

Our Research Strategy to 2029

Part of our organisational strategy:
Giving hope through life-changing medical research



Our vision

is a world where medical research improves health for everyone.

Our mission

is to lay the foundations for ground-breaking new discoveries and life-changing advances.

We give hope to people whose health conditions are overlooked, by supporting research in areas that are underfunded.

We invest in the brightest and best researchers, ensuring the next generation of scientists can continue to solve the biggest challenges facing human health.



Introduction from our Chair



In our new organisational strategy – *Giving hope through life-changing medical research* – we have pledged to invest at least £25 million in new research between 2024 and 2029, focusing on areas of health that are overlooked and underfunded. That's a total investment of £50 million, over the 10-year period from 2019 to 2029.

At the outset of this new strategy, we have identified four key areas where the Foundation is best placed to make a real difference to people's lives. Through medical research, we will:

- Improve the lives of children and young people.
- Address neglected areas of mental health.
- Tackle the health impacts of climate change.
- Respond to emerging health threats and research opportunities.

Guided by these strategic research priorities, we will fund the full spectrum of medical research, from laboratory science to diagnostics and treatments. We will invest in research leaders of the future, through fellowships, research grants, and prizes. And we will help researchers to share their findings with patients, clinicians, and policymakers, ensuring the latest evidence has the best possible chance of changing healthcare policy and practice, as well as people's life choices.

We know that by investing in medical research now, we will see life-saving advances in the future.

There is a great deal for us to achieve together, and whatever your role in the research funding landscape, we invite you to help us.

Professor Paul Moss OBE, Chair of our Board of Trustees

Put simply, our purpose is to improve health and change lives through research.

As a small, broad-based medical research funder, our remit is wide, and the need is great. This means we need to focus on funding research in ways that will have the biggest possible impact on people's lives.

Throughout the next five years, we will continue to take a targeted approach, funding research that aligns with one or more of our strategic research themes.



High need,
low research
investment

There are too many health conditions which continue to devastate lives. They remain difficult to diagnose and treat, due to unanswered questions about how they develop in the first place. And they are overlooked by other funders, meaning research investment is low. We will use our unique position as a broad funder of medical research to identify and fund in these areas.



Emerging
research
leaders

The health problems of the future will be solved by the researchers we invest in today. However, scientific careers are becoming more precarious, with early and mid-career researchers dropping out of science altogether, due to a lack of secure positions, pressures on research funding, and a financial crisis hitting the higher education sector. We will award funding during this critical period, keeping the brightest minds in science, for the benefit of us all.



Changing
policy and
practice

To deliver truly life-changing medical research, we need to ensure that the latest research discoveries are shared beyond the scientific press, with people who are able to influence healthcare policy and practice, as well as personal life-choices. Few funding opportunities exist for scientists to specifically ensure that policymakers and practitioners are aware of and use their research. By funding in this way, we will ensure healthcare policy and practice is based on the latest evidence.



Improving the lives of children and young people

The challenge

Medical research in children and young people has historically been repurposed from studies done in adults, meaning the findings are often generalised to them. However, the health of children and young people is significantly different to that of adults.

We now know that childhood and adolescence is a period of dramatic development within the brain, causing differences in behaviour and cognition, accompanied by hormonal and physical changes which are happening at the same time.

Research into child and young people's health has not progressed at the same speed as that on adults, and the impact of this is being felt by children now, whose conditions are poorly understood and poorly treated.

Understanding the distinct biological mechanisms of childhood disease, alternative risk factors or interventions can help to improve health across the whole life course. Progress in this area is much needed.

Our response

We have already invested significantly in this area, for example through partnerships with Versus Arthritis in musculoskeletal pain and with UK Research and Innovation in chronic pain.

We have also funded new research into child cancer pain, as well as projects tackling skin disorders in adolescents and eye disorders in children, both of which can carry a lifelong burden, but where little research progress has been made.

We will continue to prioritise the health of children and young people in our research funding, so that they can lead healthier, happier lives. Our funding will focus on previously neglected areas, as well as on conditions where children are disproportionately affected.



Researcher profile

Dr Lauren Heathcote, King's College London

Survivors of childhood cancers often face a lifetime of physical and psychological health challenges, including ongoing pain. Dr Lauren Heathcote is developing and testing one of the first behavioural interventions to alleviate the impact of pain and improve wellbeing in childhood cancer survivors. This could provide a highly accessible and scalable approach to helping childhood cancer survivors cope with pain, which would, in turn, improve their quality of life.



Addressing neglected areas of mental health

The challenge

Mental health disorders account for 21% of the UK disease burden, although this figure is likely to be much higher, due to reluctance to seek medical help for these conditions. In recent years, although this number has been increasing, only 6% of the UK's health research budget was spent on mental health. As a result, many mental health conditions are neglected and poorly understood.

Clearly the level of mental health research funding in the UK is still not meeting the scale or impact of mental illness within the population, meaning people are not getting the support they need. The reasons why people experience mental health disorders are often complex and, despite their prevalence, still not well understood. Some examples include:

- **Eating disorders**, which affect around 1.25 million people in the UK. More young people than ever before need treatment for these devastating conditions, yet there remains a chronic lack of research funding in this area.
- **Self-harm**, with rates increasing in the UK over the past decade, particularly in young people.
- **Suicide**, which has risen steeply among young men in the last five years, yet this area receives a disproportionately small – less than one per cent – of mental health research funding.
- **Neurodevelopmental conditions with mental health co-morbidity, such as attention-deficit hyperactivity disorder (ADHD)**, a condition which interferes with day-to-day functioning and is increasing steeply within the UK, with estimates suggesting it affects 5% of children and 3-4% of adults.
- **Other severe mental health conditions**, such as Tourette's syndrome, obsessive-compulsive disorder, borderline personality disorder, and trauma-related mental health.

Our response

Lots of mental health conditions remain neglected. As areas of need are identified – like the ones outlined above – we will use our agility to fund research in these areas.

We will support the brightest and best researchers who are striving to understand why these conditions develop in the first place, and what can be done to better prevent, diagnose and treat them.

Previously we have focused our efforts on eating disorders and self-harm, funding 21 projects which have advanced our understanding of these life-threatening disorders, while helping to inform larger-scale prevention and treatment studies.



Researcher profiles

Dr Dawn Branley-Bell, **Northumbria University**

During the COVID-19 pandemic, the UK saw a sharp rise in eating disorder cases, especially among teenage girls. Dr Dawn Branley-Bell wanted to understand why this was happening, so she carried out a series of online surveys, which revealed that over 30% of respondents with eating disorders were experiencing ‘much worse’ symptoms following lockdown restrictions.

With funding from us, Dawn uncovered eight key impacts of the pandemic, including increased social isolation and reduced access to healthcare services. Since then, Dawn has worked alongside healthcare providers to co-design better remote healthcare solutions for people with eating disorders.



Dr Rina Dutta, **King's College London**

More than one in 10 young people in the UK are thought to have self-harmed, and, as seen with eating disorders, rates of self-harm among young people increased dramatically during the first two years of the COVID-19 pandemic – especially among teenage girls.

The reasons behind self-harm are complex, and there is some evidence to suggest a link between self-harm and the impact of social media on mental health.

Thanks to our funding, Dr Rina Dutta is exploring how social media and smartphone use could influence self-harm; including excessive use and addiction, night-time use, and cyberbullying. Findings from Rina's research could help to predict self-harm episodes in young people and aid the design of more effective, targeted interventions.



Tackling the health impacts of climate change

The challenge

Climate change is a severe and continually growing threat to human health globally. We will all be affected, but children, the elderly, and people with pre-existing medical conditions, are most vulnerable. The health impacts of climate change will not affect everyone equally and will worsen already existing health inequalities.

Climate change will impact on health through heat-related illnesses, physical or mental harm from extreme weather, and food and water insecurity. Globally, changes to temperature, rainfall and humidity will influence the transmission and distribution of vector-borne diseases like malaria and these infectious diseases will occur in countries that have not been exposed in the past, including the UK.

Although the health effects of weather events are generally understood, it remains difficult to accurately estimate the scale and range of climate change-related risks to health or the measures that could be put in place to control or eliminate these impacts. That's why research in this area is so vital.

Our response

Countries in sub-Saharan Africa are among those most vulnerable to the impacts of climate change. So far, we have invested £2.7 million in partnerships between researchers in sub-Saharan Africa and the UK, prioritising projects that have a clear pathway to action.

Other research funders are also investing at scale in this area.

We will fill a gap in the funding landscape by giving emerging research leaders the early funding they need to win these larger grants, so that they can continue making much-needed advances for people affected by climate change.

We will continue to invest in partnerships looking at climate change in Africa and we will bring a new focus to the impacts of climate change on health in the UK.

We will continually evaluate where funding is most needed, using our unique position of agility within the UK to assess this constantly shifting threat. Research in the following areas, which are likely to impact the UK, will benefit from our investment:

- poor air quality, leading to respiratory and cardiovascular ill health;
- increased heat-related illness and vector-borne infectious disease; and
- poor mental health.



Researchers profile

Dr Cherie Part and Dr Adelaide Lusambili, Africa International University and the London School of Hygiene & Tropical Medicine

Dr Cherie Part and Dr Adelaide Lusambili are studying the effects of extreme heat exposure on mothers and babies in sub-Saharan Africa.

As climate change causes temperatures to rise, millions of women and babies around the world will be exposed to extreme heat. We know this is very dangerous, but we don't know exactly how heat exposure affects pregnant women, new mothers, and infants. As a result, it is very difficult to design measures to protect them.

This project will gather crucial evidence and develop new ways to protect the health of mothers and their babies, in partnership with their local communities.



Responding to emerging health threats and research opportunities

The challenge

Our experience of COVID-19 shows how suddenly new health challenges can appear, and how we rely on medical research to protect and save lives.

Despite the emergence of a pandemic disease being predicted by the World Health Organisation (disease X was placed on their blueprint of priority diseases in 2018, representing an as-yet unknown pathogen), the speed and range of spread of COVID-19 was unexpected. The worldwide impact ensured a rapid pace of scientific discovery around the virus causing COVID-19 and its control. The likelihood of a future 'disease X' or pandemic remains high.

Artificial intelligence and personalised medicine offer a route to new diagnostics and treatments, precisely targeted for individual diseases and people. These emerging technologies hold great promise for the future of human health, but we need to support the pioneering researchers who are developing them.

Our response

We are an agile funder and have always been able to respond to the needs of our times. There is no doubt new health challenges and opportunities will arise in the future, and we will remain responsive to these.

In 2021, our Emerging Leader's Prize celebrated researchers who had made wide-ranging impacts during the COVID-19 pandemic, pivoting their research towards examining viral effects on the body, its diagnosis and its spread.

We will continue to use our broad remit to respond to emerging threats in the future.

When new health threats appear, some of those disproportionately impacted are the most vulnerable people in society, such as children, women and ethnic minorities; we will continue to fund work which puts research into practice for disadvantaged groups.

Along with threats come opportunities, and where we see that our investment will make a big impact on health – for example in new diagnostics, treatments, or even ways of conducting research – we will invest funding to secure that impact.



Researcher profile

Dr Katie Doores, King's College London

Antibodies are an integral part of the body's immune response to infections and studying how they respond to different viruses is essential in vaccine development.

Prior to the COVID-19 pandemic, research by Dr Katie Doores focused on understanding how our antibodies respond to lots of different emerging viruses, including HIV. Within weeks of the COVID-19 outbreak, Katie rapidly pivoted her work to study how our antibodies respond to COVID-19 infection.

"In collaboration with researchers around the country, my research has helped to evaluate and establish the use of lateral flow antibody testing, to help us understand severe COVID-19 disease, and monitor how people with pre-existing conditions like cancer and psoriasis respond to the vaccine," says Katie.

Thanks to our 2021 Emerging Leaders Prize, Katie set up two new research techniques in the lab to identify antibodies and vaccines that could give broad protection against multiple viruses. "Not only is this important in COVID-19, but also in ensuring we are prepared for the next global pandemic – if and when it arises," says Katie.

Our approach to research funding

As an independent charitable foundation, formed by the Medical Research Council (MRC), we are inspired by the responsibility and independence that our donated income gives us. We use our voluntary income responsibly and ensure we make the greatest impact where it is most needed.

We meet the highest research standards through our unique connection with the MRC.

We decide how to fund applications with both our own expert review panels and using the MRC's scientific experts to help us to find suitable experts to provide written peer reviews of applications. The MRC also suggest experts to sit on our shortlisting review panels, expert review panels and interview panels. We ensure our Peer Review meets the highest standards set by the Association of Medical Research Charities.

In the past 10 years we have worked in partnership with Asthma + Lung UK, UK Research and Innovation particularly MRC, National Institute for Health and Care Research, and Versus Arthritis. These partnerships have delivered a combined total of £9 million in research funding, in areas of health that are important to us, our supporters and our partners. This is more than we could have achieved on our own. As well as allowing us to fund research in important, underfunded areas, these partnerships have brought in additional expertise, patient perspectives, and helped us to reach new communities of researchers. We value and nurture our existing partnerships. We are always open to new and innovative partnerships that will help to improve human health.

We want our funded researchers to be research leaders, changing science and health long into the future.

We are not simply a research funder; we will offer our researchers opportunities to develop their skills and careers. This will happen through a programme of support and development opportunities including mentoring, further funding opportunities, networking and access to development events, and training.

We are committed to embracing diversity, attracting the best from the widest pool possible, and drawing on the skills of all people when funding research. We will continue to monitor the equality and diversity of our funding processes and funded researchers, and as members of the Equality, Diversity and Inclusion in Science coalition, to learn from models of best practice in this area.

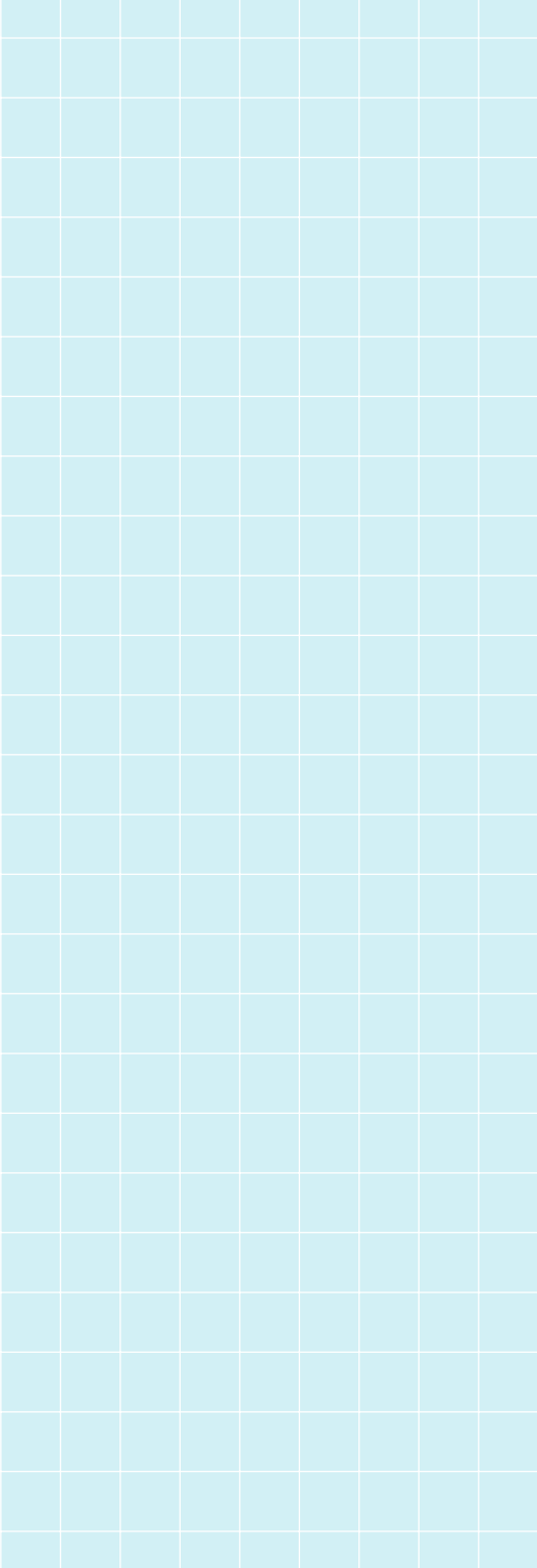
Case study – Equitable partnerships



We know that to have the biggest impact, long-term, sustainable research and partnerships between researchers are necessary.

In 2023, we ran our first training programme for researchers in conducting Equitable Collaborations, focused on partnerships between UK and African scientists who are investigating the health impacts of climate change.

Our training programme helped the researchers to jointly generate new ideas to strengthen their research project and partnership, in addition to creating a framework for the lifetime of the grant and beyond in conducting research free from the inherent inequities which often pervade research and teams. This contributed not only to individual projects but to the wider equitable research ecosystem. The feedback received showed that this had altered researchers' ways of working and perception of how to form collaborations, with feedback describing how the course 'provoked deep reflection and learning,' and that 'the framework will be used in all my collaborations.'



Measuring our progress

We will continue to closely monitor and evaluate the impact that our funded researchers are having, to ensure that our supporters are getting the best possible value.

We ask our funded scientists to report annually on their research outputs and outcomes, including publications, changes to policy or practice, and patents. This reporting continues beyond the life-time of their award so that we can continue to monitor our long-term impact. The research outputs and impact will be evaluated against our research strategy and used to inform our next strategy refresh in five years' time.

Our commitment to planetary health

Research has clearly shown that climate change is a real and rapidly growing threat to human health, with the World Economic Forum estimating that it may cause an additional 14.5 million deaths worldwide by 2050. The changing climate will impact on all of us but especially those that are already the most vulnerable.

In addition to focusing a portion of our research funding on the impact of climate change on health, we have already taken steps to reduce our own greenhouse gas emissions and will now focus on increasing the environmental sustainability of the research that we support. We have commenced this commitment by becoming a supporter of the Concordat for the Environmental Sustainability of Research and Innovation Practice and will take steps in the early years of the strategy period to embed this commitment into our grant-making practices.



Research Bakers: show off your baking skills and raise funds for life-changing medical research.



Play your part

Change the future for people with overlooked and underfunded health conditions.

Thanks to our supporters, the research we've funded over the years has changed lives. But to improve health for everyone, much more research needs to be done.

We've all experienced a health problem in our lives. For some, it is long-lasting and life-altering, for others it can be severe and life-threatening.

Those of us living with overlooked and underfunded conditions can be left feeling isolated and uncertain of our future. And we know that health conditions don't just affect the person experiencing it, but their family and loved ones too.

There are many health conditions which don't get the attention they deserve. This amounts to millions of people – in desperate need of better solutions for their health challenges – who will continue to fall through the cracks.

Medical research can provide the solutions.

Act now and you can make a difference to people's lives, both now and long into the future.

There are many ways you can get involved – like signing up to our supporter e-newsletter, making a donation, hosting a research bake-off, or taking on a challenge event.

From volunteering to fundraising or pledging a gift in your Will, we can all support the research that will improve health for everyone. Join our community and start making a difference today.

Your support can make life-changing medical research happen.

Visit our website to find out how you can support us:
www.medicalresearchfoundation.org.uk



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