

If you have not yet returned your questionnaire, or your blood sample.

If you have not yet returned your questionnaire or blood sample but would still like to participate in the study, it is not too late to join.

If you have not replied because you have a specific query, please contact us with your question and we will try to help.

Telephone **0208 722 4469** or write to:
Breakthrough Generations Study Team
FREEPOST NAT 21013
The Institute of Cancer Research
Sutton
SM2 5BR
 (stamp not needed)

Similarly, if you have lost the questionnaire or blood pack and need another one, please get in touch and we will be happy to send you what you need.

Stephanie Payne a study member



Stephanie Payne with her parents, Clive and Juliet

My mum was diagnosed with breast cancer whilst I was away at University. I am not sure whether it was being away from home or her impressively positive attitude, but somehow I never really acknowledged the severity of her illness until after she was well into her recovery. A few years later, to everybody's surprise (especially his) my father was also diagnosed with breast cancer. As with my mother, he approaches everything with optimism and a sense of humour. Beneath the smile, however, I think there were additional issues he had to face. Most obviously it affected his pride and masculinity, but at times he almost felt like he was trespassing into an area that was supposedly out of bounds. After a mastectomy, chemotherapy and radiotherapy, he is back on top form. They make a joint annual appointment with their consultant, swap Tamoxifen at the breakfast table and are still smiling. Although I did make a few early complaints about the likelihood of being issued with defective genes, I now feel rather fortunate to have been made breast aware so young. It was really important for me to take part in the Generations Study research, not just for my family and friends, but for my future family, their friends and generations to come.

The funding of the Breakthrough Generations Study : £12 million target reached

Studies such as the Generations Study cost a great deal of money. You may be interested to know that Breakthrough Breast Cancer recently achieved their target of raising £12 million for the initial years of the study, the final funds coming from a glamorous Disco and Diamonds Ball held at the Park Lane Hilton. We are grateful to Breakthrough and all their supporters and donors for the funding that has made the study possible. The study is also supported by the Institute of Cancer Research, to whom we are also grateful.



This study is supported by the commitment and funding provided by the sponsors of the study:-
 Breakthrough Breast Cancer (www.breakthrough.org.uk)
 and The Institute of Cancer Research (www.icr.ac.uk).

Sue Carless a study member



Sue Carless (left) and Jenny Brunton (right), who introduced her to the study

I joined the study when a colleague brought the details to work. A number of us volunteered as it was particularly poignant for us - Celia, a colleague of ours and mother of two young children, had died from breast cancer only the year before, so we were pleased to do something tangible to help. I had an extra reason for joining the project, because we raise money at my line dancing class from time to time for Breakthrough Breast Cancer in memory of our friend Lyn, who also suffered from breast cancer.

We all found it easy to fill in the form, although some of the questions intrigued us. The blood test was fine, quick and easy, and you can always look the other way if you don't like that sort of thing.

So, if you know anyone else who would be willing to volunteer, please don't hesitate to ask them. It's an excellent cause and it will be interesting over time to learn of the findings that may help prevent cancer.

Finally,

Thank you, as ever, for your continuing support of the Generations Study. We are grateful to all of you whose participation makes the study possible. We will send you a Newsletter again next year.

With best wishes, **The Breakthrough Generations Study Team**

WELCOME

Dear study member,

Another year has passed since our last newsletter, and the Breakthrough Generations Study, of which you are a member, has made great progress. At the time of writing 94,000 women have joined the study and recruitment is still continuing extremely well – an achievement made possible by the enthusiastic and positive response we have received from women across the British Isles ever since the launch. We thank you all.

In this newsletter, we describe the progress of the study and the next steps, as well as giving some information, which several of you requested, on how height and weight relate to the risk of breast cancer and why we included questions about body size in the questionnaire. An important development in the study is the first round of follow-up letters to those study participants who joined the study earliest; over the next few years we will be mailing each of you a brief questionnaire to ask about your health since you joined and to check on your address. We include a column in this newsletter to explain this follow-up and why it is so important to the progress of the study.

On a more personal level, we have included the stories of two of the study participants, as well as an introduction to the newest member of our research team, Danielle Morris, who is a statistician and has just started her PhD here, working on analyses from the Generations Study.

We will be continuing to recruit women to the study for a year or more yet, so if you have received the questionnaire and not yet returned it, or if you know of friends or family who would like to join the study, it is not by any means too late; we would very much welcome more women joining. The larger the study becomes, the more powerful it will be, and the sooner we can gain answers to find the causes of breast cancer.

We look forward to writing to you again.

With all best wishes for the coming year.

Professor Anthony Suerdow

Professor Alan Ashworth

Progress of the study over the last year

Recruitment of study members

Since we last wrote to you, the study has continued recruitment very successfully, with more than 20,000 further women joining. Dawn Thomas and her team at Sutton have been working hard to mail questionnaires to new study members, and to process the mail that you return. Recently they have also started to send out brief follow-up questionnaires to those of you who joined the study earliest, in 2003-5. Gemma Simpson and her laboratory team have meanwhile been processing the thousands of blood samples received at the laboratory and then storing them in the liquid nitrogen tanks. We intend to recruit for at least another year, and to continue well beyond 100,000 women.



Gemma Simpson in the Breakthrough Generations Laboratory

2½ year follow-up



The 2½ year questionnaire being completed

As you may remember, the design of cohort studies such as this one, is that when people enter the study, information is gathered about their past exposure to factors that might affect their risk of future illness (breast cancer), and blood samples are taken to determine factors that might affect this future risk. Then over time, as some women involved in the study develop illnesses, we can analyse whether and how the factors at recruitment (and at subsequent questionnaires) relate to the risk of disease over the following years. As you will see, therefore, the collection of follow-up information on illnesses over time is just as important to the success of the study as is the collection of initial questionnaire information. This applies just as much to those women who don't develop illness as to those who do, because we need to know who does **not** develop breast cancer as well as who does develop the disease. For this reason, we will be sending a follow-up questionnaire to all study members every few years, in order to find out if they have had illnesses or have been well, and to update other information.

Mailing of the first of these, the "2½ year questionnaire", is now underway to those women who joined the study earliest; we have tried to keep it as short and simple to complete as possible. It is only three sides long, and we hope that you will be able to return it within a few weeks of receipt, so that

(continued on page 2)

Progress of the study over the last year *(continued from page 1)*

we don't have to send you another copy, and we can start gaining results from the follow-up as quickly as possible. The success of the study in finding out what causes and prevents breast cancer depends on gaining questionnaires back from everyone; even if your situation has not changed since you joined, we will not know this unless you return your 2½ year questionnaire, so please send it back.

Height, weight and breast cancer

We have received several queries from participants about why the study questionnaire includes questions on height, weight and other body measurements. We therefore thought it might be of interest to say something about this here.

Surprising as it may seem, height and weight are known to be related to breast cancer risk, although this is likely to be because of indirect connections, not because height or weight in themselves cause or prevent cancer. For instance, tall women are, on average, slightly more likely to develop breast cancer than are shorter women. The difference is not large or something you should worry about, but it is important in understanding the causation, and hence prevention, of breast cancer. Because height is a consequence of growth in childhood and adolescence, it suggests that factors affecting growth at young ages are connected to breast cancer risk. For this reason, we asked in the questionnaire what your height is, and also asked if you know of any records of your height in childhood.

Similarly, weight is related to breast cancer risk; in particular, being overweight at ages beyond the menopause is associated with a raised risk of breast cancer. We therefore asked you about your weight, and will ask this again in future questionnaires, as we are very keen to discover to what extent weight reduction can reduce risk. As we noted when we first wrote to you about the study, the causation of breast cancer is complicated and affected by many different factors, and consequently we need to ask you

about many factors, including height, weight and body shape, in some detail, in order to reach an understanding of just how each factor contributes to risk, and how breast cancer prevention can be achieved.

Families in the study

One of the special features of the Generations Study is that often several members of the same family have joined. Mothers have recruited their daughters, sisters have recruited each other, and so on. The most frequent relationship is mothers and daughters. The largest number of generations within the study that we know about at present is three: there are more than 100 families where a grandmother, mother and daughter are all study members. If there is a four generation family who have joined, we would be very pleased to hear from them. If there are members of your family who would like to join, we would be happy to send them information packs. To enable this, please phone 0870 242 4485 or go to www.breakthroughgenerations.org.uk.

Inclusion of young women in the study

When you joined the study, the age range of women being recruited was 18 years and above. We have since received many enquiries from study members as to whether their young daughters aged under 18, or other young women their daughters or they know, could join the study. We are pleased to be able to say that after correspondence with the Ethics Committee, it has now been agreed that women aged 16 and above can join. If your daughters, or other young women you or they know, are aged 16 and above and would like to join the study, we would be very pleased if they did so. The questionnaire should take them much less time to complete than for older women because, as you will recall, many of the questions take longer if you have more life experience. Nevertheless, their contribution would be scientifically very valuable: in this study, as in life in general, the young are vital to the future.

has the potential to really change things. I have wanted to work in cancer research since I lost a friend to cancer. I also think that the huge support from all of the women who have joined the study shows that breast cancer affects everybody and so it is important we learn as much as possible about it. It is fantastic to be working somewhere that is at the cutting edge of research with people who are experts in the field. As I am starting my research career it is an excellent chance for me to learn from them."

"One of the good things about the Generations Study is the large number of family members who have joined, which means that we can look carefully at family-related factors. Therefore my work so far has been focussed on using all of the information we have available to identify families; due to the different ways in which women were recruited this is not as easy as it first seems! We may have to phone some women if we are unsure about who is related to them, so I am hoping that study members won't mind if I need to do this."

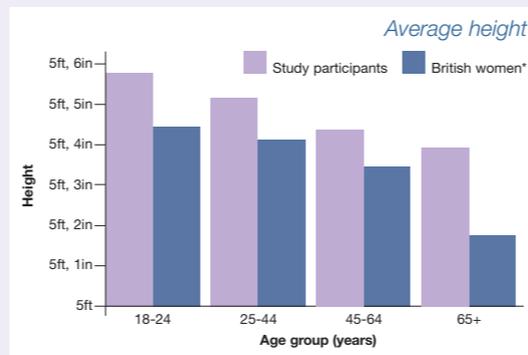
Danielle Morris



We are pleased to be able to tell you that the first PhD student working on data from the Generations study, Danielle Morris, started work with us in October 2007. She will spend the next four years with the study team at The Institute of Cancer Research campus in Sutton, using the information you have sent to analyse factors that may affect breast cancer risk. She originally studied mathematics at Nottingham University and then medical statistics at Leicester University, so she is very well qualified to analyse the data.

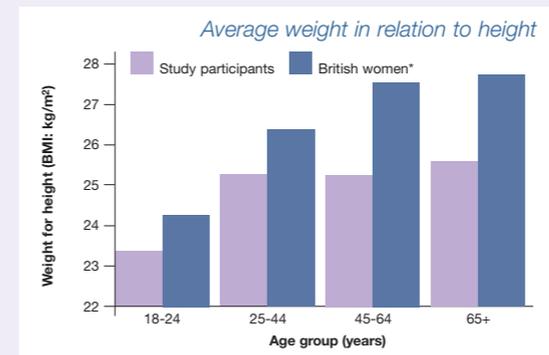
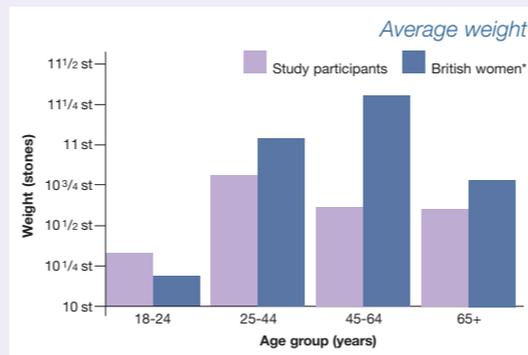
She writes: "As soon as I heard about the study I wanted to be a part of it. It is rare that the opportunity arises to work on something that

About the Generations Study Participants

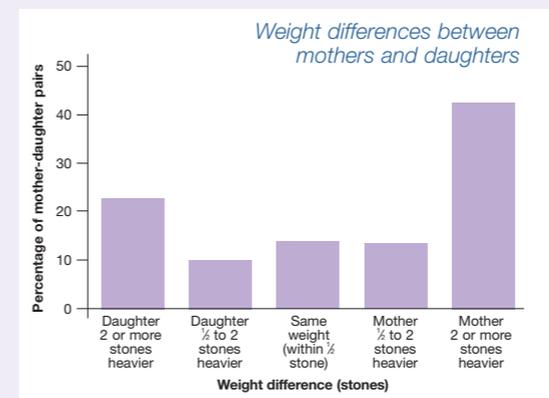
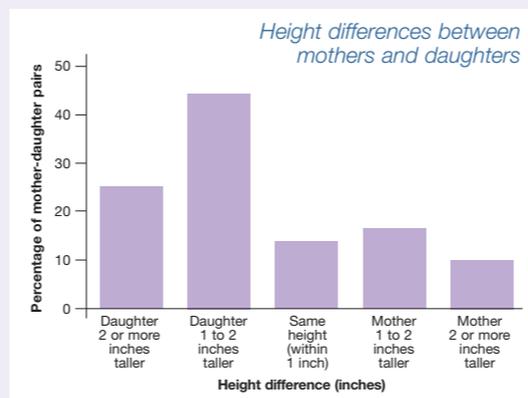


In the context of the remarks opposite on why we asked about body shape and size in the study questionnaire, we thought that you might be interested to see some information on the heights and weights of women who have joined the study. The graphs presented here are based on a sample of the data. The first three graphs compare the study participants with women in the general population of the UK. As you will see, study members tend to be taller than the general population, and except at the youngest ages they are lighter in weight. At all ages their weight in relation to height (their 'body mass index') is less than that of the general population: a good sign.

* British figures are from a survey of women in the general population carried out by Royal Free and University College Medical School, 2003



We have also compared mothers and daughters, where both have joined the study. More than half of daughters are at least an inch taller than their mother, and more than half of mothers are heavier than their daughter, as shown in the two graphs below. About two-thirds of mothers have a higher weight for height than their daughter, but not everyone is the same – perhaps you are one of the few who are much taller and slimmer than your daughter?



Has your name, address or telephone number changed?

If your name or address is different from that on the newsletter envelope, please detach and return this reply slip in an envelope addressed to:

Breakthrough Generations Study Team
FREEPOST NAT 21013
The Institute of Cancer Research
Sutton
SM2 5BR
 (stamp not needed).

Please enter your study number (which you will find next to your address on the envelope containing this newsletter), and your date of birth, so that we can be absolutely sure that we are updating details for the right person.

If the details on the newsletter envelope are satisfactory to reach you, there is no need to return this slip.

BLOCK CAPITALS PLEASE

First Name(s) _____

Surname(s) _____

Address _____

Postcode _____

Telephone Number _____

Date of birth

Day _____ Month _____ Year _____

Study number _____

(the 6 digit number next to your address on the envelope containing this newsletter)