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Summary

- The Academy of Medical Sciences welcomes the Government's commitment to invest 2.4% of GDP on Research and Development (R&D) by 2027 and the long term ambition to reach 3% of GDP.
- In the short term, the Government must now commit to ensuring that the funding for science and research in the UK is not negatively affected by the UK's exit from the EU or from any changes to our relationship to either Horizon 2020 or EU Structural Funds.
- With a view to the longer term, the Government should publish a roadmap on how the 2.4% target can be reached in a way that builds on the existing excellence of our research base and delivers maximum benefits to the UK.
- Addressing many of the health challenges of the 21st century will require evidence generated by inter-disciplinary approaches. UKRI is uniquely positioned to facilitate this kind of research and the development of the Strategic Priorities Fund is a welcome step towards this goal.
- Strategic support to institutions continues to represent an important part of the dual support system, providing independence to universities to develop their own research priorities. Increases in investment in responsive mode and challenge-led funding should be complemented by uplifts for unhyphenated funds.
- Alongside the funds distributed by UKRI, a large proportion of public investment in health research is delivered by the National Institute for Health Research (NIHR). The Government should adopt the recommendation of the Life Sciences Industrial Strategy to increase the funding for NIHR in line with Research Council budgets.
- Achieving the 2.4% target will require increases in investment in R&D across the country. The Academy continues to support the premise that public funding for research should be distributed according to excellence and that UKRI should support excellence wherever it exists.
- In order to support the development of regional excellence, the Government should ensure that some of the UK Shared Prosperity Fund is directed towards research and innovation.
- Alongside direct funding for research, the Government must ensure that policies are in place to support private investment in R&D and that these are robustly evaluated to ensure that they deliver effective support across the country. We note the success of existing initiatives in the life sciences such as the BioMedical Catalyst and the SBRI Healthcare as well as the importance of R&D tax credits for innovative SMEs.

Introduction

1. The Academy of Medical Sciences promotes advances in medical science, and works to ensure that these are translated into healthcare benefits for society. Our elected Fellowship includes the UK's foremost medical science experts drawn from academia and industry. Our submission is informed by our Fellowship and through our previous work, including responses to government consultations and commissioned research.
2. It is imperative that the Government has a clear strategy of how to spend the increased investment in R&D, so that it delivers maximal benefit for the UK economy and for patients

and citizens in the UK and beyond. We therefore welcome this inquiry by the Science and Technology Committee.

3. The Academy has been working with its sister national academies the British Academy, Royal Academy of Engineering, and Royal Society to better understand the existing evidence for range of benefits that research and innovation bring to the UK, the geographic distribution of those benefits, how they are achieved and how best to measure them to inform future decisions on investment in research and innovation. The findings from this work will be published shortly. The national academies are also producing resources and holding events to encourage wider conversations about the value of creating a more research and innovation intensive economy in the UK to all UK citizens, and how best to invest resources wisely and efficiently in the national interest.

The 2.4% target

4. The Academy of Medical Sciences welcomes the Government's target for combined public and private investment in R&D to reach 2.4% of GDP by 2027. It signifies a recognition that compared to many nations with strong research traditions, the UK underinvests in R&D. In the long term we support the Government's stated ambition to reach a target of 3% of GDP for R&D spending.¹
5. The 2019 Spending Review presents an opportunity for Government to reinforce its commitment to delivering the 2.4% target by providing assurance that the UK science budget will not see a shortfall as a result of the UK's departure from the EU or any change to the UK's relationship with the EU Framework Programmes.
6. Achieving the 2.4% target would constitute a profound change to the UK's R&D landscape and represents a major opportunity to reshape the UK economy towards research and innovation. The Academy now calls on the Government to publish a roadmap to provide detail on how the 2.4% target will be reached by 2027.
7. In the UK the ratio between public and private investment has traditionally been around 1:2 public:private investment. Therefore, achieving the 2.4% target, whilst maintaining this ratio would require substantial additional investment from both the public and the private sector.
8. The Government has direct control over public spending on research, however it can also influence private and charitable spend on R&D. It is therefore essential to continue to nurture an environment which is supportive of private investment in R&D. This includes developing a highly skilled workforce that R&D intensive industries require, and implementing a suite of measures to support and incentivise private-sector R&D. This is discussed in more detail below.
9. Nevertheless, there is no strong evidence which suggests single optimal balance between public and private investment.² This ratio varies from nation to nation. However, there is evidence that public investment in R&D crowds in private investment. For example, in the UK life sciences sector, every £1 of public investment in research is associated with an additional £0.83–1.07 of private sector R&D spending.

¹ UK National Academies, (2016) Open for business <https://acmedsci.ac.uk/file-download/41610-582d965e166ae.pdf>

² UK National Academies, (2018) Investing in UK R&D <https://acmedsci.ac.uk/file-download/33971144>

Box 1: The benefits of investing in UK medical research

The strength of the UK research base can be demonstrated by a range of metrics. For example:

- The UK shows strength across the research disciplines and produces **15.2% of the world's most highly-cited articles, from just 2.7% of R&D expenditure.**³
- In 2014, the **UK's share of the top 1% of life sciences academic citations was 18%**, with it ranking second behind the USA.⁴
- The UK's global share of articles in published in the health and medical sciences continued to grow between 2010 and 2014.⁵

Aside from publications, investment in UK R&D helps to produce the highly-skilled individuals who are required in both academic and private sectors.

- The UK research system continues to produce a growing number of PhD graduates (21,240, in 2014). Expressed per researcher and **per capita, only Germany produces more PhD graduates than the UK.**

Furthermore, funding for R&D can also deliver a wider set of impacts which can be demonstrated through economic returns and health gains. For example:

- For every **£1 invested in medical research from public and charitable sources, between 25 and 28p is returned to the UK economy each year in perpetuity** (calculated across a range of conditions, including cancer, cardiovascular disease and musculoskeletal disease).^{6,7}
- This figure is comprised of both the direct benefit in health gains (quantified through the use of the Quality Adjusted Life Year - QALY) as well as the "spillover" benefit.
- The spillover benefit can be considered as the means by which public investment in medical research crowds in private investment and boosts to economic activity, delivering a rate of return equating to between 15 and 18%.⁸

Balance of funding

10. Evidence demonstrates that UK research base is both effective and efficient at producing world class research and in delivering economic and health gains to the UK (see Box 1). Any changes to the balance of funding should therefore be carefully considered, in discussion with the sector and wider stakeholders including the public, to ensure that risks and opportunities are appropriately managed.

11. In the biomedical sciences it is particularly important that that decisions around investment and the design of new schemes are informed by effective engagement with

³ International Comparative Performance of the UK Research Base (2016) <https://www.elsevier.com/research-intelligence?a=507321>

⁴Office for Life Sciences (2018) Life Science Competitiveness Indicators https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/706963/lif-e-sciences-competitiveness-indicators-2018.pdf

⁵ International Comparative Performance of the UK Research Base (2016) <https://www.elsevier.com/research-intelligence?a=507321>

⁶ Grant, Buxton (2018) Economic returns to medical research funding <https://bmjopen.bmj.com/content/8/9/e022131.info>

⁷ Grant, Buxton (2018) Economic returns to medical research funding <https://bmjopen.bmj.com/content/8/9/e022131.info>

⁸ Sussex et al., 2016, Quantifying the economic impact of government and charity funding of medical research on private research and development funding in the United Kingdom <https://bmcmmedicine.biomedcentral.com/articles/10.1186/s12916-016-0564-z>

citizens and patients. Patient and public involvement (PPI) approaches, such as those advocated by the James Lind Alliance, should be considered when setting strategic priorities for investment in medical research, including through initiatives such as the Industrial Strategy Challenge Fund.⁹

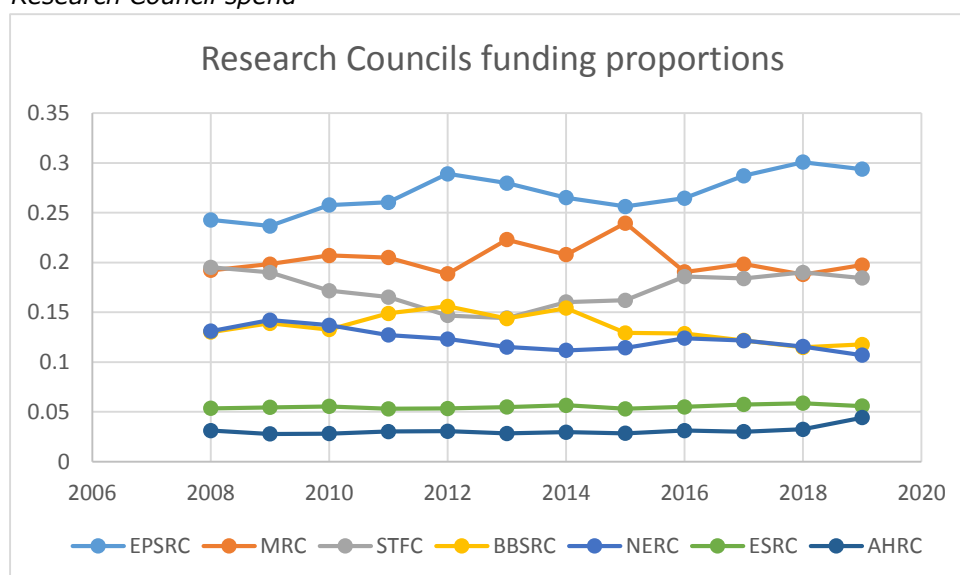
From basic to applied

11. The Industrial Strategy Challenge Fund (ISCF) has been established to add diversity to the existing funding sources. In order to achieve this ambition UKRI must ensure that the ISCF is able to fund innovative projects with significant risk.
12. The ISCF takes a challenge-led approach to research, promoting engagement with the business sector and supporting later stages of the research and development pathway. ISCF bids must be business-led and the alignment of the third wave of the ISCF with the Government's Grand Challenges provides a clear incentive for businesses to undertake research that will address a societal challenge and an unmet need.
13. We note that the Secretary of State is to take decisions about overall strategic priorities for the ISCF, on advice from UKRI.¹⁰ Openness and transparency on the Governance processes of this fund are required in order to allow appropriate scrutiny.
14. Whilst rising funds for applied research through the ISCF is welcome, the UK must remain committed to its great strength in discovery science and should continue to increase investment in basic research, in particular through the Research Councils to ensure that the UK remains a world leader in this area.

Research Councils and interdisciplinary research

15. Investment in science, research and innovation must be provided across the whole research pipeline to support research and ideas at all stages of development from fundamental discovery science to applied research.
16. The balance of funding between the individual Research Councils has remained fairly stable for over a decade (see figure one).

Figure 1: Individual Research Council budgets 2008-2020 expressed as a proportion of total Research Council spend



⁹ <http://www.jla.nihr.ac.uk/>

¹⁰ BEIS (2018) UKRI Framework Document <https://www.gov.uk/government/publications/ukri-framework-document>

17. The commitment in the Industrial Strategy to increase Research Council budgets by 20% by 2019/20 was welcome.¹¹ The 2019 Spending Review now provides an opportunity to build on this further and provide details on support beyond this date to enable Councils to plan future spending commitments.
18. Interdisciplinary research is increasingly important to address some of the key health challenges we face today, such as an ageing population with multi-morbidities.^{12,13} Facilitating this kind of research relies on bringing research from different fields together to forge multidisciplinary teams. It is important that funding availability must be flexible enough to enable assembly of bottom-up interdisciplinary projects alongside large strategic initiatives. Working at the intersection of different disciplines requires specific skills sets and further efforts are required to incentivise and reward this “team” science approach.¹⁴ We believe that UKRI is uniquely positioned to provide the support that will facilitate this endeavour.
19. The Academy welcomes the commitment in the UKRI Strategic Prospectus that the cross-cutting Strategic Priorities Fund (SPF) should “drive an increase in high-quality multi- and interdisciplinary research and innovation”.¹⁵ We would, however, welcome further clarity on how the Fund will be allocated between the Research Councils and delivered to ensure truly interdisciplinary research.
20. Our current understanding is that the Secretary of State will take decisions about overall strategic priorities for this fund on advice from UKRI. Funds will then be allocated to Research Councils by UKRI. We also note, that the UKRI Strategic Prospectus indicates that SPF will be aligned with “Government departments’ research priorities and opportunities”. This raises the National Institute of Health Research (NIHR), the research arm of the Department for Health and Social Care will interact with the SPF.
21. The Academy is concerned that NIHR must not be sidelined contributing to important decisions on interdisciplinary research by virtue of sitting outside of UKRI. The Office for Strategic Coordination of Health Research (OSCHR) (see below) has an important role to play in ensuring that this is not the case.
22. Clarity and transparency on Governance procedures surrounding the SPF will be essential to enable appropriate scrutiny of the funding allocation decisions.

National Institute of Health Research

23. NIHR, which invests over £1 billion annually on health research, has had a transformative effect on the clinical research capacity in the UK since its creation in 2006.
24. The Life Science Industrial Strategy recognised this impact and recommended that the NIHR budget should receive funding uplifts in line with Research Councils to ensure that the whole pipeline of health research from bench to bedside is supported.¹⁶ The Academy

¹¹BEIS (2017) Industrial Strategy White Paper https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

¹² Academy of Medical Sciences (2016). Improving the health of the public by 2040. <https://acmedsci.ac.uk/download?f=file&i=37428>

¹³ Academy of Medical Sciences (2018). Multimorbidity: a priority for global health research. <https://acmedsci.ac.uk/file-download/82222577>

¹⁴ Academy of Medical Sciences (2015). *Improving recognition of team science contributions in biomedical research careers*. <https://www.acmedsci.ac.uk/viewFile/56defebabba91.pdf>

¹⁵ UKRI (2018) Strategic Prospectus <https://www.ukri.org/files/about/ukri-strategy-document-pdf/?pdf=Strategic-Prospectus>

¹⁶ BEIS (2017) Industrial Strategy White Paper https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650447/LifeSciencesIndustrialStrategy_acc2.pdf

supports this recommendation and would welcome clarity on the long-term budget allocation to NIHR.

Office for the Strategic Coordination of Health Research

25. The UK medical research sector is fortunate to benefit from a range of different funding sources, both within and outside UKRI. In recognition of this diversity, the Cooksey report recommended the establishment of the Office for Strategic Coordination of Health Research (OSCHR) in 2006.
26. OSCHR was established as an independent body to address the barriers to research collaboration, to coordinate funding to address different research priorities and to support the translation of basic research into patient care and economic benefit. Its beneficial impact was recently recognised by the National Audit Office's report into Cross-government funding of research and development.¹⁷ OSCHR continues to play an important role, particularly as it encompasses funding bodies that are within and outside the UKRI structure.
27. Following a recommendation of the Academy of Medical Sciences, a sub-board of the OSCHR has recently been established, the "UK Strategic Coordinating Body for Health of the Public Research" (SCHOPR).¹⁸ This body has been conceived to support interdisciplinary research to address population health. Under the leadership of Professor Dame Anne Johnson FMedSci, this body will be identify the research needs improve the health and wellbeing of the UK population and catalyse the transdisciplinary approach required to address them.

UK Clinical Research Collaboration

28. Decisions on research coordination and balance of funding should be informed by the best available evidence and robust data collection on research funding. The UK Clinical Research Collaboration has conducted three analysis of publicly and charitably supported health research in the UK.¹⁹ These analyses cover the health-related spend of all Research Councils as well as over 50 medical research charities.
29. In developing these analysis the UKCRC has pioneered the Health Research Classification System to enable classification of research across health funders and facilitate analysis. This system was also identified by the NAO as an example of good practice in building a robust evidence base in order to inform investment decisions.²⁰
30. The Academy supports the continued efforts of UKCRC to collect and analyse the data that should inform future decisions on the balance of funding between research priorities.

NHS England Research Strategy

31. As the NHS develops its 10 year plan, it is important to note that NHS England is coordinating a research and innovation stream within this.²¹ This is of course welcome as a research-active and engaged NHS will be absolutely essential to delivering the 2.4% target

¹⁷ National Audit Office (2017) Cross-government funding for research <https://www.nao.org.uk/wp-content/uploads/2017/11/Cross-government-funding-of-research-and-development.pdf>

¹⁸ <https://acmedsci.ac.uk/more/news/health-of-the-public-research-given-a-boost-as-new-coordinating-body-is-launched>

¹⁹ UKCRC (2015) UK Health Research Analysis 2014 <http://www.ukcrc.org/wp-content/uploads/2015/08/UKCRCHealthResearchAnalysis2014-WEB.pdf>

²⁰ National Audit Office (2017) Cross-government funding for research <https://www.nao.org.uk/wp-content/uploads/2017/11/Cross-government-funding-of-research-and-development.pdf>

²¹ <https://www.england.nhs.uk/expo/wp-content/uploads/sites/18/2018/09/14.30-Prof-Sir-Malcolm-Grant-CBE-keynote.pdf>

in a way that supports the health and wealth of the country.²² Creating an environment in the NHS which supports and adopts innovations is essential in order to harness the patient benefit that increased funding for R&D can deliver.

Dual support

32. The Higher Education Research Act enshrined the principle of dual support for the research system in legislation for the first time. It also brought together the two arms of the dual-funding mechanism in England into a single organisation, UKRI.
33. The increased proximity of the two branches of dual-support within UKRI must not affect the underlying principle that QR funding is unhypothecated.
34. The Academy strongly believes that the dual support system has served the community well by providing institutions with block grants (QR funding) to deploy strategically alongside competitively-won RC grants, charitable and industry funding.
35. A recently published report from the Wellcome Trust demonstrates the importance of QR funding in supporting the strategic decision making of HEIs research priorities.²³ The unhypothecated nature of this funding allows institutions to develop their own research portfolios in variety of ways, including through supporting career development, building partnerships and achieving local impact.
36. Alongside the factors outlined above, QR funding must also be considered in the context of increased funding to challenge-led approaches and the increasing scrutiny of the cross-subsidy from teaching to research.²⁴ The principle of dual-support is therefore essential to the sustainability of research in the UK's excellent universities.
37. The recent commitment to spend over £100 million of National Productivity Investment Funds (NPIF) on Quality Related Funding in 2018/19 and 2019/20 was welcome.²⁵ Future funding allocations of the NPIF must continue to support this important stream of support for research and innovation to preserve the excellence of research which takes place in HEIs.

Charity Research Support Fund

38. Medical research charities fund over £1.5 billion of research annually. The vast majority of this takes place in universities and the dual support system, through the Charity Research Support Fund (CRSF), plays an extremely important role in the sustainability of this source of funding by covering some of the indirect costs associated with research.
39. For 2018/19 the CRSF received a small uplift of 3%, however prior to this the fund had been fixed for 8 years. In this time charitable funding for medical research has increased from around £1 billion in 2010 to over £1.6 billion in 2017.²⁶ In recognition of the important role that medical research charities play, the Life Science Industrial Strategy called for an uplift to the CRSF. The 2019 Spending Review provides an opportunity for the Government to fulfil this recommendation and signal their support for charities to contribute to the 2.4% target and the wider Industrial Strategy.

²² AMS Response to the LSE-Lancet Commission on the Future of the NHS <https://acmedsci.ac.uk/file-download/69326760>

²³ Wellcome (2018) Empowering UK universities: how strategic institutional support helps research thrive <https://wellcome.ac.uk/sites/default/files/empowering-uk-universities-how-strategic-institutional-support-helps-research-thrive.pdf>

²⁴ HEPI (2017) How much is too much? Cross-subsidies from teaching to research in British universities <https://www.hepi.ac.uk/wp-content/uploads/2017/11/HEPI-How-much-is-too-much-Report-100-FINAL.pdf>

²⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/731507/research-innovation-funding-allocation-2017-2021.pdf

²⁶ <https://www.amrc.org.uk/Pages/Category/key-stats>

Regional investment in UK R&D

40. Public investment in research and development takes place across the UK.²⁷ However, at present there is a clear concentration of public (and private) funding in London and the South East. Analysis of the regional breakdown of all investment in research in Higher Education, Research Councils and Government Departments, reveals that over 50% of this takes place in London, the South East and the East of England.²⁸ In medical research, the data shows a similar concentration of resource across these three regions.²⁹
41. The excellence which exists in the “Golden-triangle” must continue to be supported, however, reaching the 2.4% target for investment in R&D will require an uplift to funding to research across the nation. The Academy therefore strongly supports efforts to identify and strengthen existing clusters of excellent research that already exist around the country.

Excellence

42. A central premise for distribution of public research funding is that this should be underpinned by peer-review to ensure excellence. Adhering to this premise has been instrumental in the UK’s globally recognised strength in research.
43. Peer review must remain the key criteria for distribution of public funding for research and excellence should be funded wherever it is found. The REF2014 demonstrated that excellence is found in universities across the UK.³⁰
44. REF2014 also captured the case studies of the impact which derives from this research. Analysis of these case studies revealed some clustering of impacts in their own localities, demonstrating the role that research in universities can play in their own regions. Recognition and reward for generating and demonstrating these impacts should be built upon in future exercises to measure research excellence. The decision to increase the weighting of impact in REF2021 may help to achieve this goal.

Geographical Clusters

45. The Academy believes that innovation clusters can play an important role in building regional strengths. In the medical sciences this is particularly true for those which bring together HEIs, industry (small and large) and the NHS.³¹
46. There are many examples demonstrating the benefits of working collaboratively within and between clusters, for instance the Northern Health Science Alliance’s (NHS) role in coordinating multi-centre trials of an antimicrobial resistance diagnostic across different universities and NHS Trusts.^{32,33}

²⁷ UK National Academies, (2018) Investing in UK R&D <https://acmedsci.ac.uk/file-download/33971144>

²⁸ <https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2015#country-and-regional-breakdown-of-uk-rd-expenditure>

²⁹ UKCRC (2015) UK Health Research Analysis 2014 <http://www.ukcrc.org/wp-content/uploads/2015/08/UKCRCHealthResearchAnalysis2014-WEB.pdf>

³⁰ <https://www.ref.ac.uk/2014/media/ref/content/pub/REF%201%202014%20-%20full%20document.pdf>

³¹ Academy of Medical Sciences (2017). Geographical Clusters: a vision for the future <https://acmedsci.ac.uk/file-download/31821958>

³² Northern Health Science Alliance (2017). *Portable technology to fight antimicrobial resistance brought into North Hospitals* www.thenhsa.co.uk/2017/01/portable-technology-fight-antimicrobial-resistance-brought-north-hospitals/

³³ FORUM (2015). Geographical Clusters <https://acmedsci.ac.uk/file-download/38074-561783d0f179b.pdf>

47. The Academy of Medical Sciences, together with the Wellcome Trust, hosted a meeting in early 2017 to explore the role of geographical clusters and how they can fit within the Government's Industrial Strategy.³⁴ Subsequently the Academy has played a convening role in supporting existing clusters to form a self-sustaining network.
48. We strongly endorse the role that life sciences clusters can play in supporting excellent research, delivering patient benefit and coordinating growth across the country. The nucleating effect of clusters produces high-skilled jobs and provide access to the necessary talent for growing companies when they need it.
49. Currently, funding for clusters is available in two or three year cycles. More long-term investment is needed in order for clusters to be able to fully integrate within their regions and provide sustainable support for the growth of small businesses and to spread the benefits of investment in research and innovation across the UK.³⁵

Strength in Places Fund and UK Shared Prosperity Fund

50. The Academy supports the stated objective of UKRI to increase investment in research and innovation across the regions of the UK and thereby drive innovation-led growth. The creation of the £115 million "Strength in Places" fund is a positive step towards the goal.
51. The Academy understands that the allocation of this fund will be influenced by the Science and Innovation audits and local industrial strategies. To-date, no local industrial strategies have been published and no awards have been announced making it difficult to assess the impact of this fund. The Academy therefore looks forward to further details on how this fund will support regional investment in research and innovation and the future of the fund beyond 2020/21.
52. In addition the Strength in Places Fund, the Industrial Strategy contained a commitment to launch a UK Shared Prosperity Fund (UKSPF) to drive growth and prosperity across the UK.³⁶ We understand that the UKSPF is intended to replace EU structural funds. EU structural funds, such as the European Regional Development Fund (ERDF) provided support for research and innovation, however it remains unclear how this fund will support research and innovation activities.³⁷ In a written statement from the Parliamentary Under Secretary of State for Housing, Communities and Local Government, it was confirmed that the priorities and operation of the fund will be announced after the spending review and that the Government will consult on the UKSPF this year.³⁸
53. The Academy looks forward to further details on the UKSPF and urges the Government to ensure that it will compensate for the loss of the support for R&D currently provided by ERDF.

Balance between the different available UKRI/Government levers for encouraging research and innovation

54. The UK Government provides a range of interventions to stimulate private sector R&D, which will play a crucial role in reaching the 2.4% target. A selection of those, which have

³⁴ FORUM (2017) Geographical clusters: a vision for the future <https://acmedsci.ac.uk/file-download/31821958>

³⁵ FORUM (2017). Geographical clusters: A vision for the Future <https://acmedsci.ac.uk/file-download/31821958>

³⁶ BEIS (2017) Industrial Strategy White Paper https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

³⁷ Technopolis (2017): The role of EU funding in UK research and innovation <https://acmedsci.ac.uk/policy/policy-projects/the-role-of-eu-funding-in-uk-research-and-innovation>

³⁸ <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Lords/2018-07-24/HLWS898/>

been shown to be successful, are highlighted below but we believe more could be done to evaluate the effectiveness of these schemes.

55. R&D tax credits for private investment in R&D represent an important mechanism through which firms are incentivised to conduct R&D. In 2015-16, £2.9 billion in tax relief was claimed by UK businesses based on an investment of £22.9bn in R&D. SMEs made over 80% of claims to this scheme in 2015-16, recouping over £1.3 billion in tax relief.³⁹ Analysis from HMRC estimated for every £1 of tax forgone, companies are stimulated to increase R&D expenditure is stimulated by between £1.53 and £2.35.⁴⁰
56. Our Fellows tell us that tax credits can be particularly important to R&D intensive SMEs as they comes without restrictions and do not require a patent to be in place in order to be eligible.
57. We believe that medical research charities should benefit from the R&D tax credit system. The Research and Development Expenditure Credit (RDEC) closed to charities in 2015, and we understand that some charities have been required to repay tax relief previously awarded through this system. Greater clarity is required from HMRC on eligibility for retrospective claims and a pragmatic approach should be taken to claims already awarded. In the longer-term an R&D tax credit system that is accessible to charities would have clear benefits in leveraging the charitable contribution to the 2.4% target.
58. The Small Business Research Initiative (SBRI) have also been shown to be impactful for life sciences SMEs. SBRI Healthcare focuses on challenges that are relevant for the NHS and are specified by clinicians and experts within the Academic Health Science Networks. A recent evaluation of SBRI Healthcare showed evidence of positive impacts.⁴¹ For example, in 2015, businesses supported by the scheme attracted an additional £36.7 million of funding from alternative sources.
59. A key limiting factor to the growth of R&D intensive firms, particularly those based outside of London, is the availability of long-term patient capital funding. This was recognised by the Government's Patient Capital Review and the Academy welcomed the findings of this report and this review. The establishment of British Patient Capital in June of this year is a highly positive step. The scheme has commitment to invest £2.5 billion in innovative companies across the UK in the next decade.⁴²
60. It is vital that British Patient Capital delivers investment across the whole country as VC funding remains extremely elusive outside of the South East of England.

For further information, please contact Dr Tom Livermore, tom.livermore@acmedsci.ac.uk; +44(0)20 3141 3220.

Academy of Medical Sciences

Portland Place, London, W1B 1QH

³⁹ HM Revenue & Customs. 2017 Research and Development Tax Credits Statistics.

⁴⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/413629/HMRC_WorkingPaper_17_R_D_Evaluation_Final.pdf

⁴¹ Lichten, Catherine, Calum MacLure, Anton Spisak, Sonja Marjanovic & Jon Sussex. 2017. 'The Small Business Research Initiative (SBRI) Healthcare programme.' Santa Monica, Calif.: RAND Corporation. https://www.rand.org/pubs/research_reports/RR1828.html

⁴² <https://www.britishpatientcapital.co.uk/>

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