A workshop to discuss

The culture of research in the UK

16 November 2015, London

Notes from the workshop

Summary

1 At this workshop, key stakeholders in the research community discussed how the suggestions for action in the Nuffield Council on Bioethics' report *The culture of scientific research in the UK* (2014) might be taken forward. Participants reported that the report had provided an umbrella under which to consider all aspects of research culture and had influenced a number of initiatives over the past year.

2 Participants supported the view that researchers are largely motivated to carry out high quality research and that research is not 'broken'. However, many of the concerns identified in the Nuffield Council report were thought to still exist. Participants highlighted the importance of being **realistic and proportionate** in any attempts to bring about change and that the success of **existing initiatives** should be built upon. Suggestions included:

- Developing **better evidence** of the benefits of change for research and for all members of staff
- Providing **mentoring** and appropriate careers advice for researchers
- Creating a set of tools aimed specifically at **PIs and Heads of Dept**
- Aligning and being open about HR policies for promotion and recruitment
- Using a broader range of **metrics and indicators** in the assessment of research and encouraging more universities to sign up to **DORA**
- Focusing more on rewarding **teams** or departments rather than individuals
- Levering the next **Research Excellence Framework** to provide financial incentives for change
- Encouraging universities to be **more open** about research integrity issues
- Appointing senior researchers as '**research integrity champions**'
- Providing **research integrity training** for all researchers
- Realising the potential of **science publishing** to communicate science openly and accurately
- Improving **communication** between funding bodies and universities, and within universities.

Introduction

3   In December 2014, the Nuffield Council on Bioethics published a report *The culture of scientific research in the UK*. The report concludes that in some cases the culture of research does not support or encourage the activities that researchers believe to be important for high quality research. Although externally-imposed conditions play a role, the culture of research is largely shaped by the actors in the system. We believe there is a collective obligation for those actors to do everything they can to ensure the culture of research supports good research practice and the production of high quality science. Suggestions for action are made for funding bodies, research institutions, publishers and editors, professional bodies and individual researchers (see **Annex A** for details).

4   The aim of this workshop was to facilitate a discussion between key stakeholders in the research community about:

- steps already being taken to address the suggestions for action identified in the report

- what further action might be required by different stakeholders

- how different stakeholders could work together to achieve a culture of research that supports good research practice and the production of high quality research

A list of participants in at **Annex B**. The main points raised in the presentations and discussion are organised into themes and summarised below.

Reflections on the report

5   Participants commented that the report helpfully had provided an umbrella under which to consider all aspects of academic research culture. A wide range of initiatives from across the research system had drawn on the report, including the Academy of Medical Sciences' work on research reproducibility and the Royal Society's ongoing work on research careers. The report had informed the terms of reference of HEFCE's review of metrics in research assessment and had provided evidence for what had previously been mainly anecdotal accounts of different aspects of research culture.

6   Participants supported the view of the report that researchers are largely motivated to carry out high quality research and that research is not 'broken'. Participants felt, however, that many of the concerns identified in the Nuffield Council report still exist, such as the drive to publish in high impact factor journals, and the focus on article citations in the assessment of research, which may be creating perverse incentives for poor research practice. These issues, it was suggested, are compounded by the difficulty of demonstrating the advantages of good research practice and the lack of information made available by universities about the consequences research misconduct.

7   There was wide support for the idea that everyone within the research system had a responsibility to tackle the problems in the culture of research and that we needed to work together to enact change.

Suggestions for change

8   Participants widely agreed that another concordat for universities to sign up to is not the answer and that adding further bureaucracy to the system would be counter-productive. It is important to be **realistic and proportionate** in any attempts to bring about change, and the success of **existing initiatives** (many of which are mentioned here) should be built upon. Bottom-up initiatives are often the most effective, but sometimes the only levers available, for example to funding bodies, are top-down in nature.

9   Lessons from previous attempts to change the culture of research, such as the Athena Swan Charter for gender equality, have shown that **leaders of research**, particularly Principal Investigators (PIs) and Heads of Department, play a crucial role. They need to be convinced of the benefits of change for research and for all members of staff, and **better evidence** on this would be helpful in gaining their support. A **set of tools** aimed specifically at PIs and Heads of Department would be helpful (for example, a CV template that they could pass to their colleagues), as would more opportunities for PIs and Heads of Department to engage with people involved in **national policy making**.

10 **Mentoring** of researchers and offering careers advice was highlighted as an important way of addressing many of the issues identified in the report, and Principal Investigators (PIs) and Heads of Department were again thought to have a key role. It was pointed out that Vitae already provides support and guidance in this area, and actively campaigns to improve the career development of researchers. Imperial College London's dedicated centre to support for the career development of its postdoctoral researchers was praised by participants. It was thought many researchers are not aware of the support available to them however, and that PIs do not feel confident encouraging ECRs to develop skills that would transfer to jobs in other sectors. **Top level politicians** might help here by publicly affirming that the role of universities is to serve society, and not sustain an oversupply of academic researchers. Monthly **careers lectures** by non-academics could also help researchers see where else their skills could be put to use.

11 The way that **researchers are rewarded and the way research is assessed** are closely linked, and both can affect the behaviour of researchers and the research that is carried out. A number of suggestions were made in this area:

- Policies for promotion and recruitment should be aligned and integrated within and possibly across universities. **HR departments** have an important role here, and the [HR Excellence in Research Awards](#) are an important way in which HR teams are being encouraged to engage with the issues. The promotion criteria used by universities should be publicly available to combat misconceptions about how researchers are rewarded.

- It was widely agreed that the perceived or real focus on publications in the assessment of research and researchers was creating perverse incentives. Assessments should include a **broader range of metrics and indicators**. [HEFCE's review of metrics](#) supports this view and makes a number of recommendations towards the responsible use of metrics, or indicators, of research quality, including the establishment of a Forum for Responsible Metrics.

- The emphasis on assessing individuals rather than **teams** or departments needs to be addressed, participants suggested. Published league tables, for example, should recognise the contribution of the whole team, not just the PI. Contributor status on published articles is still an issue but work by the [Wellcome Trust](#) and others is helping to standardise this. The Academy of Medical Sciences is currently conducting an inquiry on [team science](#) which is due to be published soon.

- Participants thought that the way research was assessed in the Research Excellence Framework 2014 had compounded the pressure to publish felt by individual researchers. A consultation about the development of the **next Research Excellence Framework** process would be published soon and participants were encouraged to respond.

- Universities should sign up to **[DORA](#)** (the San Francisco Declaration on Research Assessment) which aims to improve the ways in which the outputs of scientific research are evaluated. Participants expressed surprised that only a few universities were currently signatories.

12 **Financial incentives** to change culture could be very effective and would get the attention of senior leadership, as had been the case with embedding open access publishing within the sector. Improving the way in which the research environment is assessed by the **next Research Excellence Framework**, for example, or simply improving communication about what is required of universities under this section of the REF, could encourage universities to pay due attention.

13 Participants want universities and researchers to be **more open about research integrity issues** and cases of research misconduct. Progress is being made here, with universities required by *The Concordat to Support Research Integrity* to publish annually investigations into research misconduct. However, a low

proportion of universities are meeting their obligations.[1] Participants at a [previous workshop](#) organised by the Council highlighted challenges around standardising definitions of different kinds of misconduct and the thresholds set by universities for reporting cases, which may be part of the reason for the low reporting rate.

14 Any initiatives should be highly visible, it was suggested, in order to have maximum impact. The idea was proposed of appointing senior researchers as **'research integrity champions'**, to be responsible for all aspects of promoting good research practice within their universities.

15 **Research integrity and ethics training** for all researchers was thought to be very important. Participants reported examples of ethics training taking place successfully at universities and the support provided by UKRIO to universities in this was praised. A challenge is encouraging PIs as well as early career researchers to attend; it was suggested that embedding research integrity initiatives within the structure of the university as a whole might help with this.

16 Although many publishers are already exploring new models and ways of working, it was suggested that **science publishing** has the potential to communicate science more openly and accurately, for example by enabling researchers to add to a published paper and accrue data, and by embracing open and post-publication peer review. The publishers present reported that open and post-publication peer review is more popular than expected, and they have little trouble recruiting reviewers. Peer review of journal articles is also increasingly focusing on the quality of the research rather than how novel or exciting it is.

17 Even if some of the perceptions and concerns of researchers identified in the report were inaccurate, for example relating to the REF, they highlighted a **problem of communication**. This may stem from the way in which funding bodies communicate to universities, and/or the way information filters down from the top levels within universities and passes from researcher to researcher. Recognising this problem could lead to small but effective changes; for example, when funding bodies write to vice-chancellors, including a separate letter aimed at other university staff could help widen dissemination.

18 Many researchers carry out both teaching and research activities, so the **teaching and research environments** are closely linked. The recent [Higher Education Green Paper](#) sets out a new Teaching Excellence Framework and a more metrics-based approach to assessment. Participants were encouraged to consider how this might impact on the research environment and to respond to the consultation accordingly.

---

[1] http://www.nature.com/news/uk-universities-slow-to-publish-reports-of-misconduct-investigations-1.17559

Annex A

Suggestions for action in Nuffield Council on Bioethics report *The culture of scientific research in the UK (2014)*

Suggestions for action for funding bodies

- Maintain a funding portfolio that provides opportunities for diverse research approaches for researchers at different stages of their careers and for research projects at different stages of development.

- Ensure that the track record of researchers applying for funding is assessed broadly, without undue reliance on journal impact factors.

- Provide training and/or guidance for peer reviewers and grant assessment committee members to ensure they are aware of and follow assessment policies.

- Recognise and reward high quality peer review and committee service.

- Communicate clearly to research institutions and researchers about funding strategies, policies and opportunities, and information about past funding decisions, particularly in areas where there are common misconceptions.

Suggestions for action for research institutions

- Ensure that the track record of researchers is assessed broadly, without undue reliance on journal impact factors, in processes for making appointments, conducting staff appraisals and awarding promotions.

- Cultivate an environment in which ethics is seen as a positive and integral part of performing research. Ensure researchers, particularly early career researchers, have a thorough grounding in research ethics and access to information and training throughout their careers. Be open about the consequences of research misconduct.

- Recognise and reward high quality peer review and committee service.

- Provide mentoring and career advice to researchers throughout their careers. Encourage them to plan their future and expand their skills and experience outside of the research environment, and tackle negative attitudes towards those leaving academia.

- Ensure institutional ethical review processes are flexible, appropriate and interactive, and that ethics committee members have appropriate guidance, training and knowledge.

- Support leaders in research by providing appropriate training, resources and recognition for their diverse activities.

- Sign up to the principles of the Athena SWAN Charter and adopt other employment practices that support diversity and inclusion.

Suggestions for action for publishers and editors of scientific research

- Use a broad range of metrics to highlight journal and article strengths.

- Tackle biases in research publishing by considering ways of ensuring that the findings of a wider range of research meeting standards of rigour can be published.

- Consider ways of adapting to the increasing multidisciplinarity of research.

- Consider further ways of improving the peer review system, for example by experimenting with new models.

- Ensure peer reviewers receive appropriate training and/or guidance and recognition for their work.

- Consider further the role of publishers in tackling ethical issues in publishing such as those related to authorship and retractions, and in promoting openness and data sharing among scientists.

Suggestions for action for researchers

- Be familiar with and actively contribute to the adoption of relevant codes of ethical conduct and standards for high quality research, treat colleagues fairly and equally, and try to instill good values in students and staff.

- When assessing the track record of fellow researchers, for example as a grant reviewer or appointments panel member, use a broad range of criteria, without undue reliance on journal impact factors.

- Consider ways of sharing work with others wherever possible, for example, by choosing accessible journals, making published work available in public repositories and sharing datasets.

- Engage with funders, publishers and learned societies to maintain a two-way dialogue and to contribute to policy-making, for example by responding to consultations, attending events or sitting on committees.

- Seek out a mentor and/or be a mentor to someone else.

- Frequently assess your career options and consider opportunities to widen your experience

Suggestions for action for learned societies and professional bodies

- Promote widely the importance of ensuring that the culture of research supports good research practice and the production of high quality science.

- Take account of the findings of this report in relation to guidelines for members on ethical conduct and professionalism.

- Encourage and support funding bodies, research institutions, publishers and editors and researchers to recognise and fulfil their roles in shaping the culture of research.

Download the project report and find out more at:
www.nuffieldbioethics.org/research-culture

Annex B

Name	Role	Organisation
Adrian Sutton	Fellow and Deputy Chair, Education Committee	Royal Society
Alison Mitchell	Director of Development	Vitae
Alison Wall	Associate Director, Building Leadership	Engineering and Physical Sciences Research Council
Anna Wilkinson	Programme Officer	Nuffield Council on Bioethics
Asael Rouby	Legal Advisor & Research Integrity Officer	European Network of Research Integrity Offices
Catherine Joynson	Programme Manager	Nuffield Council on Bioethics
Claire Warwick	Pro-Vice-Chancellor (Research)	Durham University
David Matthews	Reporter	Times Higher Education
Frances Rawle	Head of Corporate Governance	Medical Research Council
Graham Hart	Dean of Population Health Sciences	University College London
Helen Ewles	Research Policy Advisor	Royal Academy of Engineering
Hugh Whittall	Director	Nuffield Council on Bioethics
Iain Cameron	Head of Research Careers	Research Councils UK
Ian Carter	Director of Research and Enterprise	Sussex University
Isolde Radford	Higher Education Programme Manager	Royal Society of Chemistry
James Parry	Director	UK Research Integrity Office
James Vickers	Chair, Animal Welfare and Ethical Review Body	University of Southampton
Janet Seed	Associate Director, Programmes	Science and Technology Facilities Council
Jayne Black	Communications Officer	Association of Research Managers and Administrators
Jessica Cole	Senior Policy Analyst	Russell Group
John de Pury	Assistant Director	Universities UK
Jonathan Montgomery	Chair	Nuffield Council on Bioethics
Karis Hewitt	Head of Research Policy	Queen's University Belfast
Kathryn Dally	Head of the Research Ethics and Integrity Team	Oxford
Kerry Seelhoff	Public Attitudes to Science	Department of Business, Innovation and Skills
Laura Bellingan	Director of Science Policy	Royal Society of Biology
Lee-Ann Coleman	Director of biomedical grants and careers policy	Academy of Medical Sciences
Marina Parry	Postdoctoral Scientist	Cancer Research UK Manchester Institute
Mark Patterson	Director	Open Access Scholarly Publishers Association

Mark Walport	Government Chief Scientific Advisor	HM Government
Naomi Weir	Acting Director	Campaign for Science and Engineering
Natalie Ridgeway	Executive Officer	Committee on Publication Ethics
Nicola Perrin	Head of Policy	Wellcome Trust
Nikki Osborne	Senior Scientific Officer - Biotechnology	Royal Society for the Prevention of Cruelty to Animals
Ottoline Leyser	Chair of the culture of scientific research project	Nuffield Council on Bioethics
Parwez Samnakay	Policy Research Officer	Government Office for Science
Patrick Middleton	Head of Engagement	Biotechnology and Biological Sciences Research Council
Paul Walton	Member, Inclusion and Diversity Committee	Royal Society of Chemistry
Peter Darroch	Senior Product Manager, Research Metrics	Elsevier
Peter Mills	Assistant Director	Nuffield Council on Bioethics
Philip Campbell	Editor	Nature
Rachel Persad	Policy Advisor (Enterprise & Knowledge Exchange) and CREST Network Officer	Guild HE
Rachel Quinn	Director of Policy	Academy of Medical Sciences
Rebecca Lawrence	Managing Director	F1000Research
Richard Greene	Dean of the Faculty of Life Sciences	University of Bradford
Richard Hudson	Manager of Quality & Skills Team, Research & Innovation	University of Sheffield
Richard Reece	Council Member	Royal Society of Biology
Ruth King	Editorial Director - Health Sciences	BioMed Central
Sarah Dickinson	Head of Equality Charters	Equality Challenge Unit
Steven Hill	Head of Research Policy	Higher Education Funding Council for England
Stuart Taylor	Publishing Director	Royal Society
Theodora Bloom	Executive Editor	British Medical Journal
Tony Peatfield	Corporate Affairs Group Director	Medical Research Council