



Priorities for the 2021 Spending Review

Wellcome Trust, 30 September 2021

Summary

Our priorities for the Spending Review are:

- Set out concrete investment plans for increasing public spending on R&D to £22bn per year by 2024/25;
- Improve the sustainability of research funding, by following through on the proposed review of Full Economic Costs, experimenting with increasing Quality-Related R&D funding, and ensuring that government support for charity-funded research is on a sound footing;
- Support international research collaboration, through continuing to make explicit provision for participation in Horizon Europe, and introducing an ‘agility fund’ as proposed by the Smith-Reid review;
- Use the UK’s scientific strengths to continue its leadership on global health issues, including tackling antimicrobial resistance, improving surveillance of emerging health threats through making an anchor contribution towards a new Global Pandemic Radar, and leading the response to Covid-19.

Background

The 2021 Spending Review promises to deliver the Government’s Plan for Growth by cementing the UK as a scientific superpower.

It is crucial that this spending period delivers substantial year-on-year increases to R&D spending to support that aim, and that the UK uses that spending to maintain and grow its place in the world for research. The outcomes for R&D will be the acid test of the Government’s commitment to science, and will determine whether the Government can follow through on its ambitions for the economy and foreign policy.

The Government has committed to increasing public investment in R&D to £22bn per year by 2024/25 – a target set in the March 2020 Budget,¹ repeated in the R&D Roadmap in July 2020,² and reconfirmed by the Secretary of State for BEIS in March 2021.³ That date falls within this Spending Review period.

The £22bn commitment is a crucial staging post towards achieving the bigger target of investing 2.4% of GDP in R&D by 2027, and is a necessary prerequisite for leveraging the private

¹ HM Treasury, [Budget 2020: Delivering on our promises to the British people](#) (March 2020), HC 121, p6

² HM Government, [UK Research and Development Roadmap](#) (July 2020) p5

³ House of Commons Science and Technology Committee, [Oral evidence: A new UK research funding agency](#), Q232

investment needed to reach the GDP target. Previous Governments have tried and failed to reach similar targets; this time the UK must succeed.

Failure to deliver the necessary increases in public investment through this Spending Review would mean much more than two missed targets. It would damage the confidence of businesses who would otherwise be reassured by the Government's stated plans for R&D—the same businesses that the Government is relying on to deliver around double the level of public investment in R&D to complete the journey to 2.4%.

Failure would also undermine a plethora of Government strategies:

- The Government's ***Integrated Review of Security, Defence and Foreign Policy*** (March 2021) made science the first pillar of its strategic framework, and committed to putting science at the heart of our alliances and partnerships worldwide. It promised that by 2030 the UK will be recognised as a science and tech superpower, remaining at least third in the world in relevant performance measures for scientific research and innovation, and having established a leading edge in critical areas such as artificial intelligence.
- In ***Build Back Better: our plan for growth*** (March 2021) the Government committed to support and incentivise the development of the creative ideas and technologies that will shape the UK's future high-growth, sustainable and secure economy. Meanwhile, the ***Innovation Strategy*** (July 2021) argued that the UK must be in the vanguard of the world's response to global challenges such as climate change, the ageing society and pandemics. It argued that, in recovering from the pandemic, we must build on the UK's innovative foundations to create a robust and agile economy. It rightly states that investment in innovation will be critical to building a greener, healthier and more prosperous future for the UK.
- The ***Life Sciences Vision*** (July 2021) pledged to direct the UK's record investment in scientific research towards new missions – uniting our world leading academic base, the power of our capital markets and the amazing data resource of our NHS to forge ground-breaking advances against diseases such as cancer, dementia, and obesity. It promised to go further than ever before in meeting the economic, social, and moral imperative of levelling up world class health outcomes across the country.
- In the ***Research and Development Roadmap*** (July 2020), the Government said it will unlock improvements in health, wellbeing and prosperity, and maintain the security of our citizens. It will tackle some of the big challenges of today and tomorrow, including achieving net zero carbon emissions, investing in world-class assistive technology, building resilience in our economy, environment and society, and improving security, productivity and quality of life for all. It pledged to nurture the whole system of innovation that will improve lives, services and businesses right around the UK and beyond – creating a fairer, healthier, more prosperous and more resilient society.
- The ***R&D People and Culture Strategy*** (July 2021) vowed to unleash a new wave of talent, attracting, developing and retaining diverse people with the right skills for R&D. To deliver the Government's spending plans it set a target of 150,000 more people working in R&D by 2030.

These are significant promises, and are well-chosen to build on the UK's strengths in research and make the UK a science superpower. But without a strong spending review for science in 2021 those promises will ring hollow.

Priorities for the 2021 Spending Review

1. Set out concrete year-by-year plans for increasing investment in R&D

The Spending Review must set out the R&D budget for each year between 2022/23 and 2024/25, increasingly linearly from £14.9bn in 21/22 to £22bn in 24/25.

It is particularly important that spending increases in 2022/23 by substantially more than the higher cost of participating in Horizon Europe in its second year, in order for the increase in public spending to be ‘real’, rather than simply a product of changes in how participation is accounted for (see below). There is a risk that what appears to be a modest increase in R&D spending is effectively only a steady-state budget, which would send an unfortunate message.

Concrete year-by-year public spending commitments will provide the certainty that businesses need to increase their own investment in R&D. Leveraging private investment is critical to meeting the longer term target of investing 2.4% of GDP in R&D, but the necessary increases will not be achieved without first delivering on the promised public spending levels. R&D-intensive businesses need a strong signal from the Spending Review in order to plan their own investment. Indeed, if the Government were now to back away from previous commitments this would damage private sector confidence.

BEIS research shows that public investment leverages increased private investment in the same year, and then continues to influence levels of private spending in subsequent years.⁴ That is, the sooner that public spending increases, the more likely it is that the UK remains on target to reach the 2.4% target by 2027. Deferring or backloading public investment will be counterproductive. Increasing spending will need to sit alongside private sector incentives such as R&D tax credits, but incentives cannot substitute for public investment.

Any slippage in the 2.4% target, and £22bn as a staging post towards it, is incompatible with the aim of cementing the UK as a science superpower. The target was originally set to match the OECD average within ten years, but many other countries have since increased their spending since 2017. The OECD average is now almost 2.5%, and the UK will need to use the 2021 Spending Review to start to close the gap.

2. Improve the sustainability of research funding

Through increasing public spending on R&D, the Government should act to improve the sustainability of research funding in the following ways:

Follow through with the review of full economic costs

Research in universities is currently funded at less than 70% of the ‘full economic cost’, with the shortfall being met from other sources of income.⁵ The R&D Roadmap (July 2020) promised a review of funding with this in mind:

We will work with other funders to consider opportunities to fund a greater proportion of the full economic cost of research projects in universities. This includes asking whether government should fund at a higher rate, to safeguard the sustainability of the research we fund. We must balance this with the need for research funding to be efficient and to protect universities’ ability to deploy their own resources strategically on research issues of particular importance to them.

⁴ BEIS, [The relationship between public and private R&D funding](#), BEIS Research Paper Number 2020/010 (March 2020) pp6-7

⁵ Office for Students, [Annual TRAC data 2019-20](#)

The Spending Review could usefully refer to plans to follow through with this review, engaging with funders including research charities.

Experiment with increasing spending on Quality-Related funding

Quality-Related (QR) funding and its devolved equivalents should expand as part of the Government's plan to substantially increase R&D funding. Analysis from Wellcome and others clearly demonstrates the role QR funding in delivering a dynamic R&D environment.⁶ During the Covid-19 pandemic, the flexibility and agility it provides to institutions meant that researchers could be quickly redeployed to Covid-19 related work even before government schemes were put in place.

However, the unique nature of the UK's dual-funding system means that there is little data on the perfect balance of QR funding versus grants. In line with the Government's ambitions to build an innovative, evolving research system, we see justification to experiment with increasing QR allocations and evaluating the impact. We continue to view QR as an efficient means of devolving investment decision-making to front-line institutions, and providing the stability and sustainability that institutions need.

Ensure that government support for charity-funded research is on a sound footing

The Charity Research Support Fund (CRSF) and its devolved equivalents support charities to amplify the research impact of public donations. It is a crucial partnership between charities, universities and government, whereby a contribution is made towards the indirect costs of research funded by charities. The CRSF must be maintained in the short term to provide stability at a crucial time for the sector – abrupt changes without careful consultation could be very damaging.

However, the CRSF model needs refinement in the medium term, in discussion with the sector. It operates on a fixed-pot funding model that has not kept pace with the huge changes in charity investment. In the future, the CRSF model must be responsive to changing circumstances, and underpinned by sound logic.

As a medium-term goal, the Government should open a dialogue with those involved in the CRSF and its equivalents to explore alternative CRSF models. Establishing a stable, demand-led model could help the UK provide a uniquely attractive environment for charitable investment, potentially drawing in a greater share of globally-mobile philanthropy. This could help drive the UK towards its 2.4% of GDP investment target.

3. Support international collaboration

It was very helpful that the full cost of participation in the Horizon Europe programme was accounted for and explicitly identified as part of the R&D allocations in 2021, and this practice should continue throughout the spending period. However, the cost of association was artificially low in 2021/22, reflecting the agreement reached with the EU on participation. We estimate that the cost will be ~£1bn higher from 2022/23 onwards, which means that a substantial increase in the R&D budget is needed even to stand still.

While the costs are significant, full association remains a wise investment in research collaboration and an excellent outcome for research from the Trade and Cooperation

⁶ Wellcome, [Empowering UK universities: how strategic institutional support helps research thrive](#) (2018)

Agreement with the EU. Nevertheless, the Government's ambitions for supporting international collaboration in research should not end with Horizon Europe. We continue to support the proposal in the Smith-Reid Review (2020)⁷ for an 'Agility Fund' to support top-down international collaboration opportunities, and an increase in QR funding to support bottom-up international collaboration. As the Review explained:

Distinctive new funding is required to enable researchers in universities, institutes and, sometimes, businesses to grab fast-moving opportunities for international collaboration. We heard that, all too often under current arrangements, new opportunities cannot be pursued without first going through lengthy processes of grant applications. Those grant application processes are well suited to most research and innovation activities but break down when the UK is presented with attractive - but fleeting – opportunities, for example during meetings at political, funding agency or institutional levels. Meanwhile, support for spontaneous collaborations between researchers in the UK and their international peers seems modest compared to the opportunities and benefits of this work.

The review recommended establishing an agility fund to "enable the UK to invest in emerging international programmes of significant potential benefit to UK research" and to "capture opportunities that arise unexpectedly, including during interactions with other countries at Ministerial levels".

4. Use the UK's scientific strengths to continue its global leadership

As we explained in our 2020 report on Britain's place in the world for research,⁸ the UK's ambitions for being a science superpower should extend beyond 'topping the table' and being the home of leading research. A science superpower makes use of its strengths to tackle global challenges, and we were pleased to see this philosophy reflected in the Integrated Review.

The UK's influence and impact on many global issues supported by research funded through Official Development Assistance, and the UK's standing in these areas would be bolstered by a speedy return to investing 0.7% of GNI in ODA. Further advice on spending within the current 0.5% envelope is being provided by SCOR.

Alongside this, there are two areas where the UK's global leadership on addressing global health challenges could be supported through the Spending Review.

Play a leading role in tackling antimicrobial resistance

The UK should commit to continue its leading role in supporting sustained global action on antimicrobial resistance (AMR). Wellcome has been proud to work with the UK Government (through the Global AMR Innovation Fund) as a funding partner of **CARB-X**, which has done vital work in revitalising antibiotic R&D and accelerating R&D of other important products to control AMR including vaccines and diagnostics. We expect to soon follow the US Government in announcing funding for a continuation of CARB-X in 2022 and beyond, and hope that the UK will in turn be able to continue its commitment to support innovative AMR products through this route.

Similarly, we commend the impact that the UK has achieved building and strengthening surveillance of AMR in low- and middle-income countries via the **Fleming Fund** – capacity that has proved invaluable for countries to implement their National Action Plans for AMR, inform their actions toward controlling AMR, and provided a surge capacity in the response to COVID-

⁷ Professor Sir Adrian Smith and Professor Graeme Reid, [Changes and Choices: Advice on future frameworks for international collaboration on research and innovation](#), July 2019

⁸ Wellcome, [The UK's role in global research: How the UK can live up to its place in the world](#) (October 2020)

19 in supported countries. It is vital that the Fleming Fund is supported to continue its work at scale, and in doing so given the resources and the mandate to ensure that the laboratories and projects contribute to a wider uplift in global capabilities.

The Government should now **support the Fleming Fund to become the UK's anchor contribution to the new Global Pandemic Radar**, which the UK has led on through the G7. Doing so would ensure that the fund still meets its objectives on AMR, but simultaneously help with sequencing emerging pathogens. It would also provide the impetus for other countries to contribute to this programme.

Lead the global response to Covid-19

To bring an end to the pandemic for all, the UK should contribute its fair share towards ACT Accelerator funding in 2021 and 2022.

In recent months, the success of the UK vaccine roll-out, built on extraordinary scientific breakthroughs, has allowed the country to take steps back towards normality. However, globally, the picture looks very different. In the last month alone, over 250,000 people have lost their lives to Covid-19⁹ and global vaccine access remains highly inequitable, with 80% of vaccines given in high- and upper-middle-income countries, compared with just 0.5% in low-income countries.¹⁰

The UK has played a leading role in the global response to Covid-19, including through \$1.1bn investment in the **ACT-Accelerator**,¹¹ the global coalition set up to develop and deploy vaccines, tests and treatments. We welcome this commitment and urge the UK to demonstrate continued leadership through 2021 and 2022 to help bring an end to the pandemic for everyone. To achieve this, the UK should contribute at least \$500m to help close the \$16.4bn¹² ACT Accelerator funding gap for 2021, and commit to invest its fair share towards ACT Accelerator funding needs for 2022, due for publication imminently. Investments must cut across all pillars of the ACT Accelerator to support the development and equitable delivery of all tools needed to end the pandemic.

Given the unprecedented nature of the current crisis, financial commitments, as well as any Covid-19 vaccine donations, must sit outside the 0.5% overseas development assistance (ODA) pledge to avoid negative impacts on other essential health services and programmes.

While the current pandemic is far from over, the UK should also look ahead to improving the world's ability to respond to future global health threats. The UK should stay the course with existing commitments to the Global Fund for HIV, tuberculosis and malaria, GAVI and CEPI, where the UK's global leadership is making a significant difference. Continuing this support is an essential precursor for the UK's objective of being a force for good in the world.

We also support the calls of the G20 High Level Independent Panel and others for significant increases in global investment in pandemic preparedness. The UK must be prepared to lead the way with its own substantial contribution to the investment, outside ODA spend and beyond existing commitments, for example through the new financing mechanism (FIF) for pandemic preparedness proposed in September by the USA.

⁹ [COVID-19 Map - Johns Hopkins Coronavirus Resource Center \(jhu.edu\)](#)

¹⁰ [Covid World Vaccination Tracker - The New York Times \(nytimes.com\)](#)

¹¹ [The ACT Accelerator interactive funding tracker \(who.int\)](#)

¹² [Access to COVID-19 tools funding commitment tracker \(who.int\)](#)

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