

Cynulliad Cenedlaethol Cymru | National Assembly for Wales

Y Pwyllgor Plant, Pobl Ifanc ac Addysg | Children, Young People and Education Committee

Ymchwiliad i Effaith Brexit ar Addysg Uwch ac Addysg Bellach: Cylch Gorchwyl | Inquiry on the Impact of Brexit on Higher and Further Education

IB-14

Ymateb gan: The British Heart Foundation in Wales
Response from: The British Heart Foundation in Wales

The BHF spends £5.4million in Wales in Welsh University grant funding. Many Research programmes that the BHF funds in the UK support Researchers from outside the UK.

The current breakdown of funding is:

Cardiff Met University	£226,891	(1 grant)
Cardiff University	£2,351,790	(10 grants)
Swansea University	£2,813,428	(7 grants)

Previously we have also funded projects at Bangor University.

British Heart Foundation does not receive any funding from the EU, but many of our Researchers receive money from the EU as well.

The Impact of Brexit on our researchers

Almost a fifth of BHF grants are held by non-UK EU nationals¹, while 3.4% of grant holders are of non-UK, non-EU nationality.

According to a survey of 255 BHF-funded researchers, conducted in June and July 2017:

- a. 58% of BHF funded researchers are less likely to apply for EU research funding, because they are worried about future access or feel they are less likely to be successful.
- b. 70% of BHF-funded researchers said fewer EU scientists are applying for research posts in the UK.
- c. Almost half of BHF-funded researchers felt they were more likely to take up a post outside the UK since the Brexit vote,

¹ 19% of 556 lead researchers/PhD supervisors

- with 80% of these citing uncertainties about what research funding will be on offer here as a reason for this.
- d. 47% of BHF-funded researchers are more likely to take up a post elsewhere than they were before the EU referendum.
 - e. 80% of BHF-funded researchers who are EU nationals said they were more likely to work outside the UK in the future.

Medical Research in Universities

In 2016, 88% of the research funded by medical research charities took place directly in universities.

More than a quarter (28%) of academic staff in UK universities are non-UK nationals (16% EU and 12% non-EU). PhD students also make up a large proportion of the UK's research population; and half of the doctoral students in the UK are non-UK nationals (14% EU and 36% non EU).²

The UK life sciences sector directly employs around 241,000 people.³ In 2014/15, BHF spent £40 million on salaries through our research grants, to support cardiovascular researchers across the country.⁴

Scientific research contributes not only to the health and wellbeing of the public but also the strength of the economy. In order to maximise these benefits, Welsh Universities must be able to attract and retain the talented researchers needed to drive investment, forge collaborations and turn great ideas into innovative new technologies that will help save and improve lives. Researchers whose salaries are paid by charities or other grant funding also receive other project-based funding, or similar, so bring in more money to Universities.

There is a symbiotic relationship between researchers and universities. Salaried researchers bring more money than just their salaries to the university in terms of grants for the cost of their research such as studentships. Money vital to the university to pay for overheads, consumables, equipment and more, will come to the university in the form of OR funding. This funding is received by universities due to the researchers themselves applying for external funding and contributing to the excellence of their departments and research programmes.

² AMRC position statement on exiting the European Union, February 2018

³ UK Government Press Release <https://www.gov.uk/government/news/uk-life-sciences-sector-brings-record-growth-as-new-life-sciences-council-meets-for-first-time>, 16 May 2018

⁴ Investing Together, British Heart Foundation, 2015, p.18

What our Researchers say

As highlighted above, British Heart Foundation carried out a survey of our researchers in 2017 to understand what impact the vote to leave the EU may have on their work.

Costanza Emanuelli is the BHF Professor of Cardiovascular Medicine at the University of Bristol, School of Clinical Sciences, and National Heart and Lung Institute, Imperial College London. She and her team are focused on improving the lives of people with cardiovascular disease by finding new ways to encourage blood vessel growth to repair damaged hearts. Professor Emanuelli, who is originally from Italy, said that research funding from the EU had had a "massive impact" on her work and was an important factor in her decision to relocate to the UK. Access to the European Vascular Genomics Network, a Network of Excellence funded by the EU, and the absence of barriers to working in the UK made it a more attractive prospect than carrying out research elsewhere, for example in the USA.⁵

Dr Chris George, part of the BHF-funded team at Swansea University looking into heart arrhythmias, spoke about the lack of clarity that researchers face. It is well documented that there is still no long term certainty about the status and situation post-Brexit for EU researchers looking to take up a post in the UK. Most of the departments, laboratories and faculties at the University are staffed by EU personnel. He fears that EU researchers may find that the hassle of coming to the UK on relatively short contracts (eg. 1-3 years) will not be worth it.

He also spoke about the impact of eligibility to apply to EU funding streams and his concern that, if UK-based researchers become ineligible for EU research funds, the funding system could "grind to a halt". If researchers aren't able to apply for EU funding, this could have the consequence of diverting more proposals to UK funders, and result in less money overall to support universities.

Dr George spoke about the move towards collaboration and inclusive working across the European and international community which have been growing over a number of years. There is evidence to suggest that this type of international collaboration improves the impact of UK research. Medical research publications that report collaboration between the UK and the EU have a much higher citation impact than those produced in isolation by either the UK or the EU alone⁶. This also holds true for cardiovascular research publications.

⁵ BHF Chairholder Survey, June/July 2017

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It is therefore reasonable to draw conclusions that researchers, staff, doctoral students and others will begin to choose universities in other countries if they are unable to access sufficient funding and collaborative networks in the UK. It is vital that measures are put in place to ensure that Wales is seen as an attractive research base and Wales' Higher Education Institutions can continue to attract both talent and related investment.

Lack of Researchers and Strategy

A clear strategy for investment in research in the Higher Education sector. It is estimated that the lag between investment in cardiovascular research and its eventual impact on patients is around 17 years, making long-term investment essential.⁷

As it takes such a long time for a research idea to result in a breakthrough that can benefit patients sustained funding is required to ensure that the most promising research breakthroughs come to fruition and progress is not prevented by lack of support.

There is already a problem in Welsh Universities in receiving charity funds. The recent Reid Review took evidence from BHF Chief Executive Simon Gillespie and Director of Policy and Public Affairs Emma Greenwood of CRUK, who both stated that whilst Wales has significant strengths in niche areas, a more strategic approach which coordinates with common UK challenges is needed to ensure there are more researchers in fields of interest to both charities.

At present, Wales receives about 1% of BHF's £100m annual spend because Wales lacks those researchers.

Both contributors stated that "Wales needs to focus available resources on (a) people, (b) facilities and (c) complementary funding (Welsh Government, Research Councils, etc.), thus fostering the right environment and infrastructure for the Charities to invest."⁸

It is even more important, therefore, that if Wales's Higher Education Institutions are to lose European funding, the right climate is fostered for charities and other interested parties to be encouraged to invest.

Case Study

BHF Professor Alan Williams and his team at Swansea University have been researching Heart Arrhythmias in Wales for over 10 years. The team was housed at Cardiff University until 2017.

⁷ Medical Research, What's it worth? Health Economics Research Group, Estimating the economic benefits from medical research in the UK, 2008, p.7

⁸ Review of Government Funded Research and Innovation in Wales, Professor Graham Reid, June 2018, p.59

Professor Williams and his team study irregular heart rhythms, or arrhythmias, that can be inherited and are associated with heart failure, and can be fatal. The cause of some abnormal heart rhythms remains a mystery and current medicines are not effective for all of these conditions.

The most common abnormal heart rhythm is atrial fibrillation. More than 65,000 people in Wales experience atrial fibrillation and they are among the top 10 reasons why patients go to hospital.

Many people in Wales are living with undiagnosed arrhythmias that come from an inherited heart condition that hasn't been identified. Patients with arrhythmia may be at increased risk of stroke and certain types of arrhythmia can cause sudden cardiac death.

The team carries out detailed investigations underpinning the molecular defects that can cause the heart's rhythm to fall out of sync.

With this knowledge, they can predict which medicines are likely to work best against these faults which will enable effective and personalised treatments for dangerous arrhythmias.

The team at Swansea University have been supported by two different Welsh Universities, the BHF and EU nationals and students throughout their decade of important research into one of the most common heart conditions in Wales. It is imperative that the funding and staffing conditions in Welsh Universities are maintained and improved to ensure that this body of work makes the difference patients require.