

Russell Group response to the Nurse Review of Research Councils

1. Summary

- As an essential part of the dual support system, the Research Councils are vital for supporting excellent research in the UK, playing a key role in sustaining the UK's position as a global leader in science and research.
- A major reorganisation of the Research Councils could be an expensive distraction. However, options should be kept open for considering some future restructuring and there are a number of areas in which the Research Councils could improve to become more efficient and effective.
- Any proposals to amend the number of Research Councils must be supported by robust evidence and a complete cost-benefit analysis quantifying the predicted costs against any expected savings in efficiency or otherwise. A full consultation with universities and the research community about any proposals for significant change is essential.
- Long-term curiosity-driven research produces the biggest economic pay-offs in the long run and comprehensive research universities lie at the heart of this success. The current balance of research funding between basic and more applied areas is about right – responsive mode grants provided by the Research Councils are of particular importance. The challenge is to ensure that future funding is both sustainable and enhances UK competitiveness.
- Applying funding criteria to the Research Councils in a way that undermines excellence would weaken the UK's international economic competitiveness.
- Should any future move be made to bring bodies such as the Meteorological Office and National Physical Laboratory under the Research Councils then this must be undertaken with a concomitant transfer of funding. At that point, universities should be able to bid for research grants, projects and other support on offer to those bodies.
- Research Councils should be encouraged to tap into other streams of funding themselves, for example in support of innovation and proof of concept activities with Innovate UK.

2. Context

- 2.1 The purpose of the Russell Group is to provide strategic direction, policy development and communications for 24 major research-intensive universities in the UK; we aim to ensure that policy development in a wide range of issues relating to higher education is underpinned by a robust evidence base and a commitment to civic responsibility, improving life chances, raising aspirations and contributing to economic prosperity and innovation.

- 2.2 Russell Group universities are found in all four nations and in every major city of the UK; they make a very significant contribution to the UK economy and growth – in their regions, nationally and internationally.
- 2.3 We welcome the opportunity to provide evidence to the Nurse Review. Russell Group universities are major recipients of Research Council funding, winning around three quarters of all Research Council funding allocated to UK HEIs in 2013/14.¹ In the same year, Research Council funding made up around a third of Russell Group universities' collective research grant and contract income (varying between 20% and 50% for individual institutions).² **As an essential part of the dual support system, the Research Councils are vital for supporting excellent research in the UK, playing a key role in sustaining the UK's position as a global leader in science and research.**
- 2.4 This review is taking place within only a year of the publication of the Triennial Review of the Research Councils. Given the short amount of time since the recommendations of the Triennial Review were published, it would be prudent to allow the Research Councils sufficient time to address the proposed recommendations of that review in full.
- 2.5 The Russell Group submitted evidence to the Triennial Review which is available online and can be considered alongside this response.³ In our response we stressed that any significant disruption to established funding structures for research [at the time of writing] could have serious and wide-ranging consequences and should be avoided. We emphasised that the focus needed to be firmly on excellent research and strengthening our international competitiveness and that **a major reorganisation could be an expensive distraction. However, we noted that options should be kept open for considering some future restructuring and suggested a number of areas in which the Research Councils could improve**, including identifying areas where common approaches between Councils would be helpful (making them more efficient and effective) and exploring how the role of RCUK might be strengthened. A summary of proposals in our Triennial Review response on how Research Councils could work more effectively can be found in **Annex A**.
- 2.6 The Nurse Review call for evidence document notes that the aim of the review is to 'look at overall questions relating to UK research funding, and build on the findings of the recent more focused Triennial Review'. The Nurse Review should avoid duplicating the work of the Triennial Review. As the Research Councils are one important element in a diverse research ecosystem in the UK, the review should also keep in mind the wider context of the UK's research landscape when considering 'overall questions relating to UK research funding'.
- 2.7 This response may be supplemented by additional input in due course as we look more closely at the wider research landscape issues ahead of the Spending Review.

¹ HESA Finance Data 2013/14: the 24 Russell Group universities won £1.2 billion in research grants and contracts from the seven Research Councils, 76% of the total amount allocated to UK HEIs reporting to HESA.

² HESA Finance Data 2013/14

³ <http://www.russellgroup.ac.uk/uploads/26aRG-submission-to-Triennial-Review-of-Research-Councils.pdf>

3. The UK research landscape

- 3.1 The UK punches above its weight when it comes to excellence in research and higher education: with less than 1% of the world's population and just 4% of the world's researchers, the UK earns 12% of international citations and 16% of the most cited papers – of which nearly three-quarters are produced by Russell Group researchers.⁴ An international comparison of national HE systems found that the UK's HE sector ranks second out of 50 countries for output, but 21st for resource inputs.⁵
- 3.2 In order to maintain the UK's position as a world-leading scientific nation we need firstly to ensure that there is sufficient investment in research and HE. Support for basic research is especially important given its distance from market. Many institutions are relying increasingly on other sources of income to fund these kinds of activities, particularly EU research grants (which now make up 13% of Russell group universities' collective research grant income). But with decreasing success rates in Horizon 2020, a likely cut to the Horizon 2020 budget to fund a new European Fund for Strategic Investments and uncertainty regarding the UK's future position in Europe, stable, secure and sufficient national funding is all the more important. Increasing the budget for the Research Councils within an overall larger UK science budget would strengthen the UK's global position, boost the economy and help us to remain internationally competitive.
- 3.3 The consultation paper asks about how the Research Councils can help to catalyse partnerships and collaboration. They already do this very successfully by being at the heart of the dual support system.**
- 3.4 Sustainable public funding for research allocated via a dual support model is essential for maintaining the breadth and quality of research in the UK. It provides a sound basis on which universities can forge research collaborations and partnerships with other universities in and outside of the UK and with businesses, charities and other partners.
- 3.5 Long-term curiosity-driven research produces the biggest economic pay-offs in the long run and comprehensive research universities lie at the heart of this success.** The combination of stable core funding through the Funding Councils, and competitively awarded grants from the Research Councils ensures the diversity and breadth of research in the UK. **The challenge is to ensure that future funding is both sustainable and enhances UK competitiveness.**
- 3.6 One of the real strengths of the UK system is the support for the Haldane Principle and the ability of the Research Councils to shape their respective portfolios as they see appropriate – supported by effective governance structures involving leading researchers, universities, business and other key stakeholders.
- 3.7 Further overt alignment with central Government objectives would not provide the necessary long-term stability or flexibility for the research base and could undermine the broad base of scholarship that underpins the UK's success. The more Research Councils are constrained to focus on perceived current needs in Government, the less likely they will be able to sustain the UK's leading edge in the long-run. Taken to its extreme, this could deprive the UK of investment in up-coming areas of knowledge and competitive advantage arising from the research base. Research priorities must be established through appropriate governance procedures involving the research community, potential user communities and other key stakeholders as required. The

⁴ Analysis provided by Elsevier through its SciVal system, August 2014.

⁵ Universitas21 Ranking of National HE Systems 2014

process should be transparent to assure the relevant communities that competing priorities have been given due consideration.

4. Structure and strategy

- 4.1 The current structure of the seven Councils works reasonably well and has a track record of success. The Triennial Review concluded that the balance of costs against benefits did not support a change to the current number of Councils. It also showed administration spending as a proportion of total expenditure across the Research Councils is 3.71%, making them relatively efficient organisations.⁶
- 4.2 **Any proposals to amend the number of Research Councils must be supported by robust evidence and a complete cost-benefit analysis quantifying the predicted costs against any expected savings in efficiency or otherwise.** Where costs are identified, these should not be funded through cuts to research grants, which would be detrimental to the UK's ability to maintain world-class research output and could particularly impact the next generation of young researchers.
- 4.3 The creation of STFC was estimated to have cost around £5-10 million⁷; but whilst the financial impact of major organisational change is extremely important to consider, the potential reputational damage, disruption to work plans, uncertainty and impact on the wider research agenda in the UK must also be considered.
- 4.4 If this review does find sufficient evidence to support a major reorganisation we would emphasise that, in addition to a full cost-benefit analysis, any major changes should be prepared over a sufficiently long timeframe and not rushed through to avoid short- to medium-term disruption. **A full consultation with universities and the research community about any proposals for significant change is essential.**
- 4.5 Nevertheless, there are smaller changes which could be introduced to improve the functioning of the Research Councils. Funding of emerging research areas and interdisciplinary research can be particularly challenging. Achieving greater consistency and standardisation between the Research Council structures could make cross-Council collaborations easier. Introducing positive incentives for the Research Councils to collaborate more could be helpful; and assessing interdisciplinary research could be improved through, for example, additional training for reviewers or having more multi-disciplinary panels.
- 4.6 Consideration should be given to strengthening the objectives for joint working, where appropriate, to reflect the growing importance of interdisciplinary research and the value of international collaboration in delivering world-class research and training.

⁶ By comparison, staff, programme support and other operating costs at the Technology Strategy Board amounted to 9% of their total expenditure in 2013-14 (Annual Report and Accounts – https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341384/Technology-strategy-board-annual-report-and-accounts_2013-14.pdf). In the US around 4% of NSF funding is spent on administrative and management activities (National Science Foundation Agency Financial Report FY 2013 - <http://www.nsf.gov/pubs/2014/nsf14002/pdf/nsf14002.pdf>). Nevertheless, there may be further opportunities to increase efficiencies: only around 2.3% of the European Research Council's operational budget, for example, was spent on administration in 2013 (http://ec.europa.eu/research/evaluations/pdf/archive/fp7_monitoring_reports/7th_fp7_monitoring_report.pdf#view=fit&pagemode=none).

⁷ *Triennial Review of the Research Councils Final Report*, Department of Business, Innovation and Skills (April 2014).

5. Balance and focus of funding

Remaining internationally competitive

- 5.1 One of the key strengths of the Research Councils is the independent, expert peer review system which identifies the most excellent research or the greatest potential for research excellence and awards funding accordingly. It is important the process continues to be competitive and that international excellence remains the fundamental criterion for allocating Research Council funding. However, where a high threshold of excellence has been confirmed, and where a robust case can be demonstrated, it is acceptable to consider geographical issues in the funding balance.
- 5.2 The Research Councils' Royal Charters already identify contribution to the economic competitiveness of the United Kingdom as a key objective and there is ample evidence to suggest that this is being achieved.⁸ **Applying criteria that undermine excellence would weaken the UK's international economic competitiveness and would be directly contrary to their stated missions.** Universities provide the research, talent and ideas that can address tomorrow's problems not just today's and if excellent basic research starts to be squeezed out then this could leave the UK seriously challenged in five, ten or 20 years' time.
- 5.3 It is also important to tap into international funding streams and research opportunities to maximise benefit for the UK. The Research Councils should be encouraged to take a stronger lead on engagement with international public research funders including the European Commission, EIB and other international funders, with the aim of delivering increased UK access to other funding streams and promoting international collaboration.
- 5.4 To remain internationally competitive, investment should focus on the UK's world-leading research-intensive universities and their institutes where there is a critical mass of research excellence. The breadth and depth of activity in such universities provides the greatest opportunities for multidisciplinary research, to make the most effective use of facilities through collaboration and equipment sharing initiatives and to train the next generation in the latest techniques. Our global competitors are increasingly concentrating funding on their leading universities and are already reaping the rewards.

Balancing funding

- 5.5 A balance has to be struck in ensuring the research base is responsive to the needs of today, while ensuring it is sufficiently strategically placed to meet the longer-term requirements of tomorrow. As such, **the current balance of research funding between basic and more applied areas is about right, but the overall level of investment should rise.** Consideration should also be given to increasing investments to take research ideas closer to market, for example through Research Council support for proof of concept activities, but funding for this should be in addition to and not at the expense of current responsive mode funding.

⁸ A range of economic impacts across the Councils are detailed in the annual Research Performance and Economic Impact Reports. For example, from 2006 to 2013, MRC-funded researchers reported further leveraged funding to a total value of £3.2bn; whilst in 2014, EPSRC had nearly 2,800 companies and other organisations engaged in their research and training activities, leveraging an additional £838 million. Specific examples of Research Council-funded work leading to, for example, generation of £22.4 billion in revenue to Government, spin-outs sold for over £170 million, or cost savings of nearly half a billion annually in the UK can be found here: <http://www.rcuk.ac.uk/Publications/policy/framework/casestudies/ProductiveEconomy/>

- 5.6 Indeed, public funding is especially vital for curiosity-driven research, which contributes to the UK's knowledge base and often underpins future innovations that transform our lives, reaching areas we may never have thought of. Research, particularly basic research, is a speculative and high-risk endeavour and the time period between initial investment and economic or social impact can be lengthy, often taking decades and requiring on-going funding to develop and realise initial research ideas.⁹ **Responsive mode grants provided by the Research Councils are of particular importance to fund curiosity-driven basic research, which the private sector is less inclined to fund due to the distance from market.**

Postgraduates

- 5.7 Postgraduate students are essential to a successful knowledge economy and the future academic workforce. Funding provided through the Research Councils is essential to train the next generation. Postgraduate funding should be focused in institutions where the combination of teaching and research excellence creates the ideal learning environment. At Russell Group universities, students work with their field's leading experts, have access to first-rate libraries and facilities, are part of a highly motivated and talented peer group and often engage in research processes. This is why over half of all research postgraduates are at our universities.
- 5.8 The Doctoral Training Centre model is welcome, but improvements could be made to make DTC rules and conditions more consistent between Research Councils.

Capital

- 5.9 Capital funding allocated as part of Research Council grants is also extremely valuable. These investments underpin high quality research in priority areas and ensure universities have the most up to date equipment to remain competitive – helping to finance both small scale equipment for individual projects and more strategic equipment needed for a portfolio of research projects. As with formula funding, Research Council capital grants can also help to facilitate more extensive sharing of equipment and in turn help to support collaborative research.

Scope of funding

- 5.10 The call for evidence asks whether the funding of Research Councils should be directed almost exclusively to the university sector, with other organisations out of scope. It should be noted that the underlying assumption in this question is incorrect because Research Council funding is not directed exclusively to universities. In fact, £778 million (27%) of the £2,899 million Research Council expenditure in 2013 in the UK was allocated outside of the university sector, not including an additional £200 million which is spent overseas, in most cases in non-HEIs.¹⁰ We would argue therefore that the **Research Councils do not need to make additional efforts to bring other large research organisations such as the Meteorological Office and National Physical Laboratory into the scope of their funding**, especially as they have separate government-funded budgets for their work. This does not, of course, preclude effective collaboration between Research Councils and these organisations, which already takes place.

⁹ For example, in medical research, studies have found average time lags of between eight and 28 years between research and various impacts, depending on exactly what is being measured (*Rates of return to investment in science and innovation: A report prepared for the Department of Business, Innovation and Skills*, Frontier Economics (July 2014))

¹⁰ ONS Gross Domestic Expenditure on Research and Development 2013 release (published 20 March 2015).

- 5.11 The highest quality research is performed in research-intensive universities, where a high proportion of staff is active in research. The large majority of research already takes place in Russell Group universities and by concentrating funding on excellence and critical mass the UK gets the biggest bang for its buck.
- 5.12 Should any future move be made to bring other bodies under the Research Councils (and thus into the science and research resource ring-fence) then this must be undertaken with a concomitant transfer of funding. At that point, universities should then also be able to bid for research grants, projects and other support on offer to those bodies.

Innovation

- 5.13 We welcome moves by most of the Research Councils to develop Institutional Impact Acceleration Accounts (IAAs) that provide funding for knowledge exchange activities based on recent research funding history. This funding is complementary to HEIF and universities have substantial autonomy in how these funds are used. In particular, research-intensive universities are using IAA funding for proof of concept work, frequently with SMEs.
- 5.14 The scale of IAA funding varies considerably between Research Councils (£60 million in the recent EPSRC pilot, but only £200,000 in total from the BBSRC) as does the funding mechanism: EPSRC, ESRC and STFC on a formula basis while BBSRC uses competitive bidding, which is both time consuming and resource-intensive.
- 5.15 **On-going support for Institutional Impact Acceleration Accounts is important. In future we would like to see IAAs available across the Research Councils** (e.g. an RCUK cross-Council IAA) as this will help to support interdisciplinary research through proof of concept to commercialisation and should optimise access and use of the funds. Funding should be distributed using a formula approach as this is the most effective and efficient mechanism.
- 5.16 We would encourage the Research Councils to tap into Innovate UK funding in support of this type of activity and to learn from good practice where this is already happening, providing a more joined-up approach to enable excellent research ideas to be taken closer to market.

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Annex A of Russell Group response to the Nurse Review of Research Councils

Summary of points raised in Russell Group response to the Triennial Review of Research Councils on more effective ways of working

Collaboration

- The Research Councils should be encouraged to take a strong lead on engagement with international public research funders including the European Commission, with the aim of delivering increased UK access to other funding streams and promoting international collaboration.
- Joint working should extend to other major public funders of research in the UK. Mission statements should explicitly encourage mutually beneficial joint working with other Government departments and agencies (eg the NHS, MOD, DCMS and the Environment Agency) to deliver joined-up research programmes with the critical mass to make a real difference. In this area, the Research Councils also have relevant best practice to share that could improve partnership arrangements.
- Joint programmes could be used more extensively to bring external funding and other resources into a shared pool to address major research challenges. Some programmes such as Living With Environmental Change already do this effectively, but the scope for delivering research for other Government departments and agencies through RCUK-coordinated programmes could be widened.

Interdisciplinary research

- Within the Research Council 'family', greater emphasis should be placed on opening up any barriers between disciplines and encouraging multi-disciplinary research alongside the core disciplines. The development of RCUK's cross-Council Research Programmes that aim to solve big research challenges over the next 10 to 20 years is very welcome¹¹. However, in practice, some of these programmes are more akin to a series of Research Council-specific sub-programmes held together loosely under a shared umbrella. For example, social sciences appears sometimes to be considered only as an 'add on' to programmes with a natural or physical sciences lead, or is absent from programmes (eg food security) where it could make a significant contribution to advancing our understanding of a research challenge and delivering better economic and quality of life outcomes.
- To be effective, much greater integration of research from different disciplines is required within these major cross-Council programmes and, potentially, all Research Councils should be involved in each programme. Mission statements should be modified to encourage genuine multi-disciplinary research with research objectives and funding to match.

¹¹ The current cross-Council Research Programmes are: Sustainable energy systems; Living with environmental change (LWEC); Global uncertainties - security for all in a changing world; Ageing - Lifelong health and wellbeing; Digital economy; Nanoscience through engineering to application; and Food security.

- There are costs from having more than one Research Council in interdisciplinary work and work motivated by societal goals rather than disciplinary imperatives are more difficult to encourage and fund. But these problems would not go away with a single NSF-like body, where the same problems are likely to arise at the boundaries of directorates, divisions, and programmes. It would be better to address the problem of how to support interdisciplinary and goal-oriented research explicitly by making cross-Council programmes work better and introducing positive incentives for the Research Councils to collaborate more.

Interaction and coordination

- Each of the individual Research Councils produces its own impact, research highlights and other publications aimed at its own communities and external audiences. There is now some coordination of effort through RCUK – e.g. with collective initiatives and guidance material on reaching out to the public – but this should go further. For example, those consuming news do not necessarily align their interests with Research Council structural boundaries, so a single media bureau for the Research Councils could be more effective if manned with appropriate experts. This could also help to highlight the importance of interdisciplinary research alongside core disciplines.
- RCUK can coordinate and work to create partnerships across the Research Councils, in particular: for the development of joint programmes; where it is sensible to have shared functions; to provide a collective voice; and where common approaches to policy would reduce bureaucracy and make the interface with academia more efficient.
- Building on the shared services centre for back-office functions, we welcome the RCUK's work to integrate further public engagement, HR, Health and Safety, finance and estates functions as indicated in the RCUK delivery plan 2011-15¹². Consideration should also be given to creating:
 - A single media bureau for the Research Councils
 - A joint audit committee, taking on the audit functions for each of the individual Research Councils
 - A joint infrastructure committee to ensure the most effective use of capital funding across the Councils' remit – including maintenance and upgrade investments.
- Where the Research Councils provide funding and other resources to support the development of best practice, it is sensible to deliver these through standard cross-Council approaches overseen by RCUK. These measures typically need to work across institutions rather than being restricted by discipline within an institution because one or more public research funder does not support an objective. Examples of areas where a more joined-up approach across the Research Councils would be valuable include initiatives on equality and diversity¹³, development of research leaders, and schemes to accelerate research impact and collaboration with industry.

¹² http://www.rcuk.ac.uk/documents/documents/RCUK_delivery_plan_2011_15.pdf

¹³ This could include, for example, evaluating gender balance of applicants and of successful proposals across all Councils and/or introducing unconscious bias training for all panel members, amongst other measures

- One of the obstacles standing in the way of the efficient operation of the Research Councils is the ever-increasing complexity and diversity of regulations surrounding its application and award procedures. Time spent on streamlining and simplifying these processes as far as possible would be constructive.
- On postgraduate training, each Research Council has slightly different requirements on the length of awards, how research activity should be reported and even on policies that clearly should be common, such as maternity, paternity and adoption leave. In many cases, the objective is the same, but the wording of requirements is different enough to add an extra level of complexity in how studentships are managed. A single shared specification document for all studentships should be a priority as an outcome of this Triennial Review. Again, this needs to be designed in a way that provides flexibility to universities to deliver a range of options to accommodate different career paths and other specific needs.
- Similarly, the Research Councils should take common approaches on:
 - Data sharing and open data requirements
 - Reporting research outcomes – which is currently done through two main systems in the UK: ROS and Researchfish, depending on the funder
 - Using two-stage grant application processes to reduce wasted effort when large numbers of applications are likely
 - Demand management in general
 - Managing competitions for large centres, grants and other programmes when the process of preparing a bid can be a substantial cost
 - Provision of translation/impact funding.
- This should not rule out variation between the Research Councils as some approaches may be more suited to one discipline than another. However, it should be possible to develop a more coherent, and simple, menu of initiative types and processes that can be picked-up and used by different Councils as appropriate.
- Individual Research Councils should also be encouraged to try out new approaches but in a managed way, allowing their effectiveness to be evaluated so that successful initiatives can be adopted widely, while the least successful are terminated quickly.
- RCUK should provide a strong collective voice for the Research Councils:
 - To add weight internationally where a coordinated and coherent UK voice for research could help in securing funding for UK priorities, develop partnership opportunities for training and research and helping to increase the potential for international collaboration in Europe and elsewhere
 - To ensure initiatives such as infrastructure sharing between Research Council Institutes and universities are taken forward by all Research Councils acting in-step.