RESEARCH NOTE

Funders’ responsibility to ensure value in research: a self-audit by the Health Research Board Ireland [version 1; peer review: 2 approved]

Anne Cody, Maura Hiney, Patricia Clarke, Mairead O’Driscoll

Health Research Board, Dublin, D02 H638, Ireland

Abstract
As a public funder of health research, the Health Research Board (HRB) Ireland has an obligation to manage its funds well and to maximise the value of the research that it funds. Ways in which research funding can be wasted have been examined by researchers over the years, and a seminal series on research waste was published in the Lancet in 2014. The series systematically analysed every step of the funding lifecycle in five major stages and made recommendations to various actors including research funders.

Prompted by its participation in the Ensuring Value in Research Funders’ Forum, between June and October 2019 the HRB undertook a self-audit against the 17 recommendations and 35 sub-recommendations identified in the Lancet series. Key HRB staff collated relevant policies and practices regarding each recommendation and sub-recommendation and assessed the HRB’s performance under each heading. The self-assessment reflects the state of HRB policies and practices in October 2019. Of the 17 recommendations, two were found not to apply to the HRB. Of the remaining 15 recommendations covering 33 sub-recommendations, five were found to be areas of strength and six were found to be areas of partial strength. These 11 recommendations encompass 22 sub-recommendations. Areas of strength reflect work over many years such as support for evidence synthesis, strong processes around award selection, driving research integrity and open data including an HRB-funded open publishing platform.

Four recommendations were found to be areas for growth. These mostly revolve around real time reporting of study protocols and of ongoing funded research outside of clinical trials. Work is progressing to address some of these areas.
Introduction

Funders of health research typically receive money from members of the public directly in the case of charitable organisations or via taxation in the case of state agencies. Funders have an obligation to make best use of this income, to maximise its societal benefits. Research waste occurs when the use of money and/or effort is not optimal. Ways in which research waste can occur have been examined by researchers over the years (Chalmers & Glasziou, 2009), leading to the publication in 2014 of a series in the Lancet, put together by Chalmers and Glasziou, (Chalmers et al., 2014), (Ioannidis et al., 2014), (Salman et al., 2014), (Chan et al., 2014) and (Glasziou et al., 2014) that systematically analysed every step of the funding life-cycle in five major stages. These include: 1) funding research that is relevant to knowledge users, 2) ensuring appropriate design, methods and analysis, 3) efficient research regulation and management, 4) information about the research being fully accessible, and 5) unbiased and useable research reports. It spelled out recommendations for funders, researchers, research performing institutions, publishers, policy makers, regulators and research ethics committees.

Individual funders across the world have grappled with how best to optimise the use of their funding for a long time. This is a complex and multi-faceted endeavour where best practice shifts over time. In 2017 a group of funders from different countries, including the Health Research Board (HRB), came together under the banner of the ‘Ensuring Value in Research Funders’ Forum’ to work together on approaches to optimising the use of their funding (Chinnery et al., 2018). This is a place where health research funders of all sizes and with different remits can share ideas, learn from each other, collaborate and create impact. In 2019 the HRB undertook a self-assessment of its own practices and policies in a systematic way.

The HRB is the main funder of health research in Ireland, and a statutory agency under the Department of Health. The HRB funds research across a wide spectrum from patient-oriented and clinical research to population health sciences and health services research. Funding is provided for project and programme grants, career development, infrastructures and networks.

The HRB has an annual funding envelope of €45 million and manages 350 active awards with a total value of €240 million. Its funding Directorate includes approximately 27 staff. The HRB sees itself as a learning organisation with a tradition of leading in the development of best and next practice in specific policy areas. The HRB has three other functions: the Evidence Centre develops evidence synthesis products for the Department of Health; the National Health Information Systems provide information for health service planning and makes its data available for research; and the nascent regulatory function of the HRB encompasses the Health Research Consent Declaration Committee and a National Research Ethics Committee.

Methods

For comparability the methods used for the HRB self-audit mirrored those reported previously by the Patient-Centered Outcomes Research Institute (PCORI, USA) (Whitlock et al., 2019) and are informed by those used by National Institutes of Health Research (NIHR, UK) for a similar exercise (M. Westmore, personal communication). Both PCORI and NIHR are members of the Ensuring Value in Research Funders’ Forum.

In total, four HRB members of staff (all authors) were chosen to participate in this self-audit based on their role in the organisation: Head of Pre-Award, Head of Post-Award and Evaluation, Programme Manager Policy and EU Funding, and Director of Research Strategy and Funding, respectively. All roles include a remit for policy. Jointly they are familiar with the spectrum of HRB funding policies, most of which have been driven personally by these individuals, and the national and international discussions informing these policies. The first author suggested the concept of a self-audit, the composition of the study team, methodology and respective roles at a team meeting. Approval for the project was given by the Director of Research Strategy and Funding. Work was completed as part of the overall work of the study team members for the HRB, without any additional compensation.

The group examined HRB’s existing policies, initiatives and practices against 17 recommendations for funding agencies from the Lancet series. Many of the recommendations contain a number of sub-recommendations to capture multiple dimensions, leading to a total of 35 areas to assess (Table 1).

To ensure that diverse perspectives were captured, initially each author collated relevant HRB materials, policies, or practices of which they were aware in their area of expertise. This material was collated by the first author, shared with the other authors and then added to collectively. The scope of the material to be included under each recommendation was agreed jointly.

On this basis, each author then independently categorised fidelity to the 17 recommendations as: 1) “area of strength” – HRB’s practices reasonably address all sub-recommendations; 2) “area of partial strength” – HRB’s practices reasonably or partially address all sub-recommendations; 3) “area of growth” – HRB’s practices do not address all sub-recommendations, either reasonably or partially; or 4) not applicable. These ratings were used by PCORI in their self-audit. Discrepancies were resolved through discussion and final ratings reflect consensus.

The kick-off meeting took place in the HRB offices in June 2019, with an in depth discussion of the methodology and approach. Two more meetings took place in July to finalise the collation of materials feeding into the self-audit. The individual assessments of HRB performance against the recommendations were completed in October 2019 with good
Table 1. Assessment of HRB’s policies and practises related to ensuring value in research.

<table>
<thead>
<tr>
<th>Questions are relevant to users of research</th>
<th>Related processes or initiatives at HRB</th>
<th>Self-assessment agreed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. More investigations into research should</strong>&lt;br&gt;be done to identify factors associated with successful replication of basic research and translation to application in health care, and how to achieve the most productive ratio of basic to applied research</td>
<td>The HRB funds basic research only in limited circumstances and as a result has a very small portfolio of basic research awards.</td>
<td>4. Not applicable</td>
</tr>
<tr>
<td><strong>2. Research funders should make information available about how decisions are made about what research to support (2a) and fund investigations into the effects of initiatives to engage potential users of research in research prioritisation (2b)</strong></td>
<td>a) HRB strategy contains a high degree of detail&lt;br&gt;a) HRB website section called ‘before you apply’ setting out the funding process&lt;br&gt;a) Call guidance notes describe in detail the assessment criteria and the details of the assessment process for each call&lt;br&gt;a) Members of the public provide public reviews for some schemes on the Public and Patient Involvement (PPI) aspects of applications&lt;br&gt;a) Members of the public have been part of a small number of selection panels as PPI panel members&lt;br&gt;a) Some external observers attend panel meetings and gain first-hand experience with the process for sharing with the wider community&lt;br&gt;b) HRB schemes are typically open to many types of research. Schemes serving the research needs of the Irish health and social care system require a knowledge user lead applicant and a researcher lead applicant</td>
<td>2. Area of partial strength – practices reasonably or partially address all sub-recommendations</td>
</tr>
<tr>
<td><strong>3. Research funders and regulators should demand that proposals for additional primary research are justified by systematic reviews (3a), showing what is already known (3b) and increase funding for the synthesis of existing evidence (3c)</strong></td>
<td>a) Requirement of systematically gathered evidence (1) systematic identification of previous work, 2) critical appraisal, 3) synthesis of the evidence and 4) interpretation of findings) in growing number of schemes&lt;br&gt;b) Applications for clinical trials requests search of relevant registries&lt;br&gt;c) HRB has covered a national subscription to the Cochrane Library since 2002 (as first jurisdiction in the world jointly with Northern Ireland)&lt;br&gt;c) HRB has funded systematic review training for approx. 90 2-year Cochrane Fellowships and short courses for approx. 1,000 participants 2002–2018&lt;br&gt;c) Consolidated training for evidence synthesis across various methodologies in Evidence Synthesis Ireland since 2018, also acts as Cochrane Ireland&lt;br&gt;c) HRB funds evidence synthesis service for the National Clinical Guidelines Group&lt;br&gt;c) HRB Evidence Centre provides evidence synthesis products to Department of Health to inform policy making</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
</tr>
<tr>
<td><strong>4. Research funders and research regulators should strengthen and develop sources of information about in progress research (4a), ensure that this information is used by researchers (4b), insist on publication of protocols at study inception (4c), and encourage collaboration to reduce waste (4d)</strong></td>
<td>a) Awards published on website and open government data portal. HRB Open Research encourages authors to register their systematic reviews.&lt;br&gt;b) Only clinical trials required to register protocols; HRB provides infrastructure to publish protocols for any study (HRB Open Research).&lt;br&gt;c) HRB is funding some network awards and participating in some relevant policy initiatives at national and EU level.&lt;br&gt;d) HRB active in a number of relevant policy initiatives</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>Related processes or initiatives at HRB</td>
<td>Appropriately endorsed recommendations</td>
<td>Research regulation and management is efficient</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) FAIR (Findable, Accessible, Interoperable and Reusable) data steward pilot d) Open access policy e) HRB Data Management and Sharing policy and data management plan template f) All articles in HRB Open Research include the source data underlying published results</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations 2. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
<td>4. Not applicable</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) High quality panel composition and call guidance b) HRB led development of National Research Integrity Policy, alongside FAIR Data Principles, alongside the most robust of research design and conduct standards, and open publication as good research practice c) Significant funding for methodological support, infrastructures and research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research)</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB Data Management and Sharing policy, alongside the most robust of research design and conduct standards, and open publication as good research practice b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, which stipulates data sharing b) Providing infrastructure for publishing protocols and analysis plans (HRB Open Research) c) Self-assessment agreed</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>a) HRB led development of National Research Integrity Policy, addresses training in good research practices, including methodology, design and Good Laboratory Practice (where appropriate), at all career stages b) Significant funding for methodological support, infrastructures and research practice c) FAIR data steward training pilot d) Humanities Research Board (HRB) supporting national pilot of on-line training in research integrity and good research practice</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
<td>3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially</td>
</tr>
<tr>
<td>Lancet series recommendations</td>
<td>Related processes or initiatives at HRB</td>
<td>Self-assessment agreed</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td><strong>Research regulation and management is efficient</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Researchers and research managers should increase the efficiency of recruitment and retention of participants, data monitoring, and data sharing in research through the use of research designs known to reduce inefficiencies, (10a), and do additional research to learn how efficiency can be increased (10b)</td>
<td>a) and b) HRB funds Trials Methodology Research Network to carry out research and training in recruitment and retention, good practice in clinical trials etc. Also funding Studies Within A Trial for intervention studies. a) HRB Clinical research governance framework addresses data monitoring a) HRB is a member of the Irish National ORCID (Open Researcher and Contributor ID) Consortium a) HRB funding proof of concept for secure sharing and linkage of research data in line with best international practices</td>
<td>2. Area of partial strength – practices reasonably or partially address all sub-recommendations</td>
</tr>
<tr>
<td>11. Everyone, particularly individuals responsible for health-care systems, can help to improve the efficiency of clinical research by promoting integration of research in everyday clinical practice</td>
<td>HRB information systems (Drugs and Alcohol, mental health) used to drive service decisions HRB Evidence Centre provide evidence synthesis products to Department of Health to inform policy decisions HRB funding and dissemination activities Key individuals in health service are involved in Horizon 2020/ FP7 projects, and in EU/ international committees. HRB involved in Department of Health Group preparing Health Information Strategy Health Research Forum to be set up by DOH with national healthcare provider, HRB and other stakeholders</td>
<td>2. Area of partial strength – practices reasonably or partially address all sub-recommendations</td>
</tr>
<tr>
<td><strong>All research is reported and data are accessible</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Institutions and funders should adopt performance metrics that recognise full dissemination of research (12a) and reuse of original datasets by external researchers (12b)</td>
<td>a) HRB application forms ask for dissemination of previous research across multiple formats (including policy/practice influence and general public) a) HRB applies the Payback framework for collecting a broad range of metrics a) HRB Open Research provides support for full dissemination of research b) HRB National Health Information Systems are accessible to researchers b) Dedicated funding call for Secondary Data Analysis Projects b) Various initiatives to support good management of data created in HRB-funded research to facilitate re-use (member of Science Europe Group that is driving voluntary alignment of Research Data Management planning and its assessment across Europe, Training of FAIR data stewards, FAIR data training)</td>
<td>2. Area of partial strength – practices reasonably or partially address all sub-recommendations</td>
</tr>
<tr>
<td>13. Investigators, sponsors, regulators, research ethics committees, and journals should systematically develop and adopt standards for the content of study protocols (13a) and full study reports (13b), and for data sharing practices (13c)</td>
<td>a) and b) HRB Open Research supports a Registered Reports tool (review of published Study Protocols before data is collected followed by full published study as a Research Article) b) HRB Open Research adheres to various international standards c) HRB Policy on Research Data Management and Sharing in place for all grants issued from 1 January 2020 c) Member of Science Europe Working Group driving voluntary alignment of Research Data Management and its assessment across Europe c) HRB subscribes to the FAIR principles (supporting FAIR data steward training and conducting a FAIR data pilot)</td>
<td>1. Area of strength – practices reasonably address all sub-recommendations</td>
</tr>
<tr>
<td>Lancet series recommendations</td>
<td>Related processes or initiatives at HRB</td>
<td>Self-assessment agreed</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| All research is reported and data are accessible                                               | a) HRB requires grantees of regulated and non-regulated clinical trials to register awards in publicly accessible register  
| 14. Investigators, sponsors, regulators, research ethics committees, journals and legislators should endorse and enforce study registration policies (14a), wide availability of full study information (14b), and sharing of participant-level data for all health research (14c) | a) and b) HRB Open Research promotes Registered Reports, registration in in appropriate register (e.g. clinicaltrials.gov, PROSPERO)  
|                                                                                               | b) HRB provides grant data to the Government Data portal. HRB posts data on grants on HRB website but not with metadata. | 3. Area of growth - practices do not address all sub-recommendations, either reasonably or partially |
| Research reports are complete, unbiased and usable                                               | HRB Clinical Research governance framework requires full reporting  
HRB has signed up to DORA and is using a wide range of potential output formats for assessment of applicants’ track record  
HRB has been instrumental in shaping the National Open Research Framework which promotes:  
- information on open research and associated skill attainment in national level research reporting and evaluation  
- support and reward for researchers within the academic career system who participate in a culture of sharing their research results  
- adoption of ‘responsible metrics’ by Funders and institutions and rewarding the full diversity of outputs and of recording the broader social impact of research (‘next-generation metrics’).  
HRB leading various national discussions on cultural shift to better regulations and rewards e.g. GDPR, Ethics, research integrity, promotion of DORA, conference presentations etc. | 2. Area of partial strength – practices reasonably or partially address all sub-recommendations |
| 15. Funders and research institutions must shift research regulations and rewards to align with better and more complete reporting | HRB has own publishing platform for various types of articles and datasets (HRB Open Research)  
HRB has a suite of policies on Open Access, data management etc and has worked nationally and internationally to determine best way of making data FAIR | 1. Area of strength – practices reasonably address all sub-recommendations |
| 16. Research funders should take responsibility for reporting infrastructure that supports good reporting and archiving | HRB supports general FAIR data training, the development of expert data stewards and a pilot to make data on funded projects FAIR  
HRB Open Research provides:  
- support for authors for various reporting options;  
- provision of Registered Reports tool;  
- citation for peer-reviewers;  
- advice on how and where to link publications and underlying data.  
The National Open Research Framework provides:  
- clarity on open access publication issues  
- recognition of the need for standardised and accredited skills for open research at all career levels  
HRB is working with international partners to deliver online DMP template. | 2. Area of partial strength – practices reasonably or partially address all sub-recommendations |
of outcome expected, not on the subject area. We therefore
As the main funder of health research in a small country, the
for clinical trials of regulated medicinal products and of
2019 (COVID-19)-related research with expedited turnaround
a national research ethics committee for coronavirus disease
Since the self-assessment, the HRB has hosted and managed
in strengthening the assessment around the reporting-related
immediate publication followed by open peer review and
publishing platform,
For example, in early 2018 the HRB launched its own open
All its aspects, in-house and extramural support for evidence
synthesis and methodological support for researchers.

Four recommendations were found to be areas for growth
(4, 5, 7 and 14).

Discussion
By nature, any self-audit has the potential for bias. We aimed
to avoid bias by using an external framework that had been
published previously, including contributors with different
perspectives, and concluding multiple rounds of discussion and
feedback on each recommendation and its sub-recommendations.

This self-assessment positively highlighted areas where signif-
cant effort has been made over many years. The areas that
scored well have been a core part of the HRB work programme
for some time: quality of the scientific peer review process
in all its aspects, in-house and extramural support for evidence
synthesis and methodological support for researchers.

For example, in early 2018 the HRB launched its own open
publishing platform, HRB Open Research, that facilitates
immediate publication followed by open peer review and
combined with an open data policy. This plays an important role
in strengthening the assessment around the reporting-related
recommendations.

The role of the HRB in the implementation of Irish legisla-
tion accompanying general data protection regulation (GDPR)
in the context of health research is also reflected positively.
Since the self-assessment, the HRB has hosted and managed
a national research ethics committee for coronavirus disease
2019 (COVID-19)-related research with expedited turnaround
times for decisions, and national research ethics committees
for clinical trials of regulated medicinal products and of
medical devices are in imminent.

As the main funder of health research in a small country, the
HRB typically issues funding calls that focus on the type
of outcome expected, not on the subject area. We therefore
emphasise collaboration between researchers and knowledge
users in a variety of funding schemes to ensure the relevance of research findings.

The HRB has been very active in the international and national
development of research integrity, FAIR data and open
research, including the development of coordinated policy
and frameworks. Training in research integrity is mandatory
for recipients of funding and their teams, and HRB contrib-
utes to a national subscription to an online training platform
for research integrity. In Ireland the HRB has played a leading
role in the development of PPI capacity with innovative
and new system-wide approaches.

Progress has been made in all these areas, but there are still
opportunities to further improve the implementation of poli-
cies across the spectrum and enhance institutional and researcher
capacity to ‘do the right thing’. The authors view the undertak-
ing of self-audits as part of continuous improvement efforts.
For example:

- The culture change required for the meaningful inclu-
sion of members of the public across the research
endeavour has only started. The HRB introduced pub-
rlic reviews for some funding schemes in 2017 and
is providing infrastructure support for institutions
to enhance their capacity for PPI, but more research-
ers and PPI contributors need to gain more direct
experience.

- Having a route via HRB Open Research to pub-
lish protocols and outcomes quickly and without
publication bias is important, but alone does not guar-
antee that they are published. In a recent call for
COVID-19 research the publication of protocols was
mandatory, which was fully implemented. We are
reflecting on this experience and starting to roll out
such a requirement across other schemes. There is a
noticeable increase in study protocol publications on
HRB Open Research across other funded projects.

- A current area of focus is around data, encompass-
ing the review and publication of data management
plans, the further broadening of FAIR data capacity
through the training of data stewards in institu-
tions, and a proof of concept initiative facilitating the
safe linkage of datasets and secondary use of data.
This is an evolving area internationally and capability
and capacity are currently limited in Ireland.

Whilst work is ongoing in some of the four areas for
growth, it is currently not clear how to address some sub-
recommendations. Some areas are challenging for many funders
including the HRB. The registration and real time report-
ing of ongoing funded research (particularly outside of clini-
cal trials), which is captured in recommendations 4, 5 and
14, poses difficulties, with few suitable repositories. In their self-
audit PCORI note similar challenges in this space (Whitlock
et al., 2019). This is an area that requires more consid-
eration in the future and would benefit from infrastructural
solutions beyond the remit of the HRB.
The framework used here included recommendations for all players within the research ecosystem. It is relevant to research funding organisations but not specifically tailored towards them. Based on the experience of their respective self-audits, HRB and PCORI are currently contributing to the development of a new tailored tool for the self-assessment of research funding organisations by the Ensuring Value in Research Funders’ Forum. This will align with the Ensuring Value in Research principles, provide guidance on methodology and areas to consider, and better focus the work associated with a self-audit.

**Data availability**

All data underlying the results are available as part of the article and no additional source data are required.

**References**


Mona Nasser

Plymouth Institute of Health and Care Research, Peninsula Dental School, University of Plymouth, Plymouth, UK

In order to be able to reproduce the data, the readers need to know more about, "...initially each author collated relevant HRB materials, policies, or practices of which they were aware in their area of expertise." - Either how they identified/searched them or a list of these documents (if not all of them is possible, at least some examples of them).

In Table 1: It would be useful that in the self-assessment that you would differentiate between transparency around having criteria and process in place on how decisions are made (which a lot of funders do) versus transparency around how those processes are implemented e.g. minutes of meeting or external observants in the room (which less often done by funders).

Table 1, row 3 item (a): For this, "Requirement of systematically gathered evidence ((1) systematic identification of previous work, 2) critical appraisal, 3) synthesis of the evidence and 4) interpretation of findings) in growing number of schemes", is it possible to give a more accurate number than growing number of schemes or at least an estimate of how many schemes or applications that applies to. It will be also useful to highlight whether it is for researcher-driven grants or commission based one too or both?

Table 1, row 3 item (b): "Applications for clinical trials requests search of relevant registries" - Is that part of a systematic review or separate?

Table 1, row 4 item (d): "HRB active in a number of relevant policy initiatives" - can you give example of one initiative?

Table 1, row 6: can you explain what "FAIR data steward training pilot" is? You talk about FAIR data in the text but don't explain what it is.

Table 1, row 11: "...responsible for health-care systems, can help to improve the efficiency of
clinical research be promoting integration of research in everyday clinical practice" - I assume it is improve the efficiency of clinical research "by" promoting integration?

Consistency in using the abbreviation - In this sentence, "HRB involved in Department of Health Group preparing Health Information Strategy Health Research Forum to be set up by DOH with national healthcare provider, HRB and other stakeholders", if you use DOH as abbreviation might be useful to add after department of health (DOH).

It wasn't clear to me how (HRB funding and dissemination activities) addressed item 11.

You have DMP in the table 1 as abbreviation but not written as full in other parts.

Is the work clearly and accurately presented and does it cite the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Not applicable

Are all the source data underlying the results available to ensure full reproducibility?
Partly

Are the conclusions drawn adequately supported by the results?
Yes

**Competing Interests:** I have published a paper on evaluating research funders and research waste a few years ago.

**Reviewer Expertise:** Clinical Epidemiology, Systematic review, Research Waste, Setting priorities for research

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 02 Jul 2021

Anne AnneCody, Health Research Board, Dublin, Ireland

Thank you for these insights, I am working to address these in V2.

**Competing Interests:** No competing interests were disclosed.
In order to be able to reproduce the data, the readers need to know more about, "...initially each author collated relevant HRB materials, policies, or practices of which they were aware in their area of expertise." - Either how they identified/searched them or a list of these documents (if not all of them is possible, at least some examples of them).

Thank you for this useful suggestion. We have added the following text:

[The scope of the material to be included under each recommendation was agreed jointly] and included for example:

- HRB’s track record in supporting specific areas such as evidence synthesis, clinical trials or public and patient involvement;
- Recent extension of HRB function to include the secretariats for the Health Research Consent Declaration Committee linked to Irish data protection legislation and preparation for a National Research Ethics Committee for regulated medicinal products and medical devices;
- National policy activities such as co-leading of the National Research Integrity Forum and the National Open Research Forum, provision of an open publishing platform HRB Open Research, enabling the training of data stewards in host institutions via the GO FAIR Office, and requirement for Host Institutions to hold Athena Swan awards;
- Implementation activities regarding international initiatives such as the San Francisco Declaration on Research Assessment (DORA), the All Trials Campaign or the Ensuring Value in Research Funders’ Forum;
- Grant policies such as on Clinical Trials and Interventions Governance, Data Protection, Open Access, Data Management and Sharing, or Research Misconduct;
- Practices such as those identified in HRB Call Guidance Notes for each call including the requirement to present systematically gathered evidence, and reference to good practices such as use of core outcome sets, registration of protocols etc, selection of only international reviewers to avoid conflicts of interest, unconscious bias briefings and measures, external observers invited to selection panel meetings.

In Table 1: It would be useful that in the self-assessment that you would differentiate between transparency around having criteria and process in place on how decisions are made (which a lot of funders do) versus transparency around how those process are implemented e.g. minutes of meeting or external observants in the room (which less often done by funders).

Reference added.

Table 1, row 3 item (a): For this, "Requirement of systematically gathered evidence ((1) systematic identification of previous work, 2) critical appraisal, 3) synthesis of the evidence and 4) interpretation of findings) in growing number of schemes", is it possible to give a more accurate number than growing number of schemes or at least an estimate of how many schemes or applications that applies to. It will be also useful to highlight whether it is for researcher-driven grants or commission based one too or both?

We have added text: "in currently three investigator-led schemes with a total of approx. 120 applications." The HRB has few commissioned grants.
Table 1, row 3 item (b): "Applications for clinical trials requests search of relevant registries" - Is that part of a systematic review or separate?
We have added text: "also". This is the same context as the systematic review and ensures that these registries are searched to avoid any ambiguity.

Table 1, row 4 item (d): "HRB active in a number of relevant policy initiatives" - can you give example of one initiative?
We have added text: "[HRB active in a number of relevant policy initiatives] e.g. member of the EU Commission Expert Group on National Points of Reference on Scientific Information, funds a number of networks, implements the Science Europe Practical Guide to the Internal Alignment of Research Data Managements"

Table 1, row 6: can you explain what "FAIR data steward training pilot" is? You talk about FAIR data in the text but don't explain what it is.
We have added text: "Enabled a mentoring and training scheme led by GOFAIR international Office to upskill existing staff in HRB host institutions as FAIR data stewards to apply the FAIR principles". Included link to FAIR principles

Table 1, row 11: "...responsible for health-care systems, can help to improve the efficiency of clinical research be promoting integration of research in everyday clinical practice" - I assume it is improve the efficiency of clinical research "by" promoting integration?
Thank you for spotting this typo.

Consistency in using the abbreviation - In this sentence, "HRB involved in Department of Health Group preparing Health Information Strategy Health Research Forum to be set up by DOH with national healthcare provider, HRB and other stakeholders", if you use DOH as abbreviation might be useful to add after department of health (DOH).
We have made this consistent, thanks for spotting.

It wasn't clear to me how (HRB funding and dissemination activities) addressed item 11.
We have clarified with additional text: "HRB funding of healthcare interventions, health services research and population health research with associated knowledge transfer activities to inform practice. In schemes aimed at informing health policy, it is mandatory to include knowledge users as co-applicants."

Competing Interests: No competing interests were disclosed.
Danielle Kemmer  
Graham Boeckh Foundation, Montreal, QC, Canada  

Rory White  
Graham Boeckh Foundation, Montreal, QC, Canada  

This paper describes a very important self-audit of Ireland’s national health research funder. It emphasizes the critical role of funders in reducing waste in research, and provides detailed achievements to date and areas for improvement aligned with the recommendations made by the Lancet series in 2014.

Citations:  
To complete the article, please include:  
- A reference to the FAIR Guiding Principles\(^1\).  
- A reference or link for DORA.  
- A link to the 10 Ensuring Value in Research Guiding Principles specifically tailored to funders.  
- A reference or link to HRB Strategy detailing information about decision-making (Recommendation 2a).

Methods:  
In Recommendation 1, please provide information on how you define basic research (e.g. Health Research Classification System - Research Activities).

What does ‘good overlap between authors’ mean? Please elaborate on differences in rating to provide a clear sense of the extent of agreement between authors.

Other comments:  
In Recommendation 4a, data on awarded HRB research grants should also be submitted to a grant data portal that consolidates grant data from various funding sources. This would greatly facilitate broader research funding analyses. We admit, however, that there is currently a scarcity of available public data repositories.

It would be helpful to provide a timeframe for the next iteration of HRB’s self-audit to monitor progress on areas of partial strength and areas for growth.

References  

Is the work clearly and accurately presented and does it cite the current literature?  
Partly
Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Partly

If applicable, is the statistical analysis and its interpretation appropriate?
Not applicable

Are all the source data underlying the results available to ensure full reproducibility?
Partly

Are the conclusions drawn adequately supported by the results?
Yes

**Competing Interests:** The Health Research Board is a member of the International Alliance of Mental Health Research Funders, an initiative managed by the Graham Boeckh Foundation.

**Reviewer Expertise:** Research funding; research management; research priority setting; health research; grant stewardship; not-for-profit sector; philanthropy

We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 02 Jul 2021

Anne AnneCody, Health Research Board, Dublin, Ireland

Many thanks for your useful comments, Danielle, which I will strive to address in V2.

**Competing Interests:** The HRB is a member of the International Alliance of Mental Health Research Funders, which is coordinated by the Graham Boeckh Foundation.

Author Response 21 Jul 2021

Anne AnneCody, Health Research Board, Dublin, Ireland

To complete the article, please include:
- Citations:
- A reference to the FAIR Guiding Principles\(^1\).
- A reference or link for DORA.
- A link to the 10 Ensuring Value in Research Guiding Principles specifically tailored to funders.
- A reference or link to HRB Strategy detailing information about decision-making (Recommendation 2a).

Thank you, all added.
Methods:
In Recommendation 1, please provide information on how you define basic research (e.g. Health Research Classification System - Research Activities). Included link to HRB strategy with this definition.

What does ‘good overlap between authors’ mean? Please elaborate on differences in rating to provide a clear sense of the extent of agreement between authors.
Thank you for this useful suggestion. We added the text: "For ten recommendations, all four authors individually came to the same rating. For the remaining seven recommendations, three authors individually came to the same rating, and one rated it with an adjacent rating (e.g. 2 instead of 1 or 1 instead of 2)".

Other comments:
In Recommendation 4a, data on awarded HRB research grants should also be submitted to a grant data portal that consolidates grant data from various funding sources. This would greatly facilitate broader research funding analyses. We admit, however, that there is currently a scarcity of available public data repositories.
We fully agree, and will work with our researcher community on implementation when we become aware of suitable repositories.

It would be helpful to provide a timeframe for the next iteration of HRB’s self-audit to monitor progress on areas of partial strength and areas for growth.
This is a good point, however we have not currently an agreed timeframe. Most likely the next self-audit will use the self-assessment tool the first author is developing with PCORI colleagues under the Ensuring Value in Research Funders' Forum rather than the framework used for this paper.

Competing Interests: The HRB is a member of the International Alliance of Mental Health Research Funders, coordinated by the Graham Boeckh Foundation.