Beating cancer together

Our Annual Review
Stories from scientists, survivors, doctors and supporters

2011/12
Cancer Research UK is pioneering life-saving research to bring forward the day when all cancers are cured.

Survival rates have doubled in the past 40 years and we've been at the heart of this progress. But we can't stop there. Every two minutes someone is diagnosed with cancer. With the help of our supporters we can accelerate our impact on this devastating disease – with every pound, every hour and every person, creating more tomorrows.

We would like to say thank you to all those who feature within this Annual Review. Neve – a leukaemia survivor – and her dad Ian feature on our cover. Read her story on page 2.
Welcome to our review of the year

More people are beating cancer than ever before thanks to exciting advances in treatments and technologies.

Our scientists discovered a new way to classify breast cancer, which could revolutionise how it’s diagnosed and treated.

Our research laid the foundations for three new cancer drugs which reached patients this year: Abiraterone treats advanced prostate cancer; Vemurafenib and vismodegib treat different forms of skin cancer.

Prevention and early diagnosis remain priorities. We carried out a landmark study which showed more than 40% of cancers could be prevented by lifestyle changes, including giving up smoking and healthy eating.

We also launched a trial of a new test – ‘Cytosponge’ – to detect the early signs of oesophageal cancer and prevent the disease in people who are most at risk.

Smoking remains the largest preventable cause of cancer. Around 80% of smokers start before they turn 19. We’re calling on the Government to remove glitzy branding from cigarette packs that can lure children, giving them one less reason to start.

However, significant challenges lie ahead. The number of people diagnosed with cancer in the UK is set to rise steeply by 2030. With increased support, we could save more lives sooner.

cancerresearchuk.org
About us

**Every two minutes someone is told they have cancer. As the population grows and ages, the number of cases continues to rise.**

We want to create more tomorrows for more people and we’re determined to keep pushing forward in our fight against cancer.

Our scientists, doctors and nurses continue to bring better treatments to people with cancer. And we’re working hard to prevent the disease and diagnose it as early as possible, when it can be treated more effectively.

Today more people are beating cancer than ever before. People with breast, bowel and ovarian cancers and non-Hodgkin lymphoma are twice as likely to survive for at least 10 years as those diagnosed in the early 1970s. And survival rates for leukaemia have quadrupled. We’ve been at the heart of this progress.

But with over 200 different types of cancer there’s still so much more we need to do – particularly for harder to treat cancers such as lung, pancreatic and oesophageal cancer.

In this Annual Review we share some amazing stories with you – told by our scientists, doctors and supporters, and by cancer survivors.

We receive no government funding for our research – it’s only possible because of all of these people who come together to beat cancer.

**Neve’s story**

‘It’s terrible to see your child go through cancer, but you have to stay strong. Neve was only two when she was diagnosed with leukaemia. She had two years of chemotherapy, followed by radiotherapy and a stem cell transplant.

She’s doing great now and we feel incredibly lucky to have her. Without Cancer Research UK’s continued work there wouldn’t be these successful treatments. If we’re to beat cancer, we need everyone’s generosity and support. It will make a difference.’

Tracey Francis, Neve’s mum.

Around 40,000 volunteers give up their time to support us.
Neve Francis, 7, from Wolverhampton
Funding research across the UK

We’re helping support five research nurses based at the hospitals in Altnagelvin, Antrim, Belfast, Craigavon and Dundonald, to raise awareness of trials and care for people taking part.

Northern Ireland (4)

Across the UK scientists, survivors, doctors and supporters are helping us beat cancer.

Manchester (5)

We’re creating a new state-of-the-art research facility – the Manchester Cancer Research Centre building – to boost the city’s pioneering research into personalised cancer treatments.

Cardiff (9)

We fund the Wales Cancer Trials Unit, where Gareth Griffiths and his team help to run trials across the country – including the world’s largest lung cancer trial.

Plymouth (10)

People in Plymouth are taking part in a trial testing whether a new drug called celecoxib can improve the treatment of bladder cancer.
Aberdeen (1)
Men in Aberdeen with a family history of prostate cancer are taking part in a study investigating targeted screening for the disease, which could diagnose it earlier and save lives.

Stirling (2)
Work by Professor Gerard Hastings and his team in Stirling is helping to find ways to reduce smoking rates and cut the number of people with lung cancer and other cancers caused by smoking.

Newcastle (3)
Dr Josef Vormoor in Newcastle is investigating molecules that fuel acute lymphoblastic leukaemia, the most common type of childhood cancer.

Sheffield (6)
Led by Professor Rob Coleman, research at the new Sheffield Centre will have a strong focus on cancers affecting the bones.

Norwich (7)
People in Norwich are taking part in a trial to find out which combination of chemotherapy drugs given after surgery will best improve survival for people with pancreatic cancer.

London (8)
More than 9,000 men and women took part in Shine London, our night-time walking marathon, where each participant raises funds for a particular type of cancer that's close to their heart.
Our scientists are finding the answers

Using their expertise and the latest technologies, our scientists are making life-saving discoveries. Working in many areas of research, from biology to maths, together they lead the world in the fight against cancer.

Dr Julie Cooper, at our London Research Institute.
Rising to the challenge of personalising treatment

Why do cancer drugs work for some people but not others? Why do they sometimes stop working? Why is cancer so difficult to cure after it has spread? How can we develop better tests that predict how it will progress? Our scientists are working hard to answer these questions.

A major study by Professor Charlie Swanton, at our London Research Institute, has revealed more about how tumours develop and change over time. His findings have big implications for the way we understand cancer. We want to harness this knowledge to develop better treatments and personalise them for each patient.

Cutting-edge study
Professor Swanton led a three-year study analysing the DNA from a series of kidney cancer tissue samples. Using state-of-the-art technology, his team of scientists looked in unprecedented detail at different parts of patients’ tumours and how they relate to each other.
They also investigated how primary tumours relate to secondary ones – the primary tumour is where the cancer started; a secondary tumour is where it has spread to.

The scientists revealed that no two samples were identical – even those taken from right next to each other in the original tumour. This discovery showed how cancer changes and adapts as it grows and spreads. These results help explain why it’s difficult to predict which treatment will work, and why some treatments become less effective later on as the patient’s disease changes.

‘One way of looking at it is to see the tumour as a tree,’ says Professor Swanton. ‘You have genetic faults that are in the trunk and present in every part of the tumour. Then you have the faults in the branches that may differ from one part of the tumour to the next.’

‘Identifying these widespread faults is key to improving treatments. This is because an increasing number of cancer drugs work by targeting genetic faults. If you target one that’s present in one part of the tumour and not the other, the treatment won’t be as effective.

The next stage is to identify which faults inside each tumour are driving the disease, as this will improve the success of these tailored treatments.'
Nilesh’s story

When Nilesh Jhala had a tickly cough that he just couldn’t shake, he decided to see a specialist. ‘That cough was a blessing,’ says the father of two from Bedfordshire. ‘It prompted the check-ups that found the cancer.’

Nilesh was diagnosed with kidney cancer in March 2011. The cough had been totally unrelated. ‘What scared me most was when the specialist confirmed that I’d had the tumour for about four or five years, judging by the size of it. So catching it when we did was critical,’ he says.

Three weeks later, Nilesh had his kidney removed. He agreed that samples could be used for research, helping studies like Professor Swanton’s. Nilesh is also on a trial that we’re co-funding, to find out if the drug sorafenib, taken after surgery, can help to stop or delay kidney cancer coming back.

“I was pleased that I could help with research and take part in this trial. It’s something I can do to help others. Getting the right treatment for the right patient is essential – it could save many lives.”

Nilesh Jhala
Nilesh Jhala, 49, from Bedfordshire
Breast cancer breakthrough

Thousands of women in the UK today survive breast cancer thanks to advances in research – we’ve been at the heart of this progress. This year, our scientists conducted a landmark study that will completely change the way we look at breast cancer.

Professor Carlos Caldas explains what the results could mean for the future of breast cancer treatment.

Q What did your team do?
‘Currently, doctors examine breast tumour samples under a microscope and classify the disease according to the type of cells we find, as well as testing for the presence of specific molecules. This approach guides decisions about a patient’s treatment and has saved many lives. But it doesn’t always predict how a tumour will respond to particular treatments.

In our new study, we used sophisticated equipment, currently beyond the scope of today’s hospital labs, to delve deeper and analyse the genetic fingerprints of 2,000 breast tumour samples.

Almost two-thirds of women diagnosed with breast cancer now survive beyond 20 years.
Each tumour has its own individual story, written within its genetic faults. But only a few of those faults fuel its growth and spotting these “drivers” is extremely difficult.

**Q** What did you discover?
‘We discovered 10 different subtypes of breast cancer, identifying several genes that make tumours grow. Our research has found a way to reclassify breast cancer, showing that there are many more forms of the disease than had been described before.’

**Q** How will this improve diagnosis and treatment for people with breast cancer?
‘This research could revolutionise the way women with breast cancer are diagnosed and treated in the future, particularly for certain types of breast tumours that are hard to tackle.

Our work will help doctors more accurately predict a tumour’s response to treatment, and whether it’s likely to spread to other parts of the body or return. This means more women will benefit from drugs that are tailored to their specific breast cancer.

We now need to carry out more research to find out how each tumour subtype behaves so we can decide on the best way to tackle each of the 10 types of breast cancer.’

Knowing what type of breast cancer I had helped doctors choose the right treatment for me. I didn’t lose my hair or feel as sick as I did the first time I had breast cancer. I hope this important study will mean that more women will get more specific treatment and experience fewer side effects.

Lorraine Hill took part in a trial we funded to improve breast cancer treatment.
Preventing cancer: stacking the odds in your favour

More people are surviving cancer than ever before, largely because of better tests and treatments. But this is just one part of our fight against the disease. Prevention really is better than cure.

A person’s chance of developing cancer depends on a mix of their genes, the environments they are exposed to and their lifestyle choices. It’s vital that we continue to investigate how lifestyles affect cancer risk so that we can improve awareness, help people make healthy choices and find new ways to prevent the disease.

This is why we carried out the most comprehensive study of cancer and lifestyle to date. Its results showed that more than 100,000 cancers diagnosed in the UK each year are caused by smoking, unhealthy diets, excess weight and alcohol.

Professor Max Parkin, based at Queen Mary, University of London, led this work. Here he gives some insights from this research.

‘Many people believe cancer is down to fate. But looking at the evidence, it’s clear that around four in 10 cancers are caused by things we mostly have the power to change. Cancer risk can be affected by family history and getting older, but these figures show that we can take steps to help reduce our risk of developing the disease.

We didn’t expect to find that among women being overweight has a greater effect than alcohol. Or that eating fruit and vegetables would prove to be so important in protecting men against cancer.’

Professor Max Parkin

Although leading a healthy lifestyle doesn’t guarantee that a person won’t get cancer, these results show that healthy habits can significantly stack the odds in our favour. This is vital information that could help save more lives in future.’

Our work on the causes and prevention of cancer has saved millions of lives across the world.
More than 100,000 cancers are caused by smoking, unhealthy diets, excess weight and alcohol each year in the UK.

Smoking is the biggest preventable cause of cancer. It causes more than four in five cases of lung cancer and increases the risk of over a dozen other cancers.

Diet can influence our risk of many cancers. You can reduce the risk by eating a healthy, balanced diet that is high in fibre, fruit and vegetables and low in red and processed meat and salt.

Excess weight can increase the risk of two of the most common cancers and three of the hardest to treat. Most people are unaware that their weight can have such a strong influence on their cancer risk.

Alcohol can cause many types of cancer, but only four out of 10 people know that drinking alcohol increases the risk of the disease.

*Cancers including: Lung, Oesophageal, Oral, Bladder, Bowel, Pancreatic

*Cancers including: Bowel, Oesophageal, Oral, Lung, Stomach, Laryngeal

*Cancers including: Bowel, Breast, Womb, Kidney, Oesophageal, Pancreatic

*Cancers including: Bowel, Breast, Oral, Oesophageal, Laryngeal, Liver

*Some cancers are caused by more than one factor; so adding these totals will not result in the total number of cancers caused by all these factors.
The virus smuggles the antigens into the body. Once injected, the immune system wakes up, spots the virus and attacks it. And as it does so, it helps the immune system to recognise and attack the tumour.

I’m optimistic about the results so far, which could see the cancer vaccine we’re developing being used alongside chemotherapy and radiotherapy in five to 10 years’ time.

Professor Alan Melcher has high hopes for this approach. Based at the Cancer Research UK Centre at the University of Leeds, he talks about his work and the complex challenges he faces.

‘How do you develop a treatment that stimulates a patient’s immune system to target cancer without causing harm elsewhere in the body? This is one of the main problems my research aims to solve.

Usually, our immune systems aren’t good at recognising cancer. But they are extremely good at recognising and responding to viruses. So we have genetically engineered viruses to carry molecules called antigens that act as a detectable “fingerprint” of the cancer cells.

In the past, scientists have used only a few antigens to stimulate the immune response. What we’ve done is test a whole library of antigens at once to find out which ones work best.

We’ve found three that together stimulate the immune system and which could be used as the basis of a vaccine to treat patients. It’s a really targeted way of treating cancers, which could help to reduce side effects and benefit patients.’
One of the most important developments in UK biomedical science for decades, The Francis Crick Institute will bring together the best scientists from across the world. Their pioneering work will give us the opportunity to fight cancer faster than ever before.

Dr Julie Cooper is a researcher at our London Research Institute. Her team is studying ‘telomeres’, part of our DNA, which limit the number of times normal cells can divide. But in cancer cells telomeres are faulty and allow the cells to become ‘immortal’. By finding how they work, Dr Cooper’s team hopes to identify new approaches to treat cancer in the future. She’s excited about the opportunities to advance her research at The Crick when it opens in 2015.

‘Sometimes, meeting someone who works in a different field to you – a physicist, perhaps, or a mathematician – generates new ideas and unexpected collaborations. These interactions will happen all the time at The Crick.

The size and design of the new institute are key. We’ll have scientists across a range of disciplines plus lab designs that help us make connections, which is great for expanding your horizons and driving forward cancer research. We’ll also have access to the latest cutting-edge technology and research facilities that will keep us at the forefront of our field.

There’s a long tradition of excellent research and great discoveries at the London Research Institute – it’s what attracted me to London from the US. The Crick is going to build on that excellence. With such a large, high-profile place, in the centre of London, we’re going to attract the best and the brightest scientists from all around the world.

Together we’ll generate innovative ideas, and we’ll have the facilities to carry them through. We hope this will translate into advances in cancer research that will save many lives.’

cancerresearchuk.org
Cancer survivors give hope to others

Living proof of the incredible progress we’re making, cancer survivors inspire our fundraising and influence our campaigns. Their stories motivate others to join us and help beat cancer.

Sue Buzzeo, from Newcastle.
Relentless altitude sickness. Temperatures of -20°C. Trekking over rough terrain for 10 hours a day. John McVey, 48, says his 2011 fundraising trip to Everest Base Camp pushed him to his limits. But he rose to the challenge and completed the trek. ‘Having cancer changed the way I view things,’ he says. ‘Now, when I decide I want to do something, I do it.’

John, from North Wales, was diagnosed with tongue cancer in 2005. His treatment included a complex operation to remove part of his tongue and 32 rounds of radiotherapy in just six weeks. It’s now six years since John finished treatment and he’s made a full recovery.

Voice for Radiotherapy
Radiotherapy cures many more people than cancer drugs. It’s extremely cost effective, and up to half of all cancer patients could benefit from it. Yet our YouGov survey of more than 2,000 people revealed that just 14% were aware of this.

That’s why we launched the ‘Voice for Radiotherapy’ campaign in 2011. It aimed to raise awareness about just how important radiotherapy is for cancer patients. Over 36,000 people signed our petition to Government to demand that the best radiotherapy treatments are available to everyone who needs them.

My cancer was treatable and that’s thanks to the work of organisations like Cancer Research UK. If I’d had it 20 years ago, very little could have been done for me.

John McVey
Since then we’ve welcomed the announcement that proton beam therapy, a type of radiotherapy, will be available for the first time in England by 2016. Proton beam therapy can target certain types of tumour more accurately, reducing side effects and helping some patients recover more quickly.

**Improving treatments with cutting-edge research**
John knows how important it is to improve techniques and make the best radiotherapy treatments available to everyone. ‘I had radiotherapy on my face and now my teeth are loose because it damaged my jaw bone,’ he says. ‘It’s not a big problem, but I know that if they make radiotherapy more targeted in the future it will make it better for people having the treatment.’

Our researchers are leading the way in developing more effective radiotherapy treatments such as IMRT, which shapes the radiotherapy beam to better match the tumour. This boosts the dose of radiation to the cancer cells while limiting damage to tissue and organs nearby.

Dr Neil Burnet, in Cambridge, is using sophisticated computer techniques to analyse radiotherapy doses given to patients. He says, ‘This cutting-edge research will help us monitor the dose to achieve the perfect balance between successfully treating the cancer and limiting the side effects as much as possible.’

**Looking to the future**
We’re working hard to raise awareness and improve radiotherapy. We want to see more advanced techniques used in the NHS, make sure waiting times do not slip and that budget cuts don’t affect radiotherapy services. This crucial treatment needs investment and support so that more people like John can beat cancer.
Helping more women survive ovarian cancer

Charity fundraiser and passionate Formula One fan Della Lamden, from Sussex, believes life is for living. She was diagnosed with ovarian cancer in 2005. Although her cancer hasn’t been cured, she’s doing well. ‘Having cancer changed my life,’ she says. ‘I’ve got through because of my daughter, Bobbie, and some incredible friends. It’s made me a stronger person.’

Some women, like Della, have a greater risk of developing the disease because of faulty genes that are passed on through their families.

In the 1990s, our scientists highlighted the role of a gene, called BRCA1, in ovarian cancer. Della has been told that she has a fault in this gene.

But not all women with a family history of the disease have a faulty BRCA1. Now our researchers have solved another part of the puzzle. They found that women with mistakes in a different gene, called RAD51D, are also much more likely to develop the disease.

Although only a small number of women carry faults in this gene, it is an extremely important discovery.
Our researchers discovered a chemotherapy drug, carboplatin, which is now the ‘gold standard’ for treating ovarian cancer.

Our scientists showed the importance of the gene BRCA1 in breast and ovarian cancer and went on to discover the BRCA2 gene. This means women with a family history of breast cancer or ovarian cancer can be tested for faults in these genes so doctors can offer them choices about prevention and screening.

We hope that, in the future, all women with a family history of ovarian cancer will be tested for this fault and offered advice about screening and treatment.

Our scientists also showed that the contraceptive pill can protect women from ovarian cancer, reducing the risk by up to half.

We’ve played a vital role in transforming treatment for ovarian cancer and improving survival

1980s

Our researchers discovered a chemotherapy drug, carboplatin, which is now the ‘gold standard’ for treating ovarian cancer.

1990s

Our scientists showed the importance of the gene BRCA1 in breast and ovarian cancer and went on to discover the BRCA2 gene. This means women with a family history of breast cancer or ovarian cancer can be tested for faults in these genes so doctors can offer them choices about prevention and screening.

2000s

Our researchers identified symptoms of ovarian cancer, such as bloating, that persist over time – helping to diagnose more women earlier when their cancer is easier to treat. Our scientists also showed that the contraceptive pill can protect women from ovarian cancer, reducing the risk by up to half.

We hope that, in the future, all women with a family history of ovarian cancer will be tested for this fault and offered advice about screening and treatment.

‘I can’t praise Cancer Research UK’s work highly enough,’ says Della. ‘My mum also had ovarian cancer. This research means that my sisters and daughter could be tested to find out if they’ve inherited a higher risk of cancer too. I get comfort from knowing there’s a greater chance the disease will be diagnosed sooner if people know they carry the faulty gene.’

cancerresearchuk.org
Sunbed user Fiona Rose, from Leeds, was just 17 when she was diagnosed with malignant melanoma, the most serious form of skin cancer. ‘I wanted to be tanned, I felt pale wasn’t considered pretty,’ she says. ‘I never connected cancer with sunbeds. I was young and didn’t think it would happen to me.’

Since the late 1970s, the number of British 15 to 34 year olds diagnosed with malignant melanoma has tripled. It means more than two young adults are diagnosed with this type of skin cancer every day.

That’s why we launched our ‘R UV UGLY?’ campaign. Research shows that highlighting the ageing effects of sunbed use on the skin can help change attitudes and behaviour among young adults.

‘R UV UGLY?’ targeted young people and people that influence them – mums, friends and sisters. Teaming up with skin clinic Sk:n, we offered young sunbed users the chance to face the hidden damage being inflicted on their skin.

Using a hi-tech camera, the results gave an uncompromising close-up of what the skin really looks like, showing the damage that can be caused by overexposure to UV rays. ‘I think young people will listen if they see that using sunbeds now means they’ll get wrinkles and age spots in the future,’ says Fiona.
The campaign is part of our wider skin cancer prevention work, which helped secure a ban on sunbeds for under-18s in England, Wales, and Northern Ireland, protecting people like Fiona. We also worked with the UK’s top model agencies to get a zero tolerance policy on sunbed use for all models on their books.

Fiona, now 27, supports our work. After 12 operations to remove moles on her body, she is healthy and planning her wedding. ‘I will never know for sure, but I feel that sunbeds caused my cancer,’ she says. ‘I consider myself very lucky.’
Giving you space to talk about cancer

“The Cancer Research UK website was an invaluable source of information whenever I had worries or concerns. When I had difficult questions, like “What if it comes back?”, I could explore them in my own time. The website and nurse helpline were a great support for my husband and daughter too.’

Sue Buzzeo was diagnosed with breast cancer in 2004.

We’ve been working hard to ensure our information about cancer, its treatment and trials, is available in the way people like Sue want and need it. By 2015, research predicts that more people will be accessing the internet using mobile devices than desktop computers.

Visit our CancerHelp UK website at cancerhelp.cancerresearchuk.org

Speak to a specialist cancer nurse on freephone 0808 800 4040

Talk to others affected by cancer at cancerchat.org.uk

Every year we help millions of people get the information they need to understand cancer.
It’s why we’ve created a mobile site for CancerHelp UK. Providing the same essential information as the website, the layout adapts to fit the device it’s being viewed on.

We’ve also added videos to support people who’ve returned home after treatment, covering areas such as exercises after breast surgery or managing breathlessness.

**Sharing experiences online**

Cancer Chat, our online discussion forum where people can share experiences and information, has been improved too. More interactive than ever; there’s a new area where people can post questions for our specialist cancer nurses, who host a live question and answer session every week.

‘I thought I was the only one with questions that I was too embarrassed to ask, worried my cancer specialist would think they’re silly,’ says Allison Hernandez, 48, who is from Scotland and was diagnosed with breast cancer in 2009.

‘Cancer Chat made me realise that no question you have is stupid. I liked that I could go on anonymously, in the middle of the night if I wanted to. Being part of the community and knowing other people were going through the same thing was a real comfort.’
3

Our doctors save lives

From GPs to cancer specialists, we work closely with doctors in labs and hospitals around the country. Together they improve the way we diagnose and treat cancer – helping to save thousands of lives.

Charlie Williams, from Suffolk.
The sponge that could help prevent cancer

Dudley Hedge, 72, from Cambridge, took part in the research. He talks to Dr Fitzgerald about her work and why it’s an important step towards beating oesophageal cancer.

Q What is Cytosponge and how does it work?
It’s a small capsule, like a vitamin pill, attached to a string. It has a small sponge compressed inside. You swallow the capsule, holding on to the string. It dissolves in your stomach, and the sponge expands. The nurse gently pulls it out by the string and it collects cells from the oesophagus as it comes up. The sponge is then sent to a lab and the cells are tested for signs of Barrett’s oesophagus.

Q Why is this better than other tests already being used?
At present an endoscopy is the only test available. This involves swallowing a tube with a tiny video camera on the end to take images of the inside of your body. Cytosponge is simpler, cheaper and more comfortable for patients, and it can be done at a GP’s surgery. Also, people who have the Cytosponge test only need an endoscopy if the test results suggest they have Barrett’s oesophagus.

Oesophageal cancer is often diagnosed at a late stage when it’s difficult to treat. We’re tackling this problem by funding research into a new approach that aims to save more lives in the future.

Dr Rebecca Fitzgerald from the University of Cambridge is leading a trial of a promising new test to detect a throat condition called Barrett’s oesophagus, which can increase the risk of oesophageal cancer. The ‘Cytosponge’ test could show if people with Barrett’s oesophagus need treatment to prevent cancer from developing.

Around 22 people are diagnosed with oesophageal cancer every day in the UK.
I was surprised to find out I had Barrett’s oesophagus. Why does it go undiagnosed so often?

The most common symptom for Barrett’s oesophagus is persistent heartburn or indigestion, and people often go to the chemist rather than their GP for that. Most people who have these symptoms don’t have Barrett’s oesophagus, but many with the condition go undiagnosed and are not being monitored for signs of cancer. We need a screening test that can be done quickly and cheaply.

Why is this research so important?

Oesophageal cancer tends to be diagnosed when people go to the GP to say they have difficulty swallowing food. By then it’s usually quite advanced and very hard to treat. If you can diagnose it early, it transforms from something that requires major treatment to something that can be dealt with at an outpatient endoscopy appointment and has a very high cure rate.

What’s the next step for your research?

We’ve completed one trial and another one is under way. Our plan is to take the Cytosponge test to the national screening committee to see if they’ll roll it out across the UK. I’d like to see it become part of a screening programme, like the ones we have for bowel and cervical cancer.

If we can detect Barrett’s oesophagus earlier we could help prevent more cases of oesophageal cancer.

Dr Rebecca Fitzgerald
Beating brain tumours

Brain tumours present a tough challenge as they are difficult to detect and treat. They affect over 9,000 people each year and are also one of the most common types of cancer in children.

That’s why our doctors are looking at new ways of detecting brain tumours, investigating how they grow and spread, and developing essential new treatments that will help more adults and children survive.

Ten years ago Charlie may not have got the outcome he did. It makes you realise just how important research is. In the future we know that treatments will be even better.

Beverley Williams, Charlie’s mum.
Charlie’s story
Charlie was just five when he was diagnosed with medulloblastoma, a type of brain tumour that affects around 50 children in the UK every year. He endured months of treatment, including a seven-hour operation, radiotherapy twice a day for five weeks and a year of chemotherapy. It meant he missed two years of school.

Now 12, Charlie has been given the all clear: ‘It’s great to see him back at school and doing normal things, like playing football with his friends,’ says Charlie’s mum Beverley. ‘We’re so proud of him; we hope that in the future every family affected by a brain tumour gets a happy ending.’

Improving treatment
Charlie’s illness and treatment have left him with some long-term side effects, including an underactive thyroid and hearing loss. He has to take drugs every day and he uses a hearing aid.

We’re supporting research to help improve treatments for children like Charlie. Some children with medulloblastoma need more intensive treatment than others, and doctors want to identify which children could benefit. This could give them a lower risk of long-term side effects such as deafness, which can make a huge difference to a child’s quality of life.

cancerresearchuk.org

Glow in the dark brains
It may sound like science-fiction, but ‘glow in the dark’ brains are part of an exciting development in brain tumour treatment. The brain controls all of the body’s functions so there’s no room for error during surgery.

‘We’ve helped develop a pioneering new technique that could make brain surgery more effective,’ says Dr Colin Watts at the University of Cambridge. ‘Under ultraviolet light, a dye that’s absorbed by the body’s cells makes tumours “light-up”, glowing pink while healthy tissue appears blue. This makes it easier for surgeons to remove as much of the tumour as possible and leave the healthy tissue untouched.’

We’re co-funding a trial testing this exciting new technique in glioblastoma, one of the most common types of brain tumour in adults.
Improving early diagnosis

Diagnosing cancer early saves lives. But it’s a challenge that needs tackling in several different ways. Along with our research, we’re supporting GPs to improve early diagnosis, and raising awareness of the early signs of cancer amongst the public.

Supporting GPs to save lives

GPs are often the first port of call for people with possible signs and symptoms of cancer. Helping them refer patients effectively is key to improving early diagnosis.

We’re working with doctors.net.uk, a website offering education and networking for GPs. This year we’ve provided training and cancer information on bowel and lung cancer for its GP community as part of our work to ensure cancer is diagnosed as early as possible.

Dr James Quekett, a GP in Cheltenham, talks about how our work is supporting GPs to improve early diagnosis.

‘Cancer symptoms are often the same as those of common minor ailments, which is one problem we face when diagnosing the disease. A cough, for example, could be due to a multitude of things; it’s rarely a sign of lung cancer. But if the patient is also a smoker and they’ve been to see you with other related problems, then you need to ask more questions and fit those pieces together to form the right picture.

Cancer Research UK’s work is helping GPs have a better understanding of how certain lifestyle choices and groups of symptoms might be linked. This means we’re better able to refer the right patients for appropriate tests.

New cases of cancer are something we see relatively infrequently. As GPs, we know the importance of spotting the disease early; we never want to miss a cancer diagnosis. It only takes a prompt referral at an earlier stage to potentially save a life. Cancer Research UK’s work is helping ensure we achieve this.’
Spotting cancer early

When Eric Powell, 70, from Warrington was diagnosed with prostate cancer, his first thought was ‘they must have the wrong man’.

He’d initially gone to the doctor about an unrelated pain in his rib cage, which prompted further tests. Eric’s cancer was treated with radiotherapy and he’s gone on to make a good recovery.

Eric is sharing his story as part of our ‘Spot Cancer Early’ campaign. He appeared on billboard posters and information leaflets promoting the benefits of spotting cancer early and encouraging people to report potential symptoms to their GP as soon as possible.

Finding cancer at an early stage means treatment is often easier and more effective. It’s why it’s important for people to visit their GP as soon as they notice any persistent or unusual changes to their body.

After piloting the campaign in Warrington, we’re now taking our messages UK-wide using advertising, social media and our Cancer Awareness Roadshow.

Find out more at spotcancerearly.org.uk

I’m lucky my cancer was detected early and, as a result, treatment was successful. I would urge anybody with signs or symptoms they’re worried about to see their doctor as quickly as possible. There’s so much that can be done, but the sooner it’s caught the better.

Eric Powell
Boosting research into rare cancers

‘Being told you have cancer is incredibly difficult to come to terms with, particularly if it’s a rare cancer you’ve never even heard of. You have lots of questions, but can’t always find the answers.’ Helene Craddock, salivary gland cancer survivor.

We know rare cancers don’t get the attention they need and that treatment options are limited; that’s why these diseases are a priority for us. We’re already working on new treatments for rare forms of cancer, like Helene’s, but there’s so much more to do.

Working together to save more lives
To boost research into rare cancers, develop new treatments and help improve survival, we’ve joined forces with research groups from the UK, Europe and America to form the International Rare Cancers Initiative.

To begin with, the initiative will focus on seven diseases including salivary gland cancer, melanoma of the eye, penile cancer and rare types of bowel and womb cancer.

With rare cancers affecting relatively few people, it can be hard to find enough participants for trials that test new treatments.

I’m really excited about this initiative as there’s a huge need to look into these rarer cancers. This new research will bring benefits to people with rare cancers, and ultimately give us more hope for the future. Helene Craddock

This collaboration is making it easier to set up large trials by involving patients from different countries.

It’s also an opportunity to bring together top clinicians from around the world to share their expertise, speed up progress and improve the way we diagnose and treat rare cancers. We hope more research groups will join us in the future, to make the partnership even more effective.
Helene Craddock, 40, from Bristol
Our supporters change lives

They back our campaigns, raise awareness and volunteer their time. Our supporters fundraise in every way imaginable. Their commitment and generosity help keep families together.

Jim Richardson, from Northumberland.
The answer is plain

When Jim Richardson was 16 he started smoking, because it was 'cool'. 'My friends thought it was odd if you didn’t smoke,’ says the father of four from Northumberland. Forty years after his first cigarette, Jim faced the toughest day of his life: telling his children he had lung cancer.

Every year around 157,000 children aged 11 to 15 start smoking – the equivalent of 14,000 junior football teams. It’s vital that we stop young people being tempted by this highly addictive and harmful habit, particularly as we know that around 80% of adult smokers started by the age of 19.

Smoking is the single biggest preventable cause of cancer in the world. It’s responsible for more than eight out of 10 cases of lung cancer in the UK.

Our campaign for plain packaging
Jim is an ambassador for our campaign, ‘The answer is plain’, which aims to protect children from tobacco. With advertising outlawed, the cigarette packet is now the tobacco industry’s most important marketing tool. We’re petitioning the Government to bring in plain packaging, uniform in size and shape, with large health warnings, so children are less likely to be seduced by sophisticated marketing techniques.

‘Cigarette manufacturers spend a fortune on designing packets that look attractive and appealing,’ says Jim. ‘Fancy packets attract smokers and sell cigarettes, or they wouldn’t spend that money.’

I know first-hand how horrific lung cancer is. You can almost always prevent it by not smoking. That’s why I’m working with Cancer Research UK to try to stop children from starting.

Jim Richardson
Why do we need plain packs?
From a young age, people choose brands that say something about who they aspire to be – they help create identity. Cigarette marketers exploit this, pitching some brands, for example, at fashion conscious young women.

Our research shows that plain packaging makes children feel more negatively towards cigarettes, and smoking in general. Selling cigarettes in standardised plain packs will help reduce their appeal, giving children one less reason to start.

Taking tobacco out of the picture
‘The answer is plain’ is part of our ongoing work to reduce the harm caused by tobacco. We’ve played a major part in securing the ban on tobacco advertising, smoke-free workplaces, and laws to remove cigarette vending machines and tobacco displays in shops. Displays were banned from supermarkets in April 2012 and small shops will follow from April 2015.

‘Backing this campaign is one of the most important things I can do,’ says Jim. ‘I feel I’ve been given a second chance. I want to help prevent other people going through what I have because they’re tempted by a glitzy cigarette packet that makes smoking look normal or, even worse, cool. I’ve spent thousands of pounds on a habit that was slowly killing me. There’s absolutely nothing cool about that.’

Join the campaign at theanswerisplain.org

cancerresearchuk.org
Harry (pictured above) was diagnosed with an inoperable brain tumour at Birmingham Children’s Hospital when he was seven, after having headaches and problems with his eyesight. Despite having radiotherapy and chemotherapy, Harry was determined to help other people like him.

‘Harry understood what people with cancer were experiencing and it hurt him to think of it,’ says Harry’s mum Georgina.

While having radiotherapy, Harry became good friends with Robert Harley, who was also being treated for a brain tumour.

@Harry_Moseley has close to 95,000 Twitter followers.
When Robert died, Harry decided to set up the ‘Help Harry Help Others’ campaign, making and selling bracelets to raise money for brain tumour research. He toured schools to tell other children about his condition and spoke at businesses and fundraising events.

**Working together**
We joined forces with ‘Help Harry Help Others’ in April 2011 to bring his message to more people and raise even more money for brain tumour research.

When Harry sadly died in October 2011, aged just 11, he’d raised hundreds of thousands of pounds for brain tumour research. ‘We don’t want any other family to go through what we’ve had to,’ says Georgina. ‘It was Harry’s wish that the whole UK wear one of his bracelets with pride. Giving up on the campaign would be like giving up on Harry and I’m not prepared to do that.’

Thanks to the generosity of extraordinary people like Harry and his family, our scientists and researchers are making great progress in understanding brain tumours and improving the way they’re diagnosed and treated.

Read more about our work in brain tumour research on [page 32](#).

cancerresearchuk.org

---

**Harry’s amazing achievements**

Over 40,000 bracelets have been sold and over £245,000 raised for our life-saving brain tumour research, since Help Harry Help Others partnered with Cancer Research UK.

Harry’s work was recognised with awards including Britain’s Kindest Kid and JustGiving’s Lifetime Achievement Award.

In February 2012, famous ‘Harrys’ including band One Direction’s Harry Styles and football manager Harry Redknapp made a video to encourage more people to wear the fundraising bracelets.

The campaign has gone from strength to strength; Georgina is now establishing Help Harry Help Others as its own charity.
Tesco: sharing our vision to beat cancer

Tesco employee Sharon Chick, 43, from Newport, knows just how important it is for cancer to be spotted as early as possible. ‘I owe my life to cancer awareness and screening,’ says the grandmother of three who was diagnosed with cervical cancer after a smear test. But our report ‘Delay Kills’, funded by Tesco, revealed that more than three-quarters of people asked to list possible warning signs and symptoms of cancer failed to mention pain, coughing or problems with their bowels or bladder.

Not recognising symptoms or delaying going to the doctor when you have them means cancer is often diagnosed late – when it can be harder to treat. We’ve joined forces with Tesco to change this.

Raising awareness and funds to save lives
Tesco has chosen us as their Charity of the Year 2012. They aim to raise £10 million with the help of staff and customers to fund 32 early diagnosis projects in local communities across the UK.

We’re also working together to help people become more aware of the early signs of cancer and encourage them to visit their doctor if they notice anything unusual.

‘If my cancer hadn’t been diagnosed when it was, I wouldn’t be here to tell my story,’ says Sharon. ‘There’s not much awareness of cervical cancer – I’d do anything to change that.’

Through our partnership we’re reaching millions of Tesco customers, who pass through stores each week, with early detection messages. This work includes putting our leaflets on the early signs of cancer at checkouts and in cafes.

Thanks to Tesco’s support, our scientists can focus on even more research to help diagnose cancer earlier, save more lives and keep more families together.

To see the research projects Tesco is supporting near you, visit cancerresearchuk.org/tesco

Over 22,000 Tesco women took part in Race for Life in 2011.
The atmosphere at Race for Life is incredible, from the moment you warm up to the sense of achievement you get at the end. It doesn’t matter if you walk, jog or run; it’s what you’re doing it for that’s important.

Sharon Chick

Sharon has taken part in our flagship fundraising event Race for Life with her Tesco colleagues for the past six years.

Tesco has been an invaluable supporter of Race for Life since 2002, helping us raise an incredible £457 million. We’re delighted that they will continue to be our main sponsor of the event over the next three years.
You can... climb a mountain for cancer research

Standing at 14,000 ft with spectacular views of the Himalayas, life-long friends and cancer survivors Tony Seaman and Bob Stone, both 72, felt exhausted but ‘terrific’.

‘It was worth the hard work,’ says Tony, from Buckinghamshire. ‘Combining the trek we’d talked about doing for 10 years with fundraising for Cancer Research UK was the obvious thing to do.

Thankfully my bowel cancer and Bob’s prostate cancer were caught early. But Bob sadly lost his wife, Kay, to pancreatic cancer, so we know how important research and early diagnosis is.’

Funding research
We’re extremely fortunate to have thousands of amazing supporters like Tony and Bob, who’ve raised vital funds for our life-saving research.

To inspire the perfect idea, we provide supporters with a range of ‘You Can’ materials which help them organise their own fundraising activity. They can even design their own posters, leaflets and invitations.

Since ‘You Can’ launched, over 23,000 supporters have signed up to fundraise with us, raising more than £8 million.

Giving back
After visiting one of our research centres to see how the £3,150 they raised is being spent, Tony and Bob are thinking about doing a trek around Iceland to raise more funds.

It’s inspiring to see the research that’s happening. Now we want to do something else. We’re determined to give back. We hope our adventure encourages others to take up a challenge.

Tony Seaman

Your creativity helps us beat cancer
Organise your own talent show. Plan a picnic. Complete a danceathon. There are all sorts of things you can do to raise money to help beat cancer. For inspiration visit cancerresearchuk.org/fundraising

For every £1 you raise, we spend 80p on our work to beat cancer.
Passionate, dedicated and motivated – our supporters help us save lives. Chosen from tens of thousands of nominations by London 2012 organisers, our Olympic Ambassadors are carrying the Olympic flame because of their commitment to beat cancer. Maggie Harrison, from Barrow in Furness, is one of them.

'I can’t believe I’ll be running through the streets of the Lake District with the Olympic flame. When Cancer Research UK put me forward I didn’t expect to be chosen. I was so chuffed when I found out I’d got through.

I give my time to Cancer Research UK because, after having bowel cancer six years ago, I feel very lucky to be here. Thousands more like me have benefited from the progress made by its scientists, doctors and nurses.

I’m an Ambassador for the charity’s political campaigns and I shared my story in their TV adverts. I also volunteer in my local Cancer Research UK shop once a week and I’ve taken part in Race for Life.

I went to Westminster in November 2011, along with 70 other Cancer Campaigns Ambassadors, to talk to MPs about early detection. After the lobby it was brilliant to see the Government invest £25 million to help GPs get better access to tests for cancer.

I didn’t think I’d make it to 50 – but I’m still here. I didn’t think I’d beat cancer – but I did. I have lost family and friends to cancer. I feel I need to try and make a difference now so that others don’t go through it. I want to raise awareness and encourage public support so Cancer Research UK can continue its life-saving work.'

Could you give your time, or campaign with us like Maggie? Find out more at supportus.cancerresearchuk.org
Thank you

For you. Because of you. Thanks to you.

We’d like to thank every one of our extraordinary supporters, scientists, doctors, nurses and volunteers. You make our life-saving work possible.

Kay Bailey, from Kent.
Beating cancer together

£332 million
Our annual research activity – 2011/12

Research that underpins all types of cancer

Breast
£42m

Bowel
£20m

Prostate
£23m

Ovarian
£12m

Leukaemia
£18m

Skin
£15m

Lung
£12m

Pancreatic
Non-Hodgkin lymphoma

Bladder
Oesophageal
Brain

£4m

£5m

£7m

£7m

£12m

*…kidney, stomach, testicular and over 100 other cancers
Every step we take towards beating cancer is thanks to you. With your support we continue to improve the way we prevent, detect and treat the disease. Together we’re saving lives.

We fund over half the UK’s cancer research, including more than 4,000 world-class scientists and doctors. In 2011/12, we spent £332 million on research in institutes, hospitals and universities across the UK.

We also spent £16 million on providing information to people affected by cancer, raising awareness of cancer risks and symptoms and influencing health policies.

Our life-saving research relies entirely on the money you give us. More than a third of what we do is made possible because people remember us in their wills. These legacies, along with monthly donations, help us to plan vital research into the future.

Nine out of 10 of the donations we receive are for £10 or less, proving that small amounts really do make a big difference. Whatever the size of your donation, you can be sure that we put your money to the best possible use in our fight against cancer.

cancerresearchuk.org

<table>
<thead>
<tr>
<th>Our total fundraising income</th>
<th>£432m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legacies</td>
<td>£137m</td>
</tr>
<tr>
<td>Direct giving</td>
<td>£101m</td>
</tr>
<tr>
<td>Events</td>
<td>£69m</td>
</tr>
<tr>
<td>Shop income</td>
<td>£66m</td>
</tr>
<tr>
<td>Volunteer fundraising</td>
<td>£27m</td>
</tr>
<tr>
<td>High value donors</td>
<td>£27m</td>
</tr>
<tr>
<td>Other income</td>
<td>£5m</td>
</tr>
</tbody>
</table>

For every £1 donated, 80 pence is available to spend on our work to beat cancer.

We use what’s left – 20 pence in every £1 – to raise funds for the future. For every £1 we spend on fundraising, we raise over £4 more.
When Kay Bailey found a lump in her neck, she thought it was glandular fever as she’d been feeling unwell for a while. ‘Cancer didn’t enter my head for a second,’ says the mum of four from Kent. ‘I was stunned to be told I had Hodgkin lymphoma.’

A year on, after three months of chemotherapy followed by a three-week course of radiotherapy, Kay is doing well. ‘I’m back to my running, I’m working again, and doing things with my children and granddaughter,’ she says. ‘I’m living proof that there is life after cancer. I’m so thankful for the work of Cancer Research UK.’

Kay Bailey, 49, from Kent
We are immensely grateful to everyone who has supported us over the past year. Every pound raised helps more people survive cancer. In particular, we’d like to thank the following supporters, as well as those who have chosen to remain anonymous. Together we are beating cancer.
The Hobson Charity
The Jomati Foundation
Jonathon Lewis
Mr Oscar Lewisohn, former Chairman of the Imperial Cancer Research Fund
Mr and Mrs Lindsay-Hills
Mr Alastair Lyons
Andrew Malcolm, Malcolm Group
Charles and Nicola Manby
Emma Manitta Da Cruz
Sir George Martin CBE
The Material World Charitable Foundation Limited
AP McCoy
The McGrath Charitable Trust
Laurence Misener Charitable Trust
Stephanie Moore MBE
Troy Moore
Georgina Moseley, Help Harry Help Others
Harry Moseley, Help Harry Help Others
The Edwina Mountbatten and Leonora Children’s Foundation
The Edith Murphy Foundation
Mr John Murphy
AI Murray
Musgrave Charitable Trust Ltd
Trudie Myerscough-Harris
The Myristica Trust
Newman’s Own Foundation
The Stavros Niarchos Foundation
Goran Nyberg
Oak Foundation
Mike O’Kane, Ladbrokes in the Community Charitable Trust
Laing O’Rourke plc
The Suliman S Olayan Foundation
Lady Palumbo
Parthenon Trust
Peacock Trust
Mr David Pearson
Tim and Helen Perry
Pilkington Charities Fund
Mark Plunkett
Lee and Caroline Portnoi
Michael & Sue Pragnell
Mr D Prior
The QBE Foundation
The Ranworth Trust
Mr Gerald Ronson CBE and Dame Gail Ronson
The Cecil Rosen Foundation
Rachel Roxburgh
Mrs Sue Scott
ShareGift
Julian Small
Mrs John N Somers
The Souter Charitable Trust
William Stobart
Rhoddy and Georgina Swire
Mark Taffler
Mr D M Thomas
Andrew Tinkler
The Toby Charitable Trust
Robin and Frances Tomkins
Clive Tyldesley
The Wayup Fund
Mrs Rita West
Garfield Weston Foundation
Pamela Williams Charitable Trust
Yelsel Trust
Mr Victor Yeoh
Zochonis Charitable Trust

Our Trustees
Michael Pragnell, MA (Oxon) MBA (INSEAD), Chairman
Anne Baldock LLB, Solicitor
Wendy Becker BA MBA
Professor Doctor Anton Berns
Professor Adrian Bird, CBE FRS FRSE
Professor Colin Bird, CBE FRSE (retired 31 March 2012)
Helen Calcraft, BA (Hons) MBA
Dr Philip H M Campbell, BSc MSc DSc FInstP FRAS
Dr Adrian Crellin, MA FRCR FRCP
Sir James Crosby, BA FFA Treasurer
Liz Hewitt, FCA BSc(Econ) FRSA (retired 20 September 2011)
Professor Jonathan K.C. Knowles
Roger Matthews, ACA BSocSci
Dr Keith F Palmer, OBE Treasurer (retired 20 September 2011)
Leah J Sowden, FCA CTA DChA (retired 20 September 2011)
Professor Jeffrey Tobias, MD FRCR FRCR (retired 31 March 2012)

P R Bath
Hanah Caan
Catherine Cookson Charitable Trust
Michael Davis
Martin and Zara Dawe
Gavin and Claire Hughes
Anna and Robert King
Kathleen Laurence Charitable Trust
Mr and Mrs M I Raffan
The Steel Charitable Trust
The Suva Foundation
Rupert and Amanda Thompson Timpany Charitable Trust
John and Ann-Margaret Walton
Thomas H. Wood MBE

The Catalyst Club
James Caan, Patron
Dean Atkins
James Baker
Find out more and get involved

Help us beat cancer

Make a donation
Regular donations make a real difference, please call 0800 917 1602

Take part
Discover all the ways you can get involved with fundraising and volunteering at supportus.cancerresearchuk.org
Or call 08701 60 20 40

Share your story
Help us raise awareness, email mystory@cancer.org.uk
Or call us on 020 3469 8303

Get reliable information about cancer
For information about cancer, trials and research visit our CancerHelp UK website cancerhelp.cancerresearchuk.org

Speak to a specialist cancer nurse
Our specialist nurses are on hand to answer your questions in confidence. Call free on 0808 800 4040, Mon–Fri, 9am–5pm. Or email using the contact form on CancerHelp UK

Talk to others affected by cancer
Go to our online discussion forum cancerchat.org.uk

For more information
The best way to get to know about us and our work is through our website cancerresearchuk.org

If you have a question or feedback, call 0300 123 1861, or send us a message through our website cancerresearchuk.org/contactus

A great deal of cancer research is carried out without using animals, but in certain areas animal research remains essential if we are to understand, prevent and cure cancer. We only use animals when there is no alternative.

Cancer patients and their families are at the heart of everything we do. We believe that all our research is vital if we are to save the lives of more patients in the future.