The Academy of Medical Sciences

Academy of Medical Sciences submission to the 2021 Budget

January 2021

Medical science is at the heart of the UK's response to the COVID-19 pandemic and will be central to our collective recovery – not just by offering a way out of the pandemic, enabling the UK economy to fully restart, but by directly stimulating the economy across the UK through new jobs, investments and long-term health benefits. **Every £1 invested in medical research delivers a return equivalent to around 25p every year, forever.**[1]

However, COVID-19 is currently threatening the foundations of UK success in research and development (R&D): stalling researchers' careers; drastically limiting funding for life-saving and -improving projects; postponing clinical trials; and ultimately delaying improved outcomes for patients. To avoid long-term damage and continue reaping the benefits of medical research in years to come, it is crucial Government invest strategically now.

2.4% and Horizon Europe

Topic: Policy to support business growth and investment

Topic: Education, skills and supporting employment

The Academy strongly supports the Government's commitment to raise public investment in UK R&D to £22bn per year by 2024/25 – restated in the 2020 Spending Review – as part of the target to ensure total investment reaches 2.4% of GDP by 2027 and 3% in the longer-term. This will help foster research and innovation throughout public services, universities and businesses, supporting the sector to continue fuelling jobs and productivity:

- The UK's pharmaceutical industry alone employs 63,000 people with 23,000 dedicated to R&D.[2]
- Firms that consistently invest in R&D are 13% more productive than firms that don't invest in R&D.[3]

Government should maintain its R&D investment targets, set out a trajectory to achieve them at the earliest opportunity, and pursue them with urgency as a way to fuel the UK's economic and social recovery from COVID-19.

Investing in international collaboration must complement these domestic efforts. Therefore, we warmly welcome the fact that the UK-EU trade deal makes provision for UK association to Horizon Europe. Participation in the previous research programme, Horizon 2020, was funded *in addition* to domestic R&D spending commitments. We therefore urge the Government to use this Budget to provide additional funding for association. Paying for association to Horizon Europe from existing domestic funding commitments made under the recent Spending Review (SR) would significantly disadvantage progress to 2.4% and represent a dramatic decrease in the impact of public investment in UK R&D. For example, the added value of the £14.6bn investment for 2021/22 and of £22bn by 2024/25 would be significantly lessened.

To ensure patients, the public and the economy benefit as much and as quickly as possible from UK R&D activity, it is crucial Government provides additional funding to finance association to Horizon Europe.

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[1] Wellcome Trust (2017) National Institute for Health Research, Academy of Medical Sciences, Medical Research Council, Arthritis UK Medical research: What's it worth?

[2] ABPI (2020) 2020 Manifesto for Medicine

[3] Department for Business Innovation and Skills (2014) Innovation Report 2014: Innovation, Research and Growth.

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Charity funded research

Topic: Policy to support business growth and investment
Topic: Education, skills and supporting employment

Medical research charities are an integral feature of the UK's research funding ecosystem:

- Research charities have provided more than £14 billion of funding since 2008.[4]
- Charities often invest in early-stage, high-risk research which complement pubic investment and leverages additional sources of private investment.
- In 2019, members of the Association of Medical Research Charities (AMRC) provided stipends for more than 1,700 PhD students as part of their wider support for the salaries of over 17,000 researchers.[5] Their work also attracts essential international talent to boost the UK's skills pipeline.

However, their ability to continue to do this is under threat:

- AMRC members reported a loss of 38% in income during March–May 2020 compared to the same period last year.[6] This does not account for the ongoing impact of the pandemic, including a return to the closure of charity shops and cancellation of fundraising events.
- AMRC's members are planning for an average decrease of 41% in their research spend in FY20/21, resulting in a projected reduction in UK medical research investment of more than £300m.[7]
- Many charities have already been forced to make cuts to their funding, for example CRUK funding for response mode grants in December 2020 has roughly halved compared to what they would normally fund – on top of the £44m cuts made earlier in 2020.[8]
- 58% of charity-funded early career researchers have been unable to secure further funding since March and 40% are considering leaving medical research.[9]

To minimise the long-term impact of COVID-19 on the research careers, projects and pipeline of life-saving treatments funded by medical research charities, we support the call for help to address the shortfall in their fundraising income through a Life Sciences Charity Partnership Fund.

Global science collaboration

Topics: International Affairs

Following the decision to temporarily reduce the Official Development Assistance (ODA) budget, from 0.7% to 0.5% of GDP, there is a risk of harming the UK's global leadership in science and research. Even a temporary reduction in funding for ODA-funded R&D programmes will compromise the ability of the UK to act as a leader in addressing global challenges and building capacity in research talent, particularly at a time when COVID-19 has demonstrated the critical need for global collaboration.

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[4] Association of Medical Research Charities (2020) Our sector's footprint, https://www.amrc.org.uk/our-sectors-footprint-in-2019
[5] Association of Medical Research Charities (2020) COVID-19: The risk to charity-funded researchers, https://www.amrc.org.uk/covid-19-the-risk-to-charity-funded-researchers
[6] Association of Medical Research Charities (2020) COVID-19: The risk to AMRC charities, https://www.amrc.org.uk/covid-19-the-risk-to-amrc-charities
[7] Ibid.
[8] Cancer Research UK (2020) Cancer Research UK forced to cut research funding due to COVID-19, https://www.cancerresearchuk.org/about-us/cancer-news/news-report/2020-12-08-cancer-research-uk-forced-to-cut-research-funding-due-to-covid-19
[9] Association of Medical Research Charities (2020) COVID-19: The risk to charity-funded researchers, https://www.amrc.org.uk/covid-19-the-risk-to-charity-funded-researchers

We welcome the Foreign Secretary's inclusion of research and innovation partnerships in his priorities for ODA investment. Investing in research and innovation represents value for money in building future capacity in research talent, catalysing networks and partnerships, and leveraging further research funding. Research and innovation will also be central to achieving other stated Government objectives for ODA – including tackling climate change, protecting biodiversity and promoting international health security – through enhancing our understanding of the problems and the range of solutions; increasing research talent and through developing new innovations.

ODA-funded R&D programmes should be maintained to help preserve UK influence globally, including by honouring international research partnerships which demonstrate the UK's credibility and trustworthiness on the international stage.

UK Shared Prosperity Fund (UKSPF)

Topics: Supporting local areas, devolution and levelling up

Research and Innovation has a role to play in driving economic growth across the UK. The planned R&D Place Strategy will provide a welcome blueprint for how support for research and innovation activities across the country can ensure that the benefits of investment accrue to all regions and nations of the UK.

Following the UK's departure from the EU, the UK will lose access to EU structural funds. One such fund, the European Regional Development Fund (ERDF), was expected to provide €1.5bn in research and innovation income to regions in each of the UK's four nations between 2014 and 2020.[10]

To address this loss and enable R&D to drive regional growth, Government should ensure the proposed UKSPF can support regional investment in R&D activities, enabling collaboration within and between regions.

National Institute for Health Research (NIHR)

Topic: Public services (including the NHS, schools and education, police)
Topic: Supporting local areas, devolution and levelling up

The Government's R&D Roadmap rightly highlights the role that applied research plays in addressing issues such as healthy ageing; the resilience, efficiency and effectiveness of public services; and advancing healthcare outcomes. Increasing investment in NIHR is central to delivering on these ambitions and to doing so in a way that engages patients.

- Between 2016/17 and 2018/19, research supported by the NIHR Clinical Research Network (CRN) generated an estimated £8bn of gross value added (GVA) and 47,467 full time equivalent (FTE) jobs for the UK.[11]
- In 2018/19, every single NHS Trust in England took part in research, with over 1 million clinical research participants, demonstrating the key link between health research and the health of patients across the country.
- The joint Health and Social Care Committee and Science and Technology Committee inquiry recently heard that the NIHR CRN was instrumental in a speedy

[10] Technopolis Group (2017), The role of EU funding in UK research and innovation, https://acmedsci.ac.uk/file-download/70343877
[11] KPMG (2019) Impact and value of the NIHR Clinical Research Network, https://www.nihr.ac.uk/documents/partners-and-industry/NIHR_Impact_and_Value_report_ACCESSIBLE_VERSION.pdf

response to COVID-19 by enabling clinical trials for vaccines to be conducted at multiple sites quickly.[12] Moreover, the RECOVERY trial jointly funded by NIHR delivered the first effective treatment for COVID-19 – Dexamethasone – and continues to generate rapid, high-quality data on other potential treatments.[13]

- These impressive figures and recent performance took place in the context of several years of flat cash budget.[14]
- The 2020 SR allocated £1.3bn to the DHSC research budget for 2021/22.

It's imperative the NIHR budget specifically is uplifted in line with other parts of the research budget, to allow NIHR to continue to invest in health research across a broad range of areas including COVID-19, public health (health protection, health improvement and prevention), clinical research and the broader NHS environment.

Investment in public health

Topic: Public services (including the NHS, schools and education, police)

Non-communicable diseases (NCDs), such as cardiovascular diseases and cancers, cause an estimated 89% of deaths in the UK.[15] NCDs are, to a large extent, preventable and the associated health, social and economic costs are largely avoidable.

- It is estimated that 40% of the burden on health services in England may be preventable through action on the determinants of avoidable chronic conditions.[16]
- The decision to review the organisation of public health structures in the UK presents an opportunity to build a stronger system with evidence-based practice at its core
- As we have set out,[17] meeting the ambition for a world-class public health research system, as detailed in the Government's Green Paper will require sufficient and sustainable resources.[18]

Investment in a strong research base will underpin effective new structures for public health. Funding for data, intelligence and evaluation functions at a local and regional level will also be needed.

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[12] Science and Technology Committee and Health and Social Care Committee (2020) Oral evidence: Coronavirus: lessons learnt, HC 877 https://committees.parliament.uk/oralevidence/1376/pdf/

[13] Nuffield Department of Population Health (2021) RECOVERY Trial https://www.recoverytrial.net/#:~:text=The%20RECOVERY%20Trial%20is%20currently%20testing%20some%20of,identified%20quickly%20and%20made%20available%20to%20all%20patients.

[14] Office for National Statistics (2019) Government expenditure on science, engineering and technology, UK: 2017 https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgovernmentexpenditureonscienceengineeringandtechnology/2017

[15] World Health Organization (2014) Non-communicable Diseases (NCD) Country Profiles, http://www.who.int/nmh/countries/gbr_en.pdf

[16] Health Foundation (2017) Written evidence (NHS0172), Select Committee on The Long-term Sustainability of the NHS and Adult Social Care, http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/nhs-sustainability-committee/longterm-sustainability-of-the-nhs/written/39736.html

[17] Academy of Medical Sciences (2020). Letter to the Secretary of State for Health and Social Care 'Future arrangements for prevention, health improvement and health protection'. https://acmedsci.ac.uk/file-download/90869115

[18] Cabinet Office and Department for Health and Social Care (2019) Advancing our health: prevention in the 2020s, https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s/advancing-our-healthprevention-in-the-2020s-consultation-document

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