

Maximising the benefits of a diverse health research ecosystem

Workshop report, April 2022

The Academy of Medical Sciences

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Executive Summary

- To explore how diversity in the research funding system can promote financial sustainability of health research, the Academy of Medical Sciences organised a workshop for public, charitable and private funders of research as well as universities and research institutes. This contributed to the *Academy's Future-proofing UK Health Research: a people-centred, coordinated approach* report.¹
- This workshop explored how diversity in the research funding system can promote financial sustainability of health research.
- Attendees agreed a set of shared principles according to which health research should be financially sustainable, different funders play different roles and where partnership can support overall sustainability.
- It was highlighted that interdependency was a feature of the UK health research system (e.g. excellent research supported by charitable funding contributes to the QR funding received by HEIs). This interdependence was considered a strength as it helps provide resilience through diversity.
- Attendees accepted that different funders play important and different roles and debated the role of Government in investing to address "market failures".
- Attendees pointed out that whilst overall research investment has increased, some areas, such as charity support elements and QR have not kept pace. Some noted that overall sustainability could be enhanced by addressing this.
- Good partnerships were considered to be based on honesty, openness and accountability. Challenges to partnership arise when risk reward appetites are misaligned, and some institutions/partners are not able to commit over the same time period. This can pose challenges to public funders whose funding cycles are pinned to Spending Review periods.
- It was suggested that strategic coordination between funders could help to reduce inefficiencies and bodies such as Office for Strategic Coordination of Health Research (OSCHR) have an important role to play.
- Attendees described the important linkages between financial sustainability and a healthy and attractive research culture which provides stable careers.
- Some attendees suggested that it will be critical to further develop the narrative on why financial sustainability is an important issue, including reframing the power of Government investment to leverage other funds, as opposed being seen as a subsidy.

Introduction

On 1 April 2022, the Academy of Medical Sciences convened a workshop that brought together funders across the medical research sector, including charities, Research Councils, UK Research and Innovation (UKRI), the National Institute of Health and Care Research (NIHR), industry and devolved funders, alongside members of Higher Education Institutions (HEIs) and research institutes (RIs) to consider the financial sustainability of health research in the UK.

The workshop was chaired by Professor Dame Julia Goodfellow FMedSci with aim of informing the Academy's *Future-proofing UK Health Research: a people-centred, coordinated approach* project.² In particular, the workshop set out to:

- explore issues of financial sustainability of health research including the roles of public, charitable and private funders of research alongside HEIs and RIs.
- develop a set of shared principles for how partnerships between different parts of the sector can contribute to its overall financial sustainability.

To set the scene, four attendees from different parts of the sector provided their reflections on financial sustainability. These are summarised below:

Dr Helen Cross, UK Research and Innovation (UKRI)

Helen outlined UKRI's interest in the overall financial sustainability of research across all disciplines. She outlined that many funders contribute to funding of research and that almost all HEIs pay significant contribution to research from their own funds. Public, private, charitable and HEI resources are all important when reflecting on sustainable funding.

When considering UKRI-funded research, Helen noted that quality-related (QR) funding gives HEIs the flexibility and autonomy in their investment decisions to underpin the activity on project-specific grants and can be used to cover the FEC deficit on UKRI and other funders' grants, although this is not the only intended use of QR. As part of their work on research sustainability, UKRI are exploring the operation of full economic costs (fEC), ways that project costing can be improved and what impact changes to the level of fEC provided by government sources would have on the research system.

Dr Catriona Manville, Association of Medical Research Charities (AMRC)

Catriona introduced the diversity of health research funders as a strength of the system, with each funder playing vital and different roles. For example, in 2020, AMRC members provided £1.7 billion for health research in complement to funding from Government and Industry

investment. In particular, charities play a unique role by providing funding for research priorities of the public, addressing unmet medical needs and high-risk research. In doing so they are able to accelerate the health impact of research.

Of the total investment of AMRC members, nearly 90% of this funding is awarded to researchers hosted in HEIs, therefore the financial sustainability HEIs is important for charities that aim to support high quality research.³ Deficit in FEC is not unique to charity funding and charities generally fund direct costs of research that relate to the mission of the charity. In some cases, charities may also fund directly allocated costs or equipment and infrastructure costs to cover unmet needs. Indirect costs are, in part, covered by the Charity Research Support Fund (CRSF) and QR. The CRSF was established to incentivise partnership between HEIs, charities and government and remains valued by all partners, however its value has declined in real terms and it is increasingly overstretched.

Professor David Lomas, University College London

David outlined the critical role of research to UK HEIs, including their global reputation and ability to attract international students. David presented analysis which shows that HEIs lose money on every grant they receive.⁴ The analysis shows that Research Council grants cover 88% of the costs, industry funded research covers 83%, EU-funded research covers 82% of the full cost and charity grants cover 72% of the full cost. This is exacerbated by a failure of QR funding to keep up with rising research investment. As a result, the overall deficit for research across disciplines and HEIs has risen from £1.8 billion in 2010/11 to £3.7 billion in 2017/18. In health research, the FEC recovery is less than other disciplines and can therefore be seen as particularly difficult or unsustainable.

David noted that some HEIs have been able to absorb this gap in funding through cross-subsidy from teaching income (particularly overseas students), but pressure is additionally increased when funders ask for 'match funding' and there are significant vulnerabilities if other sources of income were to decline.

Dr Malcolm Skingle, GSK

Malcom began by reminding attendees that the UK has a strong science base, but that the issue of cost-recovery of research has a long history. Whilst some issues have worsened over the years, others have improved. For example, HEIs have improved their efficiency since the Wakeham review in 2010.⁵

Malcom noted that the Government's target for UK public and private investment in R&D to rise to 2.4% by 2027 is welcome, and that reaching this target will involve all funders (public and private) investing more. Industry has an important role to play in hitting these targets, but it is important to remember that when industry makes decisions about where to invest, they do so on a global scale. Industry cannot, therefore, be seen as a vehicle with which to make up funding shortfall left by other funders. Partnerships with industry should be valued beyond financial benefits: including through in-kind support; time spent in industry labs; use of industry equipment and research animals.

Key themes from discussion

Following opening remarks, attendees considered a set of starting assumptions:

- **Health Research should be financially sustainable,**
- **Different funders play different roles in the financial sustainability of health research,**
- **The diversity of funders of health research (public, charitable and private) can promote sustainability through partnership.**

These assumptions were widely accepted, but prompted discussion on the wide range of themes, summarised below.

Defining sustainability

Whilst attendees broadly agreed with the starting assumptions, it was felt that further definition of sustainability was required. For example, attendees suggested that sustainability could be defined on the ongoing ability of the system to produce outputs, or through a focus on the sustainable careers of people working within the system.

In general, attendees felt that 'sustainable' need not mean self-sustaining and that cross-subsidy between disciplines and sources of income (e.g. student fees) was an acceptable reality. However, an excessive reliance on potentially volatile sources of income, for example international students from a single country, was considered a risk.

Interdependency is a positive characteristic of the funding ecosystem

Attendees agreed that the UK health research eco-system is unique in its diversity and that the strength and size of the UK research sector is globally competitive.

It was suggested that a holistic view of the system is therefore important when considering how to maintain this strength. Understanding the interdependencies within this system is vital to preserving the overall functioning of the whole system. For instance, attendees noted that HEIs are awarded QR on the basis of excellent research supported by a range of funders, including public, private and charitable.

There was consensus that articulating the interdependency of the system and how different funding streams complement one another is essential to both enhancing its sustainability and making the case for increased investment in any given area.

The role of funders and stakeholders: what does/could each partner contribute?

Extending the theme of interdependence revealed further detail on the complementary roles of different funders value and how they collaborate for the best outcome. As outlined in the opening remarks, the unique roles of different funders were perceived to have the following characteristics (not exhaustive):

- Public investment in health research supports excellent science through response-mode funding and unhypothecated investment, as well as providing a foundational basis for research by investing in talent, infrastructure and institutions.
- Charity contributions were considered additive to existing public investment, placing high importance on addressing unmet needs (e.g. rare diseases) and patient priorities.
- Industry contributions were considered central to driving impact and translation of research.
- Investment by HEIs, which is linked to both unhypothecated public investment, as well as their own funds was considered important to the development of long-term strategic priorities of HEIs as well as covering some of the indirect costs of research.

Attendees considered that combining these strengths should form the basis of a sustainable research system. However, it was noted again that not all elements of funding had grown at the same pace and that historical balances had therefore been gradually eroded. The CRSF was cited as a particular example as it has seen limited growth (3% in England) since it was formed in 2010.

Others noted that research investments from different Government departments (e.g. UKRI from BEIS and NIHR from DHSC) took different approaches to FEC, which poses further complexities.

Meanwhile, not all research performing organisations have equal access to all funding streams. Nations within the UK each operate within their own systems, meaning HEIs in each nation experience different sets of challenges. Moreover, some research institutes are unable to access QR and CRSF. In some cases, this has been addressed by embedding institutes into HEIs, however this is not suitable for all research institutes and some have been forced to develop diverse income streams including IP.

Partnership was considered a means of addressing some of these issues. However, there were differing views on exactly what this would look like. For some, unequal growth in investment from different partners had created a market failure which could only be filled by increased Government investment. However, others suggested that achieving financial sustainability should not be based on a presumption of any single partner paying more, but instead through consideration at the outset of the overall sustainability of a given research activity or collaboration. It was highlighted that a possible negative consequence of this would be funding applications driven by sustainability as opposed to 'strategic fit'.

What makes a good partnership and how can partnerships be constructed which work in the long-term?

Participants discussed the principles which underpin good partnership. Many organisations reported that they already primarily operate through partnership and that long-standing relationships between charities, industry and HEIs are formed on the basis of trust, openness and a shared approach to risk and reward.

In many cases these partnerships are strategic and chosen according to a range of factors including shared objectives and a mutual understanding of the value of each partner. Each partnership operates differently, but it was suggested that they could be facilitated by match-

funding or in-kind investment according to the needs of a project. Porosity of individuals between different parts of the system was also considered helpful to drive a better understanding of the value proposition of respective partners.

Challenges to partnership arise when different collaborators are able to commit for different durations. For example, certain funding streams are stable and therefore able to provide long-term commitments, whilst others may be more volatile or depend on shorter timelines (e.g. linked to Government Spending Review cycles). Stability was considered important for a range of reasons, including the ability to continue to attract the best people.

Resilience

The pandemic has provided an enormous shock to the research system and this has impacted different parts of the sector in different ways. In particular, research charities saw dramatic declines in fundraising income, with knock-on effects on their ability to invest in research.

However, whilst the impact of the COVID-19 pandemic is unprecedented in recent times, some attendees remarked that volatility is normal and cannot be prevented. It was therefore suggested that resilience to future shocks, and therefore sustainability, is enhanced by the presence of a diversity of funders within the system who will respond to shocks in different ways.

Strategic coordination

Attendees noted that within a diversified system, such as health research, there is a need for coordination between funders to minimise inefficiencies and duplication.

The Office for Strategic Coordination of Health Research (OSCHR) was identified as having an important role to play in both sustainability and identifying potential market failures in the system which may require Government intervention.

How financial sustainability/funding system impacts the research culture

There was a strong consensus that issues which affect the financial sustainability of research also drive behaviours that impact on research culture and affect the experience of researchers. For example, the length of grants has a knock-on effect on researchers' employment contract length, whilst the Research Excellence Framework (REF) has the capacity to provide perverse incentives which can, for example, create barriers to porosity between academia and industry. It was noted that the REF is currently being reviewed and the Future Research Assessment Programme (FRAP) provides opportunities for reform.

In the longer-term it was noted that the training of the future research workforce depends on a sustainable approach to Post-Graduate Research (PGR). Historically, PGR training has been perceived to be a high-cost activity for HEIs (with low fEC recovery), however this is complicated by the fact that UKRI-funded PGR training is complimented by charity-funded, HEI-funded and even self-funded PGR training. Limitations in available data make it difficult to disaggregate these figures, but it was noted that the new deal for PGR research announced in the Government's People and Culture Strategy presents an opportunity to address this issue.

How to articulate the importance of financial sustainability in health research?

There is a challenge in articulating the risk that instabilities and market failures pose to the health research system. For example, whilst the sector continues to perform at a high level, the financial sustainability of the health research sector may not be perceived as a grave threat. However, attendees warned that waiting for one part of the system to fail before acting would be extremely deleterious for the UK's health research. It was also suggested that the effects of financial instability are already being borne out by researchers through their impact on research culture.

Many attendees felt that reframing sustainability in terms of leverage and complementarity, as opposed to subsidy, would be a truer reflection of how the system works. For instance, some felt that it was more accurate to consider the CRSF as a mechanism for leveraging charity investment. In the same vein, others described charity investment in areas of unmet patient need as attractive leverage for industry investment. Case studies which demonstrate leverage and interdependence will be important to drive this shift in perception.

Concluding remarks

In her concluding remarks, the Chair summarised some of the key themes that emerged during the discussion. By defining attributes of a sustainable system, we can better define the objectives of achieving financial sustainability. For example, this should include rich and rewarding research careers, strong institutions able to set and follow their own strategic direction, and the capacity of researchers to explore diverse research topics in all areas of health-related research.

Volatility is a driver of instability and therefore can be a barrier to achieving sustainability. This can come in many forms, from the pandemic to changes in Government policy, or from fluctuating student income to shifting business priorities of industry. However, volatility cannot be avoided entirely and diversity and partnership within the health research system can and should provide resilience.

Successful partnerships are built on shared commitments and mutual understanding, but not all partnerships operate in the same way. Maturity and flexibility are key to understanding sustainable partnerships, as is a holistic understanding of the interdependencies of the system.

Challenges remain in articulating the value of this holistic approach and the risk of financially unsustainable research. However, organisations such as OSCHR can play an important role.

Ultimately, the UK's health research system is an important national asset and this has been thoroughly demonstrated both during the pandemic and through a recent consolidation of life sciences industry investment in UK research.

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