



Higher Education Funding Council for England: Consultation on the second Research Excellence Framework

Response by the Wellcome Trust

17 March 2017

Key messages

- To address the diversity deficit among outputs submitted to the last REF, the next exercise must promote and value a broader spectrum of output formats.
- Streamlining the storage, sorting and submission of non-journal article formats should be a priority for the wider research community.
- The REF Outputs section should be renamed 'Academic Impact', and in the longer term there should be a closer union between Outputs and Impact.
- The new Institutional Impact sub-section should be disbanded, and the Impact section restored to its previous 20% weighting.
- The Environment sub-sections should be used to encourage meaningful links between strategic and frontline approaches to areas such as public engagement, diversity, technology transfer and collaboration.

Our vision for the REF

1. Now, more than ever, the UK must deliver a coherent and effective approach to supporting research and innovation. To achieve this vision all levers of influence must be aligned, including the REF as a major driver of change across universities.
2. Wellcome's investment in UK science is underpinned by the quality of the research base and we welcome the Government's commitment to funding through the dual-support system and the intention to protect this in legislation for the first time in the Higher Education and Research Bill.¹ We continue to see the REF as a rigorous, fair and consistent way to assess research across universities and allocate critical quality-related funding.
3. However, we support the consensus across the sector that the next REF must be streamlined in a way that minimises burden on universities, and maximises the value of the resources it generates. Crucially, the assessment should be structured to lessen duplication by re-using existing data sources wherever possible, and REF data should be captured in a systematic way which supports future analysis for other purposes (e.g. to improve our understanding of interdisciplinary research).
4. Due to its scale and longevity, the REF is one of the furthest-reaching tools for embedding positive behaviours across universities. Therefore, to deliver optimal value from the process, the assessment criteria must be ambitious and challenge universities to demonstrate their excellence in bold, meaningful and innovative ways, while simultaneously avoiding a system which encourages counterproductive 'gaming'.

¹ <http://services.parliament.uk/bills/2016-17/highereducationandresearch.html>

5. Alongside journal publications, Wellcome values a range of outputs and behaviours that drive research and its effective impact on society. This includes good research practice, engaging the public to enhance research, supporting and advocating for diversity and inclusion, expanding knowledge by sharing outputs, translating research so it can deliver health and societal impacts, and upskilling the next generation through teaching, mentoring, talent development and training. The REF process should capture and reward activities across this entire spectrum, while incentivising flexible, creative and fulfilling career paths.
6. The next REF process offers an opportunity to revisit how we identify excellence, evolving the assessment in line with the changing nature of research as disciplines and technologies converge. Excellence can take many forms, and narrow definitions may exclude world-leading and innovative activities. We support the proposed inclusion of all research active staff in REF2021, but caution that this broadening of the assessment base must be accompanied by a greater understanding and appreciation for the diverse manifestations of excellence.

Outputs

Recommendation: to address the diversity deficit among outputs submitted to the last REF, the next exercise must promote and value a broader spectrum of outputs.

Recommendation: streamlining the storage, sorting and submission of non-journal article formats should be a priority for the wider research community.

7. As highlighted in our submission to Lord Stern's recent review,² we believe that there is an overreliance on the use of journal articles to demonstrate excellence in the REF. This trend is compounded in medical research – of over 13,000 outputs submitted for clinical medicine, only 18 were not journal articles. This homogeneity masks more varied examples of excellence, and pushes researchers to pursue publications at the expense of other formats (see Case Study 1). This could particularly disadvantage early career researchers who are starting to build an outputs portfolio, or those moving into academia from the industrial or clinical sectors.

Case Study 1 – Open data sharing must be valued

- A recent survey of Wellcome-funded researchers revealed reservations that could be constraining the open sharing of data among the research community.³
- Several researchers expressed concern that providing open access to their data could result in other teams securing publication opportunities ahead of them. Due to publications being a primary measure of excellence, they were worried that they would not receive appropriate recognition or attribution for creating the data set.
- Assigning suitable credit to those generating accessible data resources through REF would help to address these reservations by valuing good data generation and stewardship, acknowledging that collated data is an essential part of the research process, not just publications which may result from such resources.

8. REF2021 guidance and panel criteria must go further in explicitly and accessibly communicating that journal articles are valued, but are not sufficient alone to demonstrate excellence. Panel criteria should promote the value of other research outputs such as intellectual property, policy reports, conference contributions, books, collaborator networks, clinical trials infrastructure, software, and open and robust protocols. Wellcome also supports the recommendation of a recent report that calls for open, high-quality data sets to be explicitly recognised in the REF.⁴

² <https://wellcome.ac.uk/sites/default/files/research-framework-excellence-review.pdf>

³ <https://doi.org/10.6084/m9.figshare.4055448.v1>

⁴ Expert Advisory Group on Data Access (2014) Establishing incentives and changing cultures to support data access

9. REF panels are comprised of a unique collection of experts – they should be empowered to make subjective judgements on challenging topics, often in the absence of journal-based metrics. To facilitate assessment, particularly for interdisciplinary research, outputs should be referable across panels. To improve consistency and reduce burden, we also support proposals to develop submission guidance and panel criteria prior to full sub-panel appointments, but urge that this draws on the extensive assessment experience of funders such as Wellcome.
10. Submitting journal articles to the REF is made easier because this information is routinely stored in searchable, discoverable and interoperable ways. Such curation systems are substantially less mature for other formats, and the wider community should prioritise the storage, sorting and submission infrastructure for other formats. Frameworks such as the Open Researcher Contributor ID (ORCID) are already helping to standardise the identity of researchers across a range of outputs, and we strongly support mandating ORCID in REF2021. This may also encourage wider adoption and utilisation by other evaluators and funders, including Wellcome.
11. We share concerns across the sector that the current HESA data is insufficiently robust to deliver on HEFCE’s proposals for allocating staff for assessment. However, we hope the final solution seizes this opportunity to strengthen HESA data as this would deliver substantial spillover value.

Relationship between Outputs and Impact

Recommendation: the REF Outputs section should be renamed ‘Academic Impact’, and in the longer term there should be a closer union between Outputs and Impact.

12. REF creates an ideological divide between Outputs and Impact, despite both being components of the same non-linear, interconnected pathway of excellent research (see Case Study 2). This relationship has been partially recognised in proposals to align REF2021 with the Research Councils UK definition of academic impact (a contribution to academic advances) and wider impact (an effect on the economy, society, culture, policy, health, environment or quality of life). We suggest taking this a step further by renaming the REF Outputs section and calling it ‘Academic Impact’ – terminology is central to perceptions, and this change would highlight the connection between the two.

Case Study 2: The research pathway includes interwoven Outputs and Impact

- Mitochondrial donation is an IVF technique that gives families affected by mitochondrial disease the chance of having healthy children. It involves removing DNA from a woman’s egg with faulty mitochondria (the ‘batteries’ that give cells their energy), and transferring it to a donor egg with healthy mitochondria.
- The technique’s pathway to the clinic has involved interlinked Outputs and Impact. In vitro proof of principle studies were completed in 2010 by researchers from Newcastle University.⁵ The Human Fertilisation and Embryology (Mitochondrial Donations) Regulations were passed by Parliament in 2015, and the first ever licence to recruit patients was issued to a clinic in Newcastle in March 2017.
- This success was the culmination of years of research, and dialogue and scrutiny including ethical reviews, three separate safety reviews,⁶ and a deliberative public dialogue and wider public consultation,⁷ which revealed broad public support.

⁵ Craven L et al. Pronuclear transfer in human embryos to prevent transmission of mitochondrial DNA disease. *Nature* 2010;465:82-5.

⁶ www.hfea.gov.uk/6372.html

⁷ www.hfea.gov.uk/docs/Mitochondria_evaluation_FINAL_2013.pdf

13. In the longer term, we would like to see a closer relationship between Outputs and Impact, recognising the fundamental relationship between them, while still protecting the ability to demonstrate excellence at any point along the pathway. This may also address tensions over the proportional weightings of the two sections.

Impact

Recommendation: the new Institutional Impact sub-section should be disbanded, and the Impact section restored to its previous 20% weighting.

14. We support a broadening and deepening of the definition of Impact and its underpinning research, as recommended by the Stern Review and reflected in proposals from HEFCE. In particular, REF2021 panel criteria should include impact arising from public engagement, and we agree with HEFCE's acknowledgement that further guidance is required on this topic.
15. Despite a bias towards economic impact, the REF2014 case study library showcased a range of innovative routes through which research created real-world change. This helped the community to demonstrate the impact of investment in research ahead of the 2015 Spending Review through rich case studies.⁸ Wellcome was also able to use the library to gain insight into the research we fund in universities and demonstrate how multiple research grants can interact to deliver impact, though we would welcome further efforts to standardise key data within the case studies to assist such analysis. REF2021 should continue to push universities to demonstrate innovative diversity in their submissions.
16. While Wellcome has consistently called for greater support for interdisciplinarity, we do not see the proposed Institutional Impact sub-section as the most effective way of achieving this goal, and recommend dissolving it. In REF2014, over 60% of Impact submissions were tagged as interdisciplinary – a dedicated sub-section could be counterproductive, by focussing interdisciplinary examples down into a 5%-weighted section, rather than supporting it across the breadth of a 20%-weighted section. Similarly, we see the proposed transfer of the Impact Template into the Environment section as a logical location for assessing institutional support for interdisciplinarity.

Environment

Recommendation: the Environment sub-sections should be used to encourage meaningful links between strategic and frontline approaches to areas such as public engagement, diversity, technology transfer and collaboration.

17. If administered with clear guidance, the new Environment sub-sections could encourage universities to develop meaningful links between strategic and frontline approaches to areas such as public engagement, diversity, technology transfer and partnering with external stakeholders such as businesses or schools. However, institutional-level assessment should not mean that pockets of excellence across Units of Assessment go unacknowledged. As such, we strongly support the proposed pilot, and welcome an open dialogue around refining this process.
18. We support the variety of environment factors raised in the proposal, although agree that these should not be considered exhaustive. In addition, we suggest HEFCE give consideration to:
 - **Output diversity** – the Institutional assessment could include a consideration of the diversity of Outputs submitted to the REF, providing internal monitoring to drive positive behaviours as described previously in this submission.

⁸ www.medschools.ac.uk/Publications/Pages/Health-of-the-Nation-The-impact-of-UK-medical-schools-'research.aspx

- **Research reproducibility** – this is currently absent within the proposals, but the conclusions of a recent symposium hosted by the Academy of Medical Sciences, the Biotechnology and Biological Sciences Research Council, Medical Research Council and Wellcome⁹ could be considered when developing guidance.
- **Environmental sustainability** – there may be value in considering holistic measures of good research behaviour, including whether institutions are undertaking research in a way which aligns with wider societal priorities around sustainability and the environment.
- **Staff mobility** – HEFCE proposals to capture staff mobility may be an unfair proxy for inter-sector movement as this metric may not accurately portray the many formats of meaningful partnership.¹⁰
- **Public engagement** – the proposals do not explicitly call for an assessment of whether a Unit of Assessment and/or institution provides a research environment which values, recognises and supports public engagement.

19. The Environment assessment has a role in promoting and coordinating a sustainable research culture, and should be conducted in a way which minimises the burden on universities. This could include linking to existing benchmarking exercises and frameworks such as Athena SWAN,¹¹ the standards promoted by the Office for Fair Access,¹² ARRIVE guidelines for animals in research,¹³ and the Concordat for Engaging the Public with Research¹⁴ to offer an independent benchmark for REF panels and a clear set of minimum aspirations for universities. This would also provide a continuing incentive for improvement across REF exercises.

20. REF2021 could also support evolving guidelines around author attribution, as a route to capturing richer information on the contribution of the range of individuals who will now be assessed.¹⁵ The REF process could also extend our understanding of the landscape, for example by highlighting good practice in innovation support across universities.

Wellcome is the UK's largest charitable foundation. Over the next five years, we plan to invest up to £5 billion in biomedical research and the medical humanities in the UK and internationally. We also support the development of new commercial innovations to improve health.

⁹ acmedsci.ac.uk/policy/policy-projects/reproducibility-and-reliability-of-biomedical-research

¹⁰ Elsevier. *Gender in the Global Research Landscape* (Elsevier, 2017)

¹¹ www.ecu.ac.uk/equality-charters/athena-swan/

¹² www.offa.org.uk/

¹³ www.nc3rs.org.uk/arrive-guidelines

¹⁴ www.publicengagement.ac.uk/explore-it/what-are-policy-drivers/concordat-engaging-public-with-research

¹⁵ <https://acmedsci.ac.uk/policy/policy-projects/team-science>