Government support for charity funded research in universities

A joint statement from universities and charities in the UK

We call on the Government to reaffirm its commitment to ongoing partnership funding to ensure the sustainability of charity-funded research in universities in England

Medical research brings enormous benefits to the UK. These benefits are both economic and health related, improving the lives of millions of people across the UK and the world.

The UK generates over 10% of the world’s clinical science and health research outputs and has created nearly a quarter of the world’s top 100 medicines. Many treatments and cures for diseases that are now improving patients’ lives have been developed through collaboration between charities, universities and the Government.

Charities choose to fund research in UK universities because of the world-class research environments they provide. The dual support system for university research is a key factor underpinning this excellence. The Quality Research (or QR) block grant from the Higher Education Funding Council for England (HEFCE) builds strong, autonomous universities by giving them the stability, flexibility and freedom to make strategic decisions about their own research activities. The charity research support element (known as the Charity Research Support Fund or CRSF) is a vital part of QR as it enables Government funding to leverage additional partnership funding from the charity sector. HEFCE increased the CRSF to £198 million for 2010-11.

Members of the Association of Medical Research Charities funded £1.1 billion of research in the UK in 2009-10 alone. Approximately 15% of research income at UK universities comes from UK-based charities.

What has been achieved through medical research would not have been possible without the investment and collaboration of charities, universities, and the Government. It is vital that this joint activity and investment continues.
Universities and charities need to be able to plan their future funding and research strategies with the secure knowledge that the dual support system, and the important charity support element within it, will continue. A 'stop-start' approach to Government funding could lead to attrition of the research base, and could disproportionately affect progress in medical research in universities, where the majority of charitable research funding is focused.

A long-term commitment to this partnership will enable innovative research to continue to be funded by charities in universities and ensure university infrastructure is sustainable over time.

Background information

What is the dual support system?
Under dual support, grants for specific projects and programmes are provided by the Research Councils, while HEFCE provides support for universities’ general research capacity-building costs. These general costs are funded through the QR block grant, which is allocated selectively on the basis of excellence. The dual support system has strengthened the UK research base by allowing a diversity of funders – including Government, industry, charities and overseas funders – to contribute to its development.

How do charities fund research in universities?
Charities award grants to support the direct costs of research in universities. These direct costs make up a proportion of the full economic costs (FECs) of research. Additional funding is required to take account of universities' broader infrastructure and general running costs – the remaining proportion of FECs – which fall outside charitable objectives so cannot be covered by charities. The Government provides funding to help offset these additional costs, which ensures that more of the money, often generously donated by the public, is spent directly on research.

Figure 1  Flows of funding in UK science

Figure reproduced from 'The Scientific Century: securing our future prosperity', Royal Society (November 2009)
How does the Government support charity funded research in universities?
The 2004 Science and Innovation Framework included a commitment that the Government would provide an additional element of QR funding to support charity-funded research in universities in England, known as the charity support element of QR funding, or CRSF. This element of QR funding gives universities the flexibility to offset indirect costs not covered by charitable grants, such as estate costs and institutional support services. CRSF is allocated by HEFCE based on the amount of charitable research funding received by each university. To qualify for CRSF support, charity funding must be awarded through a competitive, peer-reviewed process. This ensures that the CRSF creates additional incentives for high quality research in universities.

Despite considerable cuts to its budget, HEFCE recognised the ongoing importance of charity support funding by allocating £198 million for the academic year 2010/2011. The Department of Business Innovation and Skills (BIS) publicly acknowledges the importance of this funding, but there are no funding allocations yet in place beyond 2010.

What are the economic benefits?
The UK’s scientific and medical research is world class. Despite only having one per cent of the world’s population the UK is responsible for 7.9% of world research publications and 14.4% of those citations with the highest impact. Translation into economic benefits can arise from any part of the research spectrum – from advances in basic understanding, strategic exploration of potential applications, or the pursuit of specific market opportunities.

In 2008/09, 85% of the research funding spent by members of the Association of Medical Research Charities was in Higher Education Institutes in the UK. This investment helps:

- underpin university research, which informs the training of highly skilled graduates and post-graduates
- catalyse innovation by industry
- support improvements in public policy, and
- contribute to major improvements in people’s health and quality of life.

A recent study showed that each pound invested by the taxpayer or charity donor produced a stream of benefits every year ‘in perpetuity’ equivalent to 39p for cardiovascular disease and 37p for mental health research.
What are the health benefits?

The investment that charities provide for research has a substantial impact, transforming the treatment and care of patients and their hope for the future. In the last six years alone, over £5 billion has been spent by charities on medical research. This consistent source of funding, over a long period of time, has led to many healthcare advances.

Charities are also able to fund research into rare or neglected conditions, where other public funding may be limited. The following case studies show just some of the leading research that charities fund in universities, and outline the roles of the higher education sector bodies.

The Association of Medical Research Charities (AMRC) is a membership organisation of the leading medical and health research charities in the UK.

Established in 1987, AMRC has 120 member charities that contribute over £1 billion annually to medical research aimed at tackling diseases such as heart disease, cancer and diabetes, as well as rarer conditions like cystic fibrosis and motor neurone disease. This is approximately one third of all public expenditure on medical and health research in the UK making the sector unique internationally in terms of its scale and impact and enabling us to contribute significantly to knowledge and understanding in the life sciences, medicine and health.

All our members have a clear process for the peer review and funding of research grants as well as a published research strategy outlining their objectives and priorities in funding research and they intend to achieve them. They also sign up to position statements on issues central to medical research.

We work together to support the sector’s effectiveness and advance medical research by developing best practice, providing information and guidance, improving public dialogue about research and science, and working with government.

Breast Cancer Campaign’s mission is to beat breast cancer by funding innovative world-class research to understand how breast cancer develops, leading to improved diagnosis, treatment, prevention and cure. Campaign currently funds 117 research projects in the UK worth over £17 million. One of the projects funded by Breast Cancer Campaign has identified a way to spot breast cancer patients at risk of heart disease after radiotherapy. As cancer survival rates improve, reducing the long-term side effects of treatment and improving quality of life for cancer survivors is increasingly important.

When patients receive radiotherapy to the left side of the chest, a small part of the heart is within the treatment range which can lead to heart disease developing many years later. The researchers based at the University of Leicester discovered patients that develop red dilated blood vessels (telangiectasia) on the breast or chest wall are at greater risk of developing heart disease. About 50 per cent of women who have a small part of the heart within the treatment area and telangiectasia will develop heart disease, sometimes up to 15 years later. Telangiectasia was previously believed to be unsightly rather than of any medical significance.

The researchers are now studying the genes of 1,000 patients who have undergone radiotherapy to try and identify those likely to experience side effects which could lead to heart disease. Ultimately this research could lead to a test to predict which patients will develop severe radiotherapy side-effects, clinicians would then be able to use this information to advise patients of their risk before treatment and help monitor people for future cardiac problems.
The BHF is the largest non-commercial funder of cardiovascular research in the UK, and funds the best heart researchers at all stages of the career ladder, from PhD students to Professor. Between April 2008 and March 2009 the BHF invested over £145 in cardiovascular research every minute – a total annual investment of over £78 million.

The charity will be 50 years old in 2011. We’ve been supporting UK research excellence throughout our history, and have seen many of our investments into fundamental laboratory-based research translate into real benefits for people with heart and circulatory disease across the UK. The work of Professor Hugh Watkins is a great example of this.

With BHF’s funding, Hugh discovered some of the first gene mutations that cause the inherited condition, hypertrophic cardiomyopathy (HCM). HCM is a heart muscle disease that affects around one in 500 people and is the leading cause of sudden death in young people, sometimes in young athletes.

In 1996 Hugh became a BHF Chair at University of Oxford, where he continued his work into HCM, eventually setting up pilot DNA screening services for affected families. When someone is identified as having died of HCM, their relatives can be referred to these services to test if they’re also carrying the culprit gene mutations and are at risk.

In 2005, this kind of DNA screening for HCM was recommended by NICE for UK-wide rollout. This was the result of painstaking BHF-funded bench-to-bedside research over two decades. Now, thanks to family-screening, those relatives at risk can be treated with medicines or by fitting an internal defibrillator, while those without the disease can be reassured.

Cancer Research UK is entirely funded by the public and in 2008/09 we spent £355 million on research, supporting the work of more than 4,500 scientists, doctors and nurses. We fund research into all aspects of cancer from exploratory biology to clinical trials of novel and existing drugs as well as population-based studies and prevention research.

A team of Cancer Research UK chemists at Aston University first synthesised temozolomide, and the drug was later formulated for clinical trials by our researchers at Strathclyde University before being taken into first-in-man trials by our Drug Development Office. As a result of these trials, temozolomide was taken forward as a promising treatment for glioblastoma – an aggressive form of brain tumour and the most common primary brain tumour in adults.

The development of temozolomide has given new hope to cancer patients with glioblastoma, as it has been shown to extend survival with minimal side effects when given in combination with radiotherapy. The use of temozolomide both during radiotherapy and for six months post radiotherapy is now the gold standard treatment for most cases of glioblastoma. The drug has achieved sales of over $1 billion, and a proportion of its royalties are fed back to Cancer Research UK to further fund our work. The Drug Development Office at Cancer Research UK and Cancer Research Technology were responsible for licensing temozolomide to Schering Plough who carried out the later development work that led to its approval and entry onto the market.

The Russell Group represents the 20 leading UK universities which are committed to maintaining the very best research, an outstanding teaching and learning experience and unrivalled links with business and the public sector. Russell Group universities play an important part in the intellectual life of the country and have a huge impact on the social, economic and cultural well-being of their regions. Our aim is to ensure that our universities have the optimum conditions in which to flourish and continue to make this impact through their world-leading research and teaching.
Universities UK is the major representative body and membership organisation for the higher education sector. It represents the UK’s universities and some higher education colleges. Its 133 members are the executive heads of these institutions. Universities UK works closely with policy makers and key education stakeholders to advance the interests of universities and to spread good practice throughout the higher education sector. Founded in 1918 and formerly known as the Committee for Vice-Chancellors and Principals (CVCP), Universities UK celebrated its 90th anniversary in 2008.

The Wellcome Trust is a global charity dedicated to achieving extraordinary improvements in human and animal health. We support the brightest minds in biomedical research and the medical humanities. Our breadth of support includes public engagement, education and the application of research to improve health. We spend over £600 million every year, both in the UK and internationally, achieving our mission.

The Wellcome Trust funded a team of researchers at the Peninsula Medical School to investigate the genetic mutations that cause neonatal diabetes – a rare form of diabetes where patients are diagnosed with diabetes within six months of life and are dependent on insulin injections. The team discovered that a mutation in a single gene is responsible for 30–50 per cent of cases of neonatal diabetes. Further research revealed that sulphonylurea treatment (a common diabetes therapy used in the middle aged and elderly) enables insulin to be released into the bloodstream of individuals with this form of diabetes. In a study of 49 patients with the identified mutation, 90 per cent were able to come off insulin and achieved near normal blood glucose control with sulphonylurea tablets alone.

This genetic research is now altering clinical practice: all patients diagnosed with diabetes before six months are tested for mutations in the identified gene and patients with such mutations are transferred to sulphonylurea tablets. To date, over 100 patients, many of them children and babies, have been able to come off insulin injections and transfer to tablets – dramatically improving their quality of life. A patient who had been injecting insulin for 27 years sums up the impact this discovery for her: “[It’s] the best blood test I’ve ever had – the one that was to liberate me from the restraints of daily insulin injections.”

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i This statement calls on the English Government to make a long term commitment to ongoing partnership funding, and describes the funding mechanisms present in England. There are equivalents of CRSF in the Scotland, Wales and Northern Ireland and we seek similar long term commitments there.

ii Reaping the Rewards: a vision for UK medical science. The Academy of Medical Sciences. January 2010

iii Securing world-class research in UK universities: Exploring the impact of block grant funding. Higher Education Funding Council for England, Scottish Funding Council, Higher Education Funding Council for Wales, Department for Employment and Learning, Universities UK. November 2009
