The UK and EU: What people affected by cancer need from the future relationship

Together we will beat cancer

CANCER RESEARCH UK

Foreword

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We are rightly proud of the UK's world-class research environment and the benefits it has brought to people and families affected by cancer. Research has driven vital progress and seen cancer survival in the UK double since the 1970s. But UK cancer research, like all the best research, doesn't happen in isolation. It is inherently international, with a mix of UK and international researchers working here and across borders to drive improvements in the ways we understand and treat cancers.

Cancer Research UK is the world's largest charitable funder of cancer research, committing £546 million towards research into all 200 types of cancer in 2018/19. We receive no Government funding but do rely on the UK's thriving research environment as we seek to support the very best research to drive progress towards our ambition to see 3 in 4 people survive their cancer by 2034.

So as the UK leaves the European Union, it is essential that the international collaboration which underpins our domestic research environment continues to flourish, to the benefit of patients here and across Europe.

Whether it be collaborating on vital clinical trials run across borders, working together to ensure new medicines are safe and effective, or researchers sharing their expertise on joint projects to understand the fundamentals of cancer, the UK and EU have long worked together to drive progress for patients. The future relationship between the two will continue to be important for medical research, and for people affected by cancer.

As attention increasingly moves beyond withdrawal from the EU to the future, we wanted to better understand the views of people affected by cancer – how they see our priorities and what, ahead of talks on the future relationship, they would want negotiators to know about the issues that matter to them.

By surveying our community of people affected by cancer, we have built a picture of how they want the future relationship to work across our key areas. They see close UK-EU collaboration as beneficial not only to us here in the UK, but to patients and research across the continent.

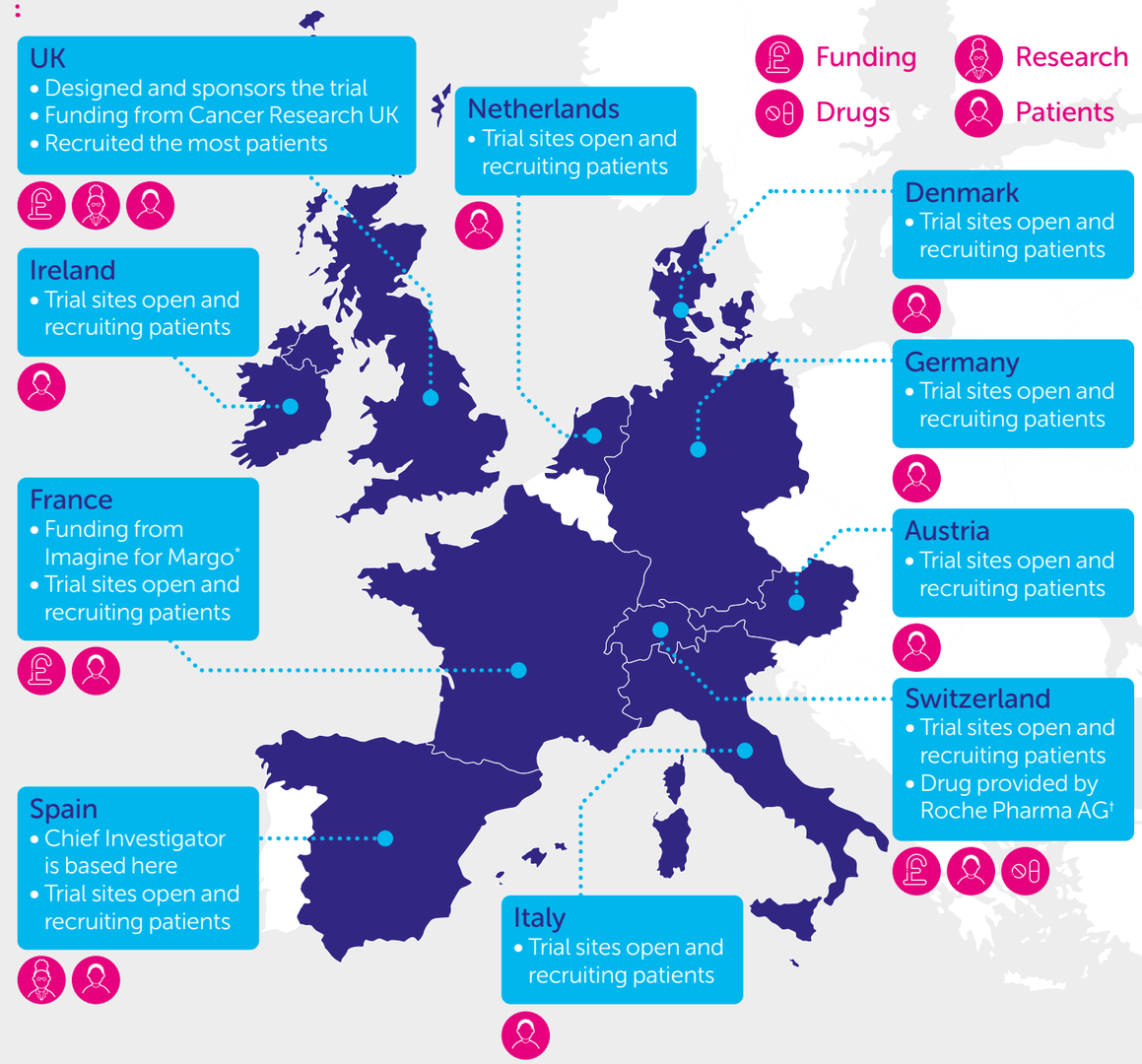
Those insights are detailed throughout this document, as well as further information on the ways the UK and EU cooperate to the benefit of patients and some of the projects Cancer Research UK are involved in.

There are many difficult questions to be answered during Brexit, but UK-EU research collaboration needn't be one. For the sake of people affected by cancer, we call on negotiators to ensure brilliant researchers in the UK and EU can continue to work closely together to beat cancer.

Michelle Mitchell

> Working collaboratively with other countries – especially in Europe – enables our researchers and clinicians to learn together, and hopefully improve the services and outcomes for UK patients
>
> Response to our survey of people affected by cancer

European collaboration on clinical trials
Example: BEACON Neuroblastoma trial



* Imagine for Margo is French charity dedicated to tackling children's cancer
† Roche AG is a Swiss pharmaceutical company

Ensuring UK-EU clinical trials continue to deliver benefits to patients

99%
of people affected by cancer we surveyed believe the UK and EU should reach a deal which allows cross-border clinical trials to operate as easily as they do now[1]

Clinical trials test if new treatments are safe and effective for patients. They also provide patients with opportunities to access potentially life-saving innovations at an early stage in their development. They are an essential part of cancer research, and of our work. Cancer Research UK funds nearly 200 clinical trials and recruits around 25,000 participants each year to all trials we support.

The UK is a world-leader in the development and running of clinical trials, and our thriving research environment is underpinned by international collaboration. Over 4,800 UK-EU trials took place between 2004 and 2016[2], and more than a quarter (28%) of trials CRUK funds involve patients from at least one other EU country[3]. **Working collaboratively across borders is particularly vital for rare and childhood cancers, where one country alone may not have enough participants to run a trial. The new UK-EU relationship must ensure these vital trials can continue to run.**

In particular, we want the UK to be able to participate in the future regulatory system for clinical trials being rolled out in the EU, known as the Clinical Trial Regulation (CTR). The CTR is a major step forward over the current system for clinical trials, the Clinical Trials Directive. Improved safety reporting features will ensure patient safety is paramount at all times, while streamlining administrative processes will make trials quicker and easier to set up – meaning less delay in participants getting access to the most innovative new treatments.

The UK's clinical trials community, the Medicines and Healthcare Products Regulatory Agency (MHRA), charities and patient groups were instrumental in driving the welcome changes that will be brought in through the CTR[4]. UK researchers and patients must be able to benefit from these changes and continue to easily collaborate with European partners, even if the Regulation doesn't come into force until after we leave the EU.

The Government has recognised that UK-EU collaboration on trials must continue, and in April 2018 pledged to align with the CTR as closely as possible. It is essential that this pledge is upheld, especially as researchers have started to plan for its implementation.

But this promise, while welcome, does not go far enough. Access to the digital infrastructure which underpins the CTR must still be negotiated with the EU. This system will bring much needed improvements, including quicker trial set-up and improved data sharing. If the UK is outside of this system it will be harder to set up vital cross-border trials with our closest research partners in Europe.

UK Government must protect UK-EU clinical trials and make UK participation in the EU's clinical trials regulatory framework, including access to the associated portal and database, a negotiating priority.

1 148 of 150 responses Strongly Agreed or Agreed with the statement "The UK and EU should reach a deal which allows cross-border clinical trials to operate as easily as they do now"
2 The impact of Collaboration: the value of UK medical research to EU science and health, Technopolis (2017) http://www.cancerresearchuk.org/sites/default/files/main_report_v8.pdf
3 Statistics from CRUK's internal databases and include clinical trials from our Clinical Research Committee, New Agents Committee and Centre for Drug Development.
4 Proposal for an EU Regulation on Clinical Trials, a joint statement from non-commercial and commercial organisations http://www.cancerresearchuk.org/sites/default/files/joint_statement_on_the_commissions_proposals_for_the_clinical_trials_regulation.pdf

Case study – The ESPAC-4/ESPAC-5F trial for pancreatic cancer

Pancreatic cancer is one of the hardest cancers to treat and has one of the lowest survival rates. The European Study Group for Pancreatic Cancer (ESPAC) wants to change this. ESPAC formed in 1989, and their research has contributed to accelerated improvements in survival and quality of life for patients. Since the 1980s, short term survival has increased by around 60%.

But ESPAC know there is more to do. Just 1% of people diagnosed with pancreatic cancer in England and Wales survive for ten years or more. In 2008, they set up the ESPAC-4 clinical trial. By 2014, it had recruited 732 patients from the UK, Germany, Sweden, and France. Around half of trial participants received an innovative combination of chemotherapy drugs. The other half received the standard chemotherapy treatment. An extra 13% of patients on the trial lived for five years when given the combination of chemotherapy drugs.

Peter was diagnosed with pancreatic cancer when he was 61. When his doctor told him about ESPAC-4, he jumped at the chance to take part. 'Survival rates for pancreatic cancer are low and the best way to change that is to develop new drugs and techniques, so I didn't hesitate when I heard about the trial. I wanted to help in any way I could, and I'm so proud to have played **a small role in the trial's success.**'

Running trials for rarer cancers across Europe means we can conduct research benefiting patients in UK and across the continent. We want groups like ESPAC to be able to continue their potentially life-saving work after Brexit.

Case study – Improving cancer treatments for children Dr Susanne Gatz

Dr Susanne Gatz is a Senior Lecturer in paediatric oncology at the Cancer Research UK Clinical Trials Unit in Birmingham. "I'm a clinical academic, which means on the one hand I am treating children with cancer and on the other hand I am researching how we can improve treatments for these children" she says.

Having these different roles means that there is no typical day for Susanne. It can range from seeing patients and their families, to visiting colleagues in the lab, and travelling across Europe and beyond to meet international colleagues working towards the same goal: to improve outcomes for children with cancer.

One such project she mentions is the Far-RMS clinical trial. This is for rhabdomyosarcoma (RMS), a rare form of soft tissue cancer in young people. "For the first time, we can include patients who have just been diagnosed and patients who have relapsed. This is a really big deal and I'm involved in trying to access new medicines that can be tested in the trial, which is promising for such a rare cancer."

The Far-RMS trial is a truly international effort, as with such low numbers of patients in individual countries, the trial must be run across several. By working together like this, it should speed up finding better treatments for RMS.

Researching children's cancers is challenging, but Susanne finds it hugely rewarding. "It's exciting because of all the opportunities we have in cancer drug development to improve outcomes for children with cancer."

"My greatest concern is around clinical trials. What additional bureaucracy will pharmaceutical companies have to overcome in order to trial drugs in the UK? As someone with rare cancer who currently relies on trials to stay alive, this is a major issue.

Response to CRUK survey of people affected by cancer on priorities for the NHS

An internationally mobile research workforce driving progress for patients

98%
of people affected by cancer that we surveyed want the movement of researchers between the UK and EU to live, work and collaborate to be seamless[5]

Science depends on people—scientists who generate ideas and uncover new evidence that ultimately improves the lives of others. The UK research sector comprises a mix of domestic and international scientists, underpinning our position as a world-leader in the life sciences. Cancer research projects are no different, bringing together a unique mix of expertise and skills from around the world to answer fundamental questions about cancer and develop new interventions to improve outcomes for patients.

The UK's new relationship with the European Union will bring once-in-a-generational changes for the immigration system. Researchers from European Union countries will no longer have freedom of movement to and from the UK, and vice versa. Instead Government is designing a new system to apply to all immigration flows from around the world. **It is absolutely essential this system works for scientific talent.**

The best cancer research is international, involving talent from around the world. At CRUK we recruit global scientific talent to drive our work – 76% of our funded postdoctoral researchers at our Institutes are not from the UK. And the flow of talent flows both ways, with 72% of UK-based researchers spending time at non-UK Institutions from 1996 to 2012[6].

Researchers move to the UK to live and work, and our world-leading research environment is underpinned by the UK's status as a destination-of-choice for international researchers. We need to make sure that the new immigration system protects and enhances our ability to attract, recruit and retain the best of global scientific talent at all professional levels, regardless of nationality.

Shorter-term travel is also crucial, as scientists move to and from the UK to share knowledge and work on vital shared projects like clinical trials. To support the work already underway and help foster future collaborations which will drive progress for patients, the Government must ensure researchers can continue to move easily across borders.

Government has been positive in recognising that the new rules must work for science and medical research. It is vital that this intent is translated into a system which ensures researchers and their families feel welcome in the UK, with full access to public services as they pursue their careers here. The system must minimise the bureaucracy faced by international researchers and employers, and ensure researchers are not inadvertently penalised by entry criteria. A salary threshold to encourage skilled migration, for example, risks excluding skilled research technicians who are the backbone of the research workforce, but whose pay often does not reflect this.

Researchers moving to the UK are currently faced with thousands[7] of pounds of costs, as are the employers recruiting them. This drains money available to put into vital medical research projects and, at worst, risks putting off researchers from moving to the UK at all. A new system must also minimise these costs.

The UK's world leading medical research environment, which drives such vital improvements in outcomes for patients, relies on talent from around the world. It is vital Government:

Designs a post-Brexit immigration system that enables us to attract, recruit and retain global scientific talent at all professional levels, regardless of nationality, and that facilitates collaboration with international partners.

and

Reaches agreement with the European Union to protect the ability of researchers to quickly and easily move across borders to work on vital shared projects like clinical trials.

5 146 of the 150 surveyed Strongly Agreed or Agreed with the statement *"Movement of researchers between the UK and EU to live, work and collaborate should be seamless"*
6 Elsevier, International comparative performance of the UK research base, 2013
7 A non-EEA researcher with no dependents moving to the UK would face: £1220 visa application fee for tier 2 visa; £200 a year Health Surcharge; £1000 a year Immigration Skills Charge. Based on analysis by the Together Science Can campaign, documented in 'An Profile of International Visa systems' https://drive.google.com/file/d/1ETU8hWw2M54h9kQ7WDti6GPqVEegr9yu/view

Case Study – Romana Ranftl, Higher Scientific Officer at the Institute of Cancer Research

Romana is an Austrian researcher who currently works as a Higher Scientific Officer at the Institute of Cancer Research (ICR). Romana currently works on projects which seek to discover novel cancer therapies. For example, she helps her team to identify molecules in cancer cells that can be targeted to stop breast cancer cells growing.

On entering the UK in 2014 as a Scientific Officer at the Institute of Cancer Research, Romana's salary was £29,000. Subsequently, despite her academic and professional background, under the Government proposal of a £30,000 minimum salary threshold, she would not have been allowed into the UK for work.

Romana has further questioned whether she would have come to the UK as a researcher given the increasing uncertainty surrounding UK research. With uncertainty around EU citizens' post-Brexit rights and access to EU funding, she is not sure if she would have been willing to take the added risks now associated with coming to the UK for research.

Government must act to ensure researchers like Romana are able to easily come to the UK to work on vital cancer research projects aimed at improving patient outcomes, and that researchers know that the UK remains open to talent from around the world.

> To encourage the best health workers and researchers [to come to the UK] they need to know they and their dependents can come and go easily, and that the rights of their family members will be protected.
>
> Response to our survey of people affected by cancer

Cancer research is inherently international

Of PhD students funded by Cancer Research UK:

50% are originally from the UK

35% are from the European Economic Area

15% are from the Rest of the World

Internal data collected by CRUK's Research and Innovation Directorate for PhD students receiving a CRUK award

Securing swift patient access to new cancer medicines

93%
of the people affected by cancer we surveyed want the UK and EU to agree to close cooperation on the licensing of new medicines[9]

Cancer is a global challenge, and improvements in outcomes for people affected by cancer are achieved most quickly through international collaboration. That includes working in partnership to ensure cancer patients get the most innovative, potentially life-saving treatments as soon as possible.

As the UK leaves the EU, nothing must be allowed to affect or slow access to new medicines for patients.

The European Medicines Agency (EMA) provides a forum for national medicines regulators to work together and share expertise, accelerating access to new, safe and effective medicines for patients in the UK and throughout Europe.

The UK has been a major contributor to the EMA's activities. This has been done through the UK regulator – the Medicines and Healthcare Products Regulatory Agency (MHRA). As part of the UK's future relationship with the EU, we believe the MHRA and EMA should establish new ways of working to ensure patients in the UK and across Europe continue to benefit from this collaboration and have swift access to the newest medicines.

The EMA has a key role in approving new medicines, by evaluating applications for 'marketing authorisation' which allows these treatments to be routinely used in national healthcare systems. This authorisation verifies a medicine's safety, effectiveness, and manufacturing quality. If the UK is outside of the EMA's medicine licensing arrangements in the new relationship, companies will have to submit separate marketing authorisation applications to the EMA in the EU, and to the MHRA in the UK.

The EMA covers an area responsible for 25% of global pharmaceutical sales. The UK on its own makes up only 3%[8]. Given the smaller relative market size in the UK, companies launching medicines will likely prioritise the EU market and the application to the UK would come later – meaning UK patients would get delayed access to the newest medicines.

The infographic across shows companies already prioritise the EU market over other countries – an advantage the UK risks losing if it diverges from the EMA's regulatory framework.

And the MHRA working closely with the EMA doesn't just benefit patients here, but all over Europe. The EMA's work relies on input from national regulators, and the UK's MHRA is recognised as a world-class organisation key to these efforts. Between 2008 and 2016, the MHRA acted as Scientific Advice Coordinator, proving expert advice to inform decision-making, in over 20% of the EMA's centralised medicine approval procedures[10].

We believe the MHRA and EMA are stronger when they work together, and patients benefit as a result.

Post-Brexit arrangements which result in delays in companies submitting medicines for licensing in the UK, and potential delays in patients accessing to these medicines would be unacceptable and could have significant implications for the research and life sciences industry in the UK.

The UK Government must prioritise seeking the closest possible future relationship between the EMA and the MHRA, and ensure there will be no delays to patient access to new medicines following the UK's exit from the EU.

This should include the MHRA's active participation in the EMA's processes, building on its reputation and expertise, to the benefit of patients here and across Europe.

8 BMI Research, Pharmaceutical sales, USDbn, 2015
9 139 of the 150 surveyed Strongly Agreed or Agreed with the statement *"The UK and EU should agree to close cooperation on the licensing of new medicines."*
10 All-Party Parliamentary Group on Global Health (2015). *The UK's contribution to health globally: benefiting the country and the world*, June 2015. http://bit.ly/1aLMjeu

Companies submit drugs for licensing to the European Medicines Agency before they do to many individual countries

Switzerland
(Swissmedic)
10 weeks
after the EMA

Canada
(Health Canada)
11 weeks
after the EMA

Australia
(Therapeutic Goods Administration)
15 weeks
after the EMA

Data source: Maignen F. et al, Public Health and Economic implications of the United Kingdom Exiting the EU and the Single Market (2017)

> The UK and EU are stronger when they work together to improve public health. In the European Medicines Agency, MHRA expertise and capacity is crucial. For the UK, full participation in the EMA allows swift access to the newest medicines and treatments. A continued strong relationship will benefit patients across Europe and we must not allow political barriers to get in the way of this.
>
> Thomas Lönngren, Executive Director of the European Medicines Agency (2001 – 2010)

> There is too little information about the long-term medical implications of Brexit for future treatments of patients – everything seems focussed on short term panics about stockpiling drugs. We need plans in place for the next 5, 10 and 20 years, not just the next few weeks.
>
> Response to our survey of people affected by cancer

Protecting collaboration between UK and EU medical researchers

94%
of the people affected by cancer that we surveyed want the UK to continue to participate in, and fund, EU research programmes[11]

We want the UK to remain a world-leader in cancer research, with the benefits passed on to patients here and across the world. And that means continuing to play a key role in the international research ecosystem, working with international partners towards our common goal.

Collaboration is an essential feature of medical research. Researchers work across borders to share expertise, pool data and work at a scale they could not do on their own. And cancer research is no different – it is estimated nearly half of all UK cancer research involves international collaboration[12]. Working with international colleagues also makes research more impactful – publication citation scores almost double the world average when the UK and EU work together[13].

Cancer is on the rise globally, with 18.1m people diagnosed in 2018, and deaths projected to rise from 9.6m to 13m worldwide by 2030[14]. In the UK, 1 in 2 people will develop cancer at some point in their lives. Governments, research funders and others are taking joined up action to strengthen the prevention, diagnosis and treatment of cancer through international research collaborations, policy change and increased investment.

The European Union is a hotbed of such collaboration, and European countries are key research partners – in 2017 Cancer Research UK researchers were partnering with over 400 organisations in the EU alone. The EU encourages research and innovation through its Research Framework Programmes – flagship, multi-year initiatives which provide funding and encourage partnerships across countries and between the public, private and third sectors.

The UK excels in these initiatives, and between 2007 and 2017 the UK was the most active EU country in terms of participants in research projects supported by the Programmes[15]. Such participation supports innovative research and science, including some of the vital cancer research detailed in the PHITT case study (overleaf). And the Programmes foster collaboration between scientists in different countries, whether it be during joint applications, when working on the same project or initiative, or as a direct result of grants aimed to facilitate cross-border links.

As the UK establishes a new relationship with the EU, we want to ensure this vital research collaboration can continue. A new EU Research Framework Programme, Horizon Europe, is due to be launched in 2021. Horizon Europe will have nearly €100bn of funding across 7 years, open to researchers across the continent. And, for the first time, Horizon Europe will have a special focus on tackling cancer, with plans for a 'Cancer Mission' to co-ordinate efforts across Europe to deliver much-needed research to prevent, diagnose and treat cancer more effectively.

While the Programme is coordinated by the EU, the door is open to non-EU countries if they seek association and make financial contributions. But as things stand, the UK will not automatically have access to Horizon Europe funding and support – and has not confirmed its intention to seek association. Without access to the programme, UK researchers will be unable to secure vital funds and use their expertise to help direct these cross-border efforts to beat cancer. **For the UK to lose access to and influence in Horizon Europe at this crucial moment would be a significant setback for our brilliant cancer researchers and their much-needed work.**

Cancer Research UK does not directly receive Government funding, from the UK or the EU. But we believe it is crucial researchers in the UK can continue to rely on European funding to support their work and foster vital collaborations in cancer research. And we believe the UK can play a vital role in European efforts to beat cancer in years to come.

UK Government should seek to associate to Horizon Europe and similar research programmes, and ensure UK researchers can continue to collaborate with partners in the EU and access European funding.

11 141/150 Strongly Agreed or Agreed with the statement "The UK should continue to participate in, and fund, EU research programmes"
12 Exploring the interdependencies of Research Funders in the UK, 2014, https://www.ohe.org/publications/exploring-interdependencies-research-funders-uk
13 Technopolis Group, The Impact of Collaboration, 2017, p12 https://www.cancerresearchuk.org/sites/default/files/uk_and_eu_research_full_report_v6.pdf
14 https://gco.iarc.fr/today/data/factsheets/cancers/39-All-cancers-fact-sheet.pdf
15 *The Impact of Collaboration*, p23

Case Study – The PHITT Trial

The Paediatric Hepatic International Tumour Trial (PHITT) investigates the success of different therapeutic techniques for young patients suffering from rare liver cancers that account for 1% of paediatric tumours. PHITT is part of a larger collaborative international project called the Children's Liver Tumour European Research Network (ChiLTERN).

This project is funded 100% by EU sources via the Horizon 2020 Programme, and ChiLTERN has received almost 8 million euros from EU grants to carry out this clinical trial.

Professor Keith Wheatley, the project lead for ChiLTERN says "Importantly, the EU funding allows us to develop and deliver the trial contemporaneously in all EU participating countries rather than a disconnected approach where each country identifies its own funding stream. The amount of funding to coordinate this project would not be available from a single source funder within one country. And as such the Horizon 2020 funding provided by the EU Commission is imperative to such a multi-country collaboration."

International collaboration is crucial if progress is to be made in rare cancers. These types of collaborations allow more patients to participate, provide a great source of funding, and give put the UK at the centre of globally significant research.

> My surviving Acute Myeloblastic Leukaemia was largely due to EU research programmes and environment. The UK leads in many bioscience fields because of the constant exchange with European partners, rich collaboration of minds and appropriately funded research studies.
>
> Response to our survey of people affected by cancer

> [UK negotiators should] make sure EU funding for science in the UK stays the same and collaboration between scientists within Europe remains optimal. Fighting cancer is a global fight.
>
> Response to our survey of people affected by cancer

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