The Academy of Medical Sciences

Academy of Medical Sciences submission to the Spending Review (Phase 2) – February 2025

The October 2024 Budget showed the Government's recognition of the importance of research and development (R&D) and health to the UK's growth, with innovation as one of seven growth pillars. The 2025 Spending Review is a key opportunity to solidify this message and provide the life sciences sector with the long-term financial stability and reforms it requires to drive growth, build an NHS fit for the future and improve the public's health and wellbeing.

We recognise that Government will need to make difficult decisions to reform, stabilise and grow the economy. Few investments reap the co-benefits that improved health can achieve, including improved equality, wellbeing, productivity, resilience and security.

Key policy recommendations

1. Kickstart economic growth and innovation through competitive, sustainable funding for R&D and medical science leadership

Internationally competitive R&D funding

1.1 Set a target to lead the G7 on R&D investment and be among the top science nations globally.

1.2 Continue to develop longer-term funding cycles for research, in collaboration with the R&D community.

Enabling discovery science and incentivising private investment

1.3 Address the real-terms decline in quality-related (QR) funding, and partner with charities to improve the financial sustainability of research that they fund.

1.4 Incentivise private investment through public-private partnerships, co-investment schemes and targeted tax incentives, structured to de-risk late-stage projects and enhance private sector returns.

1.5 Encourage greater coordination between health research funders to understand, publish and respond to data on the relationship between research funding and research costs.

Creating conditions to attract the best global talent and build collaborations

1.6 Prioritise international partnerships as a key feature for improving research and to maximise the benefits of existing connections.

1.7 Provide funding for UK researchers and the sector to remove barriers to participation in Horizon Europe, for example through pump priming schemes.

1.8 Ensure UK participation in the next European Union Research and Innovation Framework Programme.

1.9 Reduce the upfront cost of visas, including the NHS surcharge, for international researchers and their families in line with competitor nations.

1.10 Target a return to spending 0.7% of Gross National Income on Official Development Assistance (ODA), and ensure ODA is a reliable source of funding for R&D.

2. Build an NHS fit for the future by unlocking its research potential

Embedding research and innovation into the health system

2.1 Work across government departments to invest in training and maintaining a world-class research workforce. This includes improving culture, career sustainability and mobility across sectors, disciplines and borders.

2.2 Work with charities, the NHS and universities to reverse the decline in clinical academics as a proportion of NHS staff. This should be done in line with recommendations from the task and finish groups on this subject, commissioned by the Office for Strategic Coordination of Health Research.

2.3 Commit to sustaining the current levels of funding for NIHR. This should be reflected in research taking place in the NHS in all four nations.

Maximising health research data

2.4 Assemble a health data infrastructure for the whole population by building upon existing expertise within academia, industry, research funders and the NHS. This should include a joint national health data strategy for all health relevant data that is developed in partnership with the research community and guided by the findings of the independent Sudlow Review on health data.

3. Break down barriers to opportunity by investing in early-years healthcare and prevention

3.1 Focus on prevention, early intervention and reducing inequalities.

3.2 Work across government departments to deliver policies to prioritise early childhood in health, education, environment and across all of Government.

Investing in health research to support growth, the NHS and opportunity

We were pleased to see the Government's Plan for Change[1] recognise the link between health, opportunities and economic growth. It also acknowledges that the UK's research talent and institutions are fundamental to the Plan's successful implementation. The UK's life sciences sector is a fundamental strength and key to ensuring the UK's international competitiveness.

The quality, efficiency and innovation of the UK's health system relies on world-leading talent. Developing the research talent of the future, including in healthcare settings, is key to unlocking the potential of science, research and technology in delivering future care.

The Plan's mission to 'build an NHS fit for the future' outlines the need to capitalise on the scientific and technological revolution, to 'deliver better outcomes for patients and better value for taxpayers' money'. We welcome the Government reiterating that it is protecting record funding for R&D.

Innovation happens at the intersection of sectors, so we are pleased that the Plan recognises the importance of cross-departmental and cross-sector working. This requires strong links between academia, the NHS, industry and international partners. Our report on Future-proofing UK Health Research identifies the need for coordination between academia, industry, the NHS, government departments, funders and regulators, to provide a sustainable platform for health ideas, innovation and partnerships to thrive.[2]

The Plan's mission to 'break down barriers to opportunity' is timely. UK population health is deteriorating, with health inequalities between the most and least deprived widening, damaging the economy and society. In England alone, nearly one in five adults are

[1] Prime Minister's Office (2024). *Plan for Change: Milestones for Mission-Led Government*. https://www.gov.uk/missions
[2] Academy of Medical Sciences (2023). *Future-proofing UK Health Research: a people-centred, coordinated approach*. https://acmedsci.ac.uk/file-download/23875189

projected to be living with a major illness, such as dementia or cancer, by 2040.[3] To protect the NHS and improve resilience, the Government must invest in prevention and public health research. By investing in child health, the Government can invest in the future of the UK's prosperity and give every child the best start in life.

Research is central to all three shifts in the NHS. A strong research base will identify interventions to help move care from hospitals to communities, make better use of technology and focus on preventing sickness.

Why should Government invest in health research?

- Health research and medical science leadership provides a strong return on investment through improving public health, boosting productivity, driving high-value job creation and attracting significant investment.
- Today's research is tomorrow's care. UK health research saves and improves lives, both long-term and in crises – from mental health and cancer to pandemics and climate change.
- Polling from the Campaign for Science and Engineering found that 'investment in R&D for healthcare is a clear priority for the public'.[4]
- The NHS is an enviable hub for health research – a globally unique national asset. Embedding research in the NHS can improve our ability to deliver care that helps people lead longer, healthier lives.
- Evidence shows that participating in health research can help retain NHS staff and reduce burnout.[5]
- Analysis from the British Business Bank shows that the life sciences has been a leading area of innovation in recent years, with over £450bn of investment raised by companies over the past ten years (representing 18% of all venture capital (VC) funding globally). Also, that 'demand for healthcare solutions continues to increase and the industry has fast growing sub-sectors in areas such as therapeutics, drug discovery and digital health'.[6]
- Research funded by the Medical Research Council has led to spin-out companies that have attracted billions of pounds in external investment.[7] To support growth, we need to make sure that the UK is a place to scale up innovation activities.
- Research relies on stability, sustained funding and policy incentives that drive collaboration, integration and support for talent. Government has an opportunity to build the UK's momentum in health research and unlock groundbreaking discoveries currently in train.

An ambitious Spending Review can support the Plan's delivery by maximising the potential of health research. Our response focuses on three priorities, framed around the Government's missions, which will provide foundations for improving people's lives and strengthening the UK's economic potential. These priorities are:

1. Kickstart economic growth through competitive, sustainable funding for R&D
2. Build an NHS fit for the future by unlocking its research potential

[3] The Health Foundation (2023). *Health in 2040: projected patterns of illness in England*. https://www.health.org.uk/reports-and-analysis/reports/health-in-2040-projected-patterns-of-illness-in-england
[4] Campaign for Science and Engineering (2024). *CaSE Public Attitudes to R&D and the General Election 2024*. https://www.sciencecampaign.org.uk/what-we-do/public-opinion/research/case-public-attitudes-to-rd-and-the-general-election-2024/
[5] Academy of Medical Sciences (2020). *Transforming health through innovation: Integrating the NHS and academia*. https://acmedsci.ac.uk/file-download/23932583
[6] British Business Bank (2024). *UK Venture Capital Financial Returns 2024*. https://www.british-business-bank.co.uk/sites/g/files/sovrnj166/files/2024-11/uk-vc-financial-returns-report-2024.pdf?attachment
[7] Medical Research Council (2025). *Development and growth of spin-outs from MRC research*. https://www.ukri.org/news/spin-outs-from-mrc-funded-research-attract-10bn-in-investments/

3. Break down barriers to opportunity by investing in early-years health care.

1. Kickstart economic growth and innovation through competitive, sustainable funding for R&D and medical science leadership

The UK undertakes world leading R&D, which drives economic growth and leads to new healthcare discoveries, solutions and innovative practices. Each £1 of public investment in medical research delivers a return equivalent to around 25p each year, forever.[8] Public investment stimulates private investment: the National Centre for Universities and Businesses (NCUB) estimates that in the UK, each £1 of public R&D stimulates between 60p and £1.10 of private R&D investment in the short term, and between £3.09 and £4.02 in the long term.[9] These activities are underpinned by competitive and sustainable funding, which helps to attract talent, enable long term research partnerships and leverage private and international investment.

We were delighted to see recognition in the Autumn Budget 2024 that 'supporting scientific breakthroughs and spurring innovation are central to progressing the Government's missions to rebuild Britain and to delivering the Industrial Strategy'. It was encouraging to see the Government reiterate that it is protecting record funding for R&D.[10]

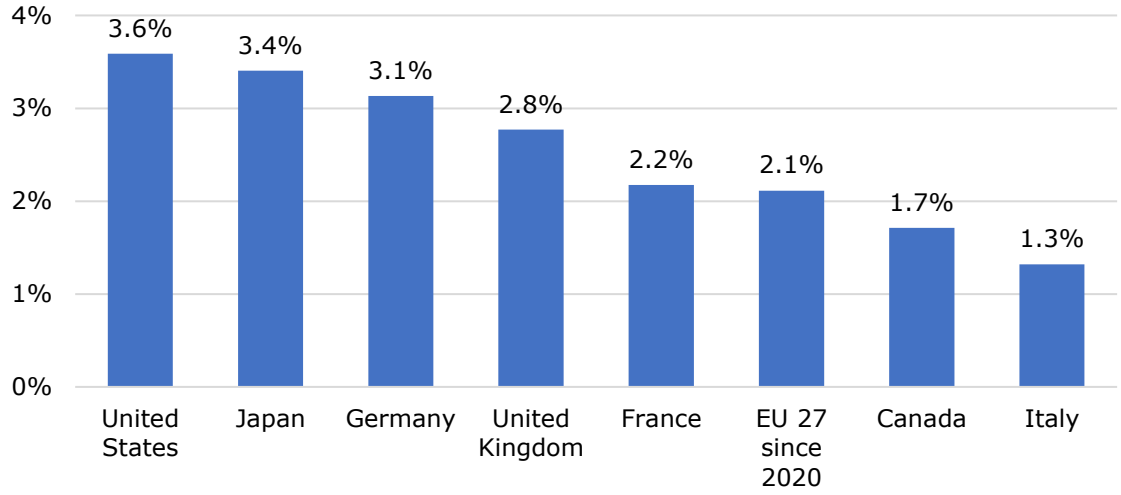
Prioritising prevention and improving public health, underpinned by health research (including research in the NHS), also have direct and indirect impacts on growth, productivity and public services, from alleviating the burden on the NHS to reversing the increase of economic inactivity due to long-term sickness.[11]

Internationally competitive R&D funding

To harness the full potential of the UK's science base and support the Government's aim to achieve the highest sustained growth in the G7, the UK will need to maintain competitive levels of R&D investment. However, the latest data from the Office for National Statistics indicates that total UK R&D expenditure represented 2.8% of GDP in 2022.[12] This level of investment is behind leading G7 countries such as the United States (3.6%), Japan (3.4%) and Germany (3.1%), and other countries such as Israel (6.0%), Korea (5.2%) and China (4.0%).[13] Amidst growing international competition, setting a long-term target is an opportunity to positively signal the UK's intentions to maintain and strengthen its world-leading R&D capabilities.

[8] Wellcome Trust, et al. (2018). *Medical research: What's it worth? A briefing on the economic benefits of musculoskeletal disease research in the UK*.
https://acmedsci.ac.uk/file-download/54792223
[9] National Centre for Universities and Businesses (2024). *Unlocking growth: The impact of public R&D spending on private sector investment in the UK*. https://www.ncub.co.uk/wp-content/uploads/2021/07/Unlocking-Growth-NCUB-2.pdf
[10] HM Treasury (2024). *Autumn Budget 2024*.
https://assets.publishing.service.gov.uk/media/672b9695fbd69e1861921c63/Autumn_Budget_2024_Accessible.pdf
[11] House of Commons Library (2024). *Economic update: Inactivity due to illness reaches record*. https://commonslibrary.parliament.uk/economic-update-inactivity-due-to-illness-reaches-record/
[12] Office for National Statistics (2024). *Gross domestic expenditure on research and development, UK: 2022*.
https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2022
[13] Organisation for Economic Co-operation and Development (2024). *Gross domestic spending on R&D*.
https://www.oecd.org/en/data/indicators/gross-domestic-spending-on-r-d.html?oecdcontrol-8027380c62-var3=2022&oecdcontrol-4105a61d69-var1=GBR%7CUSA%7CCAN%7CFRA%7CDEU%7CITA%7CJPN%7CEU27_2020

Figure 1: Gross domestic spending on R&D (% of GDP), G7 countries and EU (2022)



Source: OECD, ONS

Recommendation 1.1 Set a target to lead the G7 on R&D investment and be among the top science nations globally.

A thriving research system requires long-term stability and sustainability. Short-term or unstable funding stalls innovation, particularly in high-risk research fields with lengthy timelines such as drug discovery. Research shows that investment in industrial biotechnology projects can strengthen links between industry and academia and deliver significant impact and benefits.[14] However, such projects may require several years for a return on investment, and these timelines, along with high costs, can reduce private sector appetite. Stability is important to enable long-term research collaborations, and this can be supported through incentives to bring in private investment.

Therefore, we were delighted to see the Government commit to developing longer-term funding cycles for key R&D activities in phase one of the Spending Review, and recognise that a long-term, strategic approach to R&D is key to a thriving science base and economy. This approach would send a positive signal to collaborators and investors that the UK's R&D capacity is competitive and enduring.

We recommend that the Government should consider the following policy principles for long-term R&D funding cycles:

- Funding cycles should provide opportunities for collaboration across the whole R&D system and support opportunities for local and regional collaboration. This includes collaboration between academia, charities, the NHS and industry.
- Funding cycles should support efforts to reduce unnecessary red-tape, as identified in the Independent Review of Research Bureaucracy (for example, by streamlining funding applications).[15]
- Funding cycles should support international partnerships. These partnerships can take time to develop and are damaged when R&D funding is 'stop-start' in nature. This uncertainty can also reduce the confidence of international researchers, who need

[14] UK Research and Innovation (2024). *Evaluation of the effectiveness and impact of BBSRC's investments in Industrial Biotechnology*. https://www.ukri.org/wp-content/uploads/2024/09/240924-BBSRC-12066-BBSRC-Industrial-Biotechnology-report-FINAL.pdf
[15] Department for Business, Energy and Industrial Strategy (2022). *Independent Review of Research Bureaucracy*. https://www.gov.uk/government/publications/review-of-research-bureaucracy

predictable timelines to develop and submit proposals according to their needs. Once partnerships end, it takes time to rebuild them.

- Funding cycles should support talent across all R&D career stages and workforce roles. An attractive system needs dynamic, varied and sustainable career pathways, with cross-sector mobility. Funding could be used to support themes identified in the R&D People and Culture Strategy,[16] including talent development, incentivisation of cross-sector training programmes, and the recognition and reward of R&D contributions. The Academy's Future Leaders in Innovation, Enterprise and Research (FLIER) Programme is a strong example of this, developing leaders of the future who can create collaborations across academia, industry, the NHS and Government to drive innovation.[17]

Recommendation 1.2 Continue to develop longer-term funding cycles for research, in collaboration with the R&D community.

Enabling discovery science and incentivising private investment

Discovery science is underpinned by quality-related (QR) funding, which provides institutions with the autonomy to deploy funding strategically – both to commit to long-term investments and to respond quickly to new challenges. For example, during the COVID-19 crisis, universities were able to use QR funding to rapidly redeploy researchers to pandemic-related work even before government schemes were put in place. The UCL Ventura breathing device, was designed in just 100 hours through the flexible deployment of QR funding, [18] and within a month, 10,000 units were manufactured for the UK Government.[19]

However, in England, there has been a 16% drop in real-terms QR funding from 2010–11 to 2024–25.[20] Left unaddressed, this could be seriously detrimental to universities' ability to conduct discovery research that can lead to healthcare breakthroughs. We need to support our world class universities and researchers to make the discoveries needed to improve health, and ensure our research translates to commercial success.

Recommendation 1.3 Address the real-terms decline in QR funding, and partner with charities to improve the financial sustainability of research that they fund.

As the Government set out in Invest 2035, the UK life sciences sector is a major driver of employment and growth.[21] The strategy notes that the sector 'is at the intersection of healthcare innovation and cutting-edge technologies, offering immense potential to transform public health, boost productivity, while driving high-value job creation and attracting significant investment'.

The UK has a strong foundation in this sector, with the 6,850 life sciences businesses in 2021–2022 generating £108.1 billion in turnover.[22] Research from the UK BioIndustry

[16] Department for Business, Energy and Industrial Strategy (2021). *R&D People and Culture Strategy*. https://assets.publishing.service.gov.uk/media/60f804228fa8f50c768387c5/r_d-people-culture-strategy.pdf
[17] Academy of Medical Sciences. *FLIER - leadership programme*. https://acmedsci.ac.uk/grants-and-schemes/mentoring-and-other-schemes/FLIER
[18] The Russell Group (2021). *Supporting future breakthroughs and improved resilience for the UK: the importance of 'QR' funding*. https://russellgroup.ac.uk/media/6006/supporting-future-breakthroughs-and-improved-resilience-the-importance-of-qr-funding.pdf
[19] UCL. *About UCL-Ventura*. https://www.ucl.ac.uk/healthcare-engineering/about-ucl-ventura
[20] The Russell Group (2024). *Briefing – The impact of QR funding*. https://russellgroup.ac.uk/policy/policy-documents/briefing-the-impact-of-qr-funding/
[21] Department for Business and Trade (2024). *Invest 2035: the UK's modern industrial strategy*. https://www.gov.uk/government/consultations/invest-2035-the-uks-modern-industrial-strategy/invest-2035-the-uks-modern-industrial-strategy
[22] Department of Health and Social Care (2024). *Bioscience and health technology sector statistics 2021 to 2022*. https://www.gov.uk/government/statistics/bioscience-and-health-technology-sector-statistics-2021-to-2022/bioscience-and-health-technology-sector-statistics-2021-to-2022

Association shows that, in 2024, the UK biotech industry raised £3.5 billion in equity financing, a 94% increase over 2023.[23] However, recent years have shown signs that the UK is losing out to international competition. Inward foreign direct investment in UK life sciences has declined in recent years, by 47% between 2021 and 2022 and by 21% between 2022 and 2023.[24] We have also heard concerns from our Fellows who work in industry that UK Government and NHS procurement is notoriously difficult to navigate, and the NHS struggles to adopt innovations, causing biotech and start-ups to set up operations outside of the UK.

The regulatory environment is an important factor for investors. To drive growth, it is important that UK regulators can keep pace with innovations that are well-resourced, dynamic, flexible, efficient and driven by public interest.[25]

This multi-year settlement is an opportunity to renew the UK's leadership in life sciences to drive economic growth and build an NHS fit for the future.

Recommendation 1.4 Incentivise private investment through public-private partnerships, co-investment schemes, and targeted tax incentives, structured to de-risk late-stage projects and enhance private sector returns.

The UK's health research system benefits from many world-leading academic research institutions, coupled with a diverse funding system including public, private and charitable organisations. The strength and financial sustainability of these institutions underpins both the training of research talent and their ability to contribute to the health and wealth of the UK.[26]

However, the gap between costs of research and the income for research is widening in academic institutions:

- Data from the Office for Students showed that, in 2022–23, full economic cost recovery (fEC) for research was just 69.3%, and within this, fEC from UK charities was 57.5%.[27]
- Research from Universities UK has indicated that universities are making difficult choices about their research activities, in response to financial pressures.[28]
- Research from the Association of Medical Research Charities (AMRC) shows that the value for the Charity Research Support Fund (CRSF) has declined in real terms, which is 'putting the future of university-charity partnerships at risk'.[29]

This is making health (and other) research increasingly reliant on cross-subsidisation, including from international students' tuition fees. However, the Office for Students (OfS) has noted that 'financial exposure to overreliance on recruitment of students from particular countries continues to be a concern'.[30] Unless R&D is made more sustainable, we may lose the growth opportunities afforded by these activities.

[23] UK BioIndustry Association (2024). *UK biotech financing 2024.* https://biotechfinance.org/
[24] Office for Life Sciences (2024). *Life sciences competitiveness indicators 2024: summary*. https://www.gov.uk/government/publications/life-sciences-sector-data-2024/lifesciences-competitiveness-indicators-2024-summary
[25] Academy of Medical Sciences. (2021). *Advancing regulatory science for innovative medical products*. https://acmedsci.ac.uk/file-download/10400150
[26] Academy of Medical Sciences (2023). *Future-proofing UK Health Research: a people-centred, coordinated approach*. https://acmedsci.ac.uk/file-download/23875189
[27] Office for Students (2024). *Annual TRAC 2022-23: Sector summary and analysis by TRAC peer group*. https://officeforstudents.org.uk/media/oazbzea5/annual-trac-2022-23.pdf
[28] Universities UK (2024). *Opportunity, growth and partnership: a blueprint for change*. https://www.universitiesuk.ac.uk/what-we-do/policy-and-research/publications/features/opportunity-growth-and-partnership/world-leading-research-and-innovation
[29] Association of Medical Research Charities (2024). *Bolstering charity-university research partnerships.* https://www.amrc.org.uk/Handlers/Download.ashx?IDMF=a292c31e-505c-47f2-8879-f989ce7f8b6b
[30] Office for Students (2024). *Financial sustainability of higher education providers in England: November 2024 update*. https://www.officeforstudents.org.uk/media/nn2fnrkx/financial-sustainability-november-2024.pdf

Recommendation 1.5 Encourage greater coordination between health research funders to understand, publish and respond to data on the relationship between research funding and research costs.

Creating conditions to attract the best global talent and build collaborations

UK participation in European Framework Programmes for Research and Innovation is vital for the UK's ability to take part in global scientific collaboration, which brings benefits for people and the economy alike. It is important that UK researchers are empowered to take full advantage of UK participation to Horizon Europe.

More broadly, there is a need for greater security of international R&D funding, with longevity and certainty needed for the UK to build trusted, long-term, reliable partnerships overseas. This should complement previous international funding for R&D. We need to be able to work effectively with international partners and attract fundamental world-class talent and entrepreneurs.

Recommendation 1.6 Prioritise international partnerships as a key feature for improving research and to maximise the benefits of existing connections.

Recommendation 1.7 Provide funding for UK researchers and the sector to remove barriers of participation in Horizon Europe, for example through pump priming schemes.

Recommendation 1.8 Ensure UK participation in the next European Union Research and Innovation Framework Programme.

To unlock world-leading innovations and growth, UK R&D needs world-leading domestic and international talent. For example, 62% of the scientific staff at the Francis Crick Institute are from outside the UK.[31] Additionally, research shows that the public strongly supports international researchers coming to work in the UK.[32]

However, UK visa costs are by far the most expensive of any leading scientific nation. This is blocking international talent from UK careers, with recent increases making this even more prohibitive. From 2021 to 2024, total upfront immigration costs in the UK increased by up to 58% depending on visa type. Since 2019, they have increased by up to 126%. A family of four coming to the UK on a five-year Global Talent visa will be liable to pay £20,974 upfront, which is up 57% from £13,372 between 2021 and 2024. This is 21 times higher than France and 34 times higher than Germany.[33]

Our Future-proofing report identified that changes to immigration policies have made it more expensive and more difficult for researchers from EU nations to come to the UK. Meanwhile, global competition for research talent is increasing and we have heard evidence that researchers in the UK are finding it more challenging to recruit international talent, particularly at post-doctoral level. This Spending Review, and the forthcoming immigration white paper, is an opportunity to change this narrative and send a positive signal to leading global talent that the UK remains one of the best places for a research career.

[31] Cancer Research UK (2024). *Impact of UK immigration system changes on cancer research.* https://www.cancerresearchuk.org/sites/default/files/impact_of_immigration_system_changes_on_cruk_institutes.pdf
[32] Campaign for Science and Engineering (2024). *CaSE Public Attitudes to R&D and the General Election 2024*. https://www.sciencecampaign.org.uk/what-we-do/public-opinion/research/case-public-attitudes-to-rd-and-the-general-election-2024/
[33] Royal Society (2024). *Summary of visa costs analysis 2024*. https://royalsociety.org/-/media/policy/publications/2024/summary-of-visa-costs-analysis-2024.pdf

International collaboration is fundamental to a thriving research system. In 2023, 60.9% of the UK's research output was produced with international co-authors;[34] however,

Recommendation 1.9 Reduce the upfront cost of visas, including the NHS surcharge, for international researchers and their families in line with competitor nations.

Recommendation 1.10 Target a return to spending 0.7% of Gross National Income on ODA, and ensure ODA is a reliable source of funding for R&D.

decreases in Official Development Assistance (ODA) funding and uncertainty over UK participation in international programmes have held back UK innovation.

2. Build an NHS fit for the future by unlocking its research potential

Embedding research and innovation into the health system

Research in NHS settings is vital to improving healthcare. The NHS, including its rich health datasets, is an enviable clinical research hub for improving patient outcomes and performance. For example, the NHS-delivered RECOVERY trial identified dexamethasone as a COVID-19 treatment which saved one million lives worldwide in the nine months following its discovery.[35]

The benefits of clinical research include the fact that research-active hospitals have better patient outcomes and lower mortality rates.[36] Giving time for research to interested NHS staff also enhances recruitment and retention, and reduces burnout.[37]

Despite this, NHS pressures, a failure to value the contribution of research, slow adoption of innovation and unfulfilled potential of patient data as a research resource, are stalling clinical research and healthcare innovation. Lord Darzi's review of the NHS in England suggested that research partnerships between the NHS and life science sector for research often fall into the category of 'important but not urgent', in part because 'finances are tight'. The report adds that 'in the medium term, it is innovation that can make the NHS more sustainable'.[38]

This is compounded by a concerning decline in clinical academics (broadly defined as clinical professionals who combine their clinical careers with research careers),[39] particularly at mid-career levels, where there has been a 25% decline between 2010 and 2022.[40] These researchers arguably play the most critical role in driving health research by connecting our world-leading universities with the healthcare system. Reversing their decline is vital to securing an NHS fit for the future.

The UK's excellent health research system is driven by its talented researchers and practitioners who embed research into everyday activities. We need to make sure that the

[34] Universities UK International. *UK higher education data – international: Research and innovation data*. https://www.universitiesuk.ac.uk/what-we-do/policy-and-research/publications/features/uk-higher-education-data-international/research-and-innovation-data
[35] NHS England (2021). *COVID treatment developed in the NHS saves a million lives*. https://www.england.nhs.uk/2021/03/covid-treatment-developed-in-the-nhs-saves-a-million-lives/
[36] NHS (2019). *The NHS Long Term Plan*. https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf
[37] Academy of Medical Sciences (2020). *Transforming health through innovation: Integrating the NHS and academia*. https://acmedsci.ac.uk/file-download/23932583
[38] Department of Health and Social Care (2024). *Independent Investigation of the National Health Service in England*. https://assets.publishing.service.gov.uk/media/66f42ae630536cb92748271f/Lord-Darzi-Independent-Investigation-of-the-National-Health-Service-in-England-Updated-25-September.pdf
[39] NHS England (2024). *What is a clinical academic?* https://nshcs.hee.nhs.uk/healthcare-science/careers-in-healthcare-science/clinical-academic-careers/what-is-a-clinical-academic
[40] Medical Schools Council. *Clinical Academic Survey*. https://www.medschools.ac.uk/clinical-academic-survey (accessed 30 January 2025)

system remains attractive to new and existing talent, which can be achieved in part through funding conditions and incentives.

Our report on Future-proofing UK Health Research[41] identified several challenges for the talent pipeline:

- While the range of UK health research funding sources is a significant strength, it creates a 'fragmented funding landscape that can be complex to navigate'.
- The duration of funding awards for early and mid-career researchers can influence career stability. Whatever the duration, we need to account for the true costs of supporting research career development, reducing the precarity of research careers and supporting meaningful patient and public involvement.
- Cross-sector mobility boosts innovation, accelerates research and helps to tackle major challenges. However, we need to do more to 'create the conditions in which multidirectional movement between sectors is understood, attractive and attainable for individuals and organisations'.
- Clinical academics 'struggle to develop their dual careers between academia and the NHS, whilst healthcare professionals wishing to engage in research do not have adequate time or support to do so'. These issues have been highlighted in the 2025 report on clinical researchers in the UK, commissioned by the Office for the Strategic Co-ordination of Health Research.[42]

We need to create a healthy research culture that attracts, retains and develops talent, and that supports the R&D cycle through Team Science and cross-sector collaboration.[43] This should include funding for clinical academic career pathways at both pre- and post-doctoral levels. This will require coordination across professional organisations that oversee postgraduate training, higher education institutions, the NHS and public health organisations, and research funders.[44] It will also involve targeting investment so that there are more flexible clinical academic career pathways.

Recommendation 2.1 Work across government departments to invest in training and maintaining a world-class research workforce. This includes improving culture, career sustainability and mobility across sectors, disciplines and borders.

Recommendation 2.2 Work with charities, the NHS and universities to reverse the decline in clinical academics as a proportion of NHS staff. This should be done in line with recommendations from the task and finish groups on this subject, commissioned by the Office for Strategic Coordination of Health Research.

Recommendation 2.3 Commit to sustaining the current levels of funding for NIHR. This should be reflected in research taking place in the NHS in all four nations.

Maximising health research data

The UK's health research activities are underpinned by highly developed infrastructure. Investment in infrastructure can be used to create a more cohesive ecosystem and build longer-term capacity. Investment in core capabilities can allow the UK to retain and attract

[41] Academy of Medical Sciences (2023). *Future-proofing UK Health Research: a people-centred, coordinated approach*. https://acmedsci.ac.uk/file-download/23875189
[42] Medical Research Council (2025). *Clinical researchers in the UK: reversing the decline*. https://www.ukri.org/publications/clinical-researchers-in-the-uk-reversing-the-decline/
[43] Academy of Medical Sciences (2016) *Improving recognition of team science contributions in biomedical research careers*. https://acmedsci.ac.uk/policy/policy-projects/team-science
[44] Academy of Medical Sciences (2020). *Transforming health through innovation: Integrating the NHS and academia*. https://acmedsci.ac.uk/file-download/23932583

talent with relevant expertise and knowledge. It also supports the agility of the system, as established research teams can act quickly when opportunities arise within a growth sector or mission. We were therefore pleased to see phase one of the Spending Review announce, 'over £2 billion for health R&D to drive innovation and support the UK's leading life sciences sector'.[45] We can capitalise on the UK's health infrastructure by enhancing its integration and investing in the talent that ensures its effectiveness.

A key national infrastructure is health data. As the national healthcare provider with cradle-to-grave records for the population, the NHS holds a unique dataset. In our response to the NHS 10-Year Health Plan, we noted that, 'if used effectively, such as for the development and deployment of data-driven technologies, this has tremendous potential to improve patient outcomes and safety, and the health of the public, facilitate health service change and new models of care, and contribute economic benefits through fostering life science industries'.[46]

To truly maximise the research potential of the healthcare system, we must facilitate the use of patient data as a research resource for the good of all. This must be done in a way that respects and protects the privacy, rights and choices of patients and the public; involves them in decisions about their data; and maintains trustworthiness that data will be responsibly handled within the NHS. The recently published Sudlow Review[47] is a blueprint for how to help move the NHS from 'analogue to digital' and encourage growth-boosting industry investment in NHS innovations.

Recommendation 2.4 Assemble a health data infrastructure for the whole population by building upon existing expertise within academia, industry, research funders and the NHS. This should include a joint national health data strategy for all health relevant data that is developed in partnership with the research community and guided by the findings of the independent Sudlow Review on health data.

3. Break down barriers to opportunity by investing in early years health care

The health of the UK population is deteriorating. Between 1960 and 2020, the UK ranking among OECD countries for life expectancy at birth fell from seventh to 23rd.[48] Recent global and national events, including the climate crisis, international conflict, the COVID-19 pandemic and the related cost of living crisis, alongside cuts to funding across the public health and research landscape, are driving a further decline in children's health and a widening of existing inequalities. Without enhanced focus on the new generation, there is a risk that health and productivity across the country will continue to decline, resulting in an accumulation of further challenges for the future.

In developing our report on 'Prioritising early childhood to promote the nation's health, wellbeing and prosperity', we consistently heard through our evidence gathering that funding for research into child health exists but is limited in the early years.[49] For example, the Royal College of Paediatrics and Child Health informed us that their analysis of UK health research figures estimated that just 5% of the UK's health research spend focuses on the health of children and young people. In Australia, 27% of research funding from the

[45] HM Treasury (2024). *Autumn Budget 2024*. https://www.gov.uk/government/publications/autumn-budget-2024/autumn-budget-2024-html
[46] Academy of Medical Sciences (2024). *Academy of Medical Sciences response to NHS 10-Year Health Plan*. https://acmedsci.ac.uk/file-download/16905516
[47] Health Data Research UK (2024). *The Sudlow Review*. https://www.hdruk.ac.uk/helping-with-health-data/the-sudlow-review/
[48] Limb M (2023). *UK needs national mission to stop decline in health that mirrors climate action, says commission*. BMJ 381, 986.
[49] Academy of Medical Sciences (2024). *Prioritising early childhood to promote the nation's health, wellbeing and prosperity*. https://acmedsci.ac.uk/file-download/96280233

National Health and Medical Research Council between 2013 and 2022 was allocated to child health research.[50]

We recommend that, in all UK nations, the Government, NHS, local authorities and research funders work together to support further collation of evidenced, cost-effective interventions and policies, and evaluate new interventions and policies. We also recommend further investment in research into improving health in the early years. In particular, ongoing research is necessary to understand causal pathways leading from exposures in early development to later health risks, and to identify effective interventions and policies, including for emerging threats to child health. This would also inform existing areas of research interest related to child health across government departments.

Recommendation 3.1 Focus on prevention, early intervention and reducing inequalities.

Recommendation 3.2 Work across departments to deliver policies to prioritise early childhood in health, education, environment and across all of Government.

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[50] National Health and Medical Research Council (2023). *Research funding statistics and data*. https://www.nhmrc.gov.au/funding/outcomes-and-data-research/research-funding-statistics-and-data