

## Submission to the Australian Research Council for the Public Consultation into ERA & EI

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Thank you for the opportunity to contribute a submission to this public consultation. I write this submission as an international expert in scholarly communication. I have a 2008 PhD from the Australian National University looking at open access and worked at ANU as the Manager of Scholarly Communication 2009-2012. I established the Australasian Open Access Strategy Group in 2013 and subsequently was the Deputy Director of Cambridge University Libraries with a portfolio of Scholarly Communication and Research Services and with responsibility for implementing the open access and research data management requirements of UK Research and Innovation and charity funders between 2015-2019. I am currently a scholarly communication consultant. All of the positions put forward in this submission are my own.

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This submission to the [Public Consultation into ERA and EI](#) is putting a position forward that relates to several specific Questions:

*Q3.2 The ERA objectives are appropriate for meeting the future needs of its stakeholders. Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer. a. If you disagreed with the previous statement, what should the primary purpose of ERA be going forward? Please explain your answer.*

*Q3.19 The volume and activity indicators are still relevant to ERA. Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

*Q3.20 The publishing profile indicator is still relevant to ERA. Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree. Please explain your answer.*

*Q3.24 Noting that 90% of units of evaluation assessed in ERA 2018 are now at or above world standard, does the rating scale need to be modified to identify excellence? Yes/No. a. If you answered, 'Yes', please explain how the rating scale can be modified to identify excellence.*

## Measuring 'excellence' can cause poor research practice, but assessments offer an opportunity for positive change

It is important to acknowledge the limitations of any research measurement process, and indeed the potential subsequent affect it may have on the subject of the assessment (Anderson et al., 2007). There are arguments that 'excellence' as a concept is nonsensical and that the outcomes associated with excellence assessments include: "science and scholarship that is less reliable, less accurate, and less durable than research assessed according to other criteria" (Moore et al., 2017).

There has been a recent international focus on research culture, with the Royal Society undertaking a programme of work called Changing Expectations which "aims to understand how best to steward research culture through a shifting research landscape" (Royal Society, 2018). The Wellcome Trust has recently undertaken a large global survey into experiences of research culture, which demonstrated "a shocking portrait of the research environment – and one we must all help change", according to the Director (Wellcome Trust, 2020). The NHMRC has established a Research Quality Steering Committee which conducted a survey of research culture in late 2019 where respondents indicated data sharing and open access policies would encourage the production of high quality research (Rolf, 2020). Consistently, the way research is assessed is raised as a primary driver for poor research culture.

The Netherlands has been leading thinking related to reward in research, with a collective position of reduced emphasis on quantitative results, and a stronger appreciation of aspects like scientific integrity, collaboration and teaching (VSNU, NFU, KNAW, NWO and ZonMw., 2019). This is translating into amendments to reward processes at specific universities (Universiteit Utrecht, 2020). Over the past few years in the UK there has been a concerted effort to address the issue of responsible metrics, with a general move to broaden the range of measures used (Universities UK, n.d.; Wilsdon et al., 2015).

Addressing Question 3.2 "The ERA objectives are appropriate for meeting the future needs of its stakeholders", my response is Disagree. In light of these issues, there needs to be a consideration of the objectives of ERA as they currently stand to consider the effect they are having on researcher behaviour.

***It is essential that any research assessment system must consider the potential effects on researcher and institutional behaviour it may generate.***

There is growing concern that research assessment practices are having deleterious effects on the research endeavour, not just in terms of research culture, but in terms of the integrity of the research itself. A recent report co-published by the UK Research Integrity Office, the UK Reproducibility Network and Vitae on Research Integrity found that: "Use of journal impact factor, h-index and other metrics", "League tables of institutions" and "How researchers are assessed for promotion during their careers" were amongst the top five incentives for their strongly negative perceived impact on research integrity (Vitae, UKRN, UK Research Integrity Office, 2020). For this reason, my response to Question 3.20 is I Disagree - the publishing profile indicator is no longer relevant.

Australia is not immune to poor research practice, which several high-profile cases attest (ABC News, 2016; ABC TV, 2003; Ellis Nutt, 2016; Van Der Weyden, 2004; Worthington, 2019; Worthington & Taylor, 2019). These types of cases, and incidents such as the retraction of the hydroxychloroquine study from *The Lancet* due to serious questions about the underlying data undermines the credibility of science (Washington, 2020). In Australia there have been politically

motivated “recent attempts to discredit the integrity of scientists” (Science & Technology Australia, 2019).

***There is a serious global issue of a reduction of trust in science.***

Poor research practice is fuelling an increased lack of trust in science (Edwards & Roy, 2016). Concern about this issue has generated action to increase credibility within some disciplines (British Neuroscience Association, 2019). Even before the pandemic began there was an increased nervousness about the perception of science with the public (Nature Editorial, 2019). The global political situation has only exacerbated the problem.

The current situation strongly echoes sociologist of science Robert Merton’s call to action from 1942 when he said: “Incipient and actual attacks upon the integrity of science have led scientists to recognize their dependence on particular types of social structure. ... An institution under attack must re-examine its foundations, restate its objectives, seek out its rationale. Crisis invites self-appraisal.” (Merton, 1973). There is a serious need for the sector to address these issues.

Research integrity has been high on the agenda overseas for some years with the UK Parliament, Science and Technology Committee conducting a Research Integrity enquiry in 2017-2018 with attendant recommendations that have been incorporated into a *Concordat to Support Research Integrity* (House of Commons, 2018; Universities UK, 2019). There are clearly defined parameters around the expectation of researcher training, with considerable emphasis on research integrity (Vitae, 2019).

There has been limited focus on the issue of research integrity in Australia. The Chief Scientist has spoken about it, noting “Unlike other professions, there are no national competencies and no national recognition of education and training in research integrity. ... to the best of my knowledge, no Australian institutions have a training requirement for their existing research workforce” (Finkel, 2019a, 2019b).

***Australia needs to consider how research integrity can be addressed, and adoption of open research practices offers a clear path.***

The Consultation Paper notes that “90% of units of evaluation assessed in ERA 2018 are now at or above world standard” and Q3.24 asks if the rating scale needs to be modified to identify excellence. My response is no. If the vast majority of Australian research is primarily at or above world standard then this should be celebrated, and further granulating the assessment will achieve very little in terms of raising standards. Rather, this consultation offers an opportunity to leverage the ERA process in order to implement behavioural changes within the research community to move activity towards a higher level of research integrity and research transparency. This, in and of itself, will not eliminate issues of reproducibility, but will significantly reduce them.

I can bear direct personal witness to the transformative power of a nationwide requirement to make research openly accessible. I was the Deputy Director of Cambridge University Libraries with a portfolio of Scholarly Communication and Research Services and had responsibility for implementing the open access requirements of UK Research and innovation and charity funders between 2015-2019. I was able to navigate the University from a position where open access and research data management practices were poorly understood to one where not only was the majority of research being captured and made open access, but the University passed a Position Statement on Open Research (University of Cambridge, 2019).

Returning to Question 3.2, this paper is proposing that one of the future ERA objectives should be to increase the dissemination and transparency of research. Leveraging ERA for an end goal of open research will not only realise a wider dissemination of our research, and improved research practice but will have the added benefit of meeting the recommendation (12) made in the October 2018 House of Representatives Committees Standing Committee on Employment, Education and Training Inquiry into Funding Australia's Research that: "... the Australian Government develop a more strategic approach to Australia's open scholarship environment" (Parliament of Australia, 2018). To date there appears to have been little, if any, action to address this recommendation.

***The ERA assessment process can be leveraged to encourage consistent open practices within Australian research.***

It is reasonable to say that Australian policies on open access and FAIR data are inconsistent. The Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC) open access policies have a veneer of similarity, but are fundamentally different in multiple ways (AOASG, 2013). When considering policies on the management of research data, the ARC "does not mandate open access to data" (Australian Research Council, 2018). The NHMRC "strongly encourages researchers to consider the reuse value of their data" (National Health and Medical Research Council, 2018).

There are currently no sanctions for non-compliance with these policies. This is despite evidence to show that enforcement of open access policies are a primary driver of compliance (Larivière & Sugimoto, 2018). There is some evidence to show even small incentives for open behaviour is effective (Kidwell et al., 2016). The announcement of 'dip-stick checking' of the requirement to make data underpinning research by the Engineering and Physical Sciences Research Council was sufficient to establish research data services in UK institutions (Ryan, 2015). I know because I established one.

Regardless, the power of ARC and NHMRC grant policies to effect behaviour change at a national level is limited due to the fact that Australian competitive grants have declined as a proportion of all R&D funds to 14.6% in 2018 (Australian Bureau of Statistics, 2020).

The NHMRC Code for the Responsible Conduct of Research places the onus of developing and implementing policies on institutions (NHMRC, Universities Australia, 2019). Many institutions do not have an open access policy at all, and of those with a policy, it is often focused on published research outputs rather than the source data (AOASG, 2013b). It is therefore not surprising that Australia ranks very low on international comparisons of the percentage of institutional open access (Huang et al., 2020)

Future ERA processes can incorporate a national and consistent requirement that research is made openly accessible on acceptance – timing which has been clearly shown to increase the amount of research that is made available, through the deposit of author's accepted manuscripts into institutional repositories. This could be an additional 'volume and activity' indicator (as per Question 3.19).

There is a unique opportunity for the Australian Research Council to leverage the Excellence in Research for Australia programme to effect real change.

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