

Science highlights from the year

Many of the experts we fund are recognised leaders in their fields, respected worldwide for their specialist knowledge and track record.

This year, Cancer Research UK continued to support staff and scientists at our institutes in [London](#), [Cambridge](#), [Manchester](#), [Glasgow](#) and [Oxford](#), and provided research grants to more than 3,100 scientists, doctors and nurses across the UK.

We are pleased to report that, during the year, they made significant progress across a number of important areas.

Understanding how cancer spreads

When cancer cells move from their original site to other parts of the body it makes the disease much more difficult to treat. Our scientists are working hard to find ways to stop this happening. This year, a team at our London Research Institute found that a protein called Mena, which is often abundant in cancers and is involved in cell movement, is blocked by another protein called Tes. This discovery opens up the possibility of treatments that block the action of Mena by mimicking Tes.

Hunting for new cancer genes

Our researchers are leading the world in the hunt for genes linked to cancer. This year, our scientists spearheaded international research efforts to discover genetic variation associated with breast, bowel, lung and prostate cancer – the four most common cancers in the UK. Finding gene variants is the first step towards predicting who is at greater risk of developing cancer. This could help doctors to give tailored counselling, screening and prevention advice to people in the future. And it opens up many new avenues for exploring and developing cancer treatments.



Lifestyle and cancer

We are funding the [Million Women Study](#), a long-term investigation into the links between lifestyle and hormones. More than a million women aged 50 to 64 have given their time to participate in this study. This year, the study confirmed the increased risk of some cancers in women who take hormone replacement therapy (HRT). Because of this, women are now being advised to take HRT to address a clear medical need and for no longer than necessary. The study also provided further evidence linking being overweight with a wide range of cancers in women.

Tackling drug resistance

One of the greatest challenges in cancer treatment is resistance to treatment. In some women with ovarian cancer, a commonly used drug, paclitaxel, can sometimes stop working. Our scientists made key discoveries this year of important proteins that make cancer cells sensitive to paclitaxel. Their findings could help doctors to identify patients most likely to benefit from paclitaxel and other similar drugs.

Improving quality of life

We have been funding a large trial investigating whether fewer but larger doses of radiotherapy are as effective at treating early breast cancer as the standard radiotherapy programme. Results from the trial were published in March 2008. They confirm that women can safely receive the new regime with no greater risk of their breast cancer recurring. This is the first systematic and reliable comparison of the two treatments. The results could mean fewer trips to the hospital for patients, helping to improve their quality of life.