthropometric measures it can be used as a tool to examine the effectiveness of public health policies, particularly with regards to child nourishment.

7.2 Equipment

You will need:

- A 'Lasso-o' MUAC tape measure
  One end of the tape is broad and on it you will see the words 'READ HERE' with a small arrow. This is the start of the tape.
- A skin marker pen
- An Alcohol and non alcohol swab
- Milton wipes

7.3 Preparing the respondent

The respondent must have a bare arm and shoulder for this measurement. When the nurse appointment is made (by either the nurse or the interviewer), if a child is to be measured, the child will be asked to wear a sleeveless garment for the visit. Make sure that you explain to the respondent (and their parent if appropriate) the importance of accuracy when taking the measure and that clothing can result in an inaccurate result. If the child is wearing a sleeved garment, ask them to slip their arm out of the garment or to change into something more suitable.

If the respondent is a child, ensure that the parent is with you at all times whilst the measurement is being taken as you are asking them to expose their bare arm.

The **non dominant** arm is to be used to measure mid upper arm circumference. If the respondent is not displaying arm dominance e.g. in the case of small children, the right arm should be used and a note of this to be made in CAPI. Additionally if, for any reason, the non dominant arm cannot be measured, use the alternative arm and record this in CAPI.

7.4 Procedure

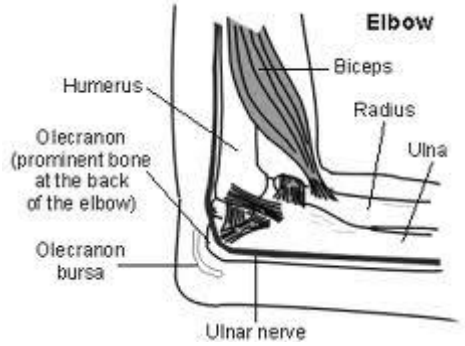
1. Ask the respondent if they are left or right handed and explain that the non dominant arm is going to be measured as it provides a more accurate indication of nutrition.

7.4.1 Measuring the length of the upper arm

2. The respondent should be standing with the arm to be measured across their body and held at a right angle at the elbow.

3. Using the skin marker pen, mark the process of the **Acromium**; this is the tip of the shoulder.

4. Mark the process of the **Olecranon** of the respondent; this is the tip of the elbow.



5. Using the tape, measure the distance between the two points marked. Divide this measurement in half. This is the mid point of the upper arm.

6. Mark this using the fine point of the skin marker pen.

7.4.2 Measuring the arm circumference

7. Let the non dominant arm hang loosely by the side, just away from the body. Thread the tape through and slip it up the respondents arm, to the mid point that you have marked. The tape should lie on top of the mark, covering it.

8. Check that the tape is passing **horizontally** around the arm, not sloping, and that it is in continuous contact with the skin. It should not be loose but neither should it be puckering the skin.

9. Read off the measurement where the 'READ HERE' arrow appears on the tape.

10. Enter the measurement into CAPI in centimetres and millimetres. Always report to one decimal place. If the arrow falls between two millimetres always give to the **nearest even millimetre** (see section 2.4).

11. Repeat steps 2-10 to obtain a second measurement. DO NOT use the same markings as you did in the first measurement, remark them. Explain to the respondent that the second measurement is required for accuracy.

12. If there is a significant difference between the two readings, CAPI will report an error message. At this point you should check to ensure that you have entered the results correctly or take a third measurement according to the procedure above. Enter this result into CAPI and it will work out which two readings to use.

13. If the respondent wishes, record the results on their measurement record card. You can use the conversion charts to report the measurements in inches.

14. If the skin marker is used, offer the alcohol or non alcohol wipe to the respondent, or respondent's parent (if a young child), to wipe the skin mark off.

15. Before packing the tape away ensure the length of tape is wiped to reduce potential cross infection between households.

National Diet and Nutrition Survey
(Year 4 - P2753)

National Centre for Social Research

Editor's Code Book – Interviewer CAPI

May 2011

More information about the coding?

These instructions contain information about the coding task. However, if you need further information or clarification, please contact a member of the NDNS research team or the Data Team

Contents

1 Introduction

This document details the editing to be applied to CAPI questionnaires on National Diet and Nutrition Survey. Problems should be referred to the research team.

General Points:

1. A FACTSHEET is provided to aid editing of the CAPI questionnaires. It contains household information and information for each individual session. The majority of questions which need to be coded are printed on the FACTSHEET. Coding decisions should be recorded alongside the appropriate questions or at the end of the FACTSHEET, if the question has not been printed.

2. All soft checks that were triggered by the interviewer and which have not been resolved will trigger again in the edit program. Where appropriate these should be investigated. If no editing action can be taken to resolve these checks, they should be cancelled by the editor.

3. “Other” answers in CAPI will be backcoded to the original question where possible. Other answers can be transferred electronically and so don’t require listing.

4. Some questions where editing is required were asked of both Respondent 1 (adult) and Respondent 2 (child). Where this occurs, these instructions will indicate whether the CAPI page number refers to the questionnaire for Respondent 1 (R1) or the questionnaire for Respondent 2 (R2).

5. For your information, the primary grouping for this study is the Catering Unit (CU). It is “a group of people who eat food that is bought and prepared for them (largely) as a group”. In addition, the Main Food Provider (MFP) is interviewed in order to obtain CU-level information. The MFP is “the person in the Catering Unit with the main responsibility for shopping and preparing food”.

Where problems arise that do not appear in these editing instructions, please contact the research team for advice.

2 Factsheet Definition for CAPI editing

The tables below show the variables that will appear on the factsheet for editing. Variables which are just a simple backcode into a previous variable are not shaded but the code frames are provided in these instructions. Variables for which there is more detail in these instructions about how to code, are shaded.

Household Qure

XNatOth	Back code into NatIDG	National identity	Page 8
EthOth	Back code into EthGrp	Ethnic group	Page 9
soc2010	Code as standard	Occupational coding	
sic2003	Code as standard	Industry type coding	

Indiv Qure – CAPI 1

NbotL7	Code to L7NCodEq	Brand of bottled lager (7 days)	Page 14
SbotL7	Code to L7SCodEq	Brand of bottled lager (7 days)	Page 14
OthL7TA,B,C		Other alcoholic drinks (7 days)	Page 13
HealT	Code to LimLi	Limiting long standing illness	Page 11
CutMatt	Code to CutIll	Restrictive illness or injury	Page 12

Indiv Qure – Measures

OHiNRel	Back code into HiNRel	Unreliable height measurement	Page 16
NoHitCO	Back code into NoHtBC	Reasons for refusing height	Page 16
NoWatCO	Back code into NoWtBC	Reasons for refusing weight	Page 16

3 Additional CAPI edits

3.1 Proxy interviews

Aged 2-10	Proxy interviews are allowed for children aged 2-10. See height/weight measurements section for more details of edits for **NoHtBC** and **NoWtBC**.
Aged 18mths to 2 years	Proxy interviews are carried out for infants aged 18 months – 2 years. See length/weight measurements section for more details of edits for **NoAttL** and **NoWtBC**.

3.2 Age/Date of birth

Children aged less than one year are recorded as ‘0’.

If Age/Date of birth missing in household grid, check whether it was collected in the nurse visit. Add DoB and age at Individual Questionnaire Interview Date to the Household Grid if available from Nurse Schedule.

Date of birth in nurse visit should be checked against the consent booklet and any discrepancies resolved.

All "age" nurse checks will be flagged in the edit if they do not make sense according to the respondent’s date of birth as at the interview. Any discrepancies will need to be resolved. Send a list of all cases where this happens to the researchers, please note age and 'consent status' of other individuals in the household. A decision will be taken by the researcher on a case by case basis.

3.3 National identity

XNatOth Other national identity. To be coded back to **NatIDG.**

Inspect answer at XNatOth and if Cornish, back code to English (code 1 in the code frame below). Do not back code any other answers.

1 English
2 Scottish
3 Welsh
4 Irish
5 British

If the case is from a NI point then back code to **NatIDN.**

For Northern Ireland batches the code frame will include the following extra codes (these will appear on route for NI points only)

1 British
2 Irish
3 Ulster
4 Northern Irish
5 English
6 Scottish
7 Welsh

3.4 Other ethnic groups – NATCEN edit

EthOth Other ethnic group. To be coded back to **EthGrp**, following rules listed below.

1. White-British
Include English, Scottish, Welsh, Northern Irish and Cornish.

2. Any other white background
Include Southern Irish, Irish, Irish traveller, Gypsy/Romany, Cypriot, Former USSR, Baltic States, Former Yugoslavia, Other European, White South African, American, Australian, New Zealander, Mixed White

3. Mixed – White and Black Caribbean

4. Mixed – White and Black African

5. Mixed – White and Asian

6. Any other mixed background

7. Asian or Asian British - Indian
Include Punjabi

8. Asian and Asian British – Pakistani
Include Kashmiri

9. Asian and Asian British – Bangladeshi

10. Any other Asian/Asian British background
Include East African Asian, Sri Lankan, Tamil, Sinhalese, Caribbean Asian, Nepalese, Mixed Asian (i.e. mixture of descriptions in the Asian section).
Code Chinese as 14 (see below).

11. Black or Black British – Caribbean
Include Caribbean and West Indian islands (and also Guyana).
Do not include Puerto Rican, Dominican and Cuban, which are Latin American

12. Black or Black British – African
Include Nigerian, Somali, Kenyan, Black South African, Other Black African countries

13. Any other Black/Black British background
Include Black American, Mixed Black

14. Chinese
Include Hong Kong

15. Any other
The following ethnic groups **SHOULD NOT** be coded back to the categories above but should remain as "other": Japanese, Vietnamese, Filipino, Malaysian, Aborigine, Afghani, Burmese, Fijian, Inuit, Maori, Native American Indian, Thai, Tongan, Samoan, Arab, Iranian, Israeli, Jewish, Kurdish, Latin American (Cuban, Puerto Rican, Dominican, Hispanic), South American (incl. Central American), Moroccan, Other North African, Iraqi, Lebanese, Yemeni, Other Middle Eastern, Mauritian, Seychellois, Maldivian, St Helena.

3.5 Other ethnic groups – NORTHERN IRELAND edit

Other Other ethnic group. To be coded back to **EthGrpNI**.

If you are editing a Northern Ireland case and 'Other ethnic group' has been recorded, please contact Stuart Bennett [Stuart.Bennett@dfpni.gov.uk] from NISRA with the details of the 'other ethnic group' and ask him which code he would like it to be back coded into in EthGrpNI from the following options:

1. **White**
2. **Irish traveller**
3. **Mixed**
4. **Indian**
5. **Pakistani**
6. **Bangladeshi**
7. **Other Asian**
8. **Black Caribbean**
9. **Black African**
10. **Other Black**
11. **Chinese**
12. **Other ethnic group**

3.6 Long standing illnesses

HealT Long-standing illness, disability or infirmity. To be coded into new variable **LimLi**.

Respondents who specify that they have an illness that has troubled them over a period of time are asked to record the illness in HealT. Their response should be coded using the codeframe in section 4. If there are more than one separate illnesses listed in HealT, code first mentioned illness.

Rules for coding long-standing illness

Code 41 Unclassifiable (no other codable complaint)

Exclusive code - this should only be used when the whole response is too vague to be coded into one of codes 01-40. This includes unspecific conditions like old age, war wounds etc (see codeframe for examples).

Code 42 Complaint no longer present

Exclusive code - again it should be used only when the response given is **only** about a condition that no longer affects the respondent.

Illnesses which cannot be coded using the Longstanding Illness Codeframe or the ICD need to be sent to the Research team in London. Code 98 here for now, which will tell us that this is being investigated.

3.7 Restrictive illness or injury

CutMatt Illness or injury over the past 2 weeks. To be coded into new variable **CutIll**.

Respondents are asked if they have had an illness or injury over the past 2 weeks that has caused them to cut down on any activities that they usually do around the house. Their response should be coded using the codeframe in section 4. If there are more than one separate illness or injury listed in CutMatt, code first mentioned illness

Code 41 Unclassifiable (no other codable complaint)

Exclusive code - this should only be used when the whole response is too vague to be coded into one of codes 01-40. This includes unspecific conditions like old age, war wounds etc (see codeframe for examples).

Code 42 Complaint no longer present

Exclusive code - again it should be used only when the response given is **only** about a condition that no longer affects the respondent.

Illnesses which cannot be coded using the Longstanding Illness Codeframe or the ICD need to be sent to the Research team in London. Code 98 here for now, which will tell us that this is being investigated.

3.8 Other alcoholic drinks

OthL7TA/OthL7TB/OthL7TC	Other alcoholic drinks need to be coded into specific alcohol types

Exclude all low/non-alcoholic drinks. Home made drinks should be coded into the appropriate category. If unsure of the % alcohol volume, look up the drink on the internet.

Normal beer (NBrL7):
Include: Export, Heavy, Black & Tan, Barley Wine, Diabetic Beer, Home Brew Lager, Lager and Lime, Home Brew Beer, Gold Label, Pomagne, Stout, Scrumpy
Exclude: Ginger Beer. Non alcoholic lagers - Barbican, Kaliber, Bottles/cans of shandy. Beer, Lager or Cider with >6% alcohol by volume (code as 'strong'). Angostura Bitter (code as spirits)

Strong beer (SBrL7):
Include: Diamond White/Blush/Zest, K, Special Brew Lager, Tennents Super
Exclude: Beer etc with less than 6% alcohol by volume (code as 'normal strength'). Angostura Bitter (code as spirits).

Spirits (SpirL7):
Include: Angostura Bitter, Cocktails, Egg Flip, Snowball, Bacardi, Bailey's, Pernod, Gin, Sloe Gin, Pimms, Bourbon, Whisky Mac, Schnapps, Liqueurs, Bluemoon, Vodka, Rum, Southern Comfort, Grappa, Tia Maria, Ouzo/Aniseed, Strega, Cherry Brandy, Arak, Irish Velvet, Brandy, 150 proof Moonshine, Gaelic Coffee, Advocaat, Tequila, Armagnac, Clan Dew, Campari, Malibu, Taboo, Pochene (Irish Moonshine), Jello shots/shooters, Vodka Jelly, After Shock.

Sherry (ShryL7):
Include: Vermouth, Port, Cinzano, Dubonnet, Bianco, Rocardo, Noilly Prat, Stones Ginger Wine, Home made Sherry, Tonic wine, Sanatogen, Scotsmac and similar British wines fortified with spirits, Port and Lemon, Madeira.

Wine (WineL7):
Include: Punch, Mead, Moussec, Concorde, Champagne, Babycham, Saki, Cherry B, Calypso Orange Perry, Home made wine, Thunder bird.
Exclude: Non alcoholic wines such as Eisberg

Alcopops/pre mixed alcoholic drinks (PopsL7):
Include: Bacardi Breezer, Metz, Smirnoff Ice, Archers Aqua, Baileys Glide, Crabbies, MudShake, Red Square, Vodka Reef, Shotts, Tvx, VK Vodka kick, Vodkat Classic, WKD ('Wicked'), Alcoholic Irn Bru, Thickhead, Woody's, any mention of 'alcoholic lemonade, cola, orangeade, cream soda' etc or any 'Ready to Drink' beverage.

Coding "other" alcoholic drinks variables:
All "other" alcoholic drinks should be recoded back into one of the six drink categories noted above (**OthL7TA**, **OthL7TB**, **OthL7TC** to question **DrnkType**).

If the appropriate drinks category is **not already** coded, then information on amount should be edited into that category's variables and data in the "other drinks" category deleted.

If the category of the "other" alcoholic drink is the same as already coded, then the **amounts** drunk should be added together.

After recoding "other" alcoholic drinks, you should remove "other" alcoholic drink types at **DrnkType** and the variables **OthL7TA**, **OthL7TB**, and **OthL7TC** should longer appear on route. Details of coding decisions should be recorded on the FACTSHEET.
Responses recorded at variables **OthL7QA**, **OthL7QB** and **OthL7QC** should be recoded to the relevant variables: **NBrL7**, **NBrL7Q[1-4], SBrL7, SBrL7Q[1-4], SpirL7, ShryL7, WineL7, PopsL7, PopsL7Q[1-2]**.

3.9 Coding of beer bottle sizes

NBotL7/ SBotL7 The brand of beer/lager/stout/cider drunk in bottles (**NBotL7** and **SBotL7**) need to be coded into **L7NcodEq** and **L7ScodEq**.

If respondents drink beer, lager, stout or cider in bottles they are asked to specify the make of drink in **NBotL7** and **SBotL7**. These need to be coded into **L7NcodEq** and **L7ScodEq** using the bottled lager/cider/beer codeframe and conversion table on the next page.

For beers or ciders where it is not clear as to the size of bottle, please use the internet to clarify.

Bottled beers or ciders for which an amount cannot be identified should be coded to 0.00 of a pint, so that these brands can be listed electronically. The exceptions to this are

- 'French beer' which should be coded 0.44 (250ml)
- Interviewer has indicated that the bottle is "large" code to 0.77 of a pint (440ml)
- If no brand name given, or no usual type code to 0.58 of a pint (330ml)
- Where two or more bottle sizes are shown in the codeframe, code as 0.58 unless bottle size is specifically stated (either as small or large, or in ml)
- Where more than one type of bottle is drunk, code to the volume of the first mentioned bottle.

3.10 Bottled lager/cider/beer codeframe

Abbot Ale	0.58	Kronenbourg (1664)	0.44 or 0.58
Amstel	0.58	Labatts	0.58
Asahi	0.58	Labatt's Ice	0.58
Banks (Mild only)	0.97	Leffe	0.58 or 0.77
Banks Old Ale (nips)	0.32	London Pride	0.97
Bass (pint bottle)	1.00	Lowenbrau	0.58
Becks	0.48 or 0.58	Mackeson	0.88
Bishops Finger	0.88	Marston's Pedigree	0.88
Black Sheep Ale	0.88	McEwans 80 or 90 shilling	0.97
Boddingtons (Export draught only)	0.58	Merrydowns	0.58
Bombardier	0.88	Michelob	0.58
Brahma	0.58	Miller (Draught not Pils)	0.58
Brandenburg	0.58	Molson	0.58
Budvar	0.88	Murphys	0.88
Budweiser/Bud Ice	0.58	Newcastle Brown Ale	0.97
Bulmers/Magners	0.58, 0.88 or 1.00	Olde English	0.88
Carling	0.48	Old Peculiar	0.88
Carlsberg	0.58	Old Speckled Hen	0.88
Castle	0.58	Oranjeboom	0.58
Cobra	0.58	Peroni lager (Nastro Azzuri)	0.58
Coors	0.58	Pils (unspecified)	0.58
Corona	0.58	Pivovar Czech Lager	0.88
Crest Lager (Export)	0.44	Red Rock	0.58
Diamond (Blush, White or Zest)	0.48	Red Stripe	0.58
Dragon (Stout)	0.50	Rolling Rock	0.58
Elephant (Lager)	0.48 or 0.58	Royal Dutch	0.58
ESB (Fuller's ESB)	0.88	Ruddles	0.58
Export 33	0.44	Sam Smiths (Old Brewery Strong Ale)	0.97
Foster's (Unspecified)	0.77	San Miguel	0.58
Foster's Export	0.77	Scrumpy Jack	0.58
Foster's Ice	0.58	Singha beer	0.58
Frosty Jack Cider	0.88	Skol	0.58
Fuller's (London Pride)	0.97	Sol	0.58
Grolsch	0.58 or 0.77	Spitfire	0.88
Guinness Extra Stout	0.58	Stella Artois (dry or regular)	0.44, 0.48 or 0.58
Guinness Original	0.58 or 0.88	Stinger	0.58
Heineken (Export)	0.58	Strongbow (Blackthorn)	0.48 or 0.58
Hoegaarden (bier blonde)	0.58	Thatchers cider	0.88
Holsten Pils (bottle)	0.58	Theakstons	0.97
Home made	0.58	Tiger beer	0.58
Ice Dragon	0.48	Tsingtao	0.58
John Smiths	0.77	Vault	0.58
K. Cider	0.48	Victoria Bitter	0.58
Kanterbrau	0.58	Wadworth Export	0.88
Kingfisher	0.58	Woodpecker	0.48
Kirin	0.58 or 0.88		

Conversion Table

mls	pints	mls	pints	mls	pints
180	0.32	330	0.58	750	1.32
200	0.35	440	0.77	1000 (1 litre)	1.76
250	0.44	500	0.88	1500 (1.5 litres)	2.64
275	0.48	550	0.97	2000 (2 litres)	3.52
284	0.50	568	1.00	3000 (3 litres)	5.28

3.11 Height and weight

If you get an Interviewer Check (Active Signal) at variable **Height1, Height2** or **Height3** and the decimal is .0 (e.g. 15.0), suppress this warning to continue moving through the Edit.

OHiNRel	Other reason for unreliable height measurement. To be coded back to **HiNRel**.
NoHitCO	Other reason for not obtaining height measurement. To be coded back at **NoHtBC**.
NoWatCO	Other reason for not obtaining weight measurement. To be coded back at **NoWtBC**.
OthNLth	Other reason for not obtaining length measurement. To be coded back at **NoAttL**.

Checks for height/length and weight in the edit program reject extremely unusual heights and weights as a safeguard against very unlikely results. Contact research staff if the height or weight check is activated.

For children aged 4-12 who are away from home during field period an interview will have been attempted with his/her parents. Variables **NoHtBC/NoWtBC** should be coded 1 - "Child away from home during the field period". Editors should check that where notes indicate that a child is absent during the field period that code 1 has been used in the above variables.

****Note** that code 1 can only be used if the child is known to be away from home for the whole of the fieldwork period. It should not be used for those cases where a child is not available at the time measurements are conducted (eg child got bored and went outside to play). These should be left as “Other”. If child is “ill”, recode to Code 8 ‘ill or in pain’.

Veiled refusals at **NoHitCO/NoWatCO** (where respondent has not given a reason for not having height/weight taken but has effectively terminated the interview: eg ‘too busy’, ‘had to go out’, ‘not convenient’ etc.) should be recoded to Code 2 ‘Height/Weight refused’ at **RespHts**/**Respwts**, and the reason for refusal coded at **ResNHi**/**ResNWt**.

3.12 ActiGraph start and end date

The following Interviewer Check (Active signal) is activated at **AGEDate** if the ActiGraph end date (i.e. the last day of the respondent wearing the ActiGraph) is more than 6 days after **AGSDate** (ActiGraph end date).

Active Signal:
The end date is not 6 days after the start date. Check with the respondent that this is the correct **end** date and amend date if necessary.

If this Active Signal appears, please take the following actions.

1. Check whether the interviewer has made any notes in a memo.
2. Check **Wear** – this will tell you how many days the respondent said they wore the ActiGraph for.
3. If the information in points above suggests that the date entered in **AGEDate** is correct, then suppress this Active Signal and continue.
4. If there is nothing in a memo or at **Wear** to indicate that the respondent didn't start on the start date recorded in CAPI, or wore the ActiGraph for less than 7 days, then enter the start date +6 days (so it will equal 7 days in total) at **AGEDate**, as this is how long respondents are asked to wear it for.

For example, if **AGSDate** (ActiGraph start date) is recorded as 07/04/2011 and **AGEDate** (ActiGraph end date) is 14/04/2011, and there is nothing to indicate that they definitely didn't start wearing it on the 7th, then the **AGEDate** should be changed to 13/07/2011 as this was the final day of wearing the AG.

5. If an interviewer memo says that the respondent forgot to wear it in the middle of the 7 days and wore it for an extra day, we still only want the end date to be 7 days from the start date (as per the example above) so please amend the end date to **AGSDate** +6 days. This is because we are only going to send our collaborator 7 days worth of AG data per respondent. We use these dates in the CAPI to extract the data for the correct 7 days for analysis.

3.13 ActiGraph serial numbers

If an interviewer has entered an invalid ActiGraph serial number (this is the four-digit serial number and check letter on the back of the ActiGraph), the following signal will appear:

Hard error signal:
9999T/9048K is not a valid ActiGraph serial number for NDNS. Please enter the four digit number on the back of the AG, or if this is missing please phone the office.

If this appears, and you are unable to find out what the correct ActiGraph number should be, please take the following action:

1. Go to *Collect* and change this to *"3 – missing"*. This will stop the signal above from appearing.

4 Longstanding illness codeframe

01 Cancer (neoplasm) including lumps, masses, tumours and growths and benign (non-malignant) lumps and cysts

Acoustic neuroma
After effect of cancer (nes)
All tumours, growths, masses, lumps and cysts whether malignant or benign eg. tumour on brain, growth in bowel, growth on spinal cord, lump in breast
Cancers sited in any part of the body or system eg. Lung, breast, stomach
Colostomy caused by cancer
Cyst on eye, cyst in kidney.
General arthroma
Hereditary cancer
Hodgkin's disease
Hysterectomy for cancer of womb
Inch. leukaemia (cancer of the blood)
Lymphoma
Mastectomy (nes)
Neurofibromatosis
Part of intestines removed (cancer)
Pituitary gland removed (cancer)
Rodent ulcers
Sarcomas, carcinomas
Skin cancer, bone cancer
Wilms tumour

Endocrine/nutritional/metabolic diseases

02 Diabetes

Incl. Hyperglycaemia

03 Other endocrine/metabolic

Addison's disease
Beckwith - Wiedemann syndrome
Coeliac disease
Cushing's syndrome
Cystic fibrosis
Gilbert's syndrome
Hormone deficiency, deficiency of growth hormone, dwarfism
Hypercalcemia
Hypopotassaemia, lack of potassium
Malacia
Myxoedema (nes)
Obesity/overweight
Phenylketonuria
Rickets
Too much cholesterol in blood
Underactive/overactive thyroid, goitre
Water/fluid retention
Wilson's disease

Thyroid trouble and tiredness - code 03 only
Overactive thyroid and swelling in neck - code 03 only.

Mental, behavioural and personality disorders

04 Mental illness/anxiety/depression/nerves (nes)

Alcoholism, recovered not cured alcoholic
Angelman Syndrome
Anorexia nervosa
Anxiety, panic attacks
Asperger Syndrome
Autism/Autistic
Bipolar Affective Disorder
Catalepsy
Concussion syndrome
Depression
Drug addict
Dyslexia
Hyperactive child.
Nerves (nes)
Nervous breakdown, neurasthenia, nervous trouble
Phobias
Schizophrenia, manic depressive
Senile dementia, forgetfulness, gets confused
Speech impediment, stammer
Stress

Alzheimer's disease, degenerative brain disease = code 08

05 Mental handicap

Incl. Down's syndrome, Mongol
Mentally retarded, subnormal

Nervous system (central and peripheral including brain) - Not mental illness

06 Epilepsy/fits/convulsions
Grand mal
Petit mal
Jacksonian fit
Lennox-Gastaut syndrome
blackouts
febrile convulsions
fit (nes)

07 Migraine/headaches

08 Other problems of nervous system
Abscess on brain
Alzheimer's disease
Bell's palsy
Brain damage resulting from infection (eg. meningitis, encephalitis) or injury
Carpal tunnel syndrome
Cerebral palsy (spastic)
Degenerative brain disease
Fibromyalgia
Friedreich's Ataxia
Guillain-Barre syndrome
Huntington's chorea
Hydrocephalus, microcephaly, fluid on brain
Injury to spine resulting in paralysis
Metachromatic leucodystrophy
Motor neurone disease
Multiple Sclerosis (MS), disseminated sclerosis
Muscular dystrophy
Myalgic encephalomyelitis (ME)
Myasthenia gravis
Myotonic dystrophy
Neuralgia, neuritis
Numbness/loss of feeling in fingers, hand, leg etc
Paraplegia (paralysis of lower limbs)
Parkinson's disease (paralysis agitans)
Partially paralysed (nes)
Physically handicapped - spasticity of all limbs
Pins and needles in arm
Post viral syndrome (ME)
Removal of nerve in arm
Restless legs
Sciatica
Shingles
Spina bifida
Syringomyelia
Trapped nerve
Trigeminal neuralgia
Teraplegia

Eye complaints

09 Cataract/poor eye sight/blindness
Incl. operation for cataracts, now need glasses
Bad eyesight, restricted vision, partially sighted
Bad eyesight/nearly blind because of cataracts
Blind in one eye, loss of one eye
Blindness caused by diabetes
Blurred vision
Detached/scarred retina
Hardening of lens
Lens implants in both eyes
Short sighted, long sighted, myopia
Trouble with eyes (nes), eyes not good (nes)
Tunnel vision

10 Other eye complaints
Astigmatism
Buphthalmos
Colour blind
Double vision
Dry eye syndrome, trouble with tear ducts, watery eyes
Eye infection, conjunctivitis
Eyes are light sensitive
Floater in eye
Glaucoma
Haemorrhage behind eye
Injury to eye
Iritis
Keratoconus
Night blindness
Retinitis pigmentosa
Scarred cornea, corneal ulcers
Squint, lazy eye
Sty on eye

Ear complaints

11 Poor hearing/deafness
Conductive/nerve/noise induced deafness
Deaf mute/deaf and dumb
Heard of hearing, slightly deaf
Otosclerosis
Poor hearing after mastoid operation

12 Tinnitus/noises in the ear
Incl. pulsing in the ear

13 Meniere's disease/ear complaints causing balance problems
Labryrinthitis,
loss of balance - inner ear
Vertigo

14 Other ear complaints
Incl. otitis media - glue ear
Disorders of Eustachian tube
Perforated ear drum (nes)
Middle/inner ear problems
Mastoiditis
Ear trouble (nes),
Ear problem (wax)
Ear aches and discharges
Ear infection

Complaints of heart, blood vessels and circulatory system

15 Stroke/cerebral haemorrhage/cerebral thrombosis
Incl. stroke victim - partially paralysed and speech difficulty
Hemiplegia, apoplexy, cerebral embolism,
Cerebro - vascular accident

16 Heart attack/angina
Incl. coronary thrombosis, myocardial infarction

17 Hypertension/high blood pressure/blood pressure (nes)

18 Other heart problems
Aortic/mitral valve stenosis,
Aortic/mitral valve regurgitation
Aorta replacement
Atrial Septal Defect (ASD)
Cardiac asthma
Cardiac diffusion
Cardiac problems, heart trouble (nes)
Dizziness, giddiness, balance problems (nes)
Hardening of arteries in heart
Heart disease, heart complaint
Heart failure
Heart murmur, palpitations
Hole in the heart
Ischaemic heart disease
Pacemaker
Pains in chest (nes)
Pericarditis
St Vitus dance
Tachycardia, sick sinus syndrome
Tired heart
Valvular heart disease
Weak heart because of rheumatic fever
Wolff - Parkinson - White syndrome

Balance problems due to ear complaint = code 13

19 Piles/haemorrhoids incl. Varicose Veins in anus.

20 Varicose veins/phlebitis in lower extremities
Incl. various ulcers, varicose eczema

21 Other blood vessels/embolic
Arteriosclerosis, hardening of arteries (nes)
Arterial thrombosis
Artificial arteries (nes)
Blocked arteries in leg
Blood clots (nes)
Hand Arm Vibration Syndrome (White Finger)
Hypersensitive to the cold
Intermittent claudication
Low blood pressure/hypertension
Poor circulation
Pulmonary embolism
Raynaud's disease
Swollen legs and feet
Telangiectasia (nes)
Thrombosis (nes)
Varicose veins in Oesophagus
Wright's syndrome

NB Haemorrhage behind eye = code 10

Complaints of respiratory system

22 Bronchitis/emphysema
Bronchiectasis
Chronic bronchitis

23 Asthma
Bronchial asthma, allergic asthma
Asthma - allergy to house dust/grass/cat fur

NB *Exclude cardiac asthma - code 18*

24 Hayfever
Allergic rhinitis

25 Other respiratory complaints
Abscess on larynx
Adenoid problems, nasal polyps
Allergy to dust/cat fur
Bad chest (nes), weak chest - wheezy
Breathlessness
Bronchial trouble, chest trouble (nes)
Catarrh
Chest infections, get a lot of colds
Churg-Strauss syndrome
Chronic Obstructive Pulmonary Disease (COPD)
Coughing fits
Croup
Damaged lung (nes), lost lower lobe of left lung
Fibrosis of lung
Furred up airways, collapsed lung
Lung complaint (nes), lung problems (nes)
Lung damage by viral pneumonia
Paralysis of vocal cords
Pigeon fancier's lung
Pneumoconiosis, byssinosis, asbestosis and other industrial, respiratory disease
Recurrent pleurisy
Rhinitis (nes)
Sinus trouble, sinusitis
Sore throat, pharyngitis
Throat infection
Throat trouble (nes), throat irritation
Tonsillitis
Ulcer on lung, fluid on lung

TB (pulmonary tuberculosis) - code 37
Cystic fibrosis - code 03
Skin allergy - code 39
Food allergy - code 27
Allergy (nes) - code 41
Pilonidal sinus - code 39
Sick sinus syndrome - code 18
Whooping cough - code 37

If complaint is breathlessness with the cause also stated, code the cause:
breathlessness as a result of anaemia (code 38)
breathlessness due to hole in heart (code 18)
breathlessness due to angina (code 16)

Complaints of the digestive system

26 Stomach ulcer/ulcer (nes)/abdominal hernia/rupture

Double/inguinal/diaphragm/hiatus/umbilical hernia
Gastric/duodenal/peptic ulcer
Hernia (nes), rupture (nes)
Ulcer (nes)

27 Other digestive complaints (stomach, liver, pancreas, bile ducts, small intestine - duodenum, jejunum and ileum)

Cirrhosis of the liver, liver problems
Food allergies
Ileostomy
Indigestion, heart burn, dyspepsia
Inflamed duodenum
Liver disease, biliary artesia
Nervous stomach, acid stomach
Pancreas problems
Stomach trouble (nes), abdominal trouble (nes)
Stone in gallbladder, gallbladder problems
Throat trouble - difficulty in swallowing
Weakness in intestines

28 Complaints of bowel/colon (large intestine, caecum, bowel, colon, rectum)

Colitis, colon trouble, ulcerative colitis
Coleliac
Colostomy (nes)
Crohn's disease
Diverticulitis
Enteritis
Faecal incontinence/encopresis.
Frequent diarrhoea, constipation
Grumbling appendix
Hirschsprung's disease
Irritable bowel, inflammation of bowel
Polyp on bowel
Spastic colon

Exclude piles - code 19
Cancer of stomach/bowel - code 01

29 Complaints of teeth/mouth/tongue

Cleft palate, hare lip
Impacted wisdom tooth, gingivitis
No sense of taste
Ulcers on tongue, mouth ulcers

Complaints of genito-urinary system

30 Kidney complaints

Chronic renal failure
Horseshoe kidney, cystic kidney
Kidney trouble, tube damage, stone in the kidney
Nephritis, pyelonephritis
Nephrotic syndrome
Only one kidney, double kidney on right side
Renal TB
Uraemia

31 Urinary tract infection

Cystitis, urine infection

32 Other bladder problems/incontinence

Bed wetting, enuresis
Bladder restriction
Water trouble (nes)
Weak bladder, bladder complaint (nes)

Prostate trouble - code 33

33 Reproductive system disorders

Abscess on breast, mastitis, cracked nipple
Amenorrhea
Damaged testicles
Endometriosis
Gynaecological problems
Hysterectomy (nes)
Impotence, infertility
Menopause
Pelvic inflammatory disease/PID (female)
Period problems, flooding, pre-menstrual tension/syndrome
Prolapse (nes) if female
Prolapsed womb
Prostrate gland trouble
Turner's syndrome
Vaginitis, vulvitis, dysmenorrhoea

Musculo-skeletal - complaints of bones/joints /muscles

34 Arthritis/rheumatism/fibrositis

Arthritis as result of broken limb
Arthritis/rheumatism in any part of the body
Gout (*previously code 03*)
Osteoarthritis, rheumatoid arthritis, polymyalgia rheumatica
Polyarteritis Nodosa (*previously code 21*)
Psoriasis arthritis (also code psoriasis)
Rheumatic symptoms
Still's disease

35 Back problems/slipped disc/spine/neck

Back trouble, lower back problems, back ache
Curvature of spine
Damage, fracture or injury to back/spine/neck
Disc trouble
Lumbago, inflammation of spinal joint
Prolapsed invertebral discs
Schuermann's disease
Spondylitis, spondylosis
Worn discs in spine - affects legs

Exclude if damage/injury to spine results in paralysis - code 08
Sciatica or trapped nerve in spine - code 08

36 Other problems of bones/joints/muscles

Absence or loss of limb eg. lost leg in war, finger amputated, born without arms
Aching arm, stiff arm, sore arm muscle
Bad shoulder, bad leg, collapsed knee cap, knee cap removed
Brittle bones, osteoporosis
Bursitis, housemaid's knee, tennis elbow
Cartilage problems
Chondrodystrophia
Chondromalacia
Cramp in hand
Deformity of limbs eg. club foot, claw-hand, malformed jaw
Delayed healing of bones or badly set fractures
Deviated septum
Dislocations eg. dislocation of hip, clicky hip, dislocated knee/finger
Disseminated lupus
Dupuytren's contraction
Fibromyalgia
Flat feet, bunions,
Fracture, damage or injury to extremities, ribs, collarbone, pelvis, skull, eg. knee injury, broken leg, gun shot wounds in leg/shoulder, can't hold arm out flat - broke it as a child, broken nose
Frozen shoulder
Hip infection, TB hip
Hip replacement (nes)
Legs won't go, difficulty in walking
Marfan Syndrome
Osteomyelitis
Paget's disease
Perthe's disease
Physically handicapped (nes)
Pierre Robin syndrome
Schlatter's disease
Sever's disease
Stiff joints, joint pains, contraction of sinews, muscle wastage
Strained leg muscles, pain in thigh muscles
Systemic sclerosis, myotonia (nes)
Tenosynovitis
Torn muscle in leg, torn ligaments, tendonitis
Walk with limp as a result of polio, polio (nes), after affects of polio (nes)
Weak legs, leg trouble, pain in legs

Muscular dystrophy - code 08

37 Infectious and parasitic disease

AIDS, AIDS carrier, HIV positive (*previously code 03*)
Athlete's foot, fungal infection of nail
Brucellosis
Chicken Pox
Glandular fever
Malaria
Pulmonary tuberculosis (TB)
Ringworm
Schistosomiasis
Tetanus
Thrush, candida
Toxoplasmosis (nes)
Tuberculosis of abdomen
Typhoid fever
Venereal diseases
Viral hepatitis
Whooping cough

After effect of Poliomyelitis, meningitis, encephalitis - code to site/system
Ear/throat infections etc - code to site

38 Disorders of blood and blood forming organs and immunity disorders

Anaemia, pernicious anaemia
Blood condition (nes), blood deficiency
Haemophilia
Idiopathic Thrombochopenic Purpura (ITP)
Immunodeficiences
Polycythaemia (blood thickening), blood to thick
Purpura (nes)
Removal of spleen
Sarcoidosis (*previously code 37*)
Sickle cell anaemia/disease
Thalassaemia
Thrombocythenia
Vonwillebrand disease

Leukaemia - code 01

39 Skin complaints

abscess in groin
acne
birth mark
burned arm (nes)
Bowens disease
carbuncles, boils, warts, verruca
cellulitis (nes)
chilblains
corns, calluses
dermatitis
Eczema
epidermolysis, bulosa
impetigo
ingrown toenails
pilonidal sinusitis
Psoriasis, psoriasis arthritis (also code arthritis)
skin allergies, leaf rash, angio-oedema
skin rashes and irritations
skin ulcer, ulcer on limb (nes)

Rodent ulcer - code 01
Varicose ulcer, varicose eczema - code 20

40 Other complaints

adhesions
dumb, no speech
fainting
hair falling out, alopecia
insomnia
no sense of smell
nose bleeds
sleepwalking
travel sickness

Deaf and dumb - code 11 only

41 Unclassifiable (no other codable complaint)

after affects of meningitis (nes)
allergy (nes), allergic reaction to some drugs (nes)
electrical treatment on cheek (nes)
embarrassing itch (nes)
Forester's disease (nes)
general infirmity
generally run down (nes)
glass in head - too near temple to be removed (nes)
had meningitis - left me susceptible to other things (nes)
internal bleeding (nes)
ipinotaligia
old age/weak with old age
swollen glands (nes)
tiredness (nes)
war wound (nes), road accident injury (nes)
weight loss (nes)

42 Complaint no longer present

Only use this code if it is actually stated that the complaint no longer affects the informant.

Exclude if complaint kept under control by medication - code to site/system.

99 Not Answered/Refusal