

## Introduction

1. The Academy of Medical Sciences promotes advances in medical science and campaigns to ensure that these are translated into healthcare benefits for society. Our elected Fellowship comprises of the UK's foremost experts in medical science, drawn from a diverse range of research areas, from basic research, through clinical application, to commercialisation and healthcare delivery.
2. The Academy of Medical Sciences recognises the importance of research integrity to ensure that only high-quality research is supported. We previously submitted written evidence to this Committee's inquiry in March 2017.<sup>1</sup> This response should be considered as a supplement to that submission.
3. As highlighted previously, the Academy has been active in this area, working with the Nuffield Council on Bioethics on research culture,<sup>2</sup> in addition to the BBSRC, the MRC and Wellcome on improving reproducibility in biomedical research.<sup>3,4</sup>
4. In June 2017, the Academy published a report in which we emphasised the key role research integrity plays in ensuring scientific evidence is trustworthy (and perceived as such) when judgments are made about the potential benefits and harms of medicines.<sup>5</sup> Our supplementary evidence focuses on the implications of this report for the Committee's inquiry.

## Enhancing the recognition of robust research findings

5. In our report, we highlight that the recognition of robust research findings should be enhanced, and recommend that in the next Research Excellence Framework (REF) process, the Higher Education Funding Council for England and its counterparts in the devolved nations should incorporate Lord Stern's recommendation for a new, institutional-level environment assessment.
6. Furthermore, we propose that such environment assessments record measures taken to increase the robustness and reliability of research, including work to ensure adherence to ethical codes of research practice, data-sharing policies, and recognition and reward for efforts to enhance reproducibility.

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<sup>1</sup> Academy of Medical Sciences (2017) Response to the Science and Technology Committee Inquiry on Research Integrity. <https://acmedsci.ac.uk/file-download/69294217>

<sup>2</sup> Nuffield Council on Bioethics (2014) The culture of scientific research in the UK. [http://nuffieldbioethics.org/wp-content/uploads/Nuffield\\_research\\_culture\\_full\\_report\\_web.pdf](http://nuffieldbioethics.org/wp-content/uploads/Nuffield_research_culture_full_report_web.pdf)

<sup>3</sup> Academy of Medical Sciences (2015) Reproducibility and reliability of biomedical research: improving research practice. <http://www.acmedsci.ac.uk/viewFile/56314e40aac61.pdf>

<sup>4</sup> Academy of Medical Sciences (2016) Improving research reproducibility and reliability: progress update from symposium sponsors. <http://www.acmedsci.ac.uk/file-download/41615-5836c0640fd92.pdf>

<sup>5</sup> Academy of Medical Sciences (2017) Enhancing the use of scientific evidence in judging the potential benefits and harms of medicines. <https://acmedsci.ac.uk/policy/policy-projects/how-can-we-all-best-use-evidence>

## Publication of research findings

7. The Academy supports ongoing initiatives to enhance the dissemination of and access to research findings, including greater publication of rigorous results regardless of outcome, reporting of findings in more accessible formats, trial registration, and infrastructure funding for data archiving and curation. To complement these efforts, we recommend in our report that:
  - a. Universities, research institutions (led by Universities UK) and industry (led by the Association of the British Pharmaceutical Industry, ABPI, and the BioIndustry Association, BIA) support their staff in academia and industry in their efforts towards increased openness by providing appropriate incentives, rewards and recognition, and systems to enable this, such as those outlined in the Academy's report, 'Improving recognition of team science contributions in biomedical research careers'.<sup>6</sup> These organisations should recognise clear and accurate communication of research findings as an explicit criterion for career progression, promotion and reward.
  - b. HEFCE and its counterparts in the devolved nations galvanise change by requiring that institutional 'intelligent openness'<sup>7</sup> initiatives are reflected in REF environment statements in the next REF process.
  - c. Those who fund research, including industry, incentivise the communication of results for the projects that they support by requiring in applications an effective plan for the communication and 'intelligent openness' of results. Researchers would need to demonstrate that they had adhered to these as a condition of future funding.

## Changing the research environment

8. Universities and institutes have an essential role in creating environments that uphold the highest standards of research integrity and facilitate robust, high-quality research, incentivised through the effective use of the REF assessment process. As we stated in our past response to the Committee, the next REF process could provide an opportunity to catalyse further changes in research culture.
9. We welcome the initial decisions on the REF 2021 that emphasise the importance of open access and open research.<sup>8</sup> This should be built upon in the next set of announcements by ensuring institutional measures that aim to promote good research and enhance the robustness and reliability of research are recorded, and could be reflected in environment statements (as recommended in the Stern Review).

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<sup>6</sup> Academy of Medical Sciences (2016) Improving recognition of team science contributions in biomedical research careers. <https://acmedsci.ac.uk/file-download/38721-56defebabba91.pdf>

<sup>7</sup> 'Intelligent openness', whereby information is disclosed in a manner that is accessible, assessable and usable by the intended audience, while respecting privacy and reasonable commercial concerns.

<sup>8</sup> Higher Education Funding Council for England (2017) Initial decisions on the Research Excellence Framework 2021. <http://www.hefce.ac.uk/pubs/rereports/year/2017/ref201701/>