

Supplementary written evidence submitted by UK Research and Innovation (UKRI) (RRE0103)

Thank you for inviting UKRI to give evidence to the Commons Science and Technology Committee as part of the Reproducibility and research integrity inquiry. During the session on 2nd February 2022, Rebecca Long-Bailey MP asked a question regarding what proportion of UKRI's funding goes to:

- replication studies;
- meta-research; and
- long-term grants for 'slower' science

I am writing to provide further information in response to this question and have set out my response using the above topics as relevant headings.

Before moving further, a few points of clarification. Defining the exact proportion of UKRI funding allocated to replication studies, meta-research and long-term grants is challenging given that these factors are often components of larger projects or interventions that vary in definition and may change over time.

As you are aware, UKRI funding is diverse and utilises a rich array of mechanisms to support and stimulate research and innovation. We embed principles of ethics, integrity, robustness and reproducibility in the work that we do and seek to catalyse these approaches across the sector.

We do this through a number of means, including our policies such as [UKRI's Policy and Guidelines on Governance of Good Research Conduct](#)

Given the centrality of these principles across all of our funding portfolio, we will use this supplemental letter to set out some examples of how UKRI is supporting replication, meta-research and 'slow' science within a research system that helps to underpin integrity and reproducibility.

Replication studies

Replication studies are important as they establish the validity of previously conducted research. Data archiving and access is essential for replication, whether as part of a research publication or wider open data practices. UKRI supports data infrastructure that provide this capability across disciplines and has data management and access policies for the research that we fund.

The UK Reproducibility Network (UKRN), which recently received a £4.5m funding boost from UKRI via Research England, is proving to be a successful model to contribute to more widespread sharing and take-up of good practice across disciplines and research organisations. The Network is funded via Research England's Development Fund to accelerate the uptake of high-quality open research practices. The project represents a major strategic investment intended to ensure the UK remains at the forefront of the open research agenda, embeds practices that support replication and reproducibility, and continues to generate globally leading research of the highest quality.

Meta-research

Meta-research is research that uses methods of science to study science itself, often defined as 'research on research.' The practice often focuses upon methods, reporting, evaluation, incentives, and reproducibility to yield more credible results and useful research.

UKRI has made several key investments in meta-research including the joint MRC-NIHR Better Methods, Better Research (BMBR) programme which provides funding for 'research on research'. The programme has a dual role to develop new more efficient ways of doing research and to improve the access to optimal methods for all biomedical and health researchers, industry and policy makers. MRC contributed £3.5m towards the total £4.5m funding for BMBR in 2021-22 (increasing to £4m contribution; £5m total in 2022-23).

In addition to UKRI led initiatives, we work in partnership to understand and improve research. Over the past 2 years we have been a partner of the [Research on Research Institute \(RORI\)](#), an institute that has brought together a consortium of 21 partners, including funders and researchers from 13 different countries and regions to identify and work together on key 'research on research' questions. Of relevance to the Committee's work is a collaboration between UKRI and RORI on [responsible research assessment that](#) has helped to identify how assessment practices should change to incentivise research practice that supports integrity and reproducibility. This institute provides an opportunity to build a broader understanding collectively, and to tap into the knowledge and findings of other funders nationally and internationally.

Long term grants, and approaches that support slow science

A typical UKRI research project is funded for three years, but this varies from six months to over six years. However, across UKRI there are a wide range of funding mechanisms beyond a typical research project. For example, our Science and Technologies Facilities Council (STFC) provides funding via a consolidated grant mechanism that, with regular peer-review, offers assurances and stability to support long-term research in Particle Physics, Astronomy and Nuclear Physics.

Strategic investments are made through our institutes, centres and data infrastructure programmes, many of which have been funded for 10 or more years. For example, the Longitudinal Study Understanding Society which ESRC (Economic & Social Research Council) has funded since 2009 at a total value of £177m running to 2026.

Recurrent quality-related (QR) research funding is an aspect of the research funding system that enables long-term support and is provided via the four UK higher education funding bodies (Research England, Scottish Funding Council, Higher Education Funding Council for Wales and Department for the Economy, Northern Ireland). About 20% of the UKRI budget is allocated by Research England to provide English universities with QR funding through a formula driven block grant for universities to spend according to their own research priorities. This funding is relatively stable year on year, with the majority of the allocation made on the basis of the latest research assessment (currently using REF2014).

While this kind of diversity in funding should support the goals of "slow science" achieving them is

less about the duration of funding and more about the underpinning research culture and the assessment criteria used to award the funding. There are concerns that the nature of competition in current research culture, with narrow definitions of excellence and rapid publication as a key measure of performance, is having a range of negative effects, for example cutting corners to achieve rapid publication or disincentivising publication of negative results.

Supporting a research culture where the attributes of “slow science” can flourish is key. UKRI is working to improve reward and recognition so that the diverse range of research contributions, activities and outputs are fully acknowledged in all parts of research assessment, rather than rewarding only published papers. UKRI’s adoption of the Resume for Research and Innovation (R4RI), a narrative CV, is one way in which we are addressing this. R4RI is based on the Royal Society’s Resume for Researchers. It enables people to evidence a broader range of contributions beyond the traditional list of publications and grants. The contributions can be evidenced and contextualised in the narrative CV format enabling greater visibility and understanding of the value and impact of the whole range of research activities.

UKRI is committed to supporting an outstanding research and innovation system and looks forward to hearing the outcomes from the Committee’s Inquiry into Reproducibility and Integrity.

22 March 2022