Who is this pamphlet for?

This pamphlet is for women who have been invited to receive the results of their **research genomic testing** to assess their breast cancer risk. The genomic testing was done as part of a research study called: “Common Genetic Variants and Familial Breast Cancer”.

This pamphlet may help you to learn more about genomic testing and breast cancer risk.

Genomic testing provides women:

- Who have been diagnosed with breast cancer, with information about the risk of a second, new breast cancer
- Who have not been diagnosed with breast cancer, with information about their breast cancer risk

DNA changes and breast cancer risk

Our DNA contains all the instructions our bodies need to grow and function. It is normal to have changes in our DNA. Otherwise we would all be identical.

But in some cases, changes in our DNA can cause health problems.

Some DNA changes can make a gene faulty. Just one fault can stop the gene from working and cause health problems. For example:

- Inheriting a single fault in either of the genes called *BRCA1* or *BRCA2* will greatly increase a woman’s risk of breast and ovarian cancer.
- It is rare to have inherited a fault in the *BRCA1* or *BRCA2* genes.

Other DNA changes are minor and do not stop a gene from working. By itself, each minor change only has a small impact on our health. A health problem can occur when a number of minor changes are combined. For example:

- Inheriting a large number of minor DNA changes can increase a woman’s breast cancer risk.
- Unlike rare gene faults, minor DNA changes are common.

These are called “**common risk variants**”.

Genomic testing

It is now possible to test for multiple DNA changes at once. This is called **genomic testing**.

Genomic testing looks at the number of “common risk variants” that a woman has in her DNA. The results can help to assess a women’s risk for **breast cancer**.

The common risk variants in this study are not related to the chance of developing ovarian cancer.

What if I want to receive my genomic testing results?

To receive your test result you will have to **take part in the new study titled**: “Psychosocial aspects of genomic testing for breast cancer risk”. This is because at this time, genomic testing for breast cancer risk is only available through research.

If you choose to receive your test results, you will have to attend a family cancer clinic. There you will see a health professional with specialist training in genetics (a genetic counsellor or doctor with training in genetics).

You will receive support to help you understand the benefits and limitations of this test. This includes implications for you, your health and your family.

Any genetic counselling you receive will be free of charge.