

About the British Heart Foundation

The British Heart Foundation (BHF) is the largest independent funder of research into heart and circulatory diseases and the third largest charitable funder of medical research in the UK. Each year, thanks to the generosity of our supporters, we are able to fund around £100 million of new research across the UK. The research we fund has helped halve the number of people dying from heart and circulatory conditions since the 1960s. Despite these breakthroughs, our work is not done, as there are still more than 7 million people living with heart and circulatory diseases in the UK and these diseases cause more than a quarter of all UK deaths.

The strengths and weaknesses of the current UK research community

1. The UK has a diverse and collaborative R&D system, with a strong charity sector

Research and innovation is one of the UK's great strengths. With just 2.7% of the world's R&D expenditure, the [UK generates](#) 15.2% of the world's most highly-cited articles. One of the reasons the UK's research sector is so globally competitive is because of the multiple funders that support it, including charities, government and industry.

Not only does this multi-funder system provide high levels of investment, but it also means that a wide variety of research is funded, at every stage of the science pipeline. This diversity is a key factor that sets the UK apart, with the contribution of medical research charities particularly unique in comparison to other countries.

Charities are a key component of this system, funding a significant proportion of the UK's public research; in 2020, the Association of Medical Research Charities (AMRC) members funded £1.7 billion of medical research, 49%, of all publicly funded research.

The BHF funds the majority (55%) of all publicly funded cardiovascular disease research in the UK. In 2019 alone, we invested £99.7m in 217 new research awards, supported 83 new early career researchers, and contributed £13.7m to strategic partnerships worth £58.1m. Our funding also brought in £11.8m of private sector investment.

Charities are particularly effective funders because they are directly connected to patients. At the BHF, involving people affected by heart and circulatory disease in our research is important to us – both because it can improve the quality of the research, and because it helps make sure that the research is addressing issues that patients feel are important to their treatment and care.

How patients help shape BHF work

In 2019 we recruited a global Patient and Public Panel to help assess applications to our landmark £30m [Big Beat Challenge](#). The panel is made up of 12 people with heart and circulatory conditions from around the world. As part of the assessment process, panel members gave their views on whether the proposed projects had the potential to transform the prevention or treatment of heart and circulatory disease, and whether they were clearly relevant to patients.

Our policy and influencing work is also informed by people with experience of heart and circulatory disease. For example, five patient representatives had pivotal roles in 2019 contributing to "Putting patients at the heart of artificial intelligence", a [report](#) by the All Party Parliamentary Group on Heart and Circulatory Diseases. More recently, two BHF patient

representatives attended a workshop held by the National Institute for Health Research (NIHR) to give their perspective on a post-Covid vision for clinical trials in the UK. In addition, we convened a new panel specifically to provide patient involvement in [Covid-19 flagship research projects](#) which have been prioritised by the BHF and NIHR to understand more about the links between Covid-19 and cardiovascular health.

Patient involvement has also been at the heart of the BHF-funded [Clinical Research Collaborative \(CRC\)](#), which was established in 2019 to support the planning and delivery of high-quality clinical cardiovascular research across the UK.

2. The UK's future as a 'scientific superpower' and an 'innovation nation' is at risk due to relatively low public R&D spend

Despite the UK's impressive international standing, over the past few years, there have been relatively modest rises in public R&D spending. The 2021 Autumn Budget and Spending Review was widely perceived by the R&D sector as being a critical opportunity the Government to boost public spending and realise their promise to more than double public investment over the course of this Parliament. While the Government did deliver a clear 3 year plan of continued rises in R&D funding, the announcement also watered down some long-standing promises.

The Government's target date of 2024-25 to increase public R&D spending to £22 billion per year was pushed back by 2 years, effectively cutting the ambition by £2bn per year in the short term. This delay will have a significant impact on "crowded in" private investment, with [analysis from the Campaign for Science and Engineering \(CaSE\)](#) showing that the UK would stand to lose more than £11bn in private R&D investment between now and 2027 if the £22bn target was delayed by 3 years. The BHF warned of this ahead of the comprehensive spending review, co-signing a letter alongside [32 other leading organisations](#) calling for a recommitment to deliver the £22bn target by 2024/25. While the target to increase research intensity to 2.4% of GDP by 2027 has not changed, [CaSE projects](#) that this target will now be missed, and research intensity in the UK will reach just 2.33% of GDP in 2027.

These delays and projections compound the UK's position in lagging behind international competitors. [Analysis](#) has already shown that the UK has stagnated on R&D spending over the past 20 years compared with other nations. During this time, Korea has doubled its research intensity, China has tripled its research intensity, and other competitors like Japan and the US have increased their respective research intensities 4 and 5 times more than the UK.

The sector now needs to see details of how the Government intends to meet its 2.4% target to ensure no further delays and to reassure the sector the UK is serious about being a science superpower. Given the long-term nature of R&D, sustained and long-term commitment is especially crucial for the R&D community to be able to plan and grow.

3. The model of university research needs to be sustainable

Last year, the Government [committed to](#) considering whether it should fund a greater proportion of the full economic cost (FEC) of research projects in universities. This was in response to the well reported deficit universities face as a result of having to subsidise the cost of research activity (a deficit valued at £4.6bn in 2019/20¹). At the same time, charities have noted a year-on-year decrease in the value of the Charity Research Support Fund (CRSF), a

¹ OfS Annual TRAC reports 2016-17, 2017-18, 2018-19 and 2019-20

Government support mechanism that covers some of the indirect costs of university based charity research projects, which brings charity funding in line with Research Councils. While we welcomed the package of long-term R&D investment and re-commitment to making the UK a science superpower in the 2021 Autumn Budget and Spending Review, a key part of making this ambition a reality will be ensuring universities are funded in a sustainable way. Ultimately, the BHF wants to ensure the CRSF is as effective and transparent as possible for all parties, and that the Government is better recognised for its contribution to charity-funded research through this vital fund. We would therefore welcome discussion between Government, universities and charities, to ensure that the CRSF is working as effectively as possible².

University research funding is a devolved matter, but the situation is similar across the devolved nations. In Scotland, the level of funding for university research has been relatively static in recent years with the overall Research Excellence Grant (REG) and the CRSF equivalent, the REGc, increasing by less than 5% since 2017/18. In November 2021 the Scottish Funding Council launched a consultation on the REG which proposed increasing the proportion of the REG given to the charity support component REGc, from 11% of the total REG to 15%, an increase of £10 million. In Wales, the charity support fund has not increased since its introduction in 2007/08. In Northern Ireland Government has distributed £3.4m of 'Charity Support' to universities every year since 2006 to help supplement university research income received from charities.

4. The UK needs to bolster its clinical research base with an NHS research mandate

The UK is already a global player in clinical research. In 2018/19, every single NHS Trust in England took part in research, with [over 1 million](#) clinical research participants. The evidence and innovations identified through such research are pivotal to the development of new types of care and treatment - ultimately leading to the prevention of ill health, earlier diagnosis, faster recovery and better outcomes for patients.

The Covid-19 pandemic only served to highlight the UK's clinical research capabilities, with the RECOVERY trial being the first study in the world to identify a drug (Dexamethasone) that improved survival in patients with severe respiratory complications of Covid-19.

As well as driving improvements for patients, there is [growing evidence](#) that research in the NHS is associated with increased staff retention, job satisfaction and financial benefits to the health system through commercial revenue.

However, NHS staff [report](#) having insufficient time, funding and skills support to undertake research; inadequate organisational support for research; and limited opportunities to engage with research. Staff even report having to take annual leave to conduct research and funders report difficulties trying to set up and run clinical trials.

To support NHS recovery from the Covid-19 pandemic and continue to reap the benefits of clinical research, we need to build on the current enthusiasm for research, and make it part of routine healthcare in the UK. The current Health and Care Bill creates an opportunity to do just that, by embedding research into the new NHS Integrated Care System structures as they become legal entities (current legislation only includes a "duty to promote" research in NHS

² Public First, Exploring Options for Partnership Support for Charity-Funded Medical Research at Higher Education Institutions, (2021) URL: <https://www.amrc.org.uk/Handlers/Download.ashx?IDMF=0573087c3e73-40af-9389-bb7975ba3880>

settings). As such, the BHF is supporting [ABPI's call](#) for the new Bill to mandate that Integrated Care Boards ensure that NHS organisations for which they are responsible conduct clinical research.

Of course, a mandatory requirement to conduct research will only be effective if it is accompanied by appropriate resources and skills development to enable NHS staff to engage with research. It is important to recognise the current pressure NHS staff and organisations are under following the Covid-19 pandemic response, with a sizeable backlog of clinical care and workforce fatigue.

However, the evidence shows that clinical research, rather than being a burdensome addition, can play a major role in our health system recovery by supporting both patient outcomes and staff satisfaction. To harness these benefits, it is imperative staff are supported to make the most of research opportunities. Addressing workforce shortages and promoting clinical academic careers will be a vital component of this.

5. R&D investment should consider burden of disease

Health challenges are changing. Where the 20th century faced acute conditions, today the biggest drivers of mortality and morbidity are often acute and long-term. Heart and circulatory conditions remain the world's biggest killers and account for a considerable burden of disability. There are around 7.6 million people living with heart and circulatory diseases in the UK – and an ageing and growing population and improved survival rates from heart and circulatory events could see these numbers rise still further.

However, as evidenced in "[The Science-Based Economy](#)" report by the Institute for Public Policy Research (IPPR), cardiovascular and stroke research is significantly underfunded compared to the impact of these conditions on society: it receives only 9% of UK health R&D investment, considerably below the 19% that should be invested based on disease burden, as measured by disability adjusted life years (DALYs; a measure of overall disease burden that combines the number of years lived with disability and the number of years of life lost). Relative underinvestment is also present in mental health, respiratory and musculoskeletal and immunological research. The underspend in cardiovascular research is estimated to be £650 million.

The Government's Life Sciences Vision rightly outlines "Prevention and treatment of cardiovascular disease and its major risk factors including obesity" as a key mission, with the 2021 Spending Review including £95 million for the Office for Life Sciences to help deliver the Vision. However, more needs to be done to address the significant underspend in cardiovascular disease in the UK. Redressing this, and other disparities in funding relative to disease burden is essential to the UK achieving its life sciences ambitions around tackling the major causes of death and disease through innovation and technical advancement.

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