P2752

NATIONAL DIET AND NUTRITION SURVEY

(NDNS)

Year 3

INTERVIEWER PROJECT INSTRUCTIONS

For use from 01/01/11

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.

Fieldwork for the third year of the study launched in April 2010.

2. OVERVIEW

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 and blood pressure).
- wearing of physical activity monitors (ActiGraphs).
- blood sample collection (and analysis of nutritional status indices).
- 24-hour urine collection.
- a sub-study involving Doubly Labelled Water (DLW) for a sub-sample of respondents.

The study will sample people living in private residential Catering Units 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.

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 3 OF NDNS

Following careful consideration after another successful year of NDNS, we have made a few changes to various protocols for Year 3. The key changes are outlined below and further information is provided elsewhere in these instructions and at briefings.

3.1 Doubly Labelled Water (DLW)

For those of you who worked in Year 1 of NDNS, you will remember that DLW was only being used in Years 1 and 3 of the survey. The protocols and recruitment procedures remain the same as Year 1, as explained in the briefing.

For those of you who did not work on Year 1 of NDNS, please see section 17 for further information.

3.2 Diary start day

In Year 3 of NDNS, the diary start day will be randomly selected by the CAPI, and every day of the week will have an equal chance of being the start day. There may sometimes be a gap between your placement visit and the respondent starting the diary. If you have concerns about a respondent forgetting to start the diary, it is worth dropping a reminder card through their door, just before they start recording. If the gap is 7 days or more, you will need to make a reminder phone call to go back through some of the key points with the respondent.

3.3 CAPI

The CAPI remains very much the same as Year 2 of NDNS. The key changes are 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.

- **Doubly labelled water**: The recruitment questions and DLW admin block have been reinstated in CAPI. If respondents refuse to take part in DLW, we would now like you to record why.
- **Questions about benefits received:** The FSA are interested in finding out whether the household is in receipt of working families' tax credits (please note that this has now been replaced with working tax credits and child tax credit), income support or income-related job seekers allowance. This will mean that they can look at the relationship between receipt of benefits, and the types of foods they consume.
- **Marital status & relationships:** The NDNS questionnaire now includes additional answer categories for people in/previously in civil partnerships, in line with the Office for National Statistics (ONS) recommendations.
- **Supplements:** If the respondent is aged four and under, we are now asking about Healthy Start vitamins in a separate question just after the questions about supplements consumed over the preceding 12 months.
- **Special diets:** In Year 3 we will only ask if the respondent is on a weight reducing diet rather than a 'special diet'.
- **Questions about holidays:** We were asked by the FSA to look at the current holiday questions after someone from the FSA accompanied an interviewer on NDNS. They were thought to be difficult to answer and frustrating for both respondent and interviewer. So from Year 3 onwards, we are only asking about sunny holidays, either abroad or in the UK. In addition, we only want to know which country they visited and in which month. We no longer ask about region, and time spent outside.

3.4 Interviewer Diary Assessment Schedule (IDAS) prompt sheet:

To help make your life easier when checking the diaries, we have devised an IDAS prompt sheet, containing the main points you need to remember when checking the diary. This can be found in your Laminate Pack.

3.5 Documents

Where possible, we are trying to reuse as many documents as we can from Year 2 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 2 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.

At the beginning of 2010, the first NDNS headline results report was published on the FSA website – this contained results from Year 1 of NDNS. Please have a look at the summary of the report, which highlights the key findings.

6. SUMMARY OF SURVEY DESIGN

6.1 Sampling

For the mainstage, 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 will contain 27 addresses. You will send an advance letter 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.

In 9 of the 27 addresses (addresses 1-9), 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. The remaining 18 addresses (addresses 10-27) are for a "young person" boost – here, you will screen out households containing people aged 19+ only (i.e. no-one younger), and at other households select one person aged under 19 and *no* adults.

For selected respondents, there are two main parts to the survey, an interviewer-administered first stage (Stage 1), and a visit by a nurse to carry out measurements and take a blood sample (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. (However they must do Stage 1 in order to do Stage 2.)

If the adult selected is not the 'Main Food Provider (MFP)' (see section 11 for a definition), this person will also be invited to take part in a short CAPI interview.

As in year 1, a sub-sample of around 200 respondents aged 4 and older from the core sample (i.e. not from the Scotland, Wales and NI country boost points) will be recruited to a further part of Stage 1, namely a DLW exercise to measure total daily expenditure of energy. This will involve the respondent drinking some tracer water and collecting a urine sample on 10 consecutive days (plus a pre-dose sample).

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 C). There may be an additional visit to collect the ActiGraph.

Additional interviewer visits will be made to a sub-sample of respondents who are invited to take part in the Doubly Labelled Water (DLW) sub-study (see section 17 and Appendix D).

At the end of the interviewer stage, the token of appreciation (£30 in high street vouchers) is given, the DLW sub-study is introduced to eligible respondents, 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) (can be done by telephone ONLY if interviewer is sure this is appropriate).
3rd visit	Collect diary & complete checklist. CAPI questionnaire (part 2) including physical-activity self-completion questionnaire. Give token of appreciation. Introduce the nurse visit. *DLW sub-sample: ask for verbal consent to administer.* *ActiGraph wearers (aged 4-15): collect the activity monitor & paperwork.*

For the DLW sub-sample, there will be two further visits to administer the DLW dose and to collect urine samples.

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 dietary 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.

Interviewers will ask respondents whether they are willing to see the nurse. Interviewers and respondents need to be aware that the nurse visit will take place up to 5 months after diary placement.

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 of the practicalities involved in securing the nurse visit.
Further information about what happens at the nurse stage is provided below.

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 will also aim to take 24-hour urine samples (from all aged 4 and older) and blood samples (from all respondents, 18 months and older). Some blood tubes will need to be taken to a local hospital or laboratory for prompt processing, while the others will be posted directly to the analysis laboratory. Urine samples will also be posted to the analysis laboratory. 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 (and countersigned by a parent/guardian for children under age 16).

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. Respondents will be asked to give separate consent to store a small sample of blood for possible future analysis.

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. Make appointment for next visit.
2nd visit *for those agreeing to 24-hr urine sample/blood sample*	Collect the 24-hour urine sample. Take blood sample.
	The nurse then delivers blood tubes that require immediate processing to a local laboratory, and posts the other tubes directly to central processing lab.
3rd visit *for those agreeing to 24-hr urine sample/blood sample*	Collect the 24-hour urine sample, if not done on 2nd visit. Take blood sample, if not done on 2nd visit.
	The nurse then delivers blood tubes that require immediate processing to a local laboratory, and posts the other tubes directly to central processing lab.

7. DEFINITIONS

The following definitions are particularly important on this study so you must familiarise yourself with them before you start interviewing.

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

For the purposes of respondent selection, adults are those aged 19+ so 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.

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 5,265 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 2011.

Each assignment will contain 27 addresses.

8.2 Who to interview

8.2.1 Selecting respondents

In 9 of the 27 addresses, 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.

The remaining 18 addresses 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 front of the ARF will indicate whether the address is a “young person” address or not. Also, an ARF for a young person address will be cream; ARFs for other addresses will be blue.

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.

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 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 addresses 1-9 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. 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.

What you might mention when introducing the survey

- It is a national (Government) survey (on behalf of the Food Standards Agency).
- 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, 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
- 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 up to three main 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. 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. 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.

$$\text{BMI} = \frac{\text{weight in kilograms}}{(\text{height in meters})^2}$$

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 01-09 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 10-27 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:

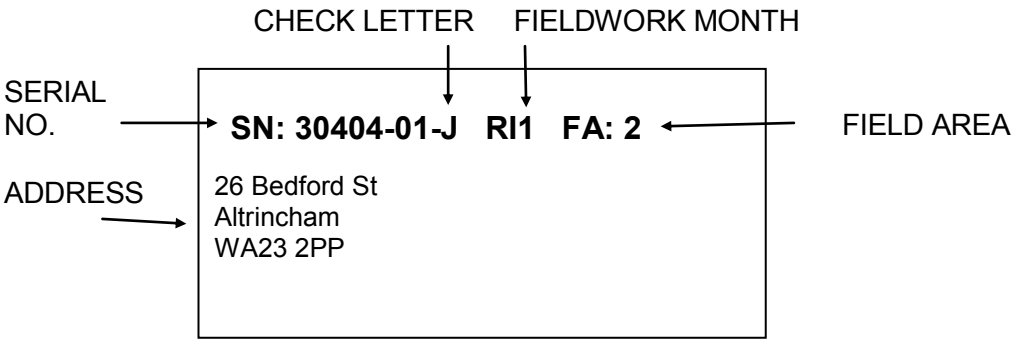
- record all attempts to make contact at the address, and keep track of the visits you make
- establish the number of DUs and where more than one, make a selection of one;
- establish the number of CUs (within the selected DU) and where more than one, make a selection of one;
- *Not Young Person addresses*: 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 ('3' for year 3, 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.

Note that if you are working on a country boost point (for interviewers working in Wales, Scotland and Northern Ireland), this 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.

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

Please make sure you look through the questionnaire very carefully, making sure you are familiar with it **before** you go out 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 Conventions in the Blaise program

QUESTION TEXT WRITTEN IN CAPITALS…

…should not be read out to the respondent. It represents an instruction or explanation to you, the interviewer.

[*] displayed at the beginning of question text denotes that it is an opinion question. You should read out the question exactly as it appears on the screen. The interpretation of the question must be left to the respondent: even if they say they do not understand the question, all you can do is repeat the exact text back to them. Never try to interpret the meaning for them.

SPONTANEOUS ONLY

Answer codes preceded by SPONTANEOUS ONLY should never be read out, prompted, nor probed. For example, in the following question, you would only record 'same sex cohabitee' if the respondent volunteered the information without probing or prompting.

LiveWith ASK OR RECORD
"May I just check, are you/is [Name] living with someone in the household as a couple?"
Yes
No
SPONTANEOUS ONLY - same sex couple

ASK OR RECORD

This means that you may already know the answer to the question, either because the information has already been recorded earlier in the interview or because the respondent may have already volunteered the information. Take for example the following question which asks about marital status of adult CU members. If you already know that someone is married, you do not have to read the entire question out again. However, to guard against errors in coding or incorrect presumptions, you should check the details back with the respondent, for

example, *'you have already told me that ….. is your husband so I can code that you are married?'*

MarStat	ASK OR RECORD. CODE FIRST THAT APPLIES. "Are you/is [Name] …single, that is, never married, …married and living with your husband/wife, …married and separated from your husband/wife, …divorced, …or widowed?"

RUNNING PROMPT

This means that you should read out all the answer codes up to the question mark. For instance, in the following question about milk taken in tea, you would read out all three answer codes.

Appet	"How would you describe your appetite? Do you have… RUNNING PROMPT... …a good appetite, …an average appetite, …or a poor appetite for someone of your age?"

Also see section **Error! Reference source not found.** in the *Interviewers' Manual* for further information about administering questionnaires.

11.3 Household (CU) structure interview

The Household interview (properly, 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.

First, the structure of the CU is established, with questions about:

- who lives in the CU's accommodation;
- the relationship of each person in the CU to everyone else;
- the 'Household Reference Person' (HRP);
- the nature of tenure of the accommodation.
- income
- the MFP;
- the individual respondent(s);

Next, the Household interview establishes each person's:

- sex;
- date of birth or age;
- relationship of members of the CU to each other;
- work status; and
- ethnicity.

11.4 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);
- that you have not included anyone who is not really a member of the CU;
- that you have 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 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**.

Before you leave this block, make sure that you are happy with the information in it.

11.5 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).

11.6 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. The overall content of the MFP questionnaire is outlined in the rest of this section – on screen instructions should give you all the detailed information you need.

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).

Note that 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. Then, all the MFP questions will then come on route.

The MFP questionnaire is divided into the following sections.

MFP Sections	Block Names
• Cooking facilities	Kitch
• Shopping for food	Shop
• Food Preparation	Prep

11.7 Structure of the individual interviews

Once you have completed the Household (CU) Structure Questionnaire (and hopefully, the MFP questionnaire), you will endeavour to 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.

If a respondent is eligible for, and agrees to take part in, the DLW part of the study, there is an additional CAPI block in which to fill in the DLW admin details as you carry out each DLW task. Please see section 17 for information on the CAPI questions relating to DLW.

Finally, there are CAPI questions which introduce the nurse visit. Please see section 15 for information on these questions.

CAPI 1

CAPI1 Sections	Block Names	Respondent
• Access to Food at School	School	All respondents 18 months-18 years (except if 16-18 and in full time employment)
• Usual Eating Habits	Isol, WhatEat, Avoid	All respondents
• General Health	Health	All respondents
• Oral/Dental Health	Oral	All respondents 16+
• Smoking[a]	Smoke	All respondents 16+ (18-24 year olds may answer in a self-completion instead)
• Drinking[a]	Drink	All respondents 16+ (18-24 year olds may answer in a self-completion instead)
• Education	Educ	All respondents 16+
• Job/Income	Job, JobHRP	All respondents 16+ (except if 16+ and in full time education)
• Measurements	Meas	All respondents
• ActiGraph introduction	ActiG	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 (a GREEN booklet for 8-12 year olds, a BLUE booklet for 13-15 year olds and a PEACH booklet for 16 and 17 year olds). In addition, respondents aged 18-24 are give the option of completing the PEACH self-completion booklet or answering the questions via CAPI.

CAPI 2

CAPI2 Sections	Block Names	Respondent
• Dietary supplements	Supp	All respondents
• Exposure to sunlight	Sun	All respondents
• NHS Central Register & Cancer Registry	BCAPI2	All respondents 16+
• Stable address	BCAPI2	All CUs
• Nurse introduction	NrsIntro	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.**

Ideally 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 document. 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.

12.6 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) that we are using to measure physical activity has been adapted slightly from the original questionnaire developed by the Medical Research Council.

- It should be completed by all respondents aged 16 and over.
- Respondents should complete the questionnaire at the beginning of CAPI 2, preferably 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 the 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

Below you will find guidance notes for each section of the questionnaire, highlighting important things to remember when checking the questionnaire.

13.2.1 Section A: Home activities

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

All questions:
Ensure that respondents have followed the instructions and have answered all questions in this section.

Q3 Computer use at home but not at work:
Respondents should not include use of the Wii here, e.g. golf, tennis, boxing. This 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, or is at school or college and also works part-time, please explain that we want the respondent to think about their **main** activity and answer the questions in the section 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, for example, a salesperson should answer these questions:

a) If the salesperson 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 salesperson 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 salesperson 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 – i.e. 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 (particularly Wii Sports such as golf, bowling, boxing etc).
- 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

In year 1 of NDNS, nurse visit response rates suffered because many respondents felt that after having given up so much time and effort to the interviewer stage (completing a diary, CAPI interviews, physical measurements and possibly involvement in the DLW sub-study and wearing of ActiGraphs) they were not prepared to give up more time for the nurse visit. In order to try and improve nurse stage response rates, interviewer and nurse assignments for Year 2 onwards have been separated out, essentially making the nurse stage a "follow-up".

Interviewer fieldwork runs for six weeks from the first working day of the month. Completed cases will then be returned to the office and allocated to the nurse – from the office – 8 weeks later. The main benefits of this are:

(a) respondents who are reluctant to see a nurse because they feel they have already done enough are often more willing to progress to stage 2 after a break; and
(b) we can tell nurses – and local laboratories - about the size of the assignment (e.g. no. households and respondents) before stage 2 (nurse) fieldwork starts. This helps planning and allocation of resources and time.

The nurse will register herself 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

Our target is to interview and measure everyone eligible. All respondents are eligible for the nurse visit and this stage is mentioned in the leaflet which accompanied the advance letter. 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. Your job is only complete when you have attempted to secure agreement for the nurse to visit.

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. For respondents eligible for the DLW sub-study, the parallel blocks will appear after the DLW recruitment questions. For respondents **not** eligible for the DLW sub-study, the parallel blocks will appear after the sun exposure questions.

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 any fears.

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 get 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.** 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.

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.

As well as the usual "yes/no" answer codes, there is an additional code for "unsure". Nurses will contact these people to see if they are now willing to be visited.

15.3 The Stage 2 leaflet

You will be given copies of the Stage 2 leaflets to give to all respondents so they can make an informed decision about whether to progress to stage 2. The leaflets give details of the measurements and give other information that respondents might need to know before the nurse arrives. 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 give out 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 contact respondents

You will 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 not 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. Documents and feed-forward data will be generated centrally.

There will be no formal liaison between you and the nurse but please feel free to contact the office if you wish to relay any information personally (we understand that there may on occasion be information you do not want to enter onto the computer). Likewise, the nurse will be provided with your details in case she wishes to discuss any particular respondents or other practical 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. 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 AG records their energy expenditure by capturing the respondent's movements in its digital memory.

The AG is introduced at the end of the first main visit to the household (at the end of CAPI 1) and the seven day period will start on the day after the interview. Appendix D 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 CAPI 1 (CAPI questions administered during the first main visit to the household). On screen instructions guide you through what to say, and when. 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, as per the rest of the interview. *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 D (The AG protocol).

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 part of the study 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, as well as 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 for the respondent (see section 18.2 for more information about the token of appreciation for the AG part of the study).

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 replacing AG, you will use special delivery to send all AGs (whether they have been used or not) back to the office so that we can track them should any go missing in transit.

Place the AG in a jiffy bag (remember to only put 1 AG per jiffy bag), with a despatch note, and record on the despatch note whether the AG was worn or not. Then put the jiffy bag containing the AG in the special delivery envelope provided in your workpacks. You can put up to 2 jiffy bags in one special delivery envelope. Remember you need to send unused as well as used AG s 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 AG s.

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 Blue 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.

5. 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 Blue Team. AGs are very expensive and so we only have a limited supply – therefore, please DO NOT hold onto them for use on future assignments. We are relying on you to return them promptly at the end of your assignment in order for the AG part of the survey to run smoothly. If you do not send them back, future interviewers will not receive enough AGs in their workpacks, which will cause obvious problems and frustrations. Please also return any unused special delivery envelopes at the end of your assignment.

17. DOUBLY LABELLED WATER (DLW)

17.1 Background

For a sub-sample of NDNS respondents there will be a further part to the study, namely a DLW exercise to measure total daily expenditure of energy by asking respondents to drink some tracer water and collect a urine sample on 10 consecutive days (plus a pre-dose sample).

DLW is introduced at the end of the final main visit to the household (at the end of CAPI 2).

17.2 Recruitment

Respondents aged 4+ for whom dietary data has been collected (at least 3 diary days) and who have provided reliable height and weight measurements are eligible for recruitment to the DLW sub-study – subject to quotas in 10 age/sex groups being filled.

Please note that you must take measurements before starting CAPI 2 for respondents to be eligible for DLW.

The quota groups are as follows:

Male	4-10	11-15	16-49	50-64	65+
Female	4-10	11-15	16-49	50-64	65+

20 respondents will be recruited to each cell (200 in total). Respondents from the Scotland, Wales and Northern Ireland country boosts will not be recruited to the DLW sub-study.

Progress filling these cells will be monitored by the Blue Team (NISRA in Northern Ireland) and by HNR.

Detailed information about recruitment and administering DLW can be found in Appendix E.

17.3 CAPI recruitment questions

At the end of CAPI2 (CAPI questions administered during the final main visit to the household), there are a number of questions which establish the respondents eligibility for, and willingness to participate in, the sub-study.

Please note that if recruiting a respondent for DLW would take you over your interviewer fieldwork deadline then CAPI will not bring up the DLW recruitment questions. I.e. if your diary pick-up/CAPI 2 visit is within 15 days of the end of your assignment then CAPI will not allow you to recruit respondents for DLW.

To ensure that you are accessing the most up-to-date quota information, it is vital that you dial into the office regularly, and always before you conduct a visit at which the respondent will be asked whether they are willing to participate in the further stage of the study.

Even though the look-up file will be updated whenever a respondent is recruited, quota information is not static but subject to change at any time. It is therefore possible, particularly during the later stages of fieldwork, for an interviewer to recruit someone who in fact is no longer needed. Hence, you will therefore ask eligible respondents whether they would be willing if needed to participate in the sub-study.

If the respondent is willing to take part, you should arrange a provisional appointment to revisit with the DLW dose.

DLW_Admin parallel block
The first screen in this parallel block (*HNRInfo*) displays the information you will need to pass onto HNR when you call to request a dose (e.g. serial number, height, weight etc.). Therefore, you MUST enter the DLW_Admin parallel block before contacting HNR.

The rest of the questions in this block establish the outcome of the call to HNR to establish whether the respondent is indeed required for the DLW sub-study.

For those still required and still willing to participate, there are a number of questions recording the outcome at each stage, namely:

- whether the respondent took the DLW dose
- whether the mid-collection period check was carried out
- whether the DLW samples were collected
- whether the DLW samples were couriered back to HNR
- whether the respondent was given the £30 token of appreciation promissory note *(see section 18.3 for more information about the token of appreciation for the DLW sub-study).*

The on-screen instructions will guide you through each stage.

These questions have been placed in a parallel block so that you can fill in the details at home, rather than spending unnecessary time at the respondent's home. However, it is essential that you complete this block accurately. The information is required for monitoring purposes and the questions trigger certain fees to be paid to you. You will not be able to complete the CAPI Admin block for an address until you have completed the DLW_Admin block.

17.4 Documents

You have been provided with a number of different DLW information leaflets, aimed at different ages of respondent. Please make sure you give these to respondents as they provide lots of information about the sub-study, as well as contact details should they have any queries or concerns.

Also, you have been provided with a "Follow-up confirmation sheet" onto which you can record information needed by HNR when you call to request a DLW dose.

All the information you need will be displayed in CAPI (at *HNRInfo* in the DLW_Admin) but you can transfer it to this document if you prefer to have a paper record to hand when contacting HNR.

18. TOKENS OF APPRECIATION

18.1 Gift voucher token of appreciation for all fully productive respondents

In acknowledgement of the amount of time and effort we are asking respondents to devote to this study, we will be offering a token of appreciation to those who 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, so you will need to give three to each productive respondent. Vouchers for children should be given to the parent.

If you anticipate needing more tokens, contact the Blue Team in 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, and 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.

18.2 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.

18.3 Gift voucher token of appreciation for participation in DLW sub-study

Those who take part in the DLW sub-study, and who provide at least one urine sample, will receive **£30** in high street gift vouchers. These will be sent out from Brentwood to the respondent (or the parent in the case of a child).

If you recruit someone for the DLW sub-study but are subsequently told that we do not need them, they will be sent **£10** in high street gift vouchers as a thank you. These will also be sent out from Brentwood.

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.

19. RETURNING WORK TO THE OFFICE

19.1 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.

19.2 Returning paper documents

Remember **paperwork** must also be returned promptly as soon as possible after work at an address is complete.

Before returning work for an address, check all paper dietary documents for correct serial numbering and completion – the Diaries, self-completions, Token of Appreciation receipts. If a respondent has taken part in the ActiGraph or DLW part of the study, remember to also 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 and, if applicable, DLW consent forms.
- Diaries (and associated documents) & self-completions

Diaries and associated documents must be returned to the office via Recorded Delivery, in up to three 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.

Please note that 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 **two separate envelopes**:

1. Consent forms & voucher receipts
2. Diaries (and associated documents) & self-completions

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 the two separate.

19.3 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.

20. 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: 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.

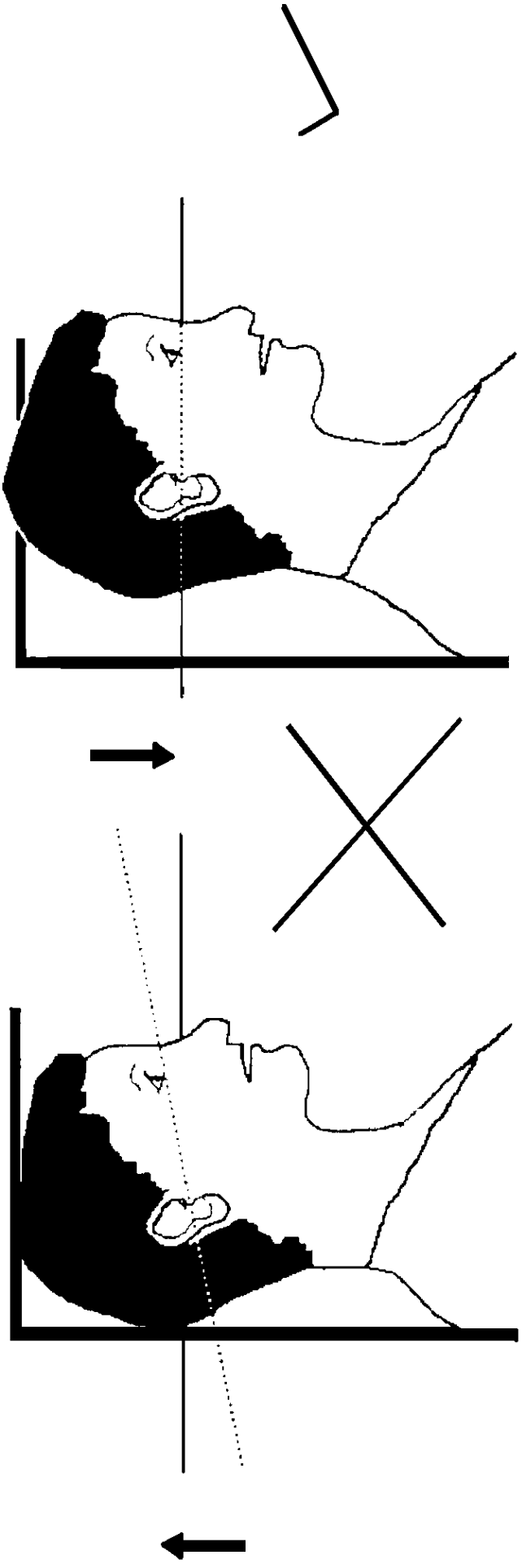
2. Assemble the stadiometer and raise the headplate to allow sufficient room for the respondent to stand underneath it. Double check that you have assembled the stadiometer correctly.

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 breathe 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 cm. 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 cm, you should round it down to 176.4. Likewise, if a respondent's height is between 176.5 and 176.6 cm, you should round it up to 176.6 cm.

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.

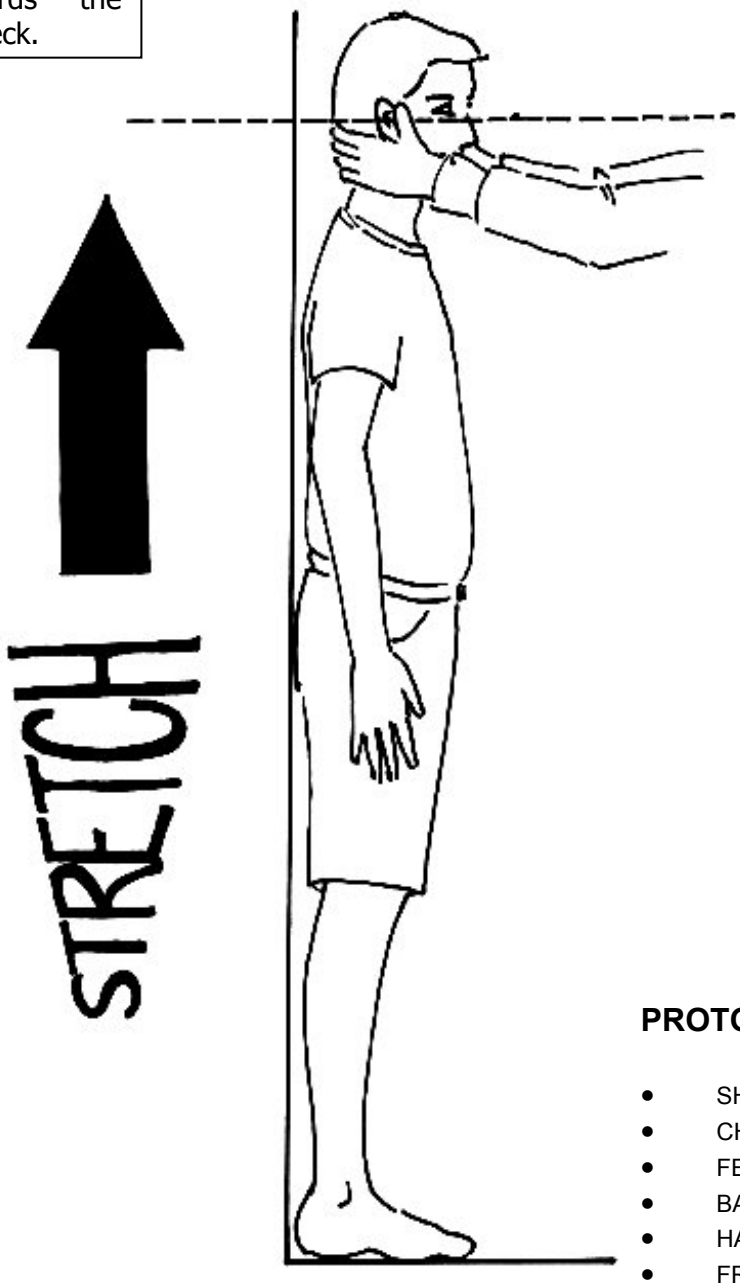
11. Push the head plate high enough to avoid any member of the household hitting their head against it when getting ready to be measured.

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.

APPENDIX B: 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 a 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.

APPENDIX C: 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 AG records their energy expenditure by capturing the respondent's movements in its digital memory.

The seven day period will start on the day after the interview.

B. ACTIGRAPH EQUIPMENT AND DOCUMENTS

You will be provided with the following in your workpacks:

4 x ActiGraphs
AG charger
AG adapter
Roll of elastic
Belt buckles
Jiffy bags
Special Delivery envelopes
AG leaflets - Parent leaflet
Child and Young Person leaflet
Young child leaflet
Promissory notes

ActiGraphs

Three AGs are provided in your workpack. In the unlikely event that you have more than three respondents, all of whom will be wearing the AG at the same time, please contact the Blue team for further supplies. Please do this in good time so that they reach you when you need them.

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 programmed. 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 Blue Team 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 very important that you do not 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.

E. CONTACT DETAILS

General queries about the NDNS study should be directed to the Blue Team at Brentwood or a member of the *NatCen* research team. To discuss an ActiGraph delivery, call the Blue Team.

APPENDIX D: PROTOCOL FOR ADMINISTERING DLW

A. BACKGROUND & RECRUITMENT

A sub-sample of respondents aged 4 and older who have provided at least three complete days of dietary data and who have also had their height and weight measured, will be asked whether they are willing to participate in the DLW part of the study. This will involve the respondent collecting one urine sample before they drink a known amount of doubly labelled tracer water (DLW). The respondent will then collect further urine samples, one a day for ten consecutive days after drinking the tracer water, making a total of eleven urine samples in all.

The CAPI program will guide you through questions to ask eligible/required respondents whether they are willing to participate in the DLW part of the study.

Note that you must take height and weight measurements before starting CAPI 2 for respondents to be eligible for DLW.

Note that respondents from the Scotland, Wales and Northern Ireland country boosts (indicated by **CB on the ARF labels) are not eligible for the DLW sub-study.**

B. PRE-DOSING

For each respondent eligible and willing to participate, you will leave them with pre-dosing sample collection equipment comprising:

1 x glass sampling bottle for collection of urine
1 x plastic storage container, for safe and hygienic storing of sample
1 x plastic cup to aid collection of urine (if required)
1 x DLW respondent protocol/"Collection of urine samples" recording sheet

Before you give the respondent the pre-dosing kit, write the serial number and respondent number on the label on the bottle and complete section 1 on the Respondent protocol (recording sheet). If there are two respondents, ensure each knows which pre-dosing kit (bottle and recording sheet) belongs to them.

You should make a provisional appointment to call back with the DLW dose. Remember to leave at least 3 working days, to allow time for equipment to be prepared and delivered.

You should ask the respondent to provide a urine sample before you return to give the dose. This sample should ideally be taken on the day you return. Tell the respondent that the sample should not be their first urine sample of the day, but anytime after that is fine. If required, the respondent can use the plastic disposable cup to aid collection and this should be disposed of after use. Ask the respondent to fill the bottle to about 1cm from the top and secure the lid tightly. The "Collection of urine samples" sheet provides detailed information about how to collect and store samples.

The 'pre-dose' sample is the most important sample of the study and should be treated as such. The respondent should store the sample bottle in the container provided, preferably in their fridge or alternatively in a cool, dry environment such as an unheated garage.

C. REQUESTING THE DLW DOSE

You will then call HNR as soon as possible to request a DLW dose (contact details are provided at the end of this section). You need to provide the following information, as displayed on the first CAPI screen in the DLW Admin block (and as recorded by you on your DLW confirmation sheet, if you

transferred the information to paper):

- Serial number (7 digits)
- Respondent number (1 or 2)
- Body weight (in kg)
- Height (in cm)
- Age
- Date of birth
- Sex
- Interviewer number

HNR will consult the most up-to-date quota listing and confirm whether the respondent(s) is still needed. If yes, they will make arrangements with you for the DLW dosing kit to be sent to you.

Once HNR have confirmed that the respondent is still required for DLW and arrangements have been made for delivery of the DLW dosing kit, you should **contact the respondent(s)** as soon as possible to:

- **confirm their participation**;
- **confirm the date and time** to call back to administer the DLW dose;
- Remind them to provide a **urine sample** (in the sampling bottle you left at your last visit), before your return to give the dose, following the protocol outlined in the "Collection of urine samples" sheet.

  If at this point, the respondent withdraws participation, you must call HNR <u>immediately</u> to try and halt preparation of the dose. If the dose has already been sent out, you will make arrangements for the dosing kit to be sent back to HNR. Do not refuse delivery.

If the respondent is no longer needed, you will notify the respondent accordingly, thank them for their co-operation and tell them that a £10 high street voucher will be issued as a token of our appreciation of their willingness to participate. You do not need to collect the pre-dosing kit; the respondent can dispose of it in their normal household rubbish.

D. THE DLW DOSING KIT

For each respondent, HNR will send you a DLW dosing kit. The kit will be a small cardboard box containing the following items:

- **1 x Dosing bottle** containing a pre-weighed amount of DLW
- **1 x Straw** for drinking of dose
- **1 x pre dose label** for interviewer to stick over the label on the earlier collected pre-dose urine sample bottle
- **1 x Printed respondent label** for interviewers to stick on the urine collection sheet when they go back to give the dose
- **10 x Glass urine collection and storage bottles** for post dose daily urine collections (labelled Days 1 to 10)
- **1 x Pen**
- **10 x plastic cups**
- **1 x pre paid returns plastic bag** labelled with HNR's address
- **Elastic band/s** to secure full box

If required, you should also leave the respondent with 10 plastic cups to aid sample collection. You should also take a spare data recording sheet in case the respondent has mislaid the original.

E. DLW DOSING AND CONSENT FORM

Before you visit the household, check the bottle containing the DLW dose. If the water level appears to be below the fill-line and there is any sign of leakage, do not use – contact HNR for advice on how to proceed. If you are in any doubt, contact HNR for advice.

- BEFORE the dose can be administered you must check that the respondent has collected the pre-dose urine sample. If not, you must obtain a sample before giving the tracer water to the respondent. The extra label marked pre-dose provided in the dosing kit will have the respondent ID printed on it. Copy the time of collection from the original hand written pre-dose label onto the new printed label and then stick over the original label or on the storage container. If there are two respondents, you must make sure you attach the correct label to the correct bottle. Store samples of pre-dose urine in the dosing box kit along with all other samples.
- Stick the printed respondent label, also provided in the dosing kit, anywhere on the collection of urine record sheet.
- Check all labelling on recording sheet/dose bottle etc matches the details of the respondent you are visiting.
- **Before asking the respondent to drink the tracer water you MUST obtain a signed consent form from each respondent (blue for Respondent 1, yellow for Respondent 2). This is essential – without a signed consent form from each respondent, we cannot use their data.** The bottom copy should be left with the respondent, the top copy should be retained by you and returned to Brentwood with other paperwork (see section 19).
- When the respondent is ready to drink the tracer water, record the date and time on their "Collection of urine samples" record sheet.

- **Administering the dose: -**
    - (i) Ask the respondent to drink the dose water, without spilling it, using the straw provided.
    - (ii) Once the water is drunk *and without removing the straw*, carefully half-fill the dose bottle with tap water.
    - (iii) Gently swirl the water around the bottle, avoiding spillage.
    - (iv) Then ask the respondent to drink the contents of the bottle again through the same straw, without spilling any.
    - (v) The bottle and straw do not need to be kept and can be disposed of in normal household rubbish.

F. POST DOSE URINE COLLECTION

- The respondent should be instructed to collect one urine sample every day for the next ten days.
- If plastic cups are to be used to aid collection of urine then the respondent must discard cups after each use and use a clean cup each time a sample is collected.
- The respondent should never collect the first urine sample of the day but any time after this is fine. The exact dates (day and month) and times of each collection should be recorded **both** on the record sheet and on the bottle.
- Sample bottles should be filled to about 1cm from the top but not overfilled. The samples will be frozen once at HNR and overfilling will result in cracking of bottles.
- Check bottle lids are tightly secured.
- The first post dose urine sample collection should be provided the day after drinking the dose and collected in the sample bottle labelled 'day 1'. The exact date and time of collection **must** be written both on the recording sheet provided and also the sample bottle.
- Thereafter, the respondent should provide one urine sample per day for a total of 10 days, in bottles day 2 – day 10 again remembering to record all dates and times.
- None of the urine samples collected should be the first urine of the day but any time after that is fine.

G. RECORDING DETAILS OF SAMPLE COLLECTION

- Please impress upon the respondent that it is important that they record details of their collections accurately.
- Dates and times of each sample collection must be written on the bottle and on the recording sheet.
- Ask the respondent to make full use of the comments column if something goes wrong. For example if they accidentally put a sample in the wrong collection bottle. If we know about things then we can do something about it!
- If the respondent forgets to take a sample on a particular day tell them to leave the bottle empty and then continue collection in the normal way, the next day.

H. SAMPLE STORAGE BY RESPONDENTS

- Respondents should refrigerate their samples in the containers and box, if at all possible.
- If not then store in a cool dry environment such as an unheated garage or garden shed (this may not be a suitable environment in hot weather).
- Samples must NOT be frozen!

I. TELEPHONE REMINDER

- Remember to call the respondent midway through the collection period, to check on progress. If the respondent forgets to take a sample on a particular day tell them not to worry but to leave the bottle empty and then continue collection in the normal way, the next day. The samples will still be of use to us.

J. COLLECTION AND RETURN OF SAMPLES

- You should pick up samples from the respondent as soon as the collection period is over.
- Check that day 10 has been collected. If not, please ask the respondent kindly whether s/he can produce one final sample there and then.
- Check that samples have been collected, are correctly labelled, securely packaged and most importantly that the correctly filled out record sheet is in each box. Secure the full despatch box with an elastic band, and place the box in the plastic returns bag provided. Write your name and address on the returns bag in the appropriate 'sender's box' space.
- Store the box in the fridge or other cool dry environment until you are ready to return the package to HNR.
- Take the package to the post office and retain the special delivery tracking number ticket that should be given back to you by the cashier.
- Call HNR to inform them that you have posted the samples and to give them the special delivery tracking number from the retained ticket.
- Use all packaging material provided as this conforms to all postage requirements.

You will give respondents completing the DLW tasks a note informing them that Brentwood will send them a £30 high street voucher. Please inform respondents that they will receive their vouchers within about four weeks.

K. CAPI ADMINISTRATION

The parallel block **DLW_Admin** contains a number of detailed questions relating to progress with DLW recruitment and administration. Please complete questions as you go along, to ensure that all relevant questions are answered before you transmit the case back to the office (see section 17 for

more information on CAPI DLW administration).

L. CONTACT DETAILS

General queries about the NDNS study should be directed to the Blue team in Brentwood or a member of the *NatCen* research team.

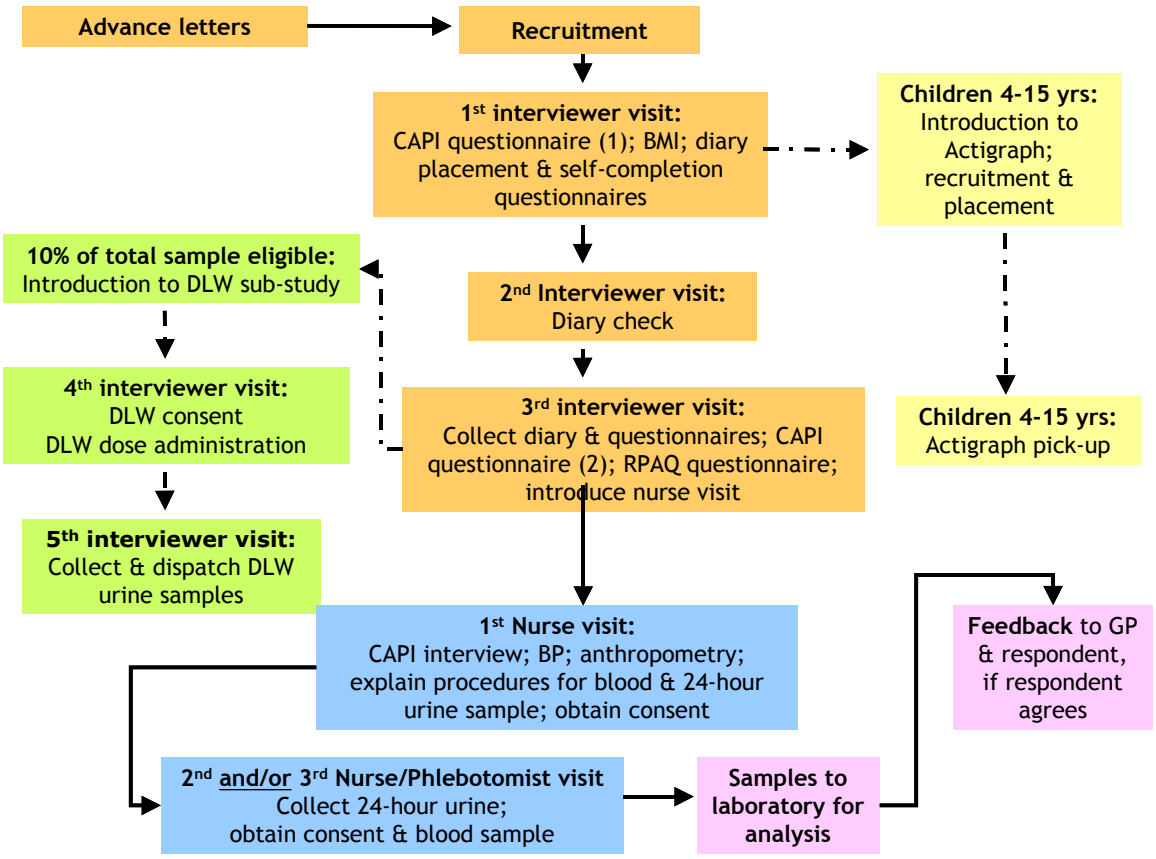
All DLW dose requests, sample returns, problems and queries should be directed to one of the NDNS DLW co-ordinators at HNR:

They can all be contacted **during normal office hours** via HNR.

HNR address: Human Nutrition Research
Fulbourn Road
Cambridge
CB1 9NL

APPENDIX E: 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 <u>eaten</u>
		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 <u>picture number and size</u> A, B or C nearest to your own helping.

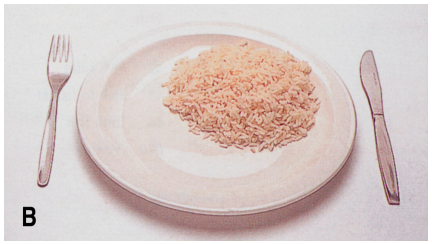
Remember that the pictures are much smaller than life size.
The actual size of the dinner plate is 10 inches (25cm), the side plate, 7 inches (18cm), and the bowl, 6.3 inches (16cm).

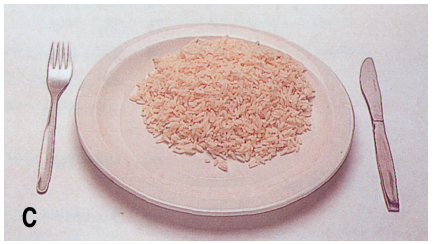
The tables on pages 16-21 also give examples of foods that you might eat and how much information is required about them.

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

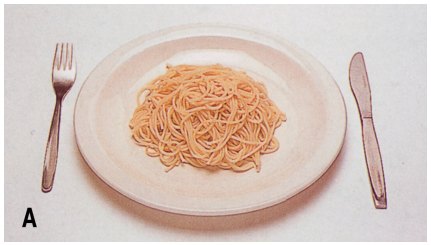
1. Breakfast cereals

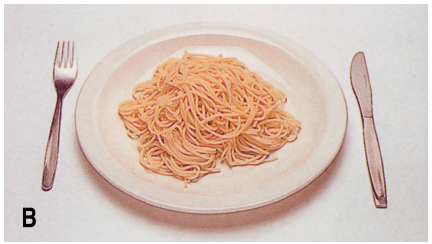
2. Rice

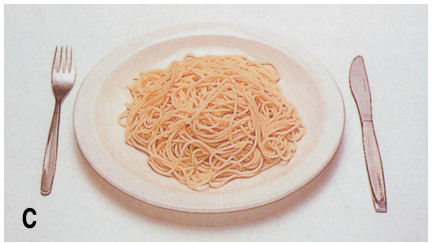




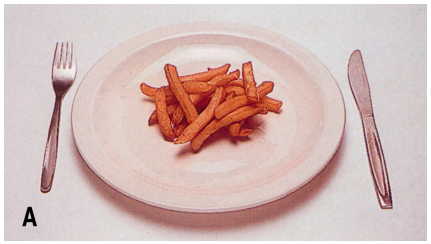
3. Spaghetti

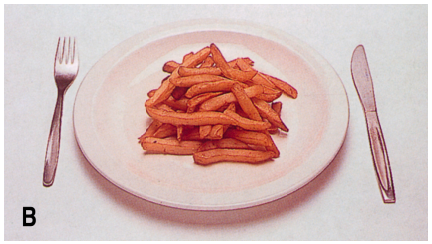






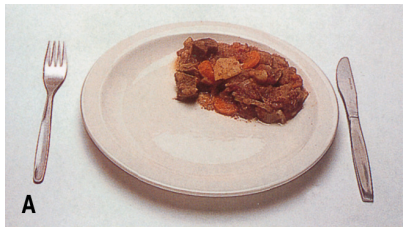
4. Chips

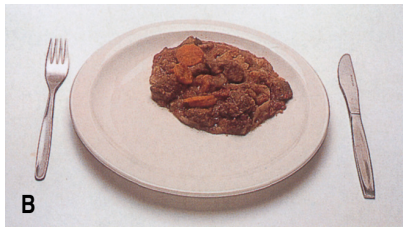


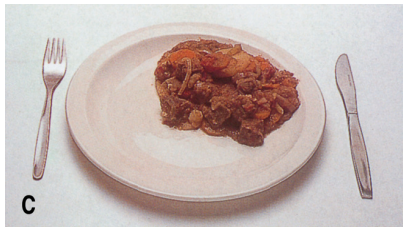


5. Broccoli or cauliflower

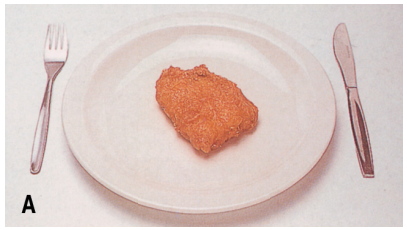
6. Stew or curry

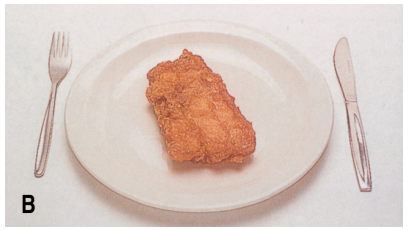


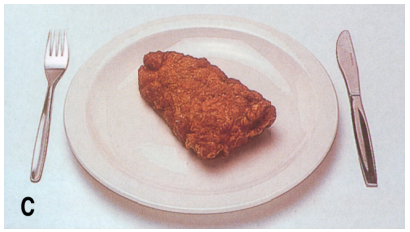




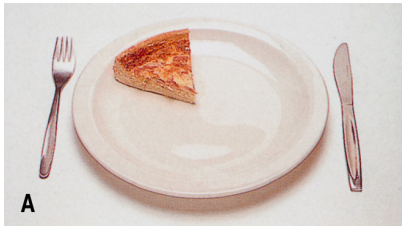
7. Battered fish

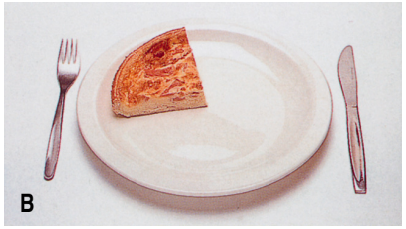


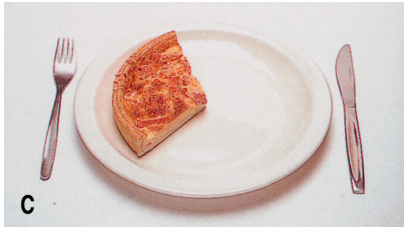




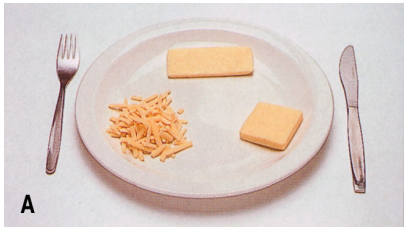
8. Quiche / Pie

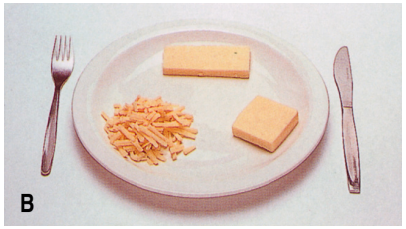


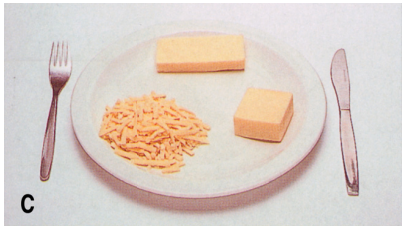




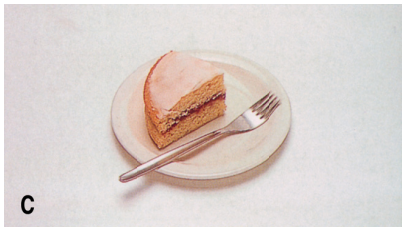
9. Cheese







10. Sponge cake

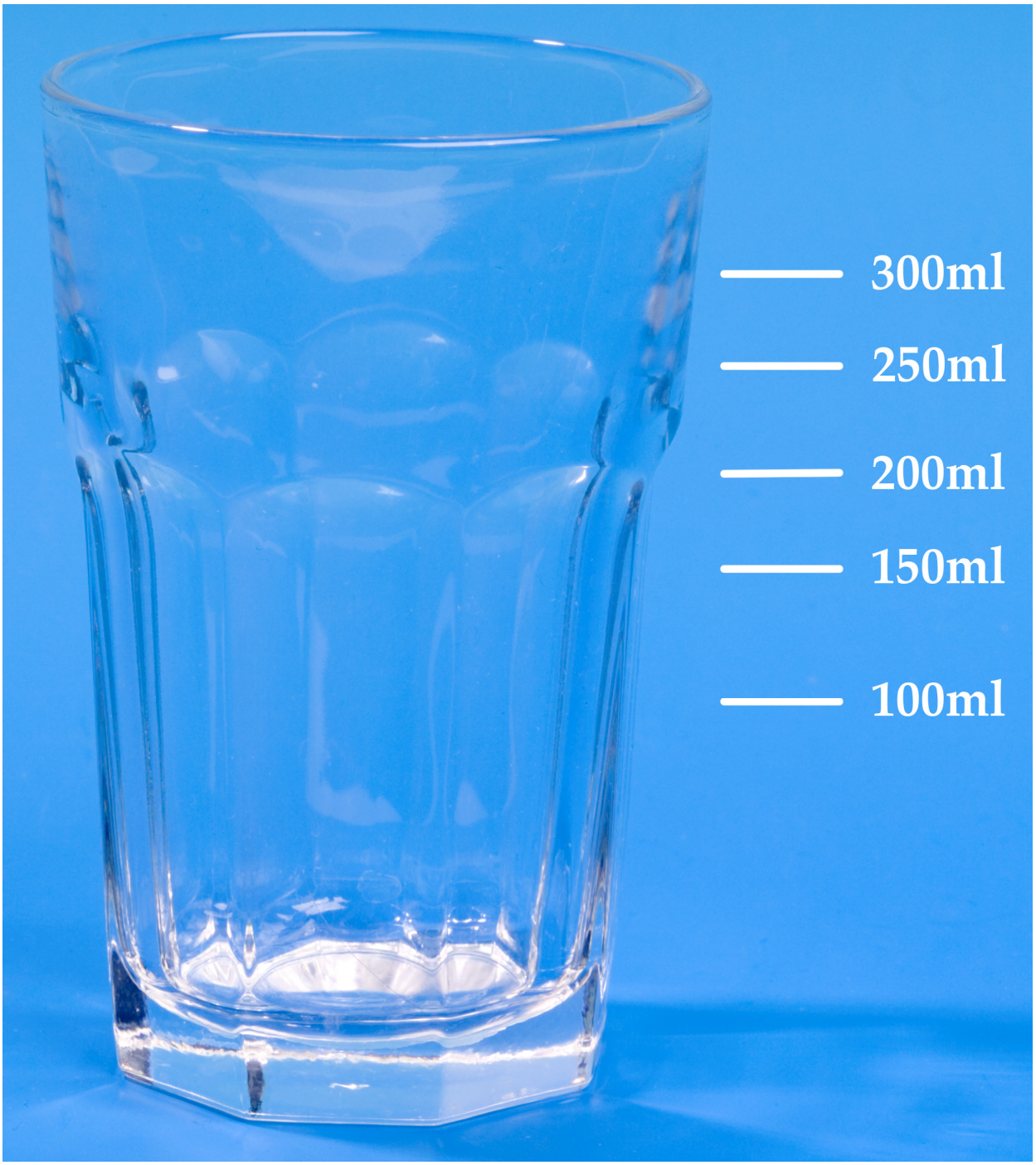


Typical quantities of drinks in various containers measured in millilitres (ml)

	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.

The National Diet and Nutrition Survey (NDNS)

Year 3: 2010/11

Nurse Project Instructions

Contents

1. HOW TO USE THESE INSTRUCTIONS

This manual sets out the survey procedures for nurse assignments in the National Diet and Nutrition Survey (NDNS) 2010/11 (Year 3).

The instructions are divided into sections explaining:

- Background information about the NDNS
- Overview of the fieldwork structure and sample design
- Content and procedures of the various stages of the NDNS interviewer and nurse visits
- Tips about your initial contact and achieving high response
- Introducing your measurement tasks and carrying out the interview

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

2. 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 third year of the study launched in April 2010.

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.

3.4 Further information about NDNS

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 interviewer and nurse advance letters (see section 8.2.1 for more information on nurse advance letters, which were introduced in Year 2).

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

3 THE NATCEN, HNR AND UCL TEAM

3.1 The Research Team

The research team comprises researchers from NatCen and HNR[1] whose role it is to develop, implement and analyse findings from NDNS. NatCen researchers are responsible for the nurse and paediatric phlebotomist elements of the study. They are supported by the Blue team in NatCen's Operations Department who are responsible for nurse/phlebotomist liaison, and nurse equipment.

3.5 The Survey Doctor

The Survey Doctor is responsible for providing nurses with medical support and for liaising with GPs in relation to blood pressure or blood sample abnormalities that are detected as a result of this survey.

The survey doctor is available most of the time (apart from between 10.30pm and 8.00am). If you leave a message the doctor will get back to you in good time.

3.6 The Fieldwork Team

Each nurse will be supported in her/his area by a local fieldwork team consisting of the Area Manager, a Nurse Supervisor and an NDNS manager. The Nurse Supervisor is the person you should consult if:

- You have any queries about your equipment and how to use it in field,
- You have other problems about carrying out the interview and measurements.

The nurse supervisor will from time to time accompany you in the field.

The NDNS manager supervises interview work on the NDNS within each field area (including allocation of work to interviewers and fieldwork progress), and will work with the Nurse Supervisor to oversee nurse progress. The supervisors are there to help you do your job to the best of your ability. Please consult them whenever you feel you need help

[1] HNR (Human Nutrition Research) are part of the Medical Research Council (MRC) based in Cambridge

4 FIELDWORK OVERVIEW

4.1 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 in high street vouchers) is given, the second stage of the survey is introduced (the nurse visit) and the interviewer asks for permission for the nurse to contact.

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

1st visit	CAPI questionnaire (part 1). Self-completion questionnaires. Height & weight measurements. Place diary. • *Actigraph sub-sample: explain to the respondent how to wear the activity monitor and how to fill in the activity log.*
2nd visit	Midweek diary check up (can be done by telephone ONLY if interviewer is sure this is appropriate).
3rd visit	Collect diary & complete checklist. CAPI questionnaire (part 2). Give token of appreciation. Introduce the nurse visit. • *DLW sub-sample: ask for verbal consent to administer.* • *Actigraph sub-sample: collect the activity monitor & paperwork.*

For the DLW sub-sample, there will be two further visits for the interviewer to administer the DLW dose and to collect the urine samples.

4.2 Stage 2: the nurse visit

A qualified nurse carries out the second stage of the survey. A list of nurse measurements are on the next page. These measurements include an infant length measurement (aged 18 months - 2 years), blood pressure (age 4+), mid upper arm circumference (aged 2-15), demispan (aged 65 and over) and waist and hip measurements (11+). These results can be written on the Measurement Record Card. With the respondent's permission, blood pressure readings will be sent to their GP.

Respondents aged 16+ will be asked to provide a small fasting blood sample (approximately 35ml or two teaspoons), subject to written permission from the respondent. Respondents aged 4-15 will also be asked to provide a small fasting blood sample and those aged 1.5 yrs to 3 yrs will be asked if they are willing to provide a non-fasted sample. Paediatric phlebotomists have been specifically recruited to take blood from children aged 1.5 yrs to 10 yrs (See Section 17.12). The blood samples will be delivered by the nurse to local laboratories and some samples posted to the lab at Addenbrookes.

All respondents aged 4 and over will also be asked to give a 24 hour urine sample. See section 19 for further details.

4.3 Summary of data collected

Some items of information are limited to particular age groups. The tables below summarise the data to be collected during the interview and the data and measurements included in the nurse visit.

4.3.1 Interviewer content summary

CAPI questionnaire	**Respondent**
Catering Unit information	Main Food Provider/Selected adult
Food preparation, storage, cooking facilities	MFP
Cooking skills	MFP, All ages
Eating habits, social eating	All ages
General health	All ages
Dental health	Adult (16+)
Smoking	Adult (18+), self-completion for child aged 8-17
Drinking	Adult (18+), self completion for child aged 8-17
Dietary supplements	All ages
Physical activity	Self-completion for respondents aged 16+
Sun exposure	Adult (16+), all children aged 11+
Employment status, educational background	16 years upwards
Measurements	
Height measurement	Ages 2+
Weight measurement	Ages 18 months+
Collection of dietary data	

Diaries	All ages (separate version of diary for under 16s and for toddlers aged 1.5-3years).

4.3.2 Nurse content summary

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.

5 THE NURSE VISIT(S) IN YEAR 3

In year 1 of NDNS, nurse visit response rates suffered because many respondents felt that after having given up so much time and effort to the interviewer stage (completing a diary, CAPI interviews, physical measurements and possibly involvement in the Doubly Labelled Water (DLW) sub-study and wearing of ActiGraphs) they were not prepared to give up more time for the nurse visit. In order to try and improve nurse stage response rates, interviewer and nurse assignments for Year 2 were separated out, essentially making the nurse stage a "follow-up". This has been working well so we will continue with this separation for Year 3 of the survey.

Interviewer fieldwork will run for six weeks from the first working day of the month. Completed cases will then be returned to the office and allocated to the nurse – from the office – 8 weeks later. The main benefits of this are:

(a) respondents who are reluctant to see a nurse because they feel they have already done enough might be more willing to progress to stage 2 after a break; and

(b) we will be able to tell nurses – and local laboratories - about the size of the assignment (e.g. number of households and respondents) before stage 2 (nurse) fieldwork starts. This will help planning and allocation of resources and time.

The overall aim is to improve nurse stage response rates by leaving a longer gap before asking them to do more for the survey. The nurse visit will take place between two to four months after the interviewer assignment end date.

As a result, there were a number of changes to nurse work for NDNS in year 2 which will continue for year 3, including new documents (which will be discussed throughout these instructions) and registering at police stations. Previously, interviewers registered nurses at the police station at the start of an assignment. With the separation of fieldwork, interviewer and nurse fieldwork dates are now very different so nurses register themselves at the police station (see section 10.1). Interviewers will record in CAPI Admin details of the police station at which they registered, as well as other details which could help you make contact with respondents. In addition, 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.

6 THE SAMPLE

6.1 Interviewer sample design

6.1.1 Basic addresses

Address numbers 1 – 9 are "basic" addresses. At these addresses, one respondent aged 19 and over and one respondent aged 1.5 years – 18 years (if present) are eligible to be selected. Therefore, it is at these addresses ***only*** where:

- ♦ People aged 19+, as well as children, will be offered a nurse visit.
- ♦ Up to 2 people per household can be selected and see the nurse together (1 adult, 1 child).

6.1.2 Young person addresses

Address numbers 10-27 are "young person" (YP) addresses. The interviewer will call on these addresses and establish if someone aged 1.5 years to 18 years is resident there. If so, one person from this age group will be selected at random. Therefore at these addresses nurses will only ever:

- ♦ Visit people aged between 18 months and 18 years
- ♦ See one person per household.

If there are no people aged 1.5 years – 18 years present at a YP address, the address will be 'screened out' (by the interviewer).

6.2 Nurse sample design

6.2.1 Nurse and interviewer fieldwork separation

As described in section 6, we now have a longer gap between the final interviewer visit and first nurse visit. As a result, you will know your sample size (i.e. number of respondents to visit) at the start of your fieldwork period.

6.2.2 Information about respondents

You will be provided with full details of respondents at each address in your sample. 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.

If you come across someone who originally refused to take part in the *interview* stage but has subsequently changed his/her mind, explain that without the information obtained at the interview stage, the measurements obtained by the nurse will have little meaning. Do not take measurements from a respondent if they have not been interviewed in person by an interviewer.

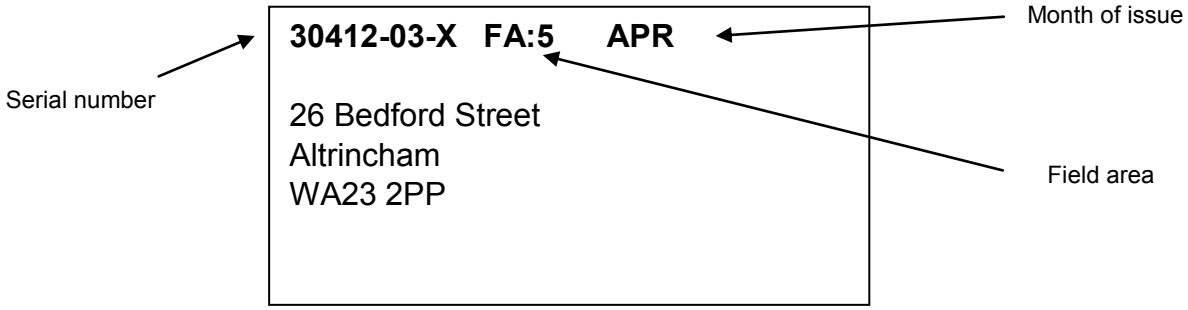
6.3 Eligibilty to see the nurse

All people who have been interviewed by the interviewer AND provided 3 or more days of diary data are eligible to see the nurse.

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.

6.4 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. 20010/11 = year 3)
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, (01-09 = Basic; 10-27 = Young Person)
Check letter (CKL)	A letter of the alphabet which allows the computer to check that a correct serial number has been entered.

NOTE: these rules do not apply to the serial numbers on the archived data. Separate variables are on the data to indicate month of interview and core and boost addresses.

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 (see Section 6.7).

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

Person Number:	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

The person number is the additional number at the end of each serial number, shown in each individual respondent's section on the respondent info sheets (see example provided at briefing and in Appendix E).

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.

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 the Blue Team in Brentwood who will be happy to help.

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

6.5 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.

6.6 Nurse Record Forms (NRFs)

You will receive a **Nurse Record Form (NRF)** for each household where there is work for you to do. From Year 2, NRFs for NDNS are a little different from those used on other surveys. They are just two sides long.
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.

6.7 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 – see section 10.1).
- 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.

6.8 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 you cannot access the feed-forward data because of a technical problem you will need to contact the help desk for assistance.

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.

7 WHAT DO RESPONDENTS KNOW ABOUT YOUR VISIT?

7.1 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.

If a person is reluctant, the interviewer is asked to stress that all they wish to do is obtain permission for you to go and explain what is involved. They point out that by agreeing to see you, respondents are not necessarily agreeing to take part in all, or any, of the measurements. We hope your general professional approach will convince nervous respondents more effectively once you arrive.

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.

7.2 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 not 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 (see section 7.7) 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.

7.2.1 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 Blue Team 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.

8 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.

8.1 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.

8.2 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 not 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.

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.

Also remember that respondents will receive tokens of appreciation for taking part in the 24 hour urine part of the study (£10 in high street vouchers) and for providing a blood sample (£15 in high street vouchers). 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.

8.3 "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.

8.4 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.

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.

8.5 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.

8.6 Specific concerns

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 CONTACTING RESPONDENTS

9.1 Notifying the Police

On NDNS, 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 nurse stage advance letter.

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.

9.2 Making appointments

Due to the separation of interviewer and nurse fieldwork, all addresses in your sample will contain at least one respondent who answered 'yes' or 'unsure' when asked if a nurse could contact them at a later date. 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 will need to be prepared to be persuasive when telephoning respondents (see section 10.4).

9.3 Second and third visits

Do remember when booking blood taking appointments that you are limited by the opening hours of your designated local laboratory, as well as the fact that your respondents (aged 4+) will have fasted overnight. Hence you can only take blood on Monday-Thursday mornings (see section 17, p37).

It is likely that in order to take fasting samples, and to fit in with the opening times of the local laboratory, you will, on occasion, have to make two or three visits to the household. At the first visit you would conduct the CAPI interview and take the measurements before making a return visit to take blood samples from respondents. Whilst the first visit could take place at any time (of the day or week), the second visit will be timed to fit in with the opening hours of the local laboratory. It is therefore likely that many second visits will take place early in the morning to catch adults before they go to work and children before they go to school. In order to maintain co-operation, you must endeavour to make the gap between visits as short as possible.

9.3.1 Personal visit to book an appointment

Your first visit to the household may be to arrange an appointment. 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, 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. An example of how to introduce yourself on the doorstep is given overleaf.

Show your identity card	
Say who you are:	*"I am a nurse called …."*
Say who you work for:	*"I work for The National Centre for Social Research"*
Remind respondents about the interviewer visit:	*"A couple of months ago, one of our interviewers (NAME) visited you for the National Diet and Nutrition Survey and you kindly agreed that I could contact you. Hopefully you'll have received a letter reminding you about Stage 2 of the survey, as well as a £5 incentive. I'd now like to make an appointment to come and see you. Would (DATE/TIME) be convenient for you"*

If the suggested date is not convenient for the household, then you can negotiate an alternative that is convenient to you both. R**emember that your first appointment with a respondent can be on any day and at any time** – it is only subsequent appointments that have time constraints. For most people this will be enough and they will be happy to book an appointment.

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.

9.3.2 Making the initial contact by telephone

If you contact the household by telephone to book an appointment, keep the call short, simple, clear and to the immediate point. The purpose of the call is to book an appointment and whilst respondents may have queries or concerns, you will be much better placed to explain what your visit will cover and address any concerns face-to-face when you visit for the appointment.

An example of how to introduce yourself over the telephone is given below.

Say who you are:	*"I am a nurse called …."*
Say who you work for:	*"I work for The National Centre for Social Research"*
Remind respondents about the interviewer visit :	*"A couple of months ago, one of our interviewers (NAME) visited you for the National Diet and Nutrition Survey and you kindly agreed that I could contact you. Hopefully you'll have received a letter reminding you about Stage 2 of the survey, as well as a £5 incentive. I'd now like to make an appointment to come and see you. Would (DATE/TIME) be convenient for you"*

If the suggested date is not convenient for the household, then you can negotiate an alternative that is convenient to you both. R**emember that your first appointment with a respondent can be on any day and at any time** – it is only subsequent appointments that have time constraints.

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 introduction.

9.4 The nurse appointment

In most households, all you will need to do by way of an introduction is explain what your visit will cover and what you want the respondent(s) to do. However, some respondents will be reluctant and will need further persuading. 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. You should therefore be prepared to explain again the purpose of the survey. You may also need to answer questions, for example, about how the household was sampled. Some points you might need to cover are shown in the following box:

- *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)
- *Why the survey is being carried out* (see Sections 1 and 2)
- *What you are going to do* (see Section 5.3.2)
- *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).

Only elaborate if you need to, introducing 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. Do not quote points from the boxes except in response to questions raised by the respondent.

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.

9.5 Being persuasive

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

You will need to tailor your arguments to the particular household, meeting their objections or worries with reassuring and convincing points. This is a skill that will develop as you get used to visiting respondents. If you would like to discuss ways of persuading people to take part, speak to your Nurse Supervisor or your Area Manager. The most important thing is to find out what the respondent's concern, or reason for being reluctant about the nurse visit (is it the time taken? the content of the visit? the purpose of the study?), and then answer this question only.

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.

9.6 Broken appointments

If someone is out when you arrive for an appointment, it may be a way of telling you they have changed their mind about helping you. On the other hand, they may have simply forgotten all about it or had to go out for an urgent or unexpected reason.

In either case, 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. Try telephoning them and find out what the problem is. Only telephone respondents if you are confident that you can deal with the situation on the telephone, as it is easier for respondents to refuse or try to put you off re-visiting on the telephone than it is face-to-face. Allay any misconceptions and fears. Make them feel they are important to the success of the survey. A chat with the interviewer might help. He/she might be able to give you an indication of what the particular respondent's fears might

be, and may have notes that would tell you when would be the most likely time to find the respondent at home.

9.7 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 Blue Team 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.

10 CARRYING OUT THE INTERVIEW

10.1 The interview documents

The nurse questionnaire is on computer (CAPI). As well as the computer schedule, you will use other documents during the interview itself. These 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

The CAPI program will prompt you when to use certain information leaflets and sections of the consent form.

10.2 General tips on how to use the documents/CAPI

Read out the questions in the Nurse Schedule **exactly as worded**. This is very important to ensure comparability of answers. You may think you could improve on the wording but please resist the temptation to do so. Enter the code number beside the response appropriate to that respondent indicating the answers received or the action you took.

Some questions take the form of a 'CHECK'. This is an instruction to you to enter something without needing to ask the respondent a question. The convention is that if a question appears in capital letters, you do not read it out.

If you get a response to a question which makes you feel that the respondent has not really understood what you were asking or the response is ambiguous, repeat the question. If necessary, ask the respondent to say a bit more about their response.

10.3 Preparing the documents & CAPI

Before you visit the household you should connect your computer to the modem (separate instructions about this are provided) and pick up your assignment.

Check that the feed-forward information from the interviewer stage is on your laptop BEFORE you leave home for the appointment. 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.

There are numerous documents used on NDNS so it is vital that you organise and familiarise yourself with all documentation (and equipment) that you will need before visiting a respondent's home. You will be provided with plastic wallets in your work packs to aid you in your preparation. We recommend using a plastic wallet per respondent, or per visit for each respondent – whichever works best for you!

When you arrive at the household, you should go into the household schedule and check that it is the right one by looking at the serial number and/or viewing the information about the household members.

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 THE NURSE SCHEDULE

11.1 Organising the interview

Before setting out to conduct any interviews, you must check to make sure that you have picked up the household information on your laptop. You will not be able to conduct the interview without having done this.

You also need to 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.

You may feel that if you try to rearrange things in this way, you are likely to lose an interview with someone you may not be able to contact again. In such cases, give priority to getting the interview rather than rearranging the order.

11.2 Getting into the nurse schedule

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 **P8751** 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.

11.3 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.

11.4 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 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 Fiona and Sophia, but not the admin block.

11.5 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.

11.6 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.

11.7 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 2010 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.

13.1.1 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 Blue Team 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).

13.1.2 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. 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.

13.1.3 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.

13.2 The child and young person information/consents leaflet

This is designed to be used with the consent booklet. It explains the procedures and consents in a language that is easier to understand for children and young people. It explains, in simpler language, the agreements in the consent booklet, which their parent is asked to sign. Each time you ask for a child's verbal consent to a measure, you should point out the relevant part of the information sheet, so that the child can give informed consent.

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 (see section 13.1.3)

Always give priority to someone defined as a parent when obtaining permission. If possible, when seeking consent obtain it from the mother.

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 3 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

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.

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.

16.2 Eligibility for blood sampling

16.2.1 General eligibility

All respondents aged 1.5 years and over, with the exceptions outlined in the Nurse Protocols, section 17.2, 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.

16.2.2 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 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. This is helpful to know when analysing the samples.

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 (see section 16.12).

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 (see section 16.7.2).

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 £15 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 (the **white** jiffy bag).
- Take blood specimens, storage tubes, relevant labels, contaminated waste, and documentation (age-specific field lab despatch note) 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.

16.4 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 for the study 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	EN1 (3)
2. 4.7mL serum gel (brown top)	Addenbrookes	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)	Addenbrookes	EN1 (3)
2. 7.5mL Li Hep TM (orange top)	Field Lab	LHN1 (7)
3. 2.6mL serum gel (brown top)	Addenbrookes	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)	Addenbrookes	EN1 (3)
2. 4.5mL Li Hep (orange top)	Field Lab	LHN1 (7)
3. 1.1mL serum (brown top)	Addenbrookes	SEN1 (5)
4. 2.7mL serum (white top)	Field Lab	SEN2 (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.

Further detail on each analyte and what it measures is provided in Appendix H.

16.5 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)

16.6 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.

16.7 Labelling the blood tubes

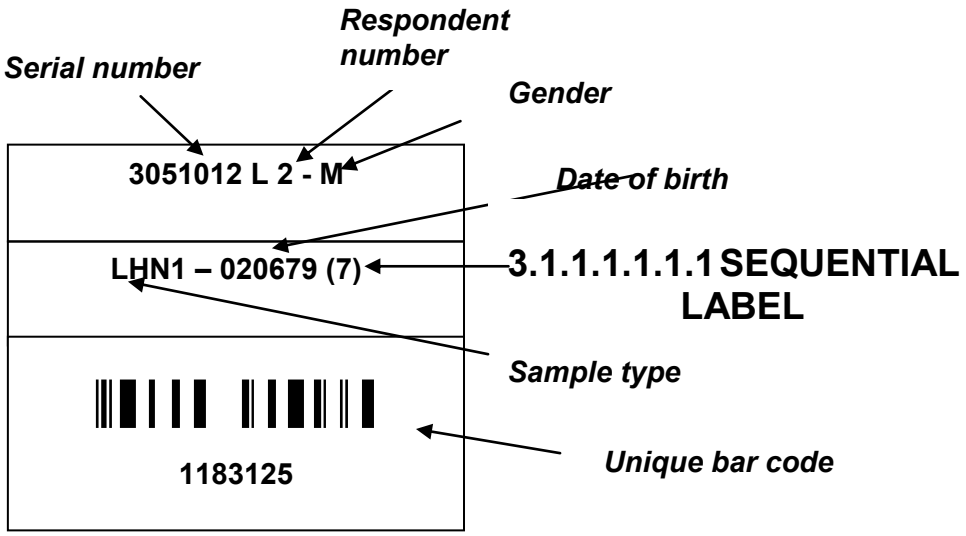
16.7.1 Introduction

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 and the respondents' gender
- a code showing the sample type (see table in section 17.4), the sequential label number in brackets and the respondents' date of birth
- 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.

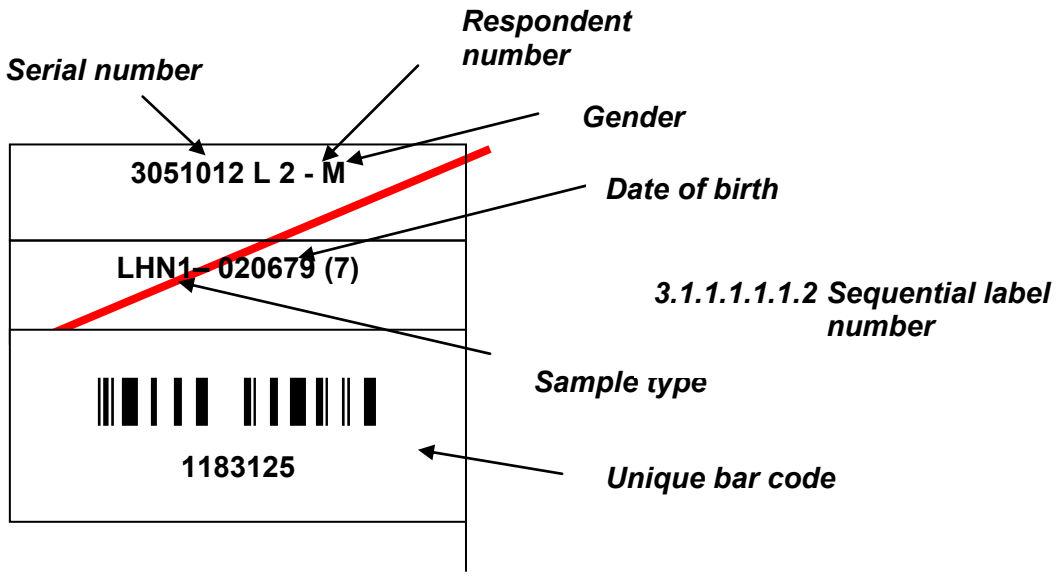
16.7.2 Identifying labels to be used

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, 24 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**
EN2 (4)	EN2 (4)	EN2 (4)
LHN3 (9)	LHN2 (8)	LHN2 (8)
LHWB (15)	LHN3 (9)	LHN3 (9)
E1 (16)	FN1 (10)	FN1 (10)
LH8 (25)	LHWB (15)	LHWB (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), just in case you make a mistake. At HNR, the scanner will still be able to read the barcode, as long as it's not crossed through. Crossing through the serial number and sample type so they become illegible should also be avoided, again 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 (also see next section). The other remaining valid labels will be used by the field laboratory to label the microtubes for plasma and serum storage.



16.7.3 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.

16.8 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 (see section 16.2.2).
- 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 (also see section 16.9).
- Obtain necessary written consents (see section 16.6).
- 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.

16.9 Ametop gel

16.9.1 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.

16.9.2 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.

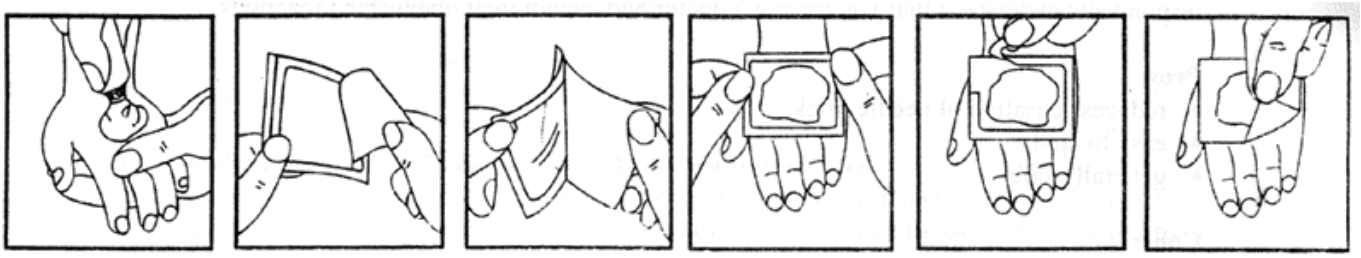
You will need to explain the pros and cons of using Ametop to each respondent and parent, in addition to giving them the leaflet to read. It is important that respondents understand that you are not a doctor and cannot treat unexpected reactions.

16.9.3 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 RISKAFFECTING 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.

16.10 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.

16.11 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 (see section 16.12).

16.12 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 the team in Brentwood who 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.

16.13 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.

16.14 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.

16.15 Other important points

Please refer to the Nurse Protocols for important information regarding:

- Venepuncture checklist (16.8.1)
- Fainting respondents (section 16.8.2)
- Needle stick injuries (16.8.4)

Section 16.8.3 of 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 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.

17.1 Despatching blood samples to Addenbrookes

17.1.1 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) 4.7mL serum gel blood tube (**brown** top)	1 1	Addenbrookes Addenbrookes	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	Addenbrookes Addenbrookes	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	Addenbrookes Addenbrookes	EN1 (3) SEN1 (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.

17.1.2 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.

17.1.3 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 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 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 **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.

Please ensure that you complete all necessary information fully as each part is a vital piece of information.

Correctly completed despatch notes are shown in Appendix F.

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.

17.2 Taking blood samples to local field laboratory for immediate processing

17.2.1 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	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)

17.2.2 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 not 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.

17.2.3 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).

A correctly completed despatch note is shown in Appendix F.

17.2.4 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 as soon as you know that a scheduled delivery is <u>not</u> 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.

18 24-HOUR URINE SAMPLES

18.1 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 £10 in high street vouchers as a thank you for taking part in the 24 hour urine part of the study.

18.2 Eligibility for 24 hour urine collection

18.2.1 General eligibility

All respondents aged 4 years and over are eligible to provide a 24 hour urine sample, with the exceptions outlined in the Nurse Protocol, section 17.2, and those listed below.

18.2.2 Project specific eligibility

- 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

18.3 Overview of 24 hour urine procedures

A 24 hour urine sample will be collected from those aged 4 years and above (except for those who still wear nappies or training nappies during the day or at night).

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 Section 16.4.1 of the Nurse Protocol document for further information about PABA.

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.

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.

18.3.1 Further conditions for collection

- It is recommended that children collect on non-school days
- Females should be instructed to collect urine on non-period days

An outline of the 24 hour urine collection protocol and tasks carried out at each visit are listed below:

During the first nurse visit:

- ❑ Assess eligibility for 24 hour urine collection
- ❑ Give respondents the 24 hour urine leaflet and explain procedure in detail.
- ❑ Answer any questions they may have
- ❑ Obtain written consent for the respondent to take PABA.
- ❑ Obtain written consent for lab analysis of the urine collection.
- ❑ Agree a day for the 24 hour collection
- ❑ 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.
- ❑ Complete the first part of the 24 hour urine record sheet.
- ❑ Give respondents their equipment.
- ❑ 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
- ❑ Record relevant details in CAPI.

The 24 hour urine sample collection:

- ❑ Respondents collect urine from the second urine pass of the morning onwards.
- ❑ Eligible respondents take 3 PABA tablets. Please refer to Nurse Protocol Section 17.4.1 for more information about PABA.
- ❑ Respondents 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.
- ❑ 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.
- ❑ Please instruct respondents to store their collection in a cool dry place until you arrive to collect the sample.

During the sub-sampling visit:

- ❑ Explain that you are there to sub-sample their 24 hour urine sample.

- Weigh, mix and collect **four** aliquots of urine. See Nurse Protocol Section 17.5.3, and section 19.4 below for further instructions.
- Label and package samples for despatch [see sections 19.6 and 19.7 below]
- Check 24 hour urine record sheet and enter details into CAPI.
- Obtain PABA tablet packaging from respondent.
- Leave £10 24 hour urine collection promissory note with respondent.

Immediately after the visit:

- Send packaged samples, associated documentation and PABA packaging to HNR immediately. However, 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.

18.4 Sub-sampling

You should always sub-sample from the 5 litre bottle of urine – this is the bottle that contains the boric acid. If the respondent has also collected urine in the 2 litre bottle, you should weigh both bottles separately before mixing together (if possible) to sub sample the urine. You should weigh each bottle twice and record the weights in CAPI and on the despatch sheet. If all the urine in the 2 litre bottle can be transferred into the 5 litre bottle, weigh first and then transfer. Mix the urine before sub-sampling from the 5 litre bottle **only**. If all 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. Once you have mixed the urine, take **4 sub-samples** and discard the remaining urine and equipment as per instructions provided in your Nurse Protocol.

18.5 Equipment and Consumables

You will be provided with the following equipment for the 24 hour urine collection:

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

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)

18.6 Obtaining written consents 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 relating to nutrition and health

There are **two** versions of the 24 hour urine consent forms in the consent booklets:

1. CF (A1) is for respondents aged 16+
2. CF (C1) is for respondents aged 4-15 years

The appropriate 24 hour urine consent form must be signed at the visit at which 24 hour urine collection is agreed.

The different sections of the consent forms should be explained 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 the respondent is content to sign please ask them to **initial** all those boxes (procedures) they would like to consent to.

You must check that all appropriate boxes are initialled and signatures collected. If respondent is aged 4-15 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.

18.7 Labelling the 24 hour urine aliquots

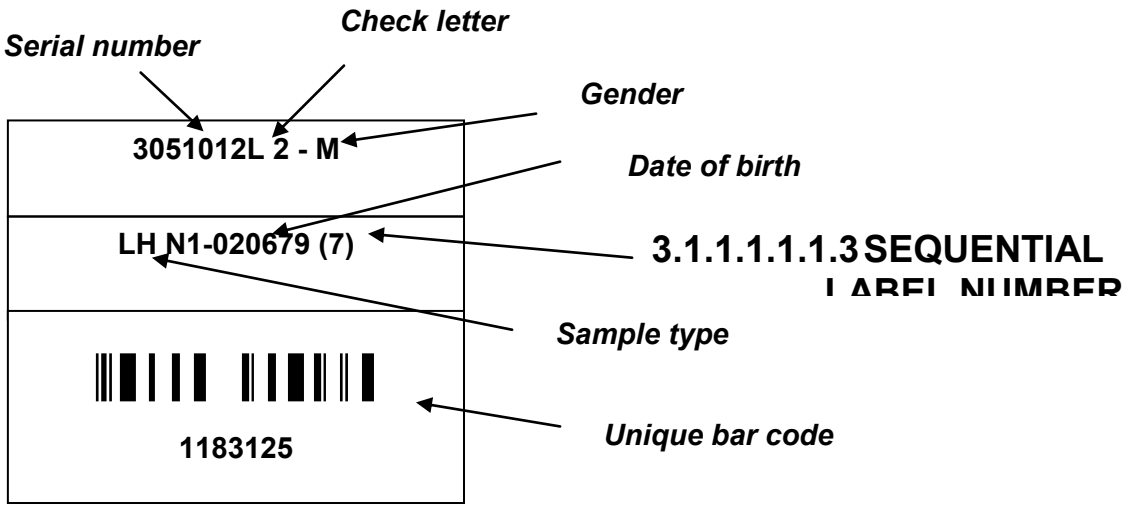
18.7.1 Introduction

All labels are pre-printed for a particular respondent. This means that you will receive sets of labels that won't all be used if the respondent does not provide a 24 hour urine sample. These labels that won't be used can be disposed of.

On each label there will be:

- the serial number, followed by the check letter and respondent number
- a code showing the sample type (see table in section 19.4) and the sequential label number in brackets
- a barcode with unique number (for HNR's use)

The labels will be used on documents and on urine and blood 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 urine and blood samples.



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.

Remember that the full set of labels covers blood as well as 24hr urine samples.

18.7.2 Identifying labels to be used

The 6 labels required for the urine collection are part of the complete label strip provided for urine and blood samples for each respondent. The **urine** labels are sequentially numbered from 31 to 36 as outlined below:

Label	**Function**
U1 (31)	apply to Urine Monovette
U2 (32)	apply to Urine Monovette
U3 (33)	apply to Urine Monovette
U4 (34)	apply to Urine Monovette
UCOLL (35)	apply to respondent urine collection sheet
UDESP (36)	apply to urine despatch note

You must remember to take the label strip to all visits, especially if blood sampling and 24 hour 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 returned to Brentwood as soon as their non-participation in these procedures has been confirmed. This minimises the risk of mixing up labels for new respondents.

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. 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 24 hour urine results to the wrong respondent. 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.

18.7.3 Despatch of the 24-hour urine aliquots

Please ensure that all samples are properly sealed. Each of the four samples will be placed into a recyclable despatch tube that contains an absorber (in case of leakage) and packaged into the postal box provided. The box is then placed in the pre-labelled padded envelope (buff-coloured) and posted to HNR.

The packaging consists of the following:

- A primary receptacle, i.e. a urine filled Monovette tube
- A secondary packaging, i.e. Noax tube
- A rigid outer packaging, i.e. a plastic box that looks exactly like a video box
- A pre-labelled, buff-coloured jiffy bag

Urine must be sub-sampled as soon as possible after the respondent has finished their collection and despatched within 48 hours of the end of the 24-hour collection. The delay may be longer if the sub-sampling visit takes place on a Saturday, but the samples should be posted on Monday morning. The samples should be stored in a cool dry place between the sub-sampling visit and postage.

18.8 Scheduling 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.

18.9 24 hour urine token of appreciation

Respondents of all ages will receive £10 in high street vouchers 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. Vouchers will be sent out from the office but you will need to complete the **grey** promissory note, and leave it with the respondent.

18.10 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.

18.11 Other important points

Section 17 of 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

19 RETURN OF WORK

19.1 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.

19.2 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.
- **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.

19.3 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 Blue team 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.

19.3.1.1.1 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 17.5, Appendix C 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 17.5, Appendix C 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 19.5 and Appendix C.

19.3.1.1.2 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.

19.3.1.1.3 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.

Vitamin 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.

NatCen
National Centre *for* Social Research

Nurse Protocols

for

Measurements and samples used by the National Centre for Social Research

June 2010

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1 HOW TO USE THIS MANUAL

This manual sets out the protocols and procedures for all measurements and samples that nurses take across all National Centre for Social Research (NatCen) surveys.

Protocols are of paramount importance in collecting data and measurements. Having such strict protocols and procedures means that the information that is collected from respondents is valid, reliable and consistently obtained. It further allows the results to be compared across various factors such as age and location and ultimately means that the highest quality research is conducted and accurate information is given to our clients and policy makers.

The protocols and procedures outlined in this manual have been used by NatCen on various occasions and have been found to be successful. Not only do they provide valid and reliable results but they are also the safest way for the measures to be conducted for both the respondents and the nurses.

All protocols and procedures in this manual must be strictly adhered to and must be used in conjunction with existing Clinical Procedure Guidelines (CPGs) and the nurse project instructions which provide additional information such as age limits, which are survey specific.

For the purposes of this manual an adult is someone who is aged 16 years and older, a child is aged 15 years or younger.

This is to be used as an instruction book and a quick reference guide when in field.

2 POINTS TO NOTE BEFORE STARTING

2.1 Consent

The issue of consent is of key concern in any of the projects conducted by NatCen. We are required to seek ethical approval for all of the projects we undertake involving nurse measures, and as a result the protocols pertaining to consent within this manual are based on recommendations by the Multi-centre Research Ethics Committee (MREC).

Consent must always be obtained for every measurement and sample taken. As a general guideline the measurements require verbal consent, while the samples, which are more invasive, require written consent. Written consent may also be asked for sending a respondent's results to their GP, and to store a sample of blood.

Based on MREC recommendations, obtaining consent varies according to age:

a. *Respondents aged 16 years and older give consent on their own behalf.*
   We recognise that respondents aged 16 and 17 years are legally classed as minors, however MREC recommends that respondents of this age are competent enough to make their own decisions in regards to participating in the survey measurements and samples. Note that if 16-17 year olds are living with their parents you should ensure that their parents are aware of what you will be doing.

b. *Respondents aged 15 years and below must have consent given by their parent or legal guardian.*
   Children must also give their consent before any measurements or samples are conducted. If children consent but the parents do not, then the measurement or sample must not be conducted.

All of the measurements and samples outlined require at least verbal consent. Unless otherwise stated, in the protocol for a particular measurement/ sample, only verbal consent is required. If written consent is required it will be clearly stated in the protocol.

2.2 Exclusion criteria and eligibility

Most of the procedures in this manual have exclusion criteria that need to be considered when conducting a measurement or taking a sample. These criteria are listed under each measurement and sample heading. It is important that the exclusion criteria are followed as they help to ensure the safety of, and prevent injury to both the respondent and the nurse.

Note that no measurements or samples are taken from pregnant women.

Each of the measurements and samples also has eligibility rules to consider. These rules are not listed here as they differ among the surveys. The eligibility rules can be found in the project specific instructions for each survey.

2.3 General equipment care

All of the measurements and samples require some type of equipment. Please take care when using the equipment. In each protocol is a list of the equipment required as well as information on how to use it. Please follow these guidelines.

This equipment is expensive and most of it is easily damaged if it is not transported and/or stored correctly. Please use the bags and boxes provided to store and transport the equipment as it will help to prevent it from being damaged.

Calibrated instruments are particularly fragile and if they are knocked it could cause them to provide inaccurate measurements. Please handle the calibrated instruments with care and maintain them according to guidelines in the manual.

Always ensure that the equipment is in good working order before you go to an interview e.g. batteries are fully charged.

If you suspect that any of the equipment is faulty and/or damaged, please report this to Brentwood who will be able to advise you on what action to take.

2.4 Recording measurements

The anthropometric measurements require the results to be recorded in the metric format. Within the metric system, there are 10 millimetres (mm) in a centimetre (cm) and 100 centimetres (cm) in a metre (m). CAPI requires that measurements be recorded in the form 123.4cm (to one decimal place only). If a reading falls between two millimetres, it should be rounded and recorded to the **nearest even millimetre**. For example if a respondent has a height reading that falls between 166.7 and 166.8, the reading of 166.8 should be recorded. Similarly, if the reading falls between 166.6 and 166.7, 166.6 should be recorded. By doing it this way, we ensure that our final data is not biased due to always rounding up or down.

2.5 Respondent feedback

Most surveys provide immediate feedback to respondents of some measurements by recording the results on a Measurement Record Card. If the respondent wishes to know their results they should be recorded here. Some surveys also provide feedback on Body Mass Index (BMI).

Please do not comment on the meaning of a respondent's results in general or on their results in relation to other people taking part in the survey. The only exception to this rule is the blood pressure measurement where some comments can be given to the respondent, according to the instructions outlined in the blood pressure protocol (see section 10.7).

Respondents are eligible to receive feedback about some of the blood samples they give. They may also agree to have their blood sample results (and blood pressure) sent to their GP. No feedback is provided regarding urine samples.

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
- Kitchen roll

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. For hygiene purposes, lay one layer of kitchen roll on the mat.

3. 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.

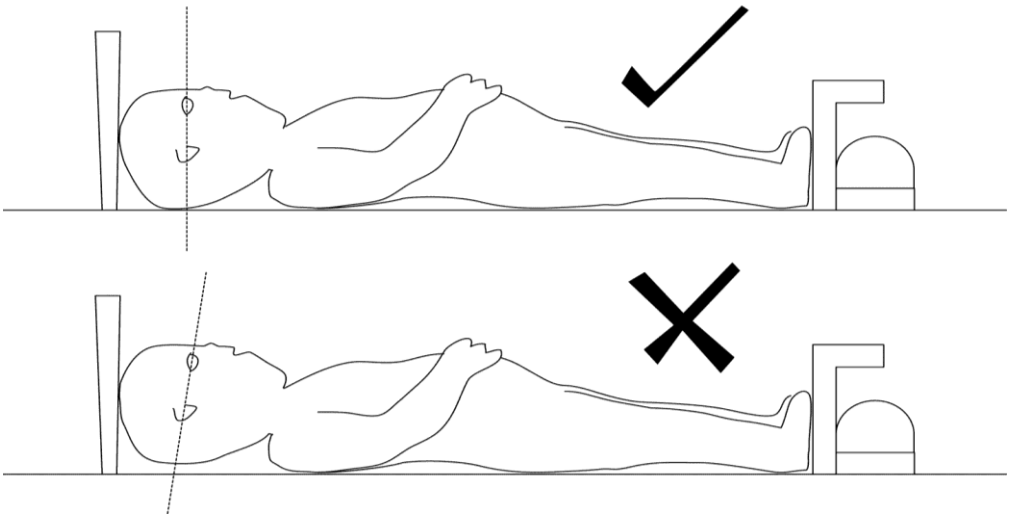


Figure 1 The infant Frankfort Plane

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)

4 HEIGHT MEASUREMENT INCLUDING SITTING HEIGHT

4.1 Introduction

The height measurement is a measure of anthropometry, which provides information on the size and proportions of the human body. When taken in conjunction with other anthropometric measures it is an indicator of, and can predict, the nutritional status, performance, health and survival of a population and can thus be used to determine public health policies. Moreover, height is often used as an indicator of people's quality of life. This is based on evidence that final height is a combination of genetic and environmental factors, where a taller population is indicative of a better quality of life due to access to health services and nutrition.

4.2 Exclusion criteria

Respondents are excluded from the height measurement if:

- They are pregnant
- They are too stooped to obtain a reliable measurement
- After a discussion with the respondent it becomes clear that that they are too unsteady on their feet
- They are chairbound
- If the respondent finds it painful to stand or sit up straight

4.3 Equipment

You will need:

- A portable stadiometer (see figure 2 below)
- A Frankfort Plane card.

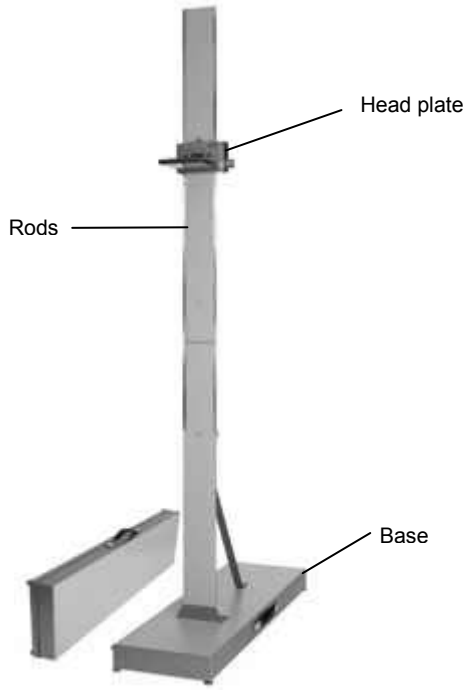


Figure 2 The stadiometer

4.3.1 Caring for the stadiometer

The stadiometer will be sent to you in a 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.

The rods

There are three rods marked with a measuring scale divided into centimetres and then further subdivided into millimetres. The rods are made of aluminium or plastic and are susceptible to bending if any pressure is put on them. Be 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 to damage the corners of the base plate as this could lead to a loss of accuracy in the measurements.

Protruding from the base plate is a pin onto which you attach the rods in order to assemble the stadiometer. With a metal 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.

4.3.2 Assembling the stadiometer

Practise assembling your stadiometer before you visit a respondent’s home.

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 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/have symbols 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. It should be as flat as possible, ideally on an uncarpeted floor or with a thin carpet; you should avoid a deep pile carpet or rug if at all possible.

2. Take the rod marked number 2. Making sure the measuring scale is on the right hand side of the rod as you 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 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.

4.3.3 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.

4.4 Procedure for adults

1. Ask the respondent to remove their shoes.

2. Assemble the stadiometer, near a wall if possible, 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. Ask the respondent to stand with their feet flat on the centre of the base plate, feet together and heels against the rod as this helps people to ‘be at their highest’. 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 Figure 3). 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.

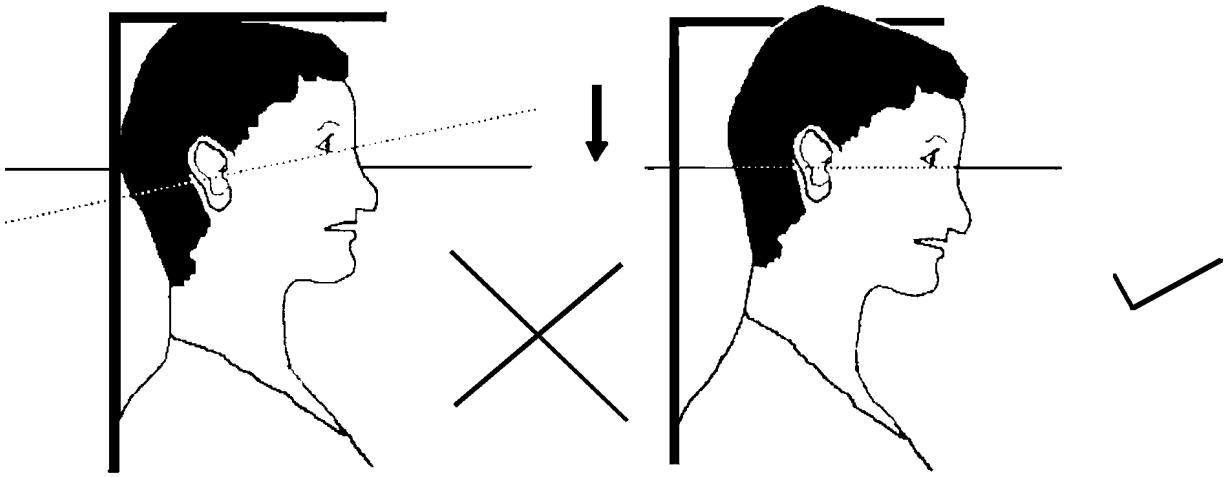


Figure 3 The Frankfort Plane

5. Instruct the respondent to keep their eyes focused on a point straight ahead, to breathe 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.

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 an arrowhead pointing to the measuring scale. Take the reading from this point and record the respondent's height in centimetres and millimetres. If a measurement falls between two millimetres, it should be recorded to the **nearest even millimetre** (see section 2.4).

8. If the respondent wishes, record their height onto the measurement record card.

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. Once you have finished measuring everyone, lower the head plate to its lowest position, ready for dismantling.

4.5 Procedure for children

The procedure for measuring children aged 2-15 differs slightly from 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, as children are 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.

1. Explain to the parent and child what you will be doing, and ensure that both are happy with the procedure.

2. In addition to removing their shoes, children should remove their socks as well to ensure that they do not slip on the base of the stadiometer, and so that you can easily check their feet are flat on the base plate, not on tiptoes.

3. Assemble the stadiometer and raise the head plate to allow sufficient room for the child to stand underneath it.

4. Ask the child to 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.

5. Place the measuring arm just above the child's head.

6. Move the child's head so that the Frankfort Plane is in a horizontal position (see Figure 3). 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. 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 tiptoes. Ask them to look straight ahead.

7. 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 Figure 4).

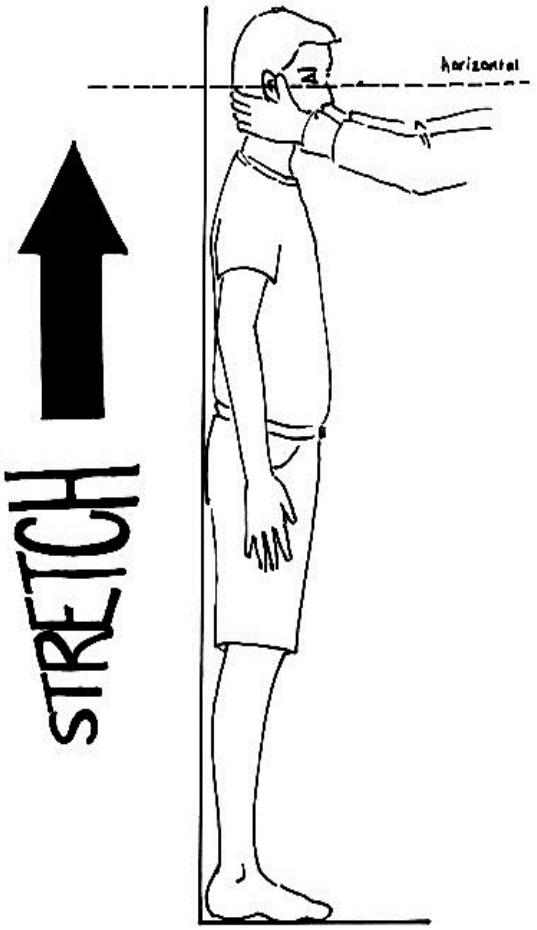


Figure 4 The child stretch

8. Ask the child to breathe in. Firmly but gently, apply upward pressure lifting the child's head upward 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.

9. 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.

10. Still holding the child's head, relieve traction and allow the child to stand relaxed and breathe out. 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.

11. Read the height value in metric units to the **nearest even millimetre** (see section 2.4) and enter the reading into CAPI.

12. If the respondent wishes, record the reading on the child's measurement record card.

13. Push the head plate high enough to avoid any member of the household hitting their head against it when getting ready to be measured.

4.6 Additional points

- Some surveys require the respondent to be measured more than once, this will be stated in the project specific instructions. The protocol for taking the additional height measurements remains the same. Both measurements are to be recorded in CAPI and if they differ significantly CAPI will instruct you to take a third measurement.
- 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.
- If the respondent has a hair style which stands well above the top of their head, or is wearing a religious head dress, with their permission, bring the headplate down until it touches the hair/head dress. You should never ask someone to remove a religious head dress. With some hairstyles you can compress the hair to touch the head. If you cannot lower the headplate to touch the head and think that this will lead to an unreliable measure, record this on CAPI. If it is a possible that can be altered e.g. a bun, if possible ask the respondent to change/undo it.
- 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.
- You may need to tip the stadiometer to read the height of tall respondents.
- If the respondent has long hair then they may need to tuck it behind their ear in order for the head to be positioned properly. Always ask the respondent to tuck their hair behind their ears.

4.7 Sitting height

Sitting height may also be measured, as well as standing height, to get an idea of body proportions, i.e. the length of the legs relative to the body trunk. Although both trunk and leg length reflect conditions in childhood as well as genetic factors, the length of the leg is thought to be a better indication of early life conditions (nutrition) affecting growth.

4.7.1 Procedure

1. Remove the top 1 or 2 sections of the measuring rod.

2. Find a hard chair with as flat a seat as possible. Place the base of the stadiometer on the chair with the measuring rod at the back.

3. Ask the respondent to sit on the base plate with his/her back to the rod. Instruct the respondent to sit as far back and as upright and straight as possible, while ensuring that they do not lean on the rods of the stadiometer.

4. Position the head in the Frankfort Plane (see Figure 3). Bring the head plate down until it gently rests on the highest part of the respondent's head.

5. Take the height reading indicated by the arrowhead. Read the height value in metric units to the **nearest even millimetre** (see section 2.4) and enter the reading into CAPI.

6. If the respondent wishes, record the reading on their measurement record card.

For the sitting height measurement, if there isn't a suitable chair it might be possible to use stairs. As a last resort, measure sitting height with the respondent sitting on the floor. In this situation you would place the base of the stadiometer on the floor with the rod against a wall. Ask the respondent to sit on the base plate with their back against the rod and their legs as straight as possible lying in front of them. Take care that the respondent is sitting upright. Continue as described in 4.7.1. Only use this as a last resort and if both you and the respondent are comfortable with this.

5 WEIGHT MEASUREMENT

5.1 Introduction

Similar to the height measurement, the weight measurement is an indicator of and can predict the nutritional status and health of a population. When used in conjunction with the height measurement it can be used to derive the Body Mass Index, a statistical measure used to determine if an individual's weight falls within a healthy range.

5.2 Exclusion criteria

Respondents are excluded from this measurement if they are:

- Pregnant
  If the woman wishes to be weighed, you can but do not enter the results into the computer.
- Too frail or unable to stand upright
  If you are concerned that being on the scales may cause them to be too unsteady on their feet then do not weigh them. Alternatively you can place the scales next to something that they can steady themselves on.
- Over 130kg (20 ½ stone) in weight
  The maximum weight registering accurately on the scales is 130kg. If you think that they exceed this limit then code it appropriately in CAPI and follow the prompts. Do not attempt to weigh them.

5.3 Equipment

There are two different sets of scales in circulation on NatCen projects. You will be provided with either:

- Tanita THD-305 scales
  The weight is displayed in a window on the scales. The scales are switched on by pressing the button on the bottom right hand corner of the scales. They are battery operated and require four 1.5v AA batteries, which should be sent with the scales. They may be packed separately or one of the batteries may be turned around, to prevent the batteries from going flat, as there is no on/off switch. Ensure that you have spare batteries, just in case you need them.

- Seca 870 scales
  The weight is displayed in a window on the scales. The scales are 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 a fixed battery which cannot be removed.

Please check which scales you have been provided with and make sure that you are familiar with how they operate.

5.3.1 Calibrating the scales

The scales will need to be sent to Brentwood at regular intervals to be recalibrated to ensure that they provide accurate measurements. On each set of scales there is a label with a date that they need to be recalibrated by, ensure that they have been sent to Brentwood by this date.

5.3.2 Technical faults

Please refer to Table 1 when experiencing technical difficulties with the scales.

Table 1 Troubleshooting for the scales

Fault	Action
Tanita THD 305 scales	
No row of 8s when turned on or will not turn on	• Replace batteries • If not solved, report to manager/Brentwood
Inconsistent readings	• Make sure on hard flooring • Ensure 0.0 on display when respondent steps on scales • Replace batteries • If not solved, report to manager/Brentwood
Seca 870 scales	
No '1888' when turned on or will not turn on	• Insufficient light to operate solar cell • If not solved, report to manager/Brentwood
Inconsistent readings	• Make sure on hard flooring • Ensure 0.0 on display when respondent steps on scales • Insufficient light to operate solar cell • If not solved, report to manager/Brentwood

5.4 Procedure for adults

1. Weigh the respondent on a hard and even surface if possible. Carpets may affect measurements.

2. Ask the respondent to remove shoes, heavy outer garments such as jackets and cardigans, heavy jewellery, and to empty their pockets of all items.

3. Switch on the scales and wait for 888.8 (for the Tanita scales) or 1888 (for the Seca scales) to be momentarily displayed in the window. Do not attempt to weigh anyone at this point.

4. When the display reads 0.0, ask the respondent to stand with their feet together in the centre and their heels against the back edge of the scales. Their arms should be hanging loosely at their sides and their head should be facing forward. Having the respondent stand in this position means that the most accurate weight measurement can be obtained. 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.

5. The scales will need to stabilise. The weight reading will flash on and off when it has 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 the respondent.

6. The scales are calibrated in kilograms and 100 gram units (0.1 kg). Record the reading in CAPI before the respondent steps off the scales.

7. If the respondent wishes, record the reading on their measurement record card.

8. The scales should switch off automatically a few seconds after the respondent steps off them.

5.5 Procedure for children

1. 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.

2. Children who wear nappies should be dry. 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.

3. Weigh the child, following the same procedure for adults. Encourage the child to 'Be as still as a statue' for an accurate reading. If you think that the results are inaccurate, code this in CAPI.

For very young children who are unable to stand unaided or small children who find this difficult follow the procedure below you will need to ask for the assistance of an adult as the following procedure requires you to measure the adult and then the adult holding the child:

1. Explain to the adult what you are going to do and the reasons why.

2. Code in CAPI the procedure used to measure the weight of the child.

3. Weigh the adult as normal following the protocol as set out above. Enter this weight into CAPI.

4. Weigh the adult and child together and enter this into CAPI. CAPI will calculate the difference between the two weights to get the child's weight.

5. If the respondent wishes record this reading on their measurement record card.

6 DEMISPAN MEASUREMENT

6.1 Introduction

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 5).

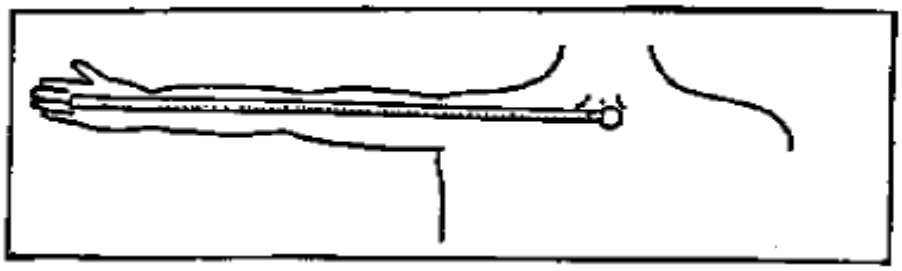


Figure 5 The Demispan Measurement

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'.

6.2 Exclusion criteria

Respondents are excluded from the demispan measurement if:

- They cannot straighten either arm without pain or discomfort.

6.3 Equipment

You will need:

- A thin retractable demispan tape calibrated in cm and mm
- A skin marker pencil
- Micropore tape

6.3.1 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.

6.4 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.

6.5 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.

6.6 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.

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 short tape
  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

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 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.

8 WAIST AND HIP CIRCUMFERENCES

8.1 Introduction

There has been increasing interest in the distribution of body fat as an important indicator of increased risk of cardiovascular disease. The waist and hip circumferences are measures of the distribution of body fat (both subcutaneous and intra-abdominal). Analyses suggest that waist circumference and waist-hip ratio are predictors of health risk like the body mass index (weight relative to height).

8.2 Exclusion criteria

Respondents are excluded from the waist and hip circumference measurement if they:

- Are pregnant
- Are chairbound
- Have a colostomy / ileostomy

8.3 Equipment

You will need:

- An insertion tape calibrated in millimetres

8.3.1 Using the insertion tape

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. To check the tape is horizontal you have to position the tape on the right flank and look 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. When taking the reading, be sure not to lift the tape, hold it flat against the body otherwise you will get an inaccurate measurement.

8.4 Preparing the respondent

The respondent needs to be wearing light clothing. Explain to the respondent the importance of this measurement and that clothing can substantially affect the reading. If possible the respondent needs to remove:

- 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/underwear
- Belts

Pockets should be emptied and if possible ask the respondent to empty their bladder before taking the measurement. If a urine sample is to be collected, this would be a good time to ask the respondent to provide it.

Explain to the respondent that the waist and hip measurements taken on NatCen surveys are taken at different points to where the respondent might think their waist and hips are. Therefore measurements may differ to those taken for clothing purposes.

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 items. Record in CAPI if the measurement is likely to be affected by this.

8.5 Procedure

Steps 1-3 apply to both waist measurement (section 8.5.1) and hip measurement (section 8.5.2).

1. Ensure that 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. This position will provide the most accurate measurement of both the waist and the hip, and will allow for them to be measured easily.

2. If possible, kneel or sit on a chair to the side of the respondent.

3. With assistance from the respondent pass the tape around the respondent's body, or if they are able to, get them to pass the tape around themselves and check that it is not twisted. Insert the plain end of the tape through the metal ring at the other end of the tape.

8.5.1 Measuring waist circumference

4. The respondent's waist is located midway between the iliac crest and the costal margin (lower rib). To locate the levels of the costal margin and the iliac crest, ask the respondent if you can touch them, and use the fingers of your right hand held straight and pointing in front of the participant to slide upward over the iliac crest.

5. Position the tape at the respondent's waist, ensuring that it is horizontal.

6. Ask the respondent to breathe out gently and to look straight ahead. This is to prevent the respondent from contracting their muscles or holding their breath.

7. Take the measurement at the end of a normal expiration by holding the buckle flat against the body and flattening the end of the tape to read the measurement from the outer edge of the buckle.

8. Record the measurement in CAPI in centimetres and millimetres. Always record to a one decimal place. If the result falls between two millimetres, record to the **nearest even millimetre** (see section 2.4).

9. Repeat steps 1-8 to record a second measurement. If the second reading differs significantly from the first, CAPI will report an error message. At this point check that you have entered the results into CAPI correctly. Otherwise take a third

measurement, following the procedure above. Enter this result into CAPI, the computer will know which two results to use.

8.5.2 Measuring hip circumference

9. The respondent's hip circumference is the widest circumference over the buttocks and below the iliac crest.

10. Position the tape in this area ensuring that the respondent is looking straight ahead and not contracting their gluteal muscles. Ensure the tape is horizontal.

11. Measure the circumference at several positions over the respondent's buttocks, by holding the buckle flat against the body and flattening the end of the tape to read the measurement from the outer edge of the buckle.

12. Record the widest circumference in CAPI. Always record to one decimal place. Report in centimetres and millimetres. If the result falls between two millimetres, record to the **nearest even millimetre** (see section 2.4).

13. Repeat steps 1-3 and 9-12 to record a second measurement. If the second reading differs substantially from the first, CAPI will report an error message. At this point check that you have entered the results into CAPI correctly. Otherwise take a third measurement, following the procedure above. Enter this result into CAPI, the computer will know which two results to use.

14. If the respondent wishes, record the waist and hip measurement on their measurement record card.

8.6 Additional points

- 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.
- The tape should be tight enough so that it doesn't slip but not tight enough to indent clothing.
- If the respondent is large, ask him/her to pass the tape around rather than 'hug' them. Remember to check that the tape is correctly placed to take the measurement and horizontal all the way around.
- Some respondents will be wearing clothing where the waistband of the trousers/skirt sits on the waist. Do not attempt to move the clothing or take the measurement at a different position. Measure the waist circumference over the waistband and make a note of this in CAPI. If the waistband is not horizontal all the way around the body i.e. it may be lower at the front, always ensure that the tape is horizontal which may mean that it passes over the waist band in some places and not in others. If there are belt loops, thread the tape through the loops so that they don't add to the measurement.
- 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.

9 RECORDING AMBIENT AIR TEMPERATURE

9.1 Introduction

Many of the physical measures taken fluctuate considerably due to air temperature. To be able to standardise the results that are obtained air temperature must be recorded. CAPI will tell you when to record the air temperature.

9.2 Equipment

You will need:
- A digital thermometer
- A probe

9.2.1 Using the thermometer

1. This instrument is very sensitive to minor changes in air temperature and thus it is important that ambient air temperature be recorded at the appropriate times, as prompted by CAPI.

2. It can take a few minutes to settle down to a final reading if it is experiencing a large change in temperature.

3. When "LO BAT" is shown on the display the battery needs replacing, take no further readings.

4. To preserve battery power, the thermometer may switch itself off after 7 minutes.

5. The battery in the thermometer is a long-life battery and should last at least one year. However should it run low please purchase a new battery. Take the old one with you to ensure it is the same type. Claim in the usual way.

6. To remove an old battery and insert a new one, unscrew the screw on the back of the thermometer, insert the new battery and replace the cover.

9.3 Procedure

1. Set up the thermometer, usually on a surface near the Omron (blood pressure equipment), by plugging the probe into the socket at the top of the instrument. Do not let the probe touch anything and ensure that it is not near a radiator or in the sun. It is recommended that the probe hang over the edge of a table.

2. When prompted by CAPI to take a reading, turn on the thermometer by pressing the completely white circle.

3. Wait for the reading to stabilise and take a reading.

4. Record the air temperature in CAPI to one decimal place e.g. 21.4. Do not round this to a whole number.

5. To preserve battery life please ensure that after taking the reading the thermometer is switched off by pressing the white ring.

10 BLOOD PRESSURE

10.1 Introduction

Blood pressure is the exertion that the blood applies to the arterial walls as it is pumped through the circulatory system by the heart. Having a high blood pressure is an important risk factor for cardiovascular disease and stroke. The exact cause(s) of high blood pressure is not completely known however some factors known to affect blood pressure are smoking, family history, physical fitness and diet. It is important that we examine blood pressure using a standard method to see the distribution of blood pressure measurements across the population. This is vital for monitoring change over time.

10.2 Exclusion criteria

Respondents are excluded from the blood pressure measure if they are:

- Aged 4 years and below
- Pregnant
  If a pregnant woman wishes to have her blood pressure measured, you may do so, but do not record the readings in CAPI.

10.3 Consent

In addition to the verbal consent required to conduct all NatCen procedures (refer to section 2.1), written consent is required for the results to be sent to the respondent's GP. The appropriate form must be signed and dated by the respondent.

10.4 Equipment

You will need:

- An 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)
- An AC adapter

Please note you will not get all of the cuff sizes in some of the studies, this is dependent on the sample involved in the individual surveys.

10.4.1 Using the Omron HEM 907

Figure 7 shows the monitor of the Omron

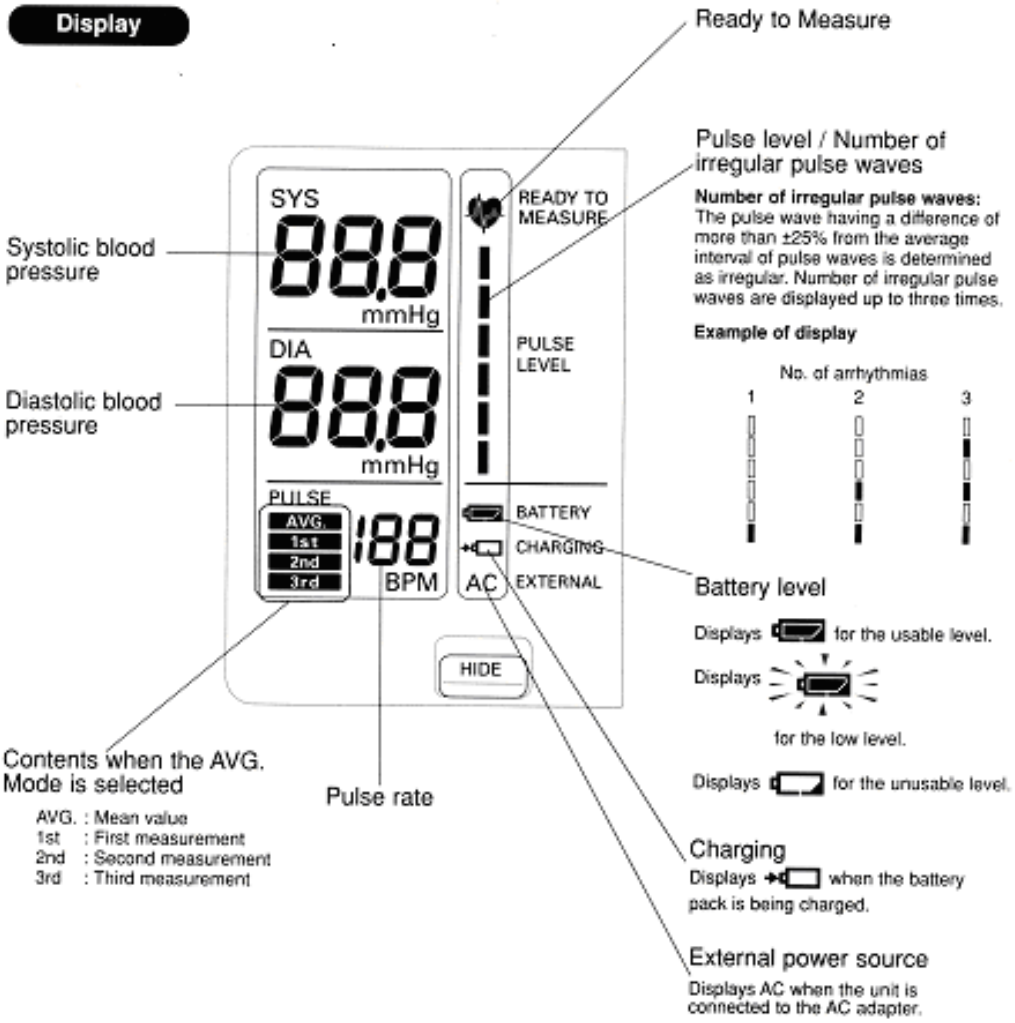


Figure 6 The Omron HEM 907 monitor

1. Switch the monitor on by pressing the ON/OFF button. Wait for the READY TO MEASURE symbol to light, indicating the monitor is ready to start the measurement (approximately 2 seconds).

2. Check that the MODE selector is set to AVG (average) and P-SET Volume (pressure setting) is set to auto.

3. Press the start button to begin the measurement. The cuff will start to inflate and take the first measurement. When the first measurement is complete, the LCD screen will show the systolic pressure, diastolic pressure and pulse rate. It will continue to do this at one minute intervals.

4. Press the ON/OFF button to turn it off.

5. If at any stage while you are taking the measurement you need to stop the monitor, press STOP and start the procedure again, as described in section 10.6.

10.4.2 Charging the battery

The Omron HEM 907 is equipped with a rechargeable battery, which is usable for approximately 300 measurements when fully charged.

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.

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 approximately 12 hours.

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.

10.4.3 Technical faults/error readings

Refer to table 2 when error readings appear on the LCD screen.

Table 2 Troubleshooting for the Omron HEM 907

Error No.	Action
Er1, Er2	• Check that the tube connecting the cuff to the monitor is properly inserted and is not bent • Check that the cuff is properly wrapped around the arm • Repeat the measure
Er3	• Check that the tube connecting the cuff to the monitor is not bent • Repeat the measure
Er4	• Ask the respondent to sit as still as possible • Repeat the measure • If it persists, it may be because the respondent has very high blood pressure • Reset the P-SET Volume to 260 and repeat the measure.
Er5, Er6	• Check that the cuff is properly wrapped around the arm • Repeat the measure
Er7, Er8	• Ask the respondent to sit as still as possible • Repeat the measure • If it persists, it may be because the respondent's pulse is irregular, record that it wasn't possible and explain that this sometimes happens.
Er9	• Technical fault – Contact Brentwood and report that fault

10.5 Preparing the respondent

During the initial interview, the respondent would have been informed not to eat, smoke, drink alcohol or participate in vigorous exercise 30 minutes before the nurse visit as this can cause blood pressure to be higher than normal. Before the procedure ask to see if they have carried out any of these activities and note their response in CAPI.

Select the right arm unless this is impossible. Ask the respondent to remove outer garment (e.g. jumper, cardigan, jacket) and expose their upper right arm by rolling up their sleeve. 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.

10.5.1 Selecting the correct cuff

Adults

Do **not** measure the upper arm circumference to determine which cuff size to use. 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

It is important to select the correct cuff size to obtain an accurate reading and avoid injuring the child. 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.

10.6 Procedure

1. Check that the monitor is working.

2. Use the right arm, unless this is impossible. If the left arm is used, record this in CAPI.

3. Get the respondent to sit in a comfortable chair with a suitable support so that the **right arm** is resting at a level to bring the antecubital fossa (elbow) to approximately heart level. They should be seated in a comfortable position with legs uncrossed and feet flat on the floor.

4. Wrap the correct sized cuff round the upper **right arm** and check that the index line falls within the range lines. Do not put the cuff on too tightly as bruising may occur on inflation. Ideally it should be possible to insert two fingers between the cuff and the arm.

5. 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).

6. Explain to the respondent that you need them to sit quietly for five minutes and that during that time they cannot eat, drink or smoke.

7. During this 'quiet time' follow the procedure for taking ambient air temperature (section 9) and just before taking the blood pressure reading, make a note of the

air temperature (this is not applicable for all surveys, refer to the project specific instructions).

8. After five minutes explain that you are starting the measurement, also explain that the cuff will inflate three times and each time they will feel some pressure on their arm. Ask them to relax, be seated in the position detailed in step 3 and not to speak until the measurement has been completed, as it may affect their reading.

9. Press start on the Omron HEM 907 to start the measurement. When the first measurement is complete it will be displayed on the LCD screen. Record this.

10. The unit will produce readings at one minute intervals thereafter, record the next two so you have three sets of readings in total. To check the readings press the 'Deflation' button. It is important that the three readings are recorded as the first reading is usually higher, and thus less accurate, than the other two readings as the respondent may be feeling nervous.

11. Press ON/OFF on the Omron to switch the unit off and remove the cuff from the respondent's arm.

12. If the respondent wishes, you should record details of their readings on the measurement record card.

10.7 Respondent feedback

When answering queries about a respondent's 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.

What you may say in each situation has been agreed with the Survey Doctor and CAPI will instruct you to read out the appropriate interpretations of the respondent's results. It is very important that the agreed script in the CAPI is read word for word and that personal interpretation is never offered.

The respondent feedback protocol should 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 GP if the measurements indicate that blood pressure is raised.

10.7.1 Child respondents

Do not comment on a child's blood pressure readings to the child or parents. If they seek comment, state that you are not 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 markedly abnormal, the Survey Doctor will get in touch with them or their GP and advise them to get it checked. This rule applies for all readings you obtain.

10.7.2 Adult respondents

As stated previously we have a duty to inform people that they need to see their GP if their blood pressure is high. It is important that the instructions below are carefully read and guidelines always followed precisely.

The computer tells you which readings your advice should be based on. This will be based on the **lowest** systolic and **lowest** diastolic reading from the last two readings (this is a change from previous practice when the highest readings were used). 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. Furthermore if the lowest systolic reading falls in one category and the lowest diastolic reading falls in another category, the higher of the two categories will be used to trigger the advice to respondents. For example the lowest systolic reading is 138 (normal) and the lowest diastolic is 96 (mildly raised) then the advice given will be based on a mildly raised reading. If the first reading is higher than the other two it should be explained that the first reading can be high because people are nervous of having their pressure taken.

Definitions of raised blood pressure differ slightly. The Survey Doctor has recommended the blood pressure ratings given below based on the most recent guidelines from the British Hypertension Society. It is important that you adhere to these definitions, so that all respondents are treated in an identical manner. These are shown in table 3.

Table 3 Definition of blood pressure ratings

ADULTS ONLY

SURVEY DEFINITION OF BLOOD PRESSURE RATINGS

For men and women aged 16+

Rating	Systolic		Diastolic
Normal	<140	and	<90
Mildly raised	140 - 159	or	90 – 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 one-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 one-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 one-off finding or not.'

(For all of the above points, you can also advise the respondent to see their practice nurse, if this is who they would typically see in relation to their blood pressure.)

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, contact the Survey Doctor who will inform the respondent's GP of their result, providing the respondent has given their permission (refer to table 4).

10.8 Action to be taken by the nurse after the visit

If you need to contact the Survey Doctor, unless there is a hypertensive crisis, do not do this from the respondent's home - you may cause unnecessary distress.

10.8.1 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.

10.8.2 Adults

Table 4 summarises what action to take based on the readings you have obtained for a respondent. For this purpose you should only take into account the last two of the three readings you take, as the first reading is prone to error.

Table 4 Nurse action due to blood pressure readings

BLOOD PRESSURE	ACTION
Normal/mildly raised/raised BP 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 immediately if she deems it necessary.*
Considerably raised BP 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 written consent has been given, or the respondent if not.* If the respondent has any symptoms of a hypertensive crisis** contact the survey doctor immediately or call an ambulance. The Survey Doctor must be informed as soon as possible.

* You must still contact the Survey Doctor even if respondents tell you that their GP knows about their raised BP.

** 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.

The Survey Doctor will look at all high or unusual readings when they reach the office. If the reading is high, then the Survey Doctor will contact the respondent directly. The Survey Doctor will also routinely check fast and slow pulse rates so no further action is necessary regarding these.

Contact details for your Survey Doctor can be find in the project instructions. The Survey Doctor is generally available from 8.00-22.00. Calls outside these hours are either unnecessary or an emergency, in which case, the survey doctor is unlikely to be in a position to do anything practical and you should be using your professional judgement whether to call an ambulance or seek other urgent advice.

11 24 HOUR URINE

11.1 Introduction

Urine, a waste product of human bodily functioning, can be analysed to provide information on various factors depending on the compound to be analysed (table 5). The information that is obtained is highly accurate and cannot be taken from any other source. Please note that the compounds that are analysed are dependent on the individual survey.

Table 5 Compounds in urine analysis

Chemical	Definition
Potassium	Potassium is both an electrolyte and a mineral which works to keep a balance in bodily fluids and has an important role in nerve and muscle functioning. Potassium is found in fruit and vegetables and thus also indicates the fruit and vegetable intake of individuals.
Sodium (salt)	Sodium is both an electrolyte and a mineral which works to keep a balance in bodily fluids and has an important role in nerve and muscle functioning. Sodium is found in most foods and has been shown to contribute to high blood pressure which is a major risk factor in the development of cardiovascular disease.
Urea and Nitrogen	Urea and nitrogen are natural by-products of the human body. They are analysed to give an indication of kidney function. They also provide information on the amount of protein in an individual's diet.

11.2 Exclusion criteria

All respondents with the following exceptions are able to give urine:

- Women who are pregnant
- Women who have their period are not excluded from giving a sample, however they may prefer to collect the urine on non period days
- To test for the completeness of a sample, respondents might be asked to take p-aminobenzoic acid (PABA) tablets. Some surveys will exclude respondents if they are unwilling or unable (due to medications they are currently taking or allergies) to take these tablets, other surveys will include them even if they cannot/will not take PABA. Please refer to project specific instructions for further information regarding this.

11.3 Consent

There is a separate consent form for the urine sample. This must be signed and dated by the respondent or by the parent/legal guardian in the case of respondents aged 15 years and below. Please make it clear to respondents that they will not receive results regarding their urine sample.

There are two nurse visits in the 24 hour urine protocol. The first requires the nurse to introduce and explain to the respondent how to collect the sample over the allocated 24 hour period. The second visit requires the nurse to take

sub samples from the urine that the respondent has collected. Both of these visits are outlined below.

11.4 Nurse visit one

11.4.1 Equipment

To collect the urine sample the respondent will need:

- A 5 litre capacity screw cap (or jerry can) 24 hour container to serve as the collection container for urine. This contains a small amount of the preservative boric acid (powder).
- A 2 litre capacity screw cap collection container for collections made away from the home
- A 1 litre capacity plastic jug to be kept inside a re-sealable plastic bag when not used
- A funnel to be kept inside a re-sealable plastic bag when not used
- Plastic carrier bags for transporting the equipment away from home
- An *aide memoire* safety pin for the respondent to pin the under and outer garments together during the period of the collection to remind that the specimen of urine about to be passed should be collected.
- Three PABA tablets

What is PABA?

To test for the completeness of the urine sample, three p-aminobenzoic acid (PABA) tablets need to be taken by the respondent (also see section 11.2). PABA is an intermediate in the synthesis of folic acid in bacteria. It is consumed in small amounts as part of our usual diet and is found, for example, in liver, kidney, brewer's yeast, molasses, whole grains, mushrooms and spinach and can be made by intestinal bacteria. Larger amounts of PABA are found in some vitamin preparations.

Following ingestion, PABA is passively absorbed mainly from the small intestine. From there it enters the portal circulatory system. Some metabolism of PABA occurs in the liver and PABA and its metabolites are mainly excreted in the urine.

The PABA tablet is very small and best swallowed whole. It is not recommended to dissolve it in water or any other drink. If crushed between the teeth PABA tastes acidic and is unpleasant but there is no long lasting after taste.

Some medicines, such as paracetemol, interfere with the test used for PABA and PABA itself may interfere with the functioning of sulphonamide based antibiotics (however it will not cause the respondent direct harm if they are taking sulphonamide based antibiotics). People will be excluded from taking PABA if they are on sulphonamide based antibiotics. Other reasons why people are excluded from taking PABA include those who are allergic to vitamin preparations, hair dyes or sunscreen lotions and those who have severe lactose intolerance (this may not mean that they are excluded from giving a sample however, refer to project specific instructions).

11.4.2 Preparing the respondent

- Using CAPI, check the respondents eligibility to take part in the measurement

- Introduce and explain the 24 hour urine sample to the respondent, explaining the instructions for collection (sections 11.4.3 and 11.4.4) in detail.
- Provide the respondent with any written instructions and the equipment that they will need.

11.4.3 Procedure for taking PABA

Please explain this procedure to the respondents:

1. Each respondent will have three PABA tablets which are to be taken at evenly spaced intervals throughout the waking day.

2. The first tablet should be taken just before the urine collection starts, i.e. after the first morning void that is not collected.

3. The second PABA tablet should be taken around midday and the third and final tablet in the evening, preferably with supper.

4. If respondents forget to take the morning PABA tablet they should take it as soon as they remember and no later than midday. If respondents forget the midday tablet they should take it as soon as they remember and no later than 4pm. PABA should not be taken after 10pm because approximately 8 hours are needed for PABA clearance through the kidneys to ensure that all PABA is excreted by the time the respondent collects their final sample, the first morning void.

11.4.4 Respondent procedure for collecting the sample

Please explain this procedure to the respondent:

1. The 24 hour collection should start with the second morning void. The 24 hour period will last throughout the night and will include the first morning void on the following day e.g. if the respondent starts the 24 hour collection with the second morning void on a Tuesday then they stop collecting after their first morning void on Wednesday. During this time period all urine that is passed is to be collected.

2. Respondents are to pass urine into the 1 litre plastic jug. Using the funnel provided, the respondent needs to pour the urine into the 5 litre collection container. It needs to be stressed to respondents that it is crucial that they pass the urine into the 1 litre jug first as the 5 litre collection container contains the preservative boric acid which can cause skin irritations if they come in direct contact with it.

3. If, during the 24 hour period, the respondent is away from home, they have the option to take the 2 litre storage container to store the urine in until they get home. They must still pass the urine into the 1 litre jug and then use the funnel to transfer it into the 2 litre container. When respondents get home the urine collected in the 2 litre container must be transferred into the 5 litre container so that it can mix with the preservative.

4. Instruct the respondent to store the 5 litre collection container in a cool, dry place until it is collected.

11.5 Nurse visit two

11.5.1 Equipment

To collect sub samples of the 24 hour urine collection, the nurse will need:

- Electro Samson hand held scales for weighing the urine collection container
- 10ml Sarstedt Urine syringe (for instructions on use, refer to section 11.5.1), as many as is required for each survey e.g. the survey asks for five aliquots you will need five Sarstedt syringes per respondent.
- Disposable gloves
- Disposable work mat
- Disposable apron

11.5.2 How to use the scales

1. Attach handle to the scales. Start with the notch in the handle facing you, hook pointed upwards. Position the loop at the top of the scales in the notch until the loop is flat against the back of the notch. Lift the handle slightly so the scales are hanging from the hook of the handle.

2. Press the 'On/Zero' button to turn the scales on. The display will briefly show a row of 8s, followed by 0.00. Do not weigh anything until the display shows 0.00.

3. Holding the handle of the scales in the middle, as this will ensure the scales are vertical and provide a more accurate reading, place the handle of the 5L collection bottle onto the hook of the scales.

4. Allow the reading on the display to stabilise and press 'Hold' to lock in the weight shown on the display.

5. Press 'Off' to turn scales off.

6. Remove handle before storing the scales.

11.5.3 Nurse procedure for collecting the sub samples

1. Collect the urine sample in the 5 litre collection container from the respondent so that it can be weighed.

2. Assemble the scales, turn them on and wait for the display to read 0.00. Holding the handle in the middle, place the sample on the hook at the bottom of the scales. Place the 'Hold' button to lock in the reading on the display.

3. Record the weight in CAPI and on the despatch sheet. The weight must be recorded on the despatch sheet as it helps the lab to identify if the sample is complete or not.

4. Remove the sample and reset the display to zero by pressing 'On/Zero'. Weigh the sample for a second time according to steps 2 and 3.

5. If the two recorded weights differ by more than 0.2kg, weigh the sample for a third time and record this reading in CAPI and on the despatch note.

6. After the container has been weighed, invert it and rotate the sample 20 times to ensure that the urine is thoroughly mixed.

7. Lay out the disposable working mat and, wearing gloves and the apron, transfer some of the urine from the 5 litre collection container into the 1 litre jug.

8. Still wearing gloves and apron, use the Sarstedt syringe(s) to collect as many sub samples from the jug as required (specified in the project specific instructions). For instruction on how to use the Sarstedt syringe refer to section 11.5.4.

9. Label the sub samples as you take them and prepare them for despatch as described in the project specific instructions.

10. After collecting the sub samples, dispose of the rest of the urine sample in the 5 litre collection container and what is remaining in the 1 litre jug by pouring it in the toilet (you or the respondent can do this).

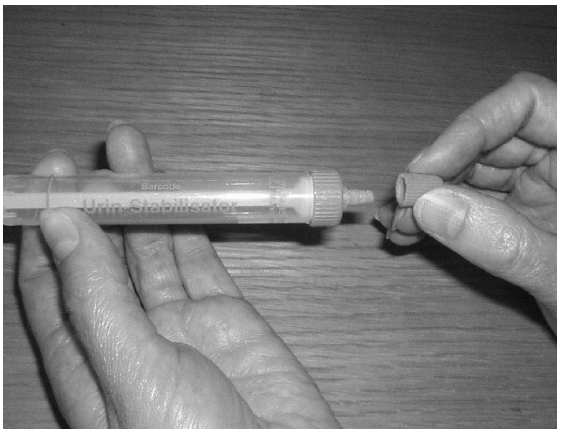
11. Rinse any containers that have been used and ask the respondent to dispose of them with the household waste. If the respondent is unable to do this, pack the used equipment away and take it away for disposal elsewhere.

12. Some surveys will also require the respondent to complete a sheet which records if any urine samples were missed during the 24 hour period. If this is the case, you will need to go through this sheet with the respondent to check that it is complete.

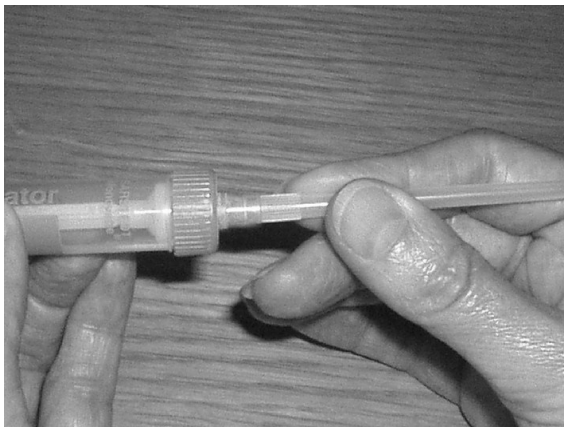
11.5.4 Urine sample syringe instructions

1. Collect your sample in the disposable pot.

2. Remove the small push cap.

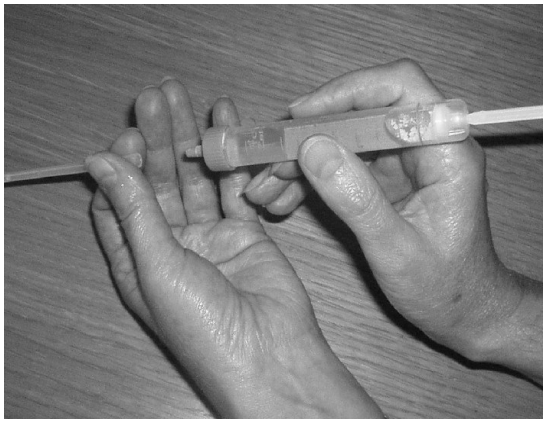


3. Push the extension tube on the syringe nozzle.

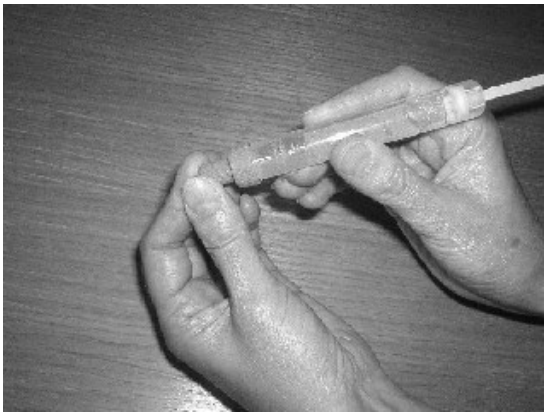


4. Put the end of the tube into the urine in the beaker and pull back the syringe to fill it.

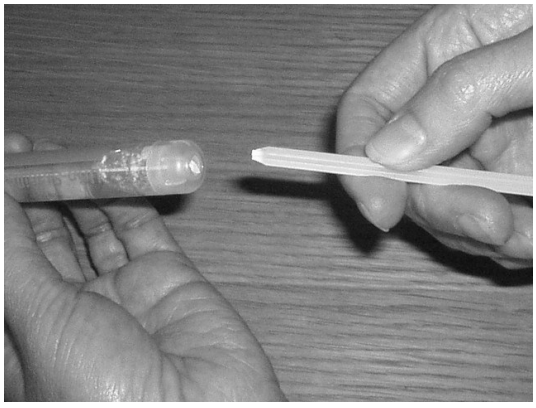
5. Remove the extension tube.



6. Replace the cap.



7. Pull the syringe plunger until it clicks and break off the stalk.



NB: Person in pictures should be wearing gloves!

12 BLOOD SAMPLING (NON FASTING AND FASTING)

The protocol for taking blood samples set out below is written in accordance with the Clinical Procedure Guidelines: Venepuncture. All nurses are to read this document before carrying out any venepuncture procedure.

12.1 Introduction

Blood samples are taken from respondents as they provide information on various analytes, giving a detailed description of the health of an individual. They are integral to the research NatCen undertakes as they give a comprehensive representation of the health of the population that cannot be obtained from any other source.

Each study is interested in different analytes and the ones to be analysed for each survey can be found in the project specific instructions. Table 6 shows information regarding the different analytes and what they measure.

Table 6 Blood analytes

ANALYTE	WHAT IT MEASURES
Apolipoprotein E	This is involved in the transport of cholesterol and plays a protective role.
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.
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 found in individuals with kidney insufficiency and failure.
Fibrinogen	Fibrinogen is a major determinant of platelet aggregation and blood viscosity. It is a major independent risk factor for cardiovascular disease (CVD) and may interact with lipids to promote CVD risk.
Folic acid (folate)	Folic acid is a B vitamin. It is used in the body to make new cells and helps to prevent anaemia and birth defects of the brain and spinal cord.
Genetics	Genetic factors are associated with some common diseases such as diabetes and heart disease and relate to general biological aspects of the ageing process.
Glycated Haemoglobin	Glycated haemoglobin is a measure of the respondent's longer term glycaemic status. High levels are indicative of poor control of, or undiagnosed diabetes.
Haemoglobin, ferritin and transferrin receptors	Haemoglobin carries oxygen around the body to cells. It is too low in people with anaemia. Ferritin and transferrin receptors are indicators of iron stores: ferritin is reduced and soluble and transferrin receptor levels are increased if there is iron-deficiency, e.g. an inadequate iron supply in the diet.

Mean corpuscular (cell) volume	A measure of the average red blood cell volume. Mainly used in the classification of anaemia.
Minerals Se and Zn	Selenium (Se) is a component of some of the enzymes which protect the body against damage due to oxidation. It is also necessary for the use of iodine in thyroid hormone production and for immune system function. Zinc (Zn) is present in many enzymes and is essential for cell division and therefore growth and tissue repair. It is also necessary for normal reproductive development. Zinc is required for the functioning of the immune system and in the structure and function of the skin and thus wound healing.
Serum Albumin	Albumin is a blood plasma protein which is essential in maintaining fluid pressure in the body. It also plays a role in transporting fatty acids around the body. It is analysed in blood samples as an indicator of liver disease and kidney disorders.
Total, LDL and HDL cholesterol	Total cholesterol and LDL cholesterol increase the risk of atherosclerosis ('furring' of the arteries). Raised levels are associated with higher risks of heart attacks, while HDL cholesterol has a protective role.
Triglycerides	Together with total and HDL cholesterol, they provide a lipid (fat) profile which can give information on the risk of CVD.
Vitamin A and carotenoids	Vitamin A is essential to the normal structure and function of the skin and mucous membranes. It is also required for cell differentiation and therefore normal growth and development, and for normal vision and the immune system. Some carotenoids have provitamin A activity, thus acting as antioxidants to protect cells against oxidative damage.
Vitamin B1 (thiamin)	Vitamin B1 is required for energy production and carbohydrate metabolism. It is also involved in the normal functioning 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 the 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 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, meat and fortified foods.
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. Thus it is involved in the healing process as well as the normal structure and function of blood vessels and neurological function. Vitamin C also contributes to the absorption of iron from some foods, in particular plant foods.

Vitamin D	Vitamin D is formed by the action of ultra violet light on the skin. This is the most important source as few foods contain significant amounts of vitamin D, e.g. eggs, oily fish and meat. Vitamin D undergoes changes in both the liver and the kidneys before working as a hormone in controlling the amount of calcium absorbed by the intestine. It is also essential for the absorption of phosphorous 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 tocopherols is the most active. It acts as an antioxidant and is required to protect cells against oxidative damage by free radicals.
White blood cells	White blood cells are made by bone marrow and help the body fight infection and other diseases. There are various types of white blood cells.

The blood will **not** be tested for any viruses, such as HIV (AIDS).

12.2 Exclusion criteria

All respondents with the following exceptions are eligible to give blood:

- Pregnant women

- Respondents who are HIV positive or who have hepatitis B or C (see section 12.8.6)

- People with clotting or bleeding disorder
  By clotting or bleeding disorders we mean conditions such as haemophilia and low platelets, i.e. thrombocytopenia. There are many different types of bleeding/clotting disorders but they are all quite rare. The reason these respondents are excluded from blood sampling is that:
  a) the integrity of their veins is extremely precious
  b) we do not wish to cause prolonged blood loss

  For the purposes of blood sampling, those who have had, for example, a past history of thrombophlebitis, a deep venous thrombosis, a stroke caused by a clot, a myocardial infarction or an embolus are NOT considered to have clotting disorders.

- Those aged 16 and over who have had a fit (e.g. epileptic fit or convulsion) in the **last 5 years** should not be asked to provide a blood sample. Children, those aged 15 and under, who have **ever** had a fit should not be asked to provide a blood sample, even if the fit occurred some years ago.

- People who are **currently** on anticoagulant drugs, e.g. Warfarin therapy
  Check if the respondent has a clotting or bleeding disorder or is on anticoagulant drugs, such as Warfarin, and record this in CAPI. These are very uncommon. If you find someone with these problems, do not attempt to take blood, even if the disorder is controlled.

Aspirin therapy is **not** a contraindication to blood sampling. If you are uncertain whether a condition constitutes a contraindication to blood sampling, the Survey Doctor will be happy to answer your queries.

- Adults who are not willing or able to give their consent in writing or children whose parent/guardian is unwilling or unable to give consent in writing.

Additional exclusions for fasting blood:

- People who have eaten or drunk something (except water) in the last eight hours
- Children under the age of 4 will not be asked to fast.

Insulin-dependent diabetic informants who had to eat in the last 8 hours before their insulin injection are eligible to give a fasting blood sample but you should make a note in CAPI. They should also take breakfast as soon as possible after blood sampling.

12.3 Consent

As blood sampling is an invasive procedure we need to ensure that fully informed written consent is obtained from each respondent. Information on what they are consenting to is mainly given in the Stage 2 leaflet, and the respondent confirms that they have been provided with this information on the consent form.

The leaflet 'Giving a blood sample' also provides useful information about the risks around giving a sample and after-care. This is information that you should be giving verbally in any case, and you therefore do not need to ensure that the respondent has read this leaflet in advance as long as you make sure you have covered all the points yourself.

On **no** account should you ever take blood before you have obtained written consent to do so from the respondent.

There are three further written consents we wish to obtain in most surveys in respect to blood sampling

a. Consent to send the results to the GP
b. Consent to store a small amount of the blood
c. Consent to send the results to the respondent

You should seek to obtain all these consents before you take any blood.

Small quantities of blood are being stored in special freezers for further analysis in the future. Future analysis will definitely **not** involve tests for viruses (e.g. HIV (AIDS) test). Your survey specific instructions will specify whether or not there may be any genetic testing. Any future analysis will be unlinked which means that the researcher doing the analysis will not be able to link it back to the respondent. Respondents will therefore not receive the results of any tests done on their blood in the future.

The questions on the CAPI questionnaire will take you step by step through all the procedures for obtaining consents. Make sure you follow these carefully - recording consent codes as instructed and giving reasons for refusals, if applicable.

In summary:

- Ask the respondent if they would be willing to have a blood sample taken. Try to reassure respondents about the process, and be prepared to answer their concerns. You will need to explain the importance of written consent to the respondent
- Obtain written consents on the appropriate consent form. Remember to enter their name at the head of this form before asking the respondent to sign.
- Remember to enter your name in the qualified nurse space provided on each form.
- Check that you have circled the correct consent codes on the front of the consent booklet.

12.4 Equipment

The equipment required is listed on page 8 of the Clinical Practice Guideline for Venepuncture (CPG). Any additional equipment, specific to a project, will be listed in the project instructions.

12.5 Preparing the respondent

Protocol on preparing the respondent can be found in the CPG on page 8.

Further points to note include:

- Ask the respondent to remove any jackets, thick garments and/or roll their sleeves up.
- Instruct the respondent to remain as still as possible

12.6 Procedure

The procedure for taking the blood sample can be found in the CPG pages 9-12. This procedure is to be followed. It is to be used in conjunction with CAPI which will guide you through the blood sampling process.

Some surveys will use a different system for taking blood samples e.g. the monovette system. Refer to project specific instructions for how to use the specific equipment and take the blood sample. In all surveys the CPG should be referred to for guidelines on evidence based best practice.

Additional points to note include:

- Ametop Gel®, a local anaesthetic, will only be used in some projects (refer to project instructions). There is a CPG on use of Ametop which must be followed.
- The vacutainers should be filled to capacity in turn and inverted gently on removal to ensure complete mixing of blood and preservatives (in some surveys not all tubes will need to be inverted, refer to project specific instructions).

IMPORTANT WARNING

Never re-sheath the needle after each use

Do not allow the disposal box to become overfull as this can present a potential hazard

12.7 Labelling & packaging the sample(s)

Label the tubes as you take the blood. Refer to project specific instructions for further guidance about labelling and packaging the blood samples.

It cannot be stressed enough the importance of correctly labelling each tube with the correct serial number for the person from whom the blood was obtained. Apart from the risk of matching up the blood analyses to the wrong person's data, we will be sending the GP the wrong results. Imagine the implications of an abnormal result being reported to the wrong respondent.

12.8 Other important points

12.8.1 'Giving a blood sample' leaflet

We need to be sure that each respondent is left with information about giving a blood sample, including information about who to contact should they experience any side effects as a result of the blood sample.

To provide them with this information, leave the respondent with the leaflet 'Giving a blood sample'. The leaflet includes information on any possible side effects they may experience such as pain and bruising, and how to care for the puncture site. It is also a useful leaflet to leave behind to reassure the friends and family of the respondent of the procedure used should they have any concerns after your visit.

There are two versions of this leaflet, depending on whether ametop gel will be offered. Your survey specific instructions will tell you which one to use.

12.8.2 Venupuncture check questions

Always complete the Venepuncture checklist on CAPI for every respondent from whom you attempt to take blood. This shows that you have followed the correct procedure, and noted, where applicable, any abnormalities, and the action you took. The checklist is usually towards the end of the CAPI.

Please remember to check the respondent just before you leave and note any changes in their physical appearance in CAPI.

12.8.3 Fainting respondents

If a respondent looks or feels faint during the venepuncture procedure, it should be discontinued. The respondent should be asked to lie down with feet elevated.

If they agree for the test to be continued after a suitable length of time, the procedure should be performed with the respondent lying down and the circumstances should be recorded in CAPI. It is acceptable for the respondent to discontinue the procedure but agree to give the blood sample at a later time.

Remain with the respondent until they feel able to slowly move to a sitting position and until they are happy for you to leave them. Ensure you submit a Special Report Form to the Operations Standards Co-ordinator detailing what happened and how the respondent appeared when leaving.

12.8.4 Handling & disposal of needles and other materials

Safe disposal of needles is required to control the risk of injury from the disposed sharps. Without the safe disposal of needles there is an increased risk of needle stick injuries and/or psychological trauma due to fear of potential infection.

Precautions

- Wear gloves at all times when performing the venepuncture procedure
- Do not carry sharps unnecessarily
- Handling must be kept to a minimum
- Needles must not be passed directly from hand to hand
- Needles must not be bent or broken prior to use
- Needles should not be resheathed by hand
- Never lay sharps down on beds or work surfaces, or leave lying amongst paper towels or linen
- Sharps should be disposed of at the point of use
- Never hand sharps to anyone

Disposal

Do's:

- Always wear gloves when performing venepuncture procedure
- Bins should conform to British Standard 7320
- Sharps must always be disposed of in the approved yellow 'sharps bins'
- Sharp bin should be available beside you before opening and using the sharp
- Ensure that the lid is secure
- Dispose of the sharp bin when the manufacturer's marked line has been reached or when it is three quarters full
- Carry sharp containers by the handle
- Dispose of the sharp in the bin immediately after use
- Check to ensure that the bin lid is securely attached to the base and that the flap has been securely closed and sealed

Don'ts:

- Overfill sharps bins
- Fill sharps containers above the manufacturer's marked line
- Dispose of sharps with other clinical waste
- Place used sharps containers in yellow bags for disposal
- Put your hands into sharps bins
- Never return any used sharps bins by post or courier to the Operations Department or other member of the freelance nurse or interviewer panel

Place the used needles and the vacutainer holders in the sharps box and put gloves etc in the self-seal disposal bag. The needle disposable box should be taken to your local hospital or GP practice for incineration. Telephone them beforehand, if you are not sure where to go. If you cannot find a place to dispose of the sharps bin, contact your nurse supervisor who will be able to give you information on appropriate places.

The sealed bag containing gloves etc can be disposed of with household waste as long as it does not have any items in it that are contaminated by blood.

12.8.5 Needle stick injuries

The following information is based on guidelines from the Department of Health, immediately following exposure.

First Aid

- Encourage wound to bleed.
- Do not suck.
- Wash liberally with soap and water without scrubbing, do not use antiseptics and skin washes.
- Dry and apply waterproof dressing.
- Exposed mucous membrane and conjunctivae should be irrigated copiously with water.

Following the above procedure it is recommended that the nurse attend a nearby accident and emergency department to ensure immediate current needle stick injury assessment/ treatment.

Please note that you should not take any further action in the respondent's home; any further procedures which might be necessary (such as taking a sample of the respondent's blood) would be carried out by somebody else.

Report

- Incident to be reported as soon as possible to Nurse Supervisor, who will report the incident to the Survey Doctor.
- Special Report form to be completed and sent to Operations Standards Co-ordinator at Brentwood.

As soon as the nurse supervisor hears, she will ensure that the nurse is offered appropriate advice and support.

12.8.6 Respondents who are HIV or Hepatitis B positive

If a respondent volunteers that they are HIV, Hepatitis B or Hepatitis C positive, **do not** take a blood sample. Record this as the reason in the CAPI. You should never, of course, seek this information.

12.8.7 Respondents who declare they are HIV or Hepatitis B positive during or after venepuncture procedure

If a respondent discloses that they are HIV, Hepatitis B or Hepatitis C positive during or following completion of the venepuncture procedure:

, **do not** take a blood sample. Record this as the reason in the CAPI. You should never, of course, seek this information.

12.9 Respondent feedback

Results from some blood tests (though not necessarily all) can be sent to the respondent. If the respondent gives written consent for the results of their blood sample to be sent to their GP then they are able to get feedback on the results.

13 CONTACTS

Should you have any questions regarding the protocols then please do not hesitate to contact your nurse supervisor. You can also contact the Survey Doctor, whose details can be found in the project instructions.

Should you have any questions regarding the project on which you are working then please contact the relevant operations team in Brentwood or the research team in London. These details are also found in the project instructions.

National Diet and Nutrition Survey
(Year 3 - P2752)

National Centre for Social Research

Editor's Code Book – Interviewer CAPI

April 2010

More information about the coding?

These instructions contain information about the coding task. However, if you need further information or clarification, please contact the Blue team or research

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
soc2000	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.

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 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, 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

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.

Bottled beers 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
Amstel	0.58
Asahi	0.58
Banks (Mild only)	0.97
Banks Old Ale (nips)	0.32
Bass (pint bottle)	1.00
Becks	0.48 or 0.58
Bishops Finger	0.88
Black Sheep Ale	0.88
Boddingtons (Export draught only)	0.58
Bombardier	0.88
Brahma	0.58
Brandenburg	0.58
Budvar	0.88
Budweiser/Bud Ice	0.58
Bulmers/Magners	0.88 or 1.00
Carling	0.48
Carlsberg	0.58
Castle	0.58
Cobra	0.58
Coors	0.58
Corona	0.58
Crest Lager (Export)	0.44
Diamond (Blush, White or Zest)	0.48
Dragon (Stout)	0.50
Elephant (Lager)	0.48 or 0.58
ESB (Fuller's ESB)	0.88
Export 33	0.44
Foster's (Unspecified)	0.77
Foster's Export	0.77
Foster's Ice	0.58
Frosty Jack Cider	0.88
Fuller's (London Pride)	0.97
Grolsch	0.58 or 0.77
Guinness Extra Stout	0.58
Guinness Original	0.58 or 0.88
Heineken (Export)	0.58
Hoegaarden (bier blonde)	0.58
Holsten Pils (bottle)	0.58
Home made	0.58
Ice Dragon	0.48
John Smiths	0.77
K. Cider	0.48
Kanterbrau	0.58
Kingfisher	0.58
Kirin	0.58 or 0.88
Kronenbourg (1664)	0.44 or 0.58
Newcastle Brown Ale	0.97
Olde English	0.88
Labatts	0.58
Labatt's Ice	0.58
Leffe	0.58 or 0.77
London Pride	0.97
Lowenbrau	0.58
Mackeson	0.88
Marston's Pedigree	0.88
McEwans 80 or 90 shilling	0.97
Merrydowns	0.58
Michelob	0.58
Miller (Draught not Pils)	0.58
Molson	0.58
Murphys	0.88
Old Peculiar	0.88
Old Speckled Hen	0.88
Oranjeboom	0.58
Peroni lager (Nastro Azzuri)	0.58
Pils (unspecified)	0.58
Pivovar Czech Lager	0.88
Red Rock	0.58
Red Stripe	0.58
Rolling Rock	0.58
Royal Dutch	0.58
Ruddles	0.58
Sam Smiths (Old Brewery Strong Ale)	0.97
San Miguel	0.58
Scrumpy Jack	0.58
Singha beer	0.58
Skol	0.58
Sol	0.58
Spitfire	0.88
Stella Artois (dry or regular)	0.44, 0.48 or 0.58
Stinger	0.58
Strongbow (Blackthorn)	0.48 or 0.58
Thatchers cider	0.88
Theakstons	0.97
Tiger beer	0.58
Tsingtao	0.58
Vault	0.58
Victoria Bitter	0.58
Wadworth Export	0.88
Woodpecker	0.48

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 07/04/2009 and **AGEDate** (ActiGraph end date) is 14/04/2009, and there is nothing to indicate that they definitely didn't start wearing it on the 7th, then the **AGEDate** should be changed to 13/07/09 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
Polycthaemia (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

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.

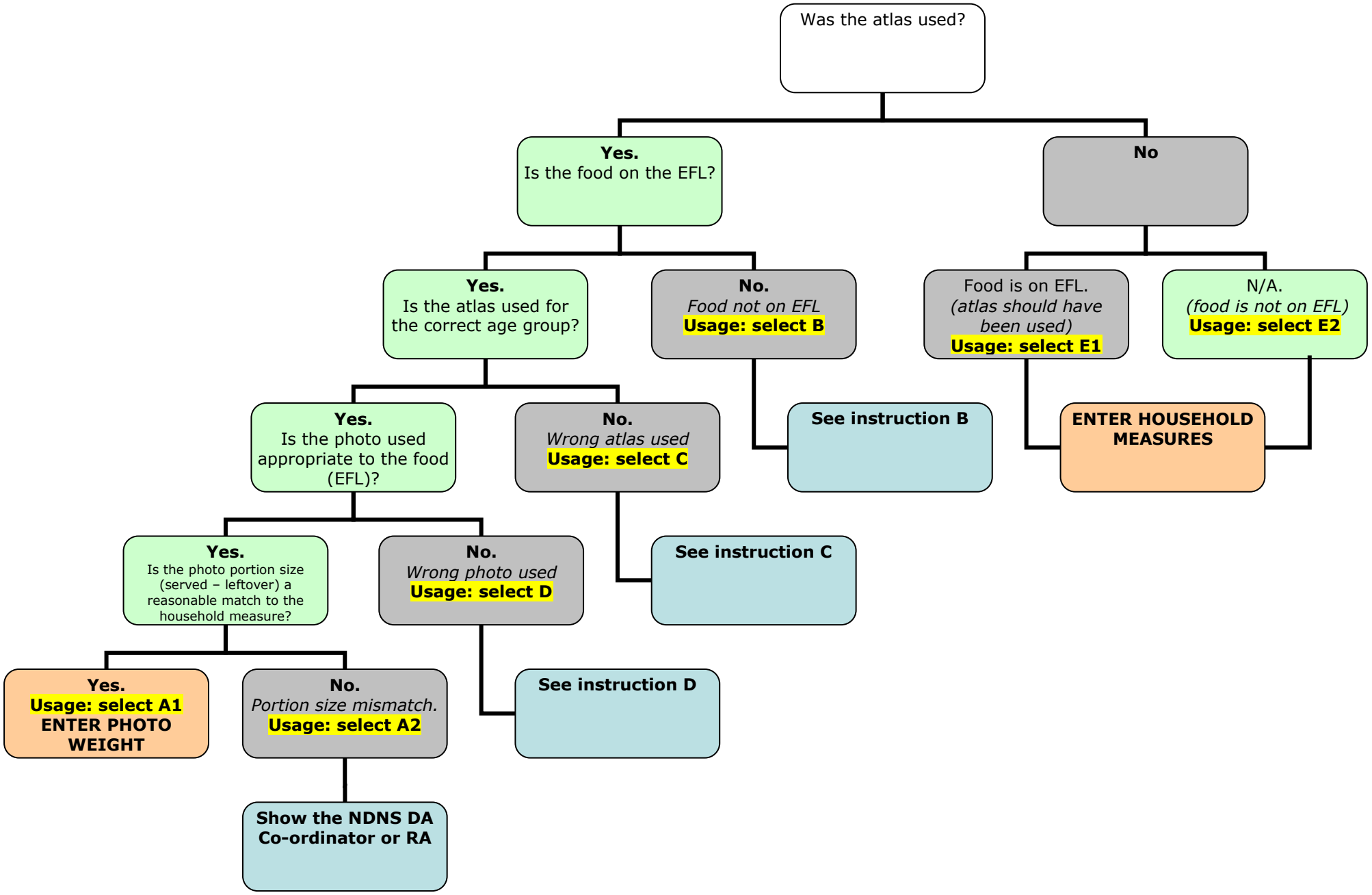
8.2 General comments

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.