

National Diet and Nutrition Survey

Why provide a blood sample?



Thank you for completing the food and drink diary!

The record you provided will help us know about the eating habits of people in the UK, the calories they consume and their intake of nutrients like fat, protein and carbohydrate, minerals such as iron, calcium and zinc, and vitamins, including B, C, A and E.

However, the amount of vitamins and minerals absorbed varies from person to person depending on the types of foods the nutrient is in, other foods eaten at the same time, and natural variations among people in the way the body works.



Only by measuring many of the same vitamins and minerals in a blood sample, can we see if people in the UK are well supplied with these nutrients. We can also look at indicators of risk for certain conditions. Serum cholesterol, for example, tells us about risk for heart disease, and glucose tells us about diabetes. We cannot tell these things from just looking at your food and drink diary. There are some other examples of the vitamins and minerals we can look at in your blood sample on the next page.

What about children?

For a number of nutrients children are particularly likely to have low amounts. Also, children may avoid certain foods. It is especially important that we know if the proportion of children with low levels of key nutrients is changing. We can only do this if we can measure the levels in their blood and to do this we need blood samples from children.



We know it is not much fun for children to have blood taken. We understand that. Many children are frightened of needles and think it is going to be very sore. We try to ease this with cream we can apply and by using specialist nurses who take blood from children all the time.



What is the benefit to me and to others?

If you wish to receive them, we will send you the results of your blood measurements. Also, with your agreement, we will send them to your GP. Where we feel there may be a potential problem, we will advise you to see your GP. The GP can follow up what we found. **Vitamin D and iron levels** are examples of what we can feed back to you. You will find more information about these on the next page.

The **overall goal** of our work is to keep track of the nation's diet and nutritional status so that changes can be made where necessary to keep the population healthy.

Examples of what blood samples tell us



Iron is needed for healthy blood and to help carry oxygen around the body. Lack of iron leads to anaemia, causing tiredness, and can affect concentration, intellectual performance and ability to fight infections.

The **amount of iron** a person needs is different for different ages and sexes. Iron is found in many foods such as cereals and some vegetables but the iron in meat is much better absorbed than iron from other sources. All these factors mean that measuring iron in blood is the best way to know if intakes are adequate.

It is not uncommon for people to be iron deficient. To prevent iron deficiency being a major problem, it is important to monitor different age and sex groups to be able to target dietary advice.

Important blood test findings from earlier NDNS surveys:

- ❖ Around 9% of children aged 4-6 years, and 8% of women and 4% of men were **anaemic** (had low levels of haemoglobin)
- ❖ Around 13% of boys, 27% of girls, 11% of women, and 4% of men had low serum ferritin levels that indicate **low body iron stores**

We obtain **vitamin D** from two sources, only one of which is the diet. The other is sunshine, where the ultraviolet light converts vitamin D into an active form in the skin. We need vitamin D for healthy bones.

The only way we know if someone has enough vitamin D for the body's needs is to measure it in the blood. This is one of the most important measures to assess from the blood sample because the diet tells us so little. It is especially important that we measure it in children, particularly since so many spend so much time indoors these days.



Important blood test findings from earlier NDNS surveys:

- ❖ **Low vitamin D levels** were found in about
 - 3% of boys and 2% of girls aged 4-6 years
 - 10% of females and 16% of males aged 15-18 years
 - 14% of men aged 19+ and 15% of women aged 19+

The data reported refers back to previous NDNS surveys:

Adults aged 19 to 64 years: 2000-01

Young people aged 4-18 years: 1997

People aged 65+ years: 1994-95

Children aged 1.5-4.5 years: 1992-93



Dear <(Parent/Guardian of)> <Name>,

National Diet and Nutrition Survey.

A few weeks ago <you/child's name> completed the first part of the National Diet and Nutrition Survey (NDNS) – an interview, collection of dietary information and some measurements (height and weight). Thank you for the time and effort <you/you and child's name> have so far put into this important study, your help is very much appreciated.

When you were last visited by the interviewer, you <agreed that an NDNS nurse could /said you might be happy for an NDNS nurse to> contact you to discuss (<child's name>) taking part in stage 2 of the survey. In the next few days, a nurse from the *National Centre for Social Research (NatCen)* will contact you and will be able to explain more about the second stage.

As you know, this is an important and unique study that collects information on the eating habits and health status of people in the United Kingdom, so we very much hope that <you/child's name> will take part in the second stage. The information <you and child's name> have already given us is very useful, but with the extra information obtained from the nurse visit, it will be even more valuable. All answers are treated in strict confidence in accordance with the Data Protection Act, and the information will only be used for research purposes and food policy planning.

We hope that <you and child's name> will be willing to help us again with this study. All parts of the second stage are optional and <you/child's name> can choose to take part in some parts and not others. We rely on the goodwill of those invited to take part to make the study a success. As a token of our appreciation, we are enclosing a **£5 High Street Voucher** as a thank you for agreeing to be contacted by the nurse.

If you have any queries or want further information please contact name at *NatCen* on 0800 xxx xxxx or visit the National Diet and Nutrition Survey (NDNS) website: www.natcen.ac.uk/NDNS.

Many thanks in anticipation of your continuing help.

Yours sincerely,

GE Swan

Gillian Swan
Nutrition Division, Food Standards Agency

Susan Duffy

Susan Duffy
Operations Department, NatCen

The nurse who will be calling at your address is: _____

Room 808C, Food Standards Agency, Aviation House,
125 Kingsway, London WC2B 6NH
E-mail: gillian.swan@foodstandards.gsi.gov.uk

Operations Department, NatCen, Kings House,
101-135 Kings Road, Brentwood, Essex CM14 4LX
E-mail: ndns@natcen.ac.uk



How was my address chosen?

Your address was chosen at random from a list of all postcodes in the UK (the Postcode Address File). This file is held by the Post Office and is available to the public. This file contains addresses but no names, so we could not address the letter to you by name.



What is the study about?

We want to find out about the eating habits, health status and lifestyles of people in the UK and the things that affect them.



Why should I take part?

We need information from a wide range of people including those in or out of work, children and the elderly; otherwise we would not get a true picture of the eating habits and health status of people in the UK. It is important that everyone who is chosen takes part so that the results are representative of the UK as a whole.



What will happen to any information I give?

Any information you give us is treated in strict confidence. The published results of the study will never include any names or addresses. The information collected is used for statistical and research purposes only and will be dealt with according to the principles of the 1998 Data Protection Act.



Who is carrying out the study?

The Food Standards Agency has asked the *National Centre for Social Research (NatCen)*, in collaboration with MRC Human Nutrition Research (HNR), based in Cambridge and the Department of Epidemiology and Public Health at University College London (UCL) to carry out the survey.

The *National Centre for Social Research* was set up in 1969 and is a registered charity (Registered Charity No. 1091768). *NatCen*, HNR and UCL are independent of any government departments and political parties.



Contact number and contact names

If you would like to talk to someone about the study, please phone *NatCen* on freephone 0800 xxx xxxx and ask for name or another member of the NDNS team.

National Diet and Nutrition Survey (NDNS)

Information for adults

This survey is being carried out for the Food Standards Agency by the NDNS team:

- the National Centre for Social Research (NatCen), an independent research institute;
- Medical Research Council Human Nutrition Research (HNR), based in Cambridge, and;
- the Department of Epidemiology and Public Health at University College London (UCL)



You have already taken part in the first stage of the study – an interview, collection of dietary information and some measurements (height and weight). We would like you to take part in the second stage of the study, which is a visit from a nurse. Read on to find out more!

The Second Stage

A qualified, registered nurse or midwife will ask you some further questions and will ask your permission to take some measurements. The measurements are described on the next page. You need not have any measurements taken if you do not wish to but, of course, we very much hope you will agree to them. They are a very important part of this survey. If the survey results are to be useful to the Food Standards Agency, we need information from all types of people with a range of dietary habits and lifestyles. As with information obtained in the first part of the survey, we take great care to protect the confidentiality of all information and test results. If you decide not to see the nurse, the information you have already given us will still be useful but it will be even more valuable with this extra information.

As a token of our appreciation, we have sent you a £5 high street voucher for agreeing to see the nurse.

The measurements

- **Blood pressure**

High blood pressure can be a health problem. A person's blood pressure can vary from day to day with emotion, meals, tobacco, alcohol, medication, temperature and pain. Blood pressure is measured using an inflatable cuff that goes around the upper arm. Although the nurse will tell you your blood pressure along with an indication of its meaning, a diagnosis of 'high blood pressure' cannot be made on measurements taken on a single occasion.



- **Waist and hip measurements**

Lately there has been much discussion about the relationship between weight and health. We may have already recorded your weight and height but another factor is the distribution of weight over the body. Your waist and hip measurements are most useful for assessing this.

- **Urine sample**

The nurse will ask you if you would be willing to make a collection of urine. We are interested in measuring useful diet indicators in the urine, such as sodium and potassium. Analysing urine samples means we can get accurate information about these diet indicators. We would be very grateful if you would take a collection over 24 hours – this will give us much more reliable information than a single collection, about the usual levels of certain elements in your diet. The sample will **not** be tested for drugs or viruses. As a token of our appreciation we will send you **£10 in high street vouchers** for completing this part of the study.

More information about how to collect your urine is provided in the 24-hour urine instruction leaflet.

- **Blood sample**

We would be very grateful if you would agree to provide us with a small sample of blood after an overnight fast, which means having nothing to eat and only water to drink during an 8-hour overnight period. The nurse would visit in the morning, at a time convenient for you, to take a small amount of blood (no more than 35.1ml or 2.5 tablespoons) from your arm (using sterile equipment, of course). As a token of our appreciation we will send you **£15 in high street vouchers** for completing this part of the study.

Our nurses are very experienced. You should hardly feel anything other than a scratch if you give a blood sample.

Everyone's blood is a little bit different and reflects dietary habits. Your blood can tell us very interesting things about your nutritional health, and about the ways in which your body benefits from the food you eat. By using state of the art laboratory methods, we will be able to measure a wide range of components in your blood. All of the measurements will be related to nutrition and health and will be looked at alongside the other information you provided about what you eat. The analysis of your blood sample, together with those of others who are taking part in the survey, will provide us with

unique information about the nutritional status of the UK population that cannot otherwise be obtained.



Amongst others, the components of your blood that will be measured include:

Blood lipids - We will measure total cholesterol. Cholesterol is a type of fat present in the blood, related to diet. Too much cholesterol in the blood increases the risk of heart disease, except for the 'good' HDL cholesterol.

Haemoglobin & ferritin - Haemoglobin is the red pigment in the blood, which carries oxygen. A low level of haemoglobin is called anaemia. One reason for a low level of haemoglobin may be a shortage of iron. Ferritin measures the body's iron store.

Blood cell count - Blood contains many types of cells, all with different functions. Examples are the red cells, which carry oxygen and the white cells that fight infection.

Vitamins and Minerals - We will carry out analyses for a number of vitamins and minerals. These provide particularly useful information on nutritional status.

Some people's blood samples will also be tested for thyroid hormones.

What will happen to the blood sample after the tests?

We would also like to store a small amount of your blood. In the future, better and/or new tests for other nutritional markers may become available that allow us to re-test your blood so that we can learn more about how to improve the nutritional health of the population. Any future testing of this blood will also require the consent of the Food Standards Agency, who is funding this study.

The blood samples will not be tested for the HIV (AIDS) virus or used for genetic testing.

You are of course free to choose not to give a blood sample and the nurse will ask for your written permission before a blood sample is taken. If you do give a blood sample, we will ask separately for permission to store a little of the blood. Everyone who has given consent is free to withdraw at any time.

Will I get any feedback from my blood sample?

The measurements that are potentially clinically relevant will be sent back to you and also to your GP (for their records), if you agree. You can choose not to receive the results of your tests if you wish. To make sure that the right results are sent to the right people we use an identification number on the blood sample. Only NatCen can link this number with the name and address of a person.

With your agreement we would like to send your body mass index (BMI), blood pressure and the blood sample results most directly related to your health to your GP. Your GP is best placed to interpret the results in light of your medical history.

If the GP considers your results to be satisfactory, then nothing further will be done. If your results showed, for example, that your blood pressure was above what is usual for someone of your sex and age, your GP may wish to measure it again. It is for you and your GP to decide what is the best action to take, if any.

Might there be implications for insurance cover?

If you agree to your results being sent to your GP, then he/she may use them in medical reports about you. This may occur if you apply for a new life assurance policy, or for a new job. Insurance companies may ask those who apply for new policies if they have had any medical tests. If so, the insurance company may ask if they can obtain a medical report from the GP. Because of the Access to Medical Reports Act 1988 an insurance company cannot ask your GP for a medical report on you without your permission. Having given your permission, you then have the right to see the report before your GP sends it to the insurance company and you can ask for the report to be amended if you consider it to be incorrect or misleading.

The purpose of a medical report is for the company to judge whether to charge normal premiums, whether to charge higher premiums or whether, in exceptional circumstances, to turn down life insurance on account of the person's health. If you think you may apply for health insurance in the future, you can choose not to know the results of any tests and not to let your GP know these results.

If I have any other questions?

We hope this leaflet answers the questions you may have, and that it shows the importance of the survey. If you have any other questions, please do not hesitate to ring one of the contacts listed below or you can ask the NatCen nurse. Your co-operation is very much appreciated.

Susan Duffy

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National Centre for Social Research
Kings House
101-135 Kings Road
Brentwood
Essex
CM14 4LX

Freephone: 0800 652 4572

Website: www.natcen.ac.uk/NDNS

Dr Jennifer Mindell

Department of Epidemiology & Public Health
University College London
1-19 Torrington Place

London
WC1E 6BT

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Thank you very much for your help with this important survey

NDNS(N)

Giving a blood sample Frequently asked questions

The NatCen survey nurses and midwives follow ‘best practice’ principles which meet current national standards used within the NHS.

This leaflet gives answers to some of the questions people often ask about giving a blood sample.

If you have any further queries, please ask the NatCen survey nurse.

Why do you need to take a blood sample?

The analysis of the blood samples will tell us a lot about the health of the general population. It adds importantly to the information you have already given us. Your survey nurse will explain about the tests we will carry out for this particular study.

What about hygiene standards?

The survey nurses maintain the highest hygiene standards to reduce any risk of infection. We use a new sterile needle and tubes for every person.

Is any special equipment needed?

Before a needle is inserted into your vein, the survey nurse will apply a tourniquet (a band put round your arm to control your blood flow). This keeps more blood in the vein, making it easier for the nurse to see and access it.

What if I feel faint?

Anyone might feel faint during or immediately after giving a blood sample, although most people don't. If you begin to feel faint at all, tell the nurse as soon as possible, if you can. The nurse will be watching you for any signs of fainting, and if necessary will stop taking the blood sample.

If you actually faint, which can happen but is very unlikely, you will be advised not to drive for at least 30 minutes once you have come round.

Does it hurt?

Blood sampling may cause some discomfort. Very rarely, you may feel a stronger sensation. Please tell the nurse immediately if you are at all concerned.

How long should I keep the dressing on afterwards?

The nurse will apply a dressing after taking the sample. You should leave this dressing on for at least 30 minutes after the blood sample has been taken.

Will I get a bruise?

Bruising occurs when blood leaks from a vein into the surrounding tissues. The nurse will make every attempt to reduce bruising through applying pressure to the affected vein after taking the blood sample. However, bruising does sometimes occur. This may be slightly uncomfortable for a day or so after giving the sample but usually no action is required. If it gets worse (for example if the bruise hurts more or gets much bigger), you should seek further help, for instance from your GP or NHS Direct.

Should I avoid any activities after giving the sample?

To reduce any risk of bruising, where possible we suggest you avoid any heavy lifting or strenuous exercise for the rest of the day you give your blood sample.

Will I get any results from my blood sample?

We are usually able to give you feedback about some of your blood sample results, if you would like this. We may also be able to send some of your results to your GP if you agree.

* * *

If you experience any of the following, you should seek further help, for instance from your GP or NHS Direct:

- severe pain
- numbness or persistent 'pins and needles' in the arm, hand or fingers
- swelling which is large or increasing in size
- painful redness/inflammation.

*If you have any further queries contact NatCen on
Freephone: 0800 652 4572
during office hours*

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