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Understanding perceptions of the Research Excellence Framework among UK researchers

The Real-Time REF Review

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Executive summary

The Research Excellence Framework (REF) is a national evaluation system for assessing the quality of research in UK higher education institutions (HEIs). The REF 2021 exercise took place from 2014 to 31 March 2021.¹ The UK has conducted a national assessment since the late 1980s, and each iteration has changed the criteria and rules to a greater or lesser extent. Despite the REF's importance in shaping research cultures, there is little systematic and nuanced evidence about perceptions and attitudes towards the REF across the sector and about which aspects are viewed favourably or unfavourably. In 2019, a pilot study examined the feasibility of a longitudinal evaluation of researchers' perceptions and attitudes towards REF 2021 at four institutions in the UK: University of Sheffield, Cardiff University, University of Sussex and University of Lincoln (Weinstein et al. 2019). The current study expands and builds on the pilot, providing a longitudinal analysis on how views have changed over time and capturing the views across all disciplines within the academic community. By conducting the review in real time, alongside preparations for the exercise,

the study aims to help accelerate the process of learning and revision post-REF 2021 to ensure that UK funding bodies continue to implement policy that is informed by evidence.

Aims and approach

Research England, on behalf of the four UK higher education funding bodies,² commissioned RAND Europe, together with the University of Cardiff and the University of Sheffield, to conduct a real-time evaluation of attitudes and perspectives towards REF 2021 of a diverse range of stakeholders across the higher education sector. The specific objectives of this study are to:

1. Assess attitudes, perspectives and behaviours towards REF 2021 across the sector
2. Explore how REF policies and changes are embedded in the way HEI submissions are prepared and delivered
3. Expand and build on the findings of the pilot study published in 2019

1 This timeline included an extension of 4 months to account for the effects of the COVID-19 pandemic. Impact case studies involve an assessment period starting 1 August 2013 (REF 2019). The publication of 'Initial decisions on the Research Excellence Framework' by the funding bodies, following consultation on implementation of the Stern review recommendations, was in 2017 (REF 2021b).

2 Research England; the Higher Education Funding Council for Wales (HEFCW); the Scottish Funding Council (SFC); and the Department for Employment and Learning, Northern Ireland.

The evaluation was based on a representative sample of 25 HEIs across the UK that was stratified by geography and institution size. The evaluation was accessible to all researchers based at UK HEIs. In total, we engaged with individuals from 112 HEIs across the UK.

We used a mixed method approach, including: 2 online surveys of 3,080 researchers (a national survey of researchers across the UK (2,934 responses) and a longitudinal survey of researchers at the four UK HEIs³ involved in the pilot study to assess views over time (146 responses)); 2 online focus groups with 12 research managers; 15 one-to-one interviews with 19 institutional leads; and 23 online focus groups with 95 researchers.

We collected the data between October 2020 and January 2021, while preparations for REF 2021 were in the process of being finalised.

Key findings and observations

The influence of the REF on researchers and the research community

Based on the national survey of researchers, we conclude that the majority of views on the influence of the REF on academic research and the research community are mixed (Figure 1). The majority of researchers believe that the REF has affected the research community by:

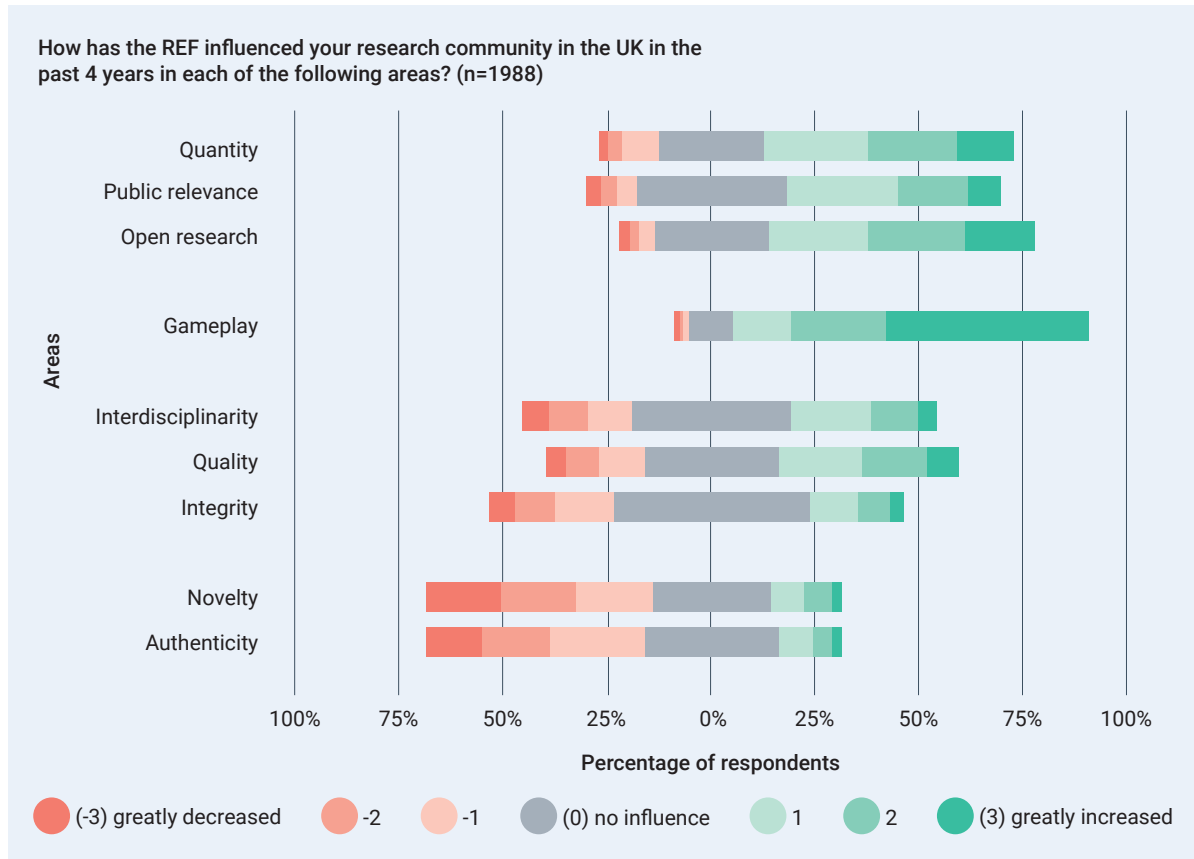
- Increasing open research (making published work, methodology, evidence and/or data widely available), increasing the public relevance of research (societal impact), and increasing the quantity of research (the number of outputs produced)
- Increasing game playing (e.g. staff recruitment, embellishment of impact)⁴
- Decreasing authenticity of research that reflects the researchers/research community's intellectual interests and decreasing novelty of research (e.g. less pursuing of 'blue sky' research that may not yield predictable outcomes)

In other areas (interdisciplinarity, quality of research and integrity of research in the research community) the most commonly held view of researchers was that the REF has no influence. The trends observed in the national study reflect findings from the longitudinal sample. No changes in perceptions were observed over time, except for interdisciplinary research, for which we saw a mild decrease in the view that the REF influences the propensity to collaborate. Much like the main survey, the longitudinal sample (when surveyed in 2018 and 2020) viewed the REF to have its biggest impact on increasing game playing.

3 Assessment for the REF is grouped under four main panels (MP) that group different areas of research: Main Panel A (Medicine, health and life sciences); Main Panel B (Physical sciences, engineering and mathematics); Main Panel C (Social sciences); and Main Panel D (Arts and humanities). The sample focus was on eight subpanels, or units of assessment (UOA) of the REF, two drawn from each of the four main panels: MPA: UOA3 (Allied Health Professions, Dentistry, Nursing and Pharmacy), UOA4 (Psychology, Psychiatry and Neuroscience); MPB: UOA11 (Computer Science and Informatics), UOA12 (Engineering); MPC: UOA17 (Business and Management Studies), UOA23 (Education); MPD: UOA28 (History); UOA34 (Communication, Cultural and Media Studies, Library and Information Management).

4 'Game playing' refers to tactics adopted by HEIs designed to maximise REF performance that may have unintended negative consequences on the quality of research and on staff development.

Figure 1: Proportional representation of survey respondents' views on the influence of the REF on the research community



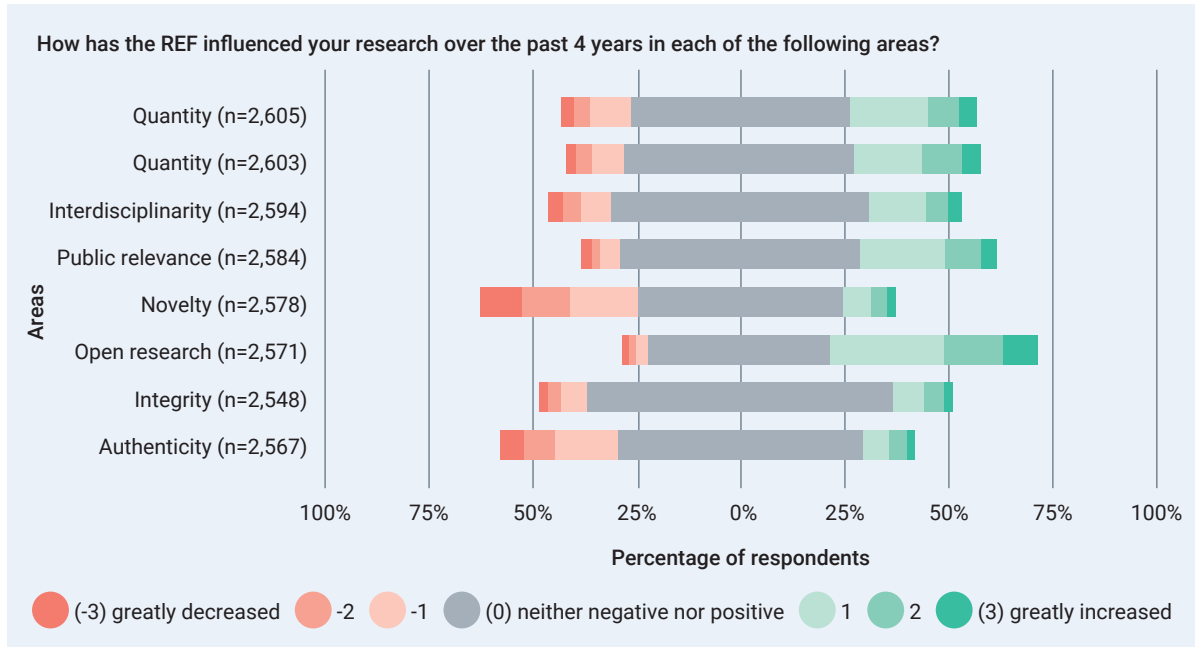
Note: For each aspect, survey respondents were asked to score the influence of the REF as follows: -3 (the REF has greatly decreased this); -2; -1; 0 (the REF has had no influence); 1; 2; 3 (the REF has greatly increased this).

The majority of researchers stated that, at an individual level, the REF has not influenced their own research (Figure 2). This highlights a disconnect between the perceived impact on others and the real influence individuals perceive on themselves. The trends observed in the national study reflect findings from the longitudinal sample. The longitudinal sample showed no changes over time in respondents' perceptions of the impact of the REF on their own research activities.

The use of the REF as a policy lever, and a driver of change and behaviour, is often cited by some in the higher education sector as a benefit of the REF. For example, elements

cited as benefits include the assessment of impact introduced in the 2014 assessment and in the current exercise; the drive for open access; and the importance for the equality, diversity and inclusion (EDI) agenda. Others in the higher education sector believe that these 'add-ons' are beyond the scope of the exercise and that funding bodies should *trust* that institutions have processes in place to deliver these agendas over time. However, we believe that these endeavours are enhanced by collective agreement and action across all funders, rather than being the responsibility of one element of the system.

Figure 2: Proportional representation of survey respondents' views on the influence of the REF on their own research



Note: For each aspect, survey respondents were asked to score the influence of the REF as follows: -3 (the REF has greatly decreased this); -2; -1; 0 (the REF has had no influence); 1; 2; 3 (the REF has greatly increased this).

Changes to the REF for 2021 and preparations for assessment

The majority of academics (based on the survey and focus groups) perceive that changes to the rules for REF 2021 are positive for them. This positivity was echoed when academics compared REF 2021 with previous research assessment exercises, such as REF 2014. In principle, the changes recommended were well intentioned, and some academics were of the view that certain changes, in particular to the rules around the selection of staff and outputs, may have helped to reduce game playing, although some academics did not see an impact on game playing. Early career researchers feel, more than more-established researchers, that changes to the REF affect the expectations, both positive and negative, placed on them.

The trends observed in the national study reflect findings from the longitudinal sample. Looking at the longitudinal survey, we observed no change observed across two years in the positive view regarding all staff submission (namely, that research-intensive staff should be submitted with an average of 2.5 outputs), selection of outputs and open access. However, changes were observed across two years in two elements. Specifically, mildly positive views expressed in 2018 regarding the shift in impact weighting from 20 to 25 per cent had become mildly negative two years later. Furthermore, researchers expressed less-positive attitudes towards the REF's approach to the submission of interdisciplinary outputs in the current measurement than they did in the initial pilot conducted in 2018.

Box 1: Support mechanisms for the REF in HEIs

Activities perceived to be helpful included:

- Feeling supported in your research activities related to REF 2021
- Having your views on how to approach REF 2021 listened to
- Having the importance of research quality, environment and impact beyond assessment in REF 2021 communicated
- Alignment of workload to REF 2021
- Feedback on contributions to REF 2021
- Review of outputs
- Support for writing impact case studies
- Mentoring or support from colleagues
- Training events

Activities perceived to be harmful included:

- Receiving instructions to change research agenda
- Comparing one's contributions to those of colleagues
- Outlining concrete performance goals
- The creation of new contracts
- That the REF was used as a basis for hiring decisions at institutions
- Mock REF exercises, which are burdensome

The evolution of the exercise from 2014 to 2021 is broadly seen as positive by academics, in particular the move away from the individual towards a collective and team-based approach.⁵ Academics (from the focus groups) perceive that institutional responsibility is stressed through creating the environment and conditions within which great research and impact can happen and that this is an important shift to continue to build on.

Researchers, institutional leaders and research managers described a range of support mechanisms⁶ to prepare for the REF at their institutions – which differ largely depending

on the size of the institution – and some are seen as helpful and others as harmful. Helpful approaches were highlighted as being carried out more commonly. Examples are given in Box 1.

In general, across all of the stakeholders, there is openness to change for future exercises, but also a desire to know what is coming. For example, several academics and institutional leaders stressed that the rules should be stated early, be clear, and not undergo changes during a cycle. Therefore, in future rounds it would be important to act quickly and provide clarity to

5 REF 2021 incorporates changes to the rules that aimed to make the exercise more inclusive and to focus on the performance of units of assessment and the institution rather than individual researchers, compared with REF 2014. See Chapter 3 for more detail on changes to the rules of the REF.

6 Examples of support mechanisms raised by focus group participants and interviewees included: review of outputs by academics (internal or external to their HEI) and research officers; technical support and funding to develop impact case studies; mentoring or support from those who have previously been through the process; training, e.g. on open access, choosing the right journals, preprints, and understanding REF policies; management processes to prepare for the REF; contract, hiring and promotion decisions.

the sector as early as possible, and to make the rules as simple as possible.

We believe there is a need for funders to engage with the academic community to create understanding and buy-in. The existing rules of the exercise are perceived to have become very complex, and this is often for good reasons, such as to better accommodate different circumstances. However, there may be an argument for a simpler but less nuanced approach to the exercise (i.e. the many layers of rules for different elements of the submission and to accommodate different circumstances), as this complexity is driving some of the burden of the process, as well as the perceived lack of clarity and understanding.

General attitudes towards the REF

The majority of researchers reported that the detrimental qualities of the REF are negative for them and that, overall, the REF has a negative influence on UK researchers. Researchers working in research-intensive HEIs perceived more of a negative impact on the research community compared with colleagues in less research-intensive institutions. Respondents from Arts and humanities disciplines (Main Panel D)⁷ felt most strongly about the negative influence of the REF, while those in Physical sciences, engineering and mathematics (Main Panel B) were least negative. The big driver of negative attitudes is the burden of the exercise, and specifically that the burden is perceived to outweigh the benefits. Related to this, some participants questioned whether the REF overlaps with other assessments undertaken at other stages of the research cycle, e.g. peer review in grant application and journal

publication processes. There is also a lack of understanding among academics across the four Main Panels of what the REF is trying to achieve (i.e. its purpose). It would be important for the UK funding bodies to set out clearly the purpose and desired outcomes of the REF (and align the approach of the exercise to that); a better understanding of this purpose might help mitigate the perceptions of burden. The negative perceptions of the REF may also in part be driven by how institutions and individual academics interpret the REF rules and the processes institutions put in place to implement these rules. Throughout our focus groups, we found a lot of misconceptions of what was and was not allowed in the REF, as well as 'myths' through which academics misinterpret the REF and its rules. Looking at the longitudinal data across two years, the views of researchers on beneficial and detrimental qualities of the REF are broadly aligned with trends observed in the main survey. We found no significant change in researchers' opinion on the perceived benefit or costs of the REF on their own activities.

Although general perceptions are negative about the REF as a concept, views on specific aspects and influences of the REF are more mixed and nuanced. A minority of academics and institutional leaders raised several positive aspects of the REF. These included impacts on individuals (e.g. the REF values different types of research and the REF has led to positive promotion and hiring decisions) and impacts on the HEI sector in the UK (e.g. the REF has contributed to wider university strategy, the REF has contributed to a drive on quality over quantity and the REF has facilitated increased investment and funding).

7 Assessment for the REF is grouped under four main panels that group different areas of research: Main Panel A (Medicine, health and life sciences); Main Panel B (Physical sciences, engineering and mathematics); Main Panel C (Social sciences); and Main Panel D (Arts and humanities).

Looking to the future of the REF

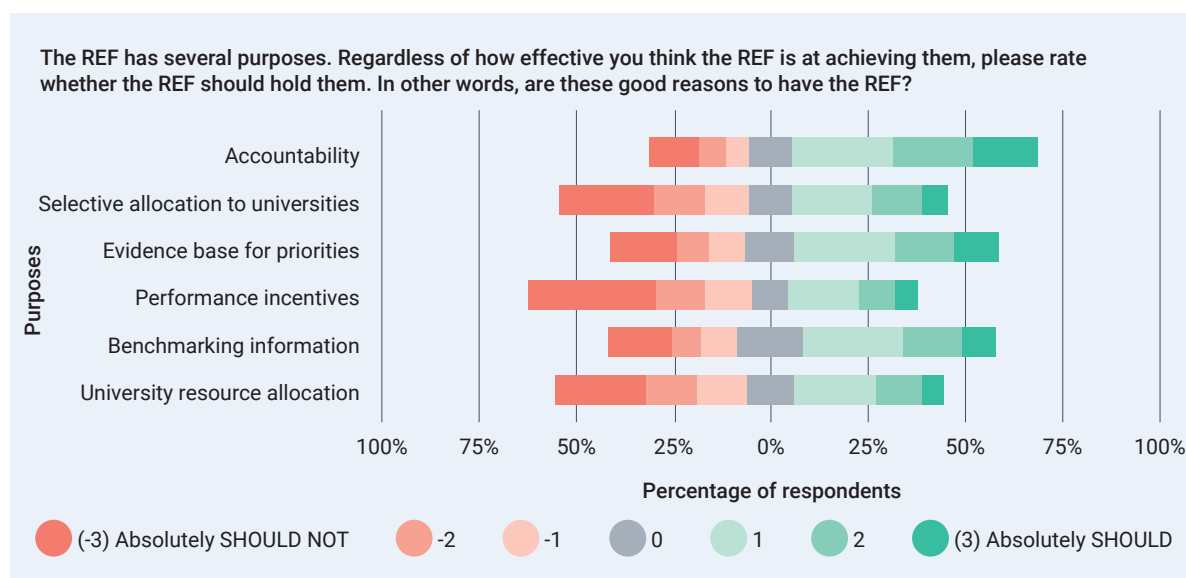
There are a range of views on what the purpose of the REF should be. Responses to the survey indicated divergent views on the appropriateness of the different stated purposes of the REF. Overall, the top three preferred purposes were: accountability, evidence base for priorities, and benchmarking information (Figure 3). The majority of respondents stated that the REF should not have the other three purposes of creating a performance incentive for individuals and HEIs, guiding the allocation of resources within HEIs or informing the allocation of funding to HEIs for research. Compared with those from other disciplines, researchers from Arts and humanities (Main Panel D) were least likely to endorse all purposes, except for accountability, about which they reported feeling neutral. When asked about the purpose of the REF in focus groups and interviews, academics generally reported a lack of clarity around the purpose of the REF. Although the purposes may hold different weights, going forward, it is

important to be explicit about the purpose of the exercise to ensure the sector are clear on its value and can put the burden into context.

The views of researchers in the longitudinal sample on purposes of the REF are broadly aligned with trends observed in the main survey. For most purposes, individuals' views were consistent across two years. Researchers continued to endorse accountability for public investment and disagree with the REF being used by HEIs to inform decisions on resource allocation. Researchers were consistently neutral on the REF being used to drive the selective allocation of funding to HEIs, and for its use to provide benchmarking information.

However, two views changed across two years. Respondents were more likely to endorse the view that the purpose of the REF should be to provide an evidence base to inform strategic national priorities (whereas they were neutral on this issue in 2018). Conversely, the use of the REF as a performance incentive was seen as more negative across the two years of the study.

Figure 3: Survey respondents' views on the appropriateness of REF purposes



Note: For each aspect, survey respondents were asked to score the purpose of the REF as follows: -3 (the REF should not hold this purpose); -2; -1; 0 (neutral); 1; 2; 3 (the REF should hold this purpose).

There are divergent views on what the future of the REF should be. Views on the future of the REF ranged from recommendations on what, if anything, should change, to a plea for the abolition of the REF. There is a call from the sector to simplify the exercise, and make it more light touch and less burdensome. There are a range of ways the REF could be altered following the 2021 exercise. These include changes to the timing and frequency of assessment; use of metrics or more qualitative assessment; use of a selective or inclusive exercise; focus on outputs, impacts or environment/culture.

Based on evidence from the survey and focus groups, there is a need for further research and consultation with the sector on the ways to take the exercise forward – for example, looking at international comparisons to learn from other systems to allocate funding and conduct national assessments, as well as considering the options and associated trade-offs of the alterations listed above. If over the past 40 years the REF (and previous exercises of the Research Assessment Exercise and Research Selectivity Exercise) has achieved the objective of raising the quality of UK research, is it necessary to measure this anymore, or could the exercise focus on creating a culture

and environment within HEIs to maximise high-quality research and impact in the 21st century?

This real-time evaluation has allowed a comprehensive analysis of attitudes and perspectives towards the REF across disciplines, career stages and types of institution. In general, overall attitudes and perspectives of the sector towards the REF are mixed, and the picture depends on personal experiences and context. When asked about specific elements, many researchers can identify elements which have increased as a result of REF, and which they view as positive (e.g. the assessment of impact introduced in the 2014 assessment and in the current exercise; the drive for open access; and the impact on the EDI agenda). However, views of the abstract concept of the REF are generally mildly negative and mixed. The longitudinal sample has enabled us to assess changes in attitudes across time. This has been valuable, particularly in this area, where there appears to be a lag in changing attitudes and a reliance on information and hearsay informed by previous exercises that can lead to outdated and incorrect information. It will be interesting to rerun this study in coming years and see how attitudes shift, or not, over time.

Preface

Research England, on behalf of the four UK higher education funding bodies,⁸ commissioned RAND Europe, together with the University of Cardiff and the University of Sheffield, to conduct a real-time evaluation of attitudes and perspectives of the sector towards REF 2021. The specific objectives of this study are to: (1) assess attitudes, perspectives and behaviours towards REF 2021 across the sector; (2) explore how REF policies and changes are embedded in the way submissions are prepared and delivered; and (3) expand and build on the findings of the pilot study conducted in 2018.

This report provides an in-depth analysis of the data gathered. It is intended for those responsible for the REF and, more broadly, for those in the higher education sector. It may also be of interest to others working in the evaluation of research assessment and research impact.

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8 Research England; the Higher Education Funding Council for Wales (HEFCW); the Scottish Funding Council (SFC); and the Department for Employment and Learning, Northern Ireland.

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Abbreviations

| | |
|---------|--|
| ECR | Early career researcher |
| EDAP | Equality and diversity advisory panel |
| EDI | Equality, diversity and inclusion |
| HEI | Higher education institution |
| LRI | Less research-intensive |
| MCR | Mid career researcher |
| MP | Main panel |
| NS | Non-significant |
| UOA | Unit of assessment |
| REF | Research Excellence Framework |
| RI | Research-intensive |
| SIGRESS | Significant responsibility for research |
| STEM | Science, Engineering, Technology and Mathematics |
| QR | Quality-related |
| UKRI | UK Research and Innovation |

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1 Introduction

1.1. Background to REF 2021

The Research Excellence Framework (REF) is an evaluation system for assessing the quality of research in UK higher education institutions (HEIs). The REF assesses research excellence on the basis of three main criteria: the quality of research outputs, the wider impact of research and the vitality and sustainability of the research environment (REF 2019). The REF is the latest iteration of the exercise since the UK first introduced a national research assessment exercise in 1986. The research assessment exercise assessed research excellence in HEIs by the quality of research outputs and other measures of the research environment (RAE 2005). The REF also assesses research excellence based on the quality of research outputs and the vitality of the research environment, and for the first time it also assesses the wider non-academic impact of research, as it is important to recognise wider societal benefits resulting from publicly funded research.

The REF first took place in 2014, and feedback from the sector indicated that they considered that it acted as a driver of the quality of research (Stern 2016). However, in response

to concerns from the sector about the significant costs and burdens of the exercise (estimated at £246m), an independent review was commissioned in 2016 to examine how to make the exercise more effective and efficient (Stern 2016). Following the 2016 Stern Review, as well as further rounds of consultation with the sector, the UK higher education community have now made their submissions on 31 March 2021.⁹ The REF is being undertaken by the four UK higher education funding bodies¹⁰ and is managed by the REF team at Research England.

The Stern Review highlighted that the REF serves six main purposes for the research community (Stern 2016):

1. Supporting the allocation of around £2bn of quality-related (QR) funding per year
2. Informing strategic decision making about national research priorities
3. Providing an accountability mechanism for public investment in research
4. Creating performance incentives for HEIs and individual academics
5. Giving HEIs information to inform decisions on resource allocation

⁹ The exercise was originally due to take place in 2020 but was paused as a result of the COVID-19 pandemic.

¹⁰ Research England; the Higher Education Funding Council for Wales (HEFCW); the Scottish Funding Council (SFC); and the Department for Employment and Learning, Northern Ireland.

6. Providing a periodically updated reputational benchmark, which may be especially important for less known HEIs

The Stern Review proposed reforms to improve the REF exercise, so it could continue to serve these purposes, while reducing its overall burden on institutions and individuals, and limiting negative effects on research cultures and careers (REF 2019). Several of these reforms have been implemented for REF 2021. Key changes implemented are provided below. The full set of recommendations is provided in Annex H.

- Eligibility criteria for submissions: Each HEI participating in REF 2021 must return all eligible staff with 'significant responsibility for research'.
- Selection of outputs to be submitted to the REF: The submitted pool of outputs should include a minimum of one and a maximum of five for each Category A¹¹ submitted staff member.
- Approach to impact as measured by the REF: There is an increase in the weighting for the impact element, from 20 per cent to 25 per cent of the overall exercise.
- Open access research practices: The funding bodies have introduced a policy requirement on open access in REF 2021 that applies to journal articles and conference contributions (with an International Standard Serial Number (ISSN)).
- Submission of interdisciplinary outputs: Provisions exist within the REF panels to support the assessment of interdisciplinary research outputs. Measures include: an Interdisciplinary Research Advisory

Panel (IDAP) to advise on process and provide advice and support for cross-panel collaboration; a definition of interdisciplinary research for the REF in order to better enable HEIs to identify interdisciplinary outputs at the point of submission; and additional guidance for the subpanels on assessing interdisciplinary research outputs according to the generic assessment criteria for outputs.

Despite its importance in shaping research cultures, there is little systematic evidence about perceptions and attitudes towards the REF across the sector, and which aspects are viewed favourably or unfavourably. A pilot study published in 2019 examined the feasibility of a longitudinal evaluation of researchers' perceptions and attitudes towards REF 2021 at four institutions in the UK: University of Sheffield, Cardiff University, University of Sussex and University of Lincoln (Weinstein et al. 2019). The current study expands and builds on the pilot, providing a longitudinal analysis on how views have changed over time, as well as capturing the views of a broader cross-section of individuals within the academic sector. By conducting the review in real time, alongside preparations for the exercise, the study aims to help accelerate the process of learning and revision post-REF 2021 and provide more clarity and perspective on the future of the REF to institutions at an early stage for the next round of assessment. The study also aims to provide an early contribution to the evidence base in anticipation of a potential reform of the REF that was requested by the UK government (BEIS and Solloway 2020), and a time of reflection and evaluation following the completion of the REF exercise.

11 Category A eligible staff are defined as academic staff with a contract of employment of 0.2 (full-time equivalent) FTE or greater, on the payroll of the submitting institution on the census date, whose primary employment function is to undertake either 'research only' or 'teaching and research'.

1.2. The aims of this evaluation

The overarching aim of this work is to conduct a real-time evaluation of attitudes and perspectives of the sector towards REF 2021. The specific objectives of this study are set out below.

1. Assess attitudes, perspectives and behaviours towards REF 2021 across the sector.
2. Explore how REF policies and changes are embedded in the way submissions are prepared and delivered.
3. Expand and build on the findings of the Real-Time REF Review pilot study published in 2019.

1.3. Overview of evaluation approach and methodology

The overall approach to this evaluation is summarised in Figure 4. We adopted a mixed-methods approach to address the objectives of the study.

We first developed a sampling strategy to recruit HEIs (see Annex A for a description of the sampling strategy). We developed a sample of 25 HEIs across the UK that was stratified by geography and institution size.

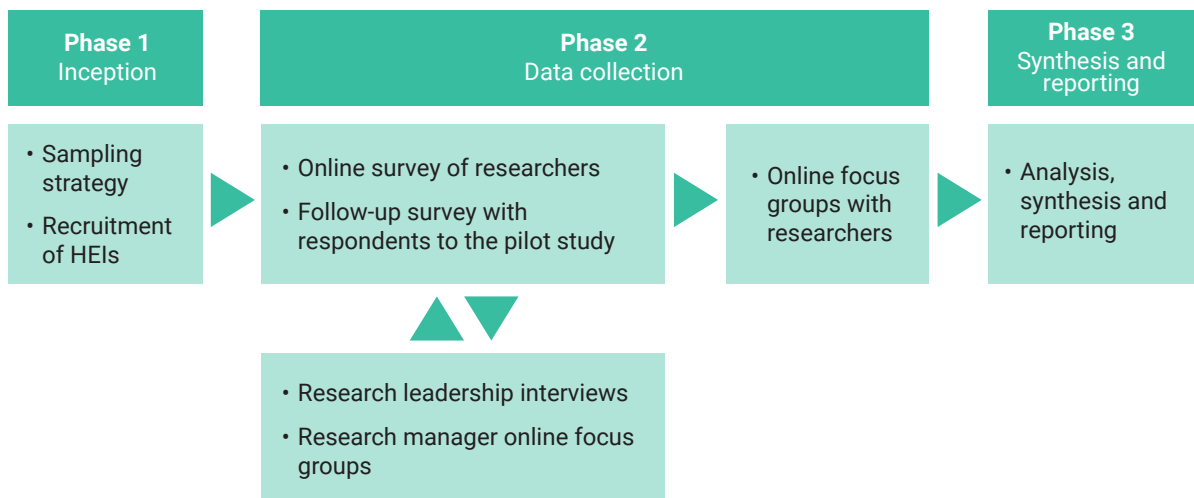
During the main data collection phase, we conducted two online surveys of a total of 3,080 researchers (a national survey of researchers across the UK (2,934 respondents) and a longitudinal survey of researchers from the four pilot study HEIs¹² (146 respondents)); two online focus groups with 12 research managers; 15 one-to-one interviews with 19 institutional leads; and 23 online focus groups with 95 researchers. The number and categories of stakeholders we spoke to are outlined in Table 1. Key areas explored in the survey are provided below. The full survey protocols are provided in Annexes B and C.

- Perceived influences of the REF on the research activities undertaken by the academic community
- Changes to REF 2021 and the extent and benefits of their influence
- General attitudes towards the REF – perceived benefits and challenges
- Approaches at institutions to prepare for the REF – perceived benefits and challenges
- Perceptions on the purpose of the REF

We analysed the evidence from the survey, focus groups and interviews to develop a set of key messages. This was complemented by a thematic analysis of focus groups and

Table 1: Overview of stakeholder categories and numbers

| Stakeholder category | Method of engagement | Number of individuals |
|-----------------------|--------------------------|-----------------------|
| Research managers | 2 online focus groups | 12 |
| Institutional leaders | 15 one-to-one interviews | 19 |
| Academics | 23 online focus groups | 95 |
| | 2 online surveys | 3,080 |

Figure 4: Overview of the evaluation approach

interviews. Key findings and observations from the qualitative work complemented and added to the survey findings (see Annexes D, E and F for the focus group and interview protocols and Annex G for the NVivo codebook).

During the writing-up of the report, to ensure representation of themes across focus groups and interviews, it was noted which focus groups and interviews commented on which point. However, following quality assurance and finalisation of the report, this information has been removed for readability and accessibility.

Data collection took place between October 2020 and January 2021, while preparations for REF 2021 were in the process of being finalised. We engaged with individuals from a total of 112 HEIs across the UK. The survey received 3,080 responses from across the UK, representative across geography and institution size¹³ (see Section A.1.1 in Annex A for a detailed analysis of the representativeness of the sample). It should be noted that this period occurred following a pause to the REF exercise as a result of the

COVID-19 pandemic, and that the pandemic may have influenced responses to the study (e.g. as a result of unexpected changes to workload).

The tasks and methods used are described in detail in Annex A. The protocols for the different data collection methods and analyses are provided in Annexes B–G.

1.4. Limitations of the study

By using a mixed-methods approach, we aimed to build on some of the strengths of individual methods and limit the weaknesses to the study. Using a range of methods allowed for the gathering of wide-ranging evidence that could be triangulated to form robust conclusions. Despite this, it is worth noting the limitations of the individual methods.

Due to the timing of the study, i.e. coinciding with the final stages of submission to REF, some HEIs invited to take part declined. Therefore, although our final sample was broadly representative across geography,

13 HEIs were categorised as 'research-intensive' or 'less research-intensive'. Research-intensive HEIs were categorised as the top fifth of HEIs that received the highest level of research income from 'funding body grants'.

size and discipline, research-intensive institutions, who receive the majority of funding allocated from the outcome of REF, are underrepresented. However, those who did participate provided many academics from a range of disciplines, so the overall number of academics in each category (see Table 22 in Annex A) are relatively even.

Although the survey received 3,080 responses from across the UK and has representation across career stage, discipline, type of institution and other attributes, response rates from academics to the survey varied across HEIs. However, we have not used institution as a category on which to split the data. In addition, it is important to note that the survey is not necessarily representative of all views, and that some views may be over- or underrepresented. For example, those who have strong views towards REF may feel more motivated to respond to the survey. Finally, the survey captures perceptions that are likely to be based on researchers' personal experiences (rather than being objective measures).

We should note possible bias in focus group participation. Those completing the survey were asked if they were prepared to be contacted about participating. Therefore, the focus group sample consisted of those who had completed the survey and were inclined to be further involved, and who were perhaps those with stronger views.

Since we employed a semi-structured interview protocol, not all questions were addressed to

each interviewee or focus group. The focus groups were split between two researchers from the study team, and therefore different interview styles were used. In order to minimise the effects of this variation, the pairs were mixed up to ensure that all three junior researchers worked with the two senior researchers.

The focus groups were written up as a summary of the discussions rather than a verbatim transcript of the conversation, and this is one point at which information could have been lost; others are the coding and analysis stages. There were three researchers coding the notes, and therefore variations in coding style were visible. We aimed to mitigate the effect of this on the analysis by means of regular meetings with the coding team to discuss queries and provide an agreed-upon standard of coding practice.

1.5. Outline of the report

The remainder of the report is structured around the key research areas that were part of the evaluation. Chapter 2 presents findings on the influence of the REF on researchers and the research community; Chapter 3 presents findings on changes to the REF for 2021 and preparations for assessment; Chapter 4 presents findings on general attitudes towards the REF; Chapter 5 examines views on the future of the REF; and Chapter 6 provides a discussion of our key findings and concluding thoughts.

2 The influence of the REF on researchers and the research community

The researchers responding to the survey and the academics, research managers and institutional leaders who participated in the qualitative research were asked to provide their views on a range of areas that REF might influence within academic research. These included:



Quantity of outputs: the number of outputs produced



Quality of outputs: including originality, significance or rigour of research



Interdisciplinary working practices: the propensity to collaborate



Public relevance of research: the relevance for culture, society and/or the economy



Novelty of research: for example, pursuing 'blue sky'¹⁴ research, which may not yield predictable outcomes



Open research practices: including making published work, methodology evidence and/or data widely available



Integrity of research practices: including cautious and conservative analysis and science communication



Authenticity of research as an expression of the researcher's/ research community's intellectual interests in terms of how the work is an authentic expression of the community's intellectual interests and agenda rather than reflecting other drivers



'Game playing': for example, staff recruitment, embellishment of impact

Respondents to the survey provided their views on these aspects in relation to their own research and in relation to their wider research community separately (with the exception of 'game playing', which was only asked in relation to the research community). In contrast, the qualitative discussions focused on the views, the context of these views and, potentially, the reasons for these views. The following subsections explore the key findings from these data sources, with respect to researchers' views on their own practices and on those in their research community.

The key findings are provided in the box below.

Key findings on the influence of the REF on researchers and the research community

- The majority of views on the influence of the REF on academic research and the research community are mixed.
- The majority of researchers believe that the REF has increased open research, the public relevance of research, and the quantity of research in the research community.
- The majority of researchers believe that the REF has increased game playing in the research community.
- The most commonly held view of researchers is that the REF has no influence on interdisciplinarity, quality of research and integrity of research in the research community.
- The majority of researchers believe that the REF has decreased the authenticity and novelty of research in the research community.
- The majority of researchers stated that, at an individual level, the REF has not significantly influenced their own research.

2.1. The majority of views on the influence of the REF on academic research and the research community are mixed

Looking across the responses to the survey, we note that REF has, in general, a mild influence on the wider research community,

with mean responses between -1 (the REF has slightly decreased this area) and +1 (the REF has slightly increased this area), where 0 represents a neutral view and +/-3 represent very strong attitudes. The exception was game playing, where the mean was significantly higher, at 1.95 – a strong attitude (Table 2).

Table 2: Mean response and overall sample sizes for survey respondents' views on the influence of the REF on their research community

| Area of influence | Mean | n= | Statistical significance |
|---------------------|-------|-------|--------------------------|
| Quantity | 0.79 | 2,666 | ** $d = 0.62$ |
| Public relevance | 0.54 | 2,597 | ** $d = 0.45$ |
| Open research | 0.93 | 2,648 | ** $d = 0.77$ |
| Game playing | 1.95 | 2,636 | ** $d = 1.55$ |
| Interdisciplinarity | 0.02 | 2,635 | $d = 0.04$ |
| Quality | 0.21 | 2,674 | ** $d = 0.21$ |
| Integrity | -0.23 | 2,519 | ** $d = -0.12$ |
| Novelty | -0.79 | 2,619 | ** $d = -0.52$ |
| Authenticity | -0.75 | 2,550 | ** $d = -0.50$ |

Note: Mean responses are adjusted for main panel, career stage and research intensiveness of the HEI. **Key:** ** = $p < .001$. d = Cohen's effect size.¹⁵

Looking at each area of influence individually, we note that, overall, responses to the influence of the REF on the research community are mixed (Figure 5). These can be grouped into three main types of response:

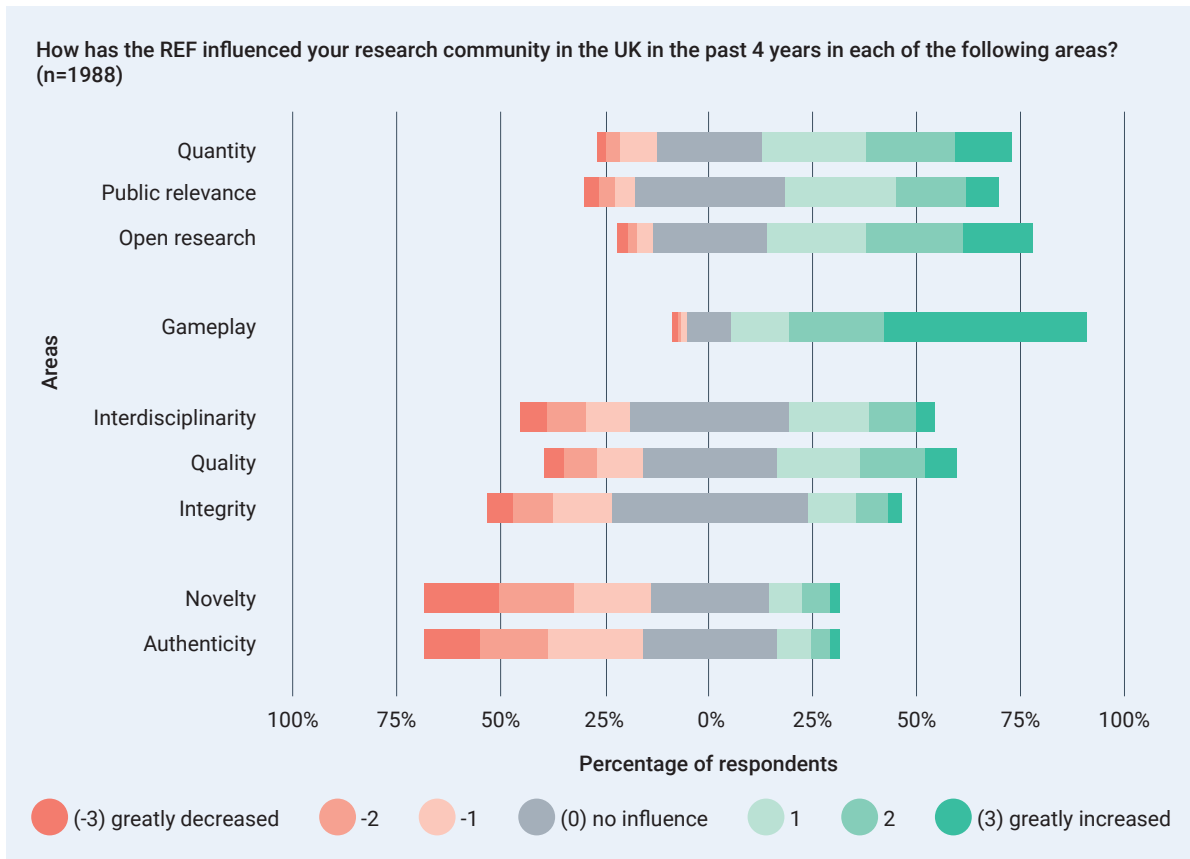
1. Areas where the majority of respondents indicated that the REF has increased these to a lesser or greater extent within their research community (quantity of research, the public relevance of research, open research practices and game playing).
2. Areas where the responses were balanced across the scale, with relatively even proportions of respondents indicating that the REF had decreased/increased

and with the most common response option chosen being the neutral position (interdisciplinarity, quality of research and integrity of research).

3. Areas where the majority of respondents indicated that the REF has decreased these to a lesser or greater extent within their research community (novelty and authenticity).

Each of these is discussed in detail in Sections 2.1.1 to 2.1.4 below. In addition, the following sections will comment on the views on the influence of the REF, separated by Main Panel, career stage and research intensiveness of the HEI where relevant.

Figure 5: Proportional representation of researchers' views on the influence of the REF on the research community



Definitions: Quantity of outputs: the number of outputs produced. Quality of outputs: including originality, significance or rigour of research. Interdisciplinary working practices: the propensity to collaborate. Public relevance of research: the relevance for culture, society and/or the economy. Novelty of research: for example, pursuing blue sky research that may not yield predictable outcomes. Open research practices: including making published work, methodology, evidence and/or data widely available. Integrity of research practices: including cautious and conservative analysis and science communication. Authenticity of research as an expression of the researchers/research community's intellectual interests: in terms of how the work is an authentic expression of the community's intellectual interests and agenda rather than reflecting other drivers. Gameplay: for example, staff recruitment, embellishment of impact.

Note: For each area, survey respondents were asked to score the influence of the REF as follows: -3 (the REF has greatly decreased this); -2; -1; 0 (the REF has had no influence); 1; 2; 3 (the REF has greatly increased this). The same scoring criteria apply to all figures presented in this chapter.

Looking at those who completed our survey in 2018 and again in 2020, we observed no changes in perceptions over time (Table 3).¹⁶ Much like the national survey, the longitudinal

sample (when surveyed in 2018 and 2020) viewed the REF to have its biggest influence on game playing.

16 Small effect sizes, of $d = .10$ or smaller in change across time for each type of REF impact.

Table 3: Survey respondents’ views across two years on how the REF has influenced the research community in the UK

| Area of influence | Mean (2018) | Mean (2020) | Statistical significance |
|--------------------------------------|-------------|-------------|--------------------------|
| Engage with policymakers | 1.09 | 1.04 | NS |
| Seek to change the community | 1.56 | 1.76 | NS |
| Pursue risky blue sky research | -1.32 | -1.39 | NS |
| Pursue incremental research | 0.70 | 0.72 | NS |
| Engage in interdisciplinary research | 0.01 | -0.12 | NS |
| Engage in open research practices | 1.15 | 1.04 | NS |
| Undertake research with integrity | -0.23 | -0.40 | NS |
| Engage in game playing | 2.24 | 2.20 | NS |

Note: Statistical significance tests compare the change in participants’ responses from 2018 to 2020. **Key:** NS = non-significant.

2.1.1. The majority of researchers believe that the REF has increased open research, the public relevance of research, and the quantity of research in the research community

The majority of respondents to the survey believe that the REF has increased open research, the public relevance of research, and the quantity of research in the research community to a moderate or great extent (Figure 6).

However, the views are not evenly distributed across disciplines or type of institution, as shown in Table 4. There is no statistically significant difference when we compare responses across the three career stages. The views that are statistically significantly different from each other are described below, as well as findings from the qualitative research – through interviews and focus groups.

Figure 6: Proportional representation of survey respondents’ views on the influence of the REF on quantity of research, public relevance of research and open research in their research community

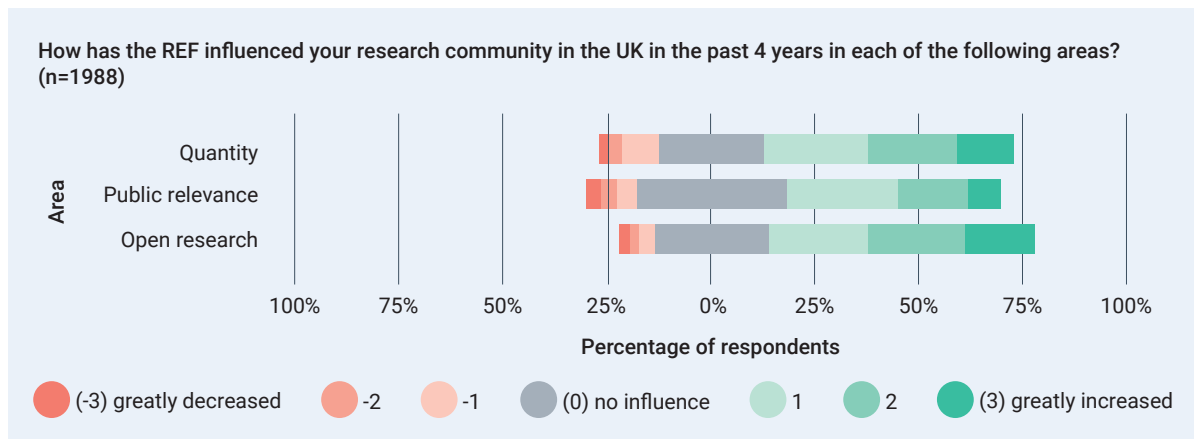


Table 4: Mean responses and sample sizes for survey respondents' views on the influence of the REF on quantity, public relevance and open research in their research community by main panel, career stage and research intensiveness of the HEI

| Category | Quantity | | | Public relevance | | | Open research | | |
|--------------------------|----------|-------|--------------------------|------------------|-------|--------------------------|---------------|-------|--------------------------|
| | Mean | n= | Statistical significance | Mean | n= | Statistical significance | Mean | n= | Statistical significance |
| Main Panel A | 0.66 | 728 | **C,D | 0.66 | 701 | *B | 1.19 | 735 | *C |
| Main Panel B | 0.66 | 590 | **C,D | 0.41 | 566 | *A, **D | 1.05 | 583 | NS |
| Main Panel C | 1.12 | 864 | **A,B | 0.51 | 855 | **D | 0.94 | 855 | NS |
| Main Panel D | 1.10 | 456 | **A,B | 0.86 | 448 | **B,C | 1.01 | 448 | NS |
| Early career researchers | 0.98 | 635 | NS | 0.61 | 608 | NS | 1.00 | 623 | NS |
| Mid-career researchers | 0.86 | 903 | NS | 0.54 | 874 | NS | 1.05 | 891 | NS |
| Established researchers | 0.82 | 1,100 | NS | 0.69 | 1,088 | NS | 1.11 | 1,107 | NS |
| Less research-intensive | 0.93 | 1,422 | NS | 0.69 | 1,381 | * | 1.08 | 1,412 | NS |
| Research-intensive | 0.84 | 1,216 | NS | 0.53 | 1,189 | * | 1.02 | 1,209 | NS |

Key: * p < .01. **p < .001. NS = non-significant.

Researchers in Social sciences and Arts and humanities (Main Panels C and D) perceive a greater influence of the REF on increasing the number of outputs or publications produced (**quantity**) than do researchers in Medicine, health and life sciences and those in Physical sciences, engineering and mathematics (Main Panels A and B).

Six academic focus groups discussed the influence of the REF on quantity of outputs. Participants from focus groups stated that REF rewards volume through the need to produce a certain number of outputs to be submitted. Therefore, to avoid the risk of not having any outputs to submit, journal articles were more achievable than outputs that took more time to curate – such as books. One academic suggested that there should be a reduction in the number of outputs required or recognition of

a wider range of outputs as being valuable (e.g. including books). One interviewee stated that the changes surrounding the selection of outputs in REF 2021 have created more pressure for fewer staff to produce a high quantity of outputs. Some academics mentioned that the REF has incentivised producing fewer but higher-impact and -quality papers.

Respondents from Arts and humanities (Main Panel D) appeared to be stronger in their views that the REF had increased the **public relevance** of their research (for culture, society and/or the economy) when compared with respondents from Physical sciences, engineering and mathematics and Social sciences (Main Panels B and C). In addition, respondents from Medicine health and life sciences (Main Panel A) had stronger views that REF has increased the public relevance of

research than Physical sciences, engineering and mathematics (Main Panel B).

Ten academic focus groups discussed the influence of the REF on the societal impact of research. In agreement with the survey, participants from focus groups and interviewees who discussed societal impact often thought that a key positive aspect of the REF has been to increase recognition and valuing of the societal relevance of research alongside high-quality research. The focus on impact, through the impact case studies, has helped researchers and institutions to focus and to plan research and activities early on towards achieving impact (such as engaging with a wide range of stakeholders). Some stated that impact case studies enabled academia to demonstrate the benefit of public funding to the public, and be accountable. In addition, respondents stressed the importance of the REF valuing and recognising impactful research that is scientifically sound but did not produce world-leading publications, and they expressed their appreciation that this type of activity was not previously valued by institutions or other academic colleagues.

Although others recognised that striving for societal impact is good in principle and recognised the need to show accountability, multiple academics and interviewees raised issues with the impact element of the REF and the linear model of impact that is often interpreted by the template of the impact case study (REF3B) (which does not necessarily reflect pathways to impact). There was a feeling that some areas of research (e.g. basic scientific research, some areas of Arts and humanities) do not produce 'societal impact' and that it is easier to demonstrate impact in some disciplines (or fields within a discipline)

than it is in others – and that there therefore should not be a standardised definition used across disciplines.

There was a concern from some participants and interviewees that the inclusion of impact in REF meant impact had become a target rather than driving genuine impact. There was criticism that the definition of impact¹⁷ was not broad enough to capture all types of impact (such as impact from teaching) and that only some research produces the types of impact that are measurable in a short timeframe. Some participants stated that, as a result, REF favours more applied and less blue sky research and encourages short-term, incremental improvement research rather than innovative creative thinking (which is more risky but potentially higher reward), and that REF thus incentivises HEIs to concentrate on established areas of research, rather than nurturing emerging areas. Finally, there was frustration at the creation of impact case studies and collecting of supporting evidence solely used for the purpose of assessment in REF. Several academics mentioned the burden in terms of collecting evidence and a frustration that delivering activities to generate and evidence impact was beyond what should be required of an academic, whose role it is to develop knowledge.

Researchers generally had stronger views that **open research** practices had increased as a result of the REF, when compared with the views shared on quantity and public relevance (Table 4). Respondents from Medicine, health and life sciences (Main Panel A) think that the REF has a greater influence on open research practices, including making published work, methodology, evidence and/or data widely

17 In the REF, impact is defined as 'an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia' (UKRI 2021).

available, compared with those from Social sciences (Main Panel C).

There was agreement from nine of the academic focus groups that discussed open research that, in principle, the concept is good for the sector. As suggested by one academic: *'The REF is a good vehicle for making the point that open access should be the industry standard...open access has been one of the benefits.'* For example, focus group participants highlighted the value and importance of making the outcomes of publicly funded research available and raising the visibility of research to as broad an audience as possible – including other researchers and members of the public. However, there were mixed views on the role of the REF and impact of its influence on the open research agenda. Some academics and research managers stated that the REF had accelerated the process of embedding open access, the open research agenda, and the reproducibility of research in their institution by mandating that research outputs (specifically journal articles and conference contributions with an ISSN) should be made open access for those outputs to be eligible for submission in REF 2021. For instance, one participant said that their HEI had been pushing for open access since the early 2000s, but that the REF gave the institution the necessary incentive to comply.

On the other hand, some participants worried that mandating open access for REF outputs created inequality and a barrier for some researchers, institutions and disciplines. With journal fees for publishing open access ranging up to \$5,000, it is not affordable for all researchers to publish wherever they want. One academic stated: *'in principle [open access] is a positive change which has merit, but it is quite challenging in terms of how journals function and what this means for institutions, and journals are a part of the financial process and budget.'* This has a particular impact on

less research-intensive HEIs with less central funding available for publication and on the humanities and the social sciences, where there is a less public funding for research (and by extension funding for publication). In addition, there was concern that institutions are gauging whether it is 'worthwhile' paying the open access fee i.e. whether the output will be part of their REF submission, which in turn drives what is seen as high quality. Some academics worried that the focus on open access outputs stifled collaboration with researchers in low- and middle-income countries, where journal publishing costs were prohibitively high for overseas researchers to contribute to, and for early career researchers compared with more-established researchers (the former of whom typically have access to less funding). There was also confusion, particularly in the panels Social sciences and Arts and humanities, over whether monographs and other long-form publications had to be open access – with participants pointing out that this was at odds with publishers' business models and noting their belief that this would make them ineligible for REF selection. As stated by one academic: *'The issue of funding around open access is troubling especially when you are dealing with books.... The problem is the way that books are published. [Historians] write books for the biggest possible audience. To get this kind of publishing contract, all publishers care about is making money, so they will not want to publish open access.'*

There was concern from institutional leaders and research managers that open access is likely to become more burdensome and more of a managerial challenge for academics, with increasing demands for all data to be open. The burden is partly driven by the challenge to ensure that data are available in an accessible format to non-experts.

Many research managers also stated that the value of the principle was challenged by

the level of detail and bureaucracy involved in showing open access compliance. For instance, one participant stated that the focus on open access is important, but that it had become overly bureaucratic and required substantial resources from HEIs in checking compliance. Others highlighted that the systems that are currently in place across the HEI sector do not allow them to track open access in the way that they would like and that it is easier for larger institutions to show compliance. Some participants said that, as a result, they have become more focused on measuring whether they are compliant with open access than on focusing on the real benefits of open access, and that it had become a 'tick box' exercise. Academics from two focus groups also stated that the compliance with open access was a 'tick box' exercise in the REF rather than a process aimed at changing attitudes and behaviours.

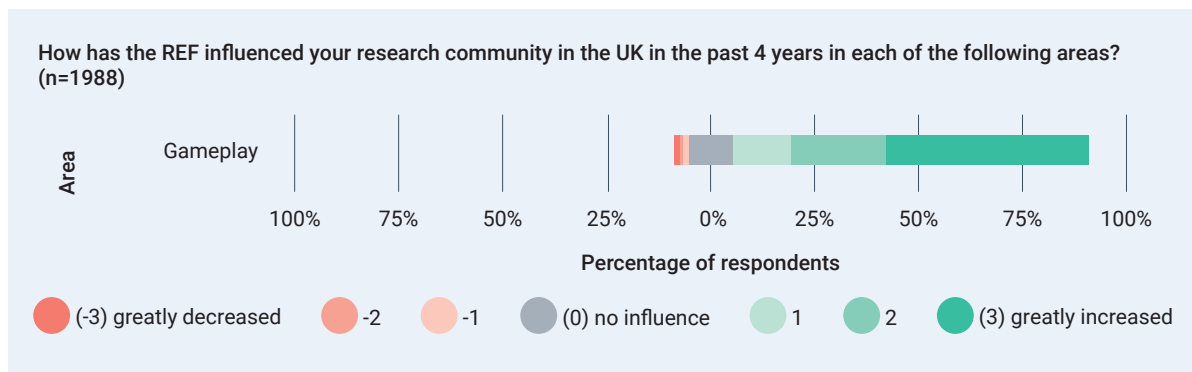
2.1.2. The majority of researchers believe that the REF has increased game playing in the research community

Over 85 per cent of survey respondents believe that REF has to some extent increased game playing in the research community (Figure 7). For the purpose of the survey, game playing was described as including such activities as

staff recruitment or embellishment of impact. The strength of this view was held evenly across disciplines, career stages, and research intensiveness, with no statistically significant differences between respondent types (data not shown).

Fifteen academic focus groups discussed the influence of the REF on game playing. In line with the survey findings, nearly half of all academic focus groups and several institutional leaders discussed how institutions, and by extension individuals, 'game' the REF. *'You need to play games and politics to get through. It's not the best person who wins the race, it's the person who plays the best game.'* Researchers gave examples of what they considered game playing and what they perceived was happening at their institution. These ranged from the rules around portability allowing individuals to personally advance their career to strategies institutions implement (both around staff and around the submission) to maximise success against the REF criteria. Examples include moving staff onto teaching-only contracts; hiring staff who already have publications that will score highly in REF close to the submission date; recruiting staff on fractional contracts who play a very limited role in the submitting institution; side-lining certain research areas not deemed 'REF-able' or seen

Figure 7: Proportional representation of survey respondents' views on the influence of the REF on 'game playing' in their research community



as risky; strategising the returning of staff to UOAs; in the previous REF, returning a very limited number of staff with very high-quality publication metrics; and being able to ‘tell a story’ to write a ‘good’ impact case study.

Game playing was highlighted by some as one of the reasons for the negative attitudes towards the REF overall. There were mixed views about whether the changes to the rules in REF 2021 had reduced game playing. Some academics were of the view that changes to the rules around the selection of staff and outputs have helped to reduce game playing, whereas others did not see an impact.

Related to discussions on game playing, academics think that the REF has become a target in and of itself. The REF is perceived to be a ‘tick box’ exercise as opposed to being a genuine attempt at creating change in specific areas of influence (e.g. open access; equality, diversity and inclusion (EDI); research quality). One academic said: ‘People are writing in strategic ways with a REF output in mind. There is much more consciousness around how work might be framed for the REF.’ The REF is perceived to drive behaviour and research to fit the REF criteria and metrics, potentially excluding valuable but ‘non-REF-able’ research.

Another academic noted: ‘At the moment we are doing research to feed the REF – this is the wrong way around.... It is the end goal, but science should be the end goal.’ It is thought by participants that this is an inevitable outcome in an evaluation exercise tied to funding and prestige. One interviewee highlighted that it is the university leadership’s job to ensure that they get the best outcome for the institution with the available resources. And in line with this view, several academics suggested that it is inevitable that any evaluation system that is set up will lead to some form of game playing. As noted by one academic, ‘If there is a structure, universities are full of clever people, and we will game it.’

2.1.3. The most commonly held view of researchers is that the REF has no influence on interdisciplinarity, quality of research and integrity of research in the research community

In three areas of the survey, the most commonly held view was that REF had no influence on the research community (Figure 8). These areas are: interdisciplinary working practices, defined as the propensity to collaborate across disciplines; quality of

Figure 8: Proportional representation of survey respondents’ views on the influence of the REF on interdisciplinarity, quality and integrity in their research community

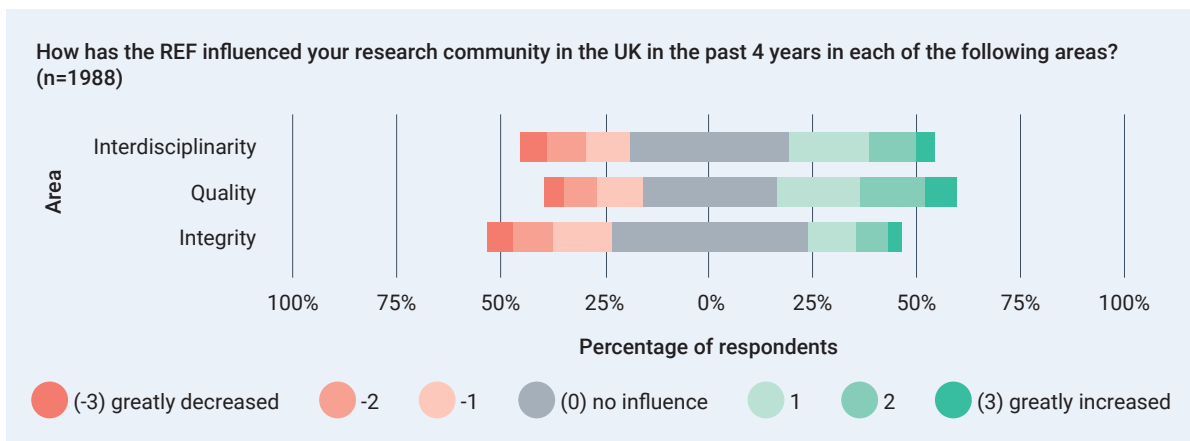


Table 5: Mean responses and sample sizes for survey respondents' views on the influence of the REF on interdisciplinarity, quality and integrity by main panel, career stage and research intensive-ness of the HEI

| Category | Interdisciplinarity | | | Quality | | | Integrity | | |
|--------------------------|---------------------|------|----------------------------|---------|-------|--------------------------|-----------|-------|-----------------------------|
| | Mean | n= | Statistical significance | Mean | n= | Statistical significance | Mean | n= | Statistical significance |
| Main Panel A | 0.38 | 720 | *B, **C,D | 0.54 | 732 | **C,D | -0.09 | 703 | NS |
| Main Panel B | 0.13 | 576 | *A | 0.34 | 585 | NS | -0.21 | 568 | NS |
| Main Panel C | -0.11 | 854 | **A | 0.21 | 866 | **A | -0.15 | 815 | NS |
| Main Panel D | 0.00 | 458 | **A | 0.10 | 462 | **A | -0.25 | 407 | NS |
| Early career researchers | 0.34 | 618 | ** Mid-career, Established | 0.36 | 638 | NS | -0.09 | 592 | * Mid-career |
| Mid-career researchers | 0.00 | 885 | ** Early career | 0.20 | 899 | NS | -0.31 | 846 | * Early career, Established |
| Established researchers | -0.04 | 1105 | ** Early career | 0.34 | 1,108 | NS | -0.12 | 1,055 | * Mid-career |
| Less research-intensive | 0.16 | 1409 | NS | 0.39 | 1,425 | * | -0.07 | 1,338 | ** |
| Research-intensive | 0.04 | 1199 | NS | 0.21 | 1,219 | * | -0.28 | 1,155 | ** |

Key: * p <.01. ** p <.001. NS = non-significant.

outputs including originality, significance, or rigour of research; and integrity of research practices including cautious and conservative analysis and science communication.

Again, the views are not evenly distributed across disciplines, career stage or type of institution, as shown in Table 5. The views that are statistically significantly different from each other are described below, as well as findings from the qualitative research – through interviews and focus groups.

Medicine, health and life sciences (Main Panel A) perceived the biggest increase in the influence of the REF on the **quality of outputs**, as compared with Social sciences and Arts and humanities (Main Panels C and D), which perceived a more limited increase (Table 5). In addition, researchers in less research-intensive

HEIs perceive a greater increase in the influence of the REF on the quality of outputs compared with colleagues in research-intensive HEIs.

The influence of the REF on quality of outputs was discussed in 13 focus groups. In the qualitative analysis, there were mixed views on the influence of the REF in this area among academics and institutional leaders who discussed the quality of outputs. Some academics and one institutional leader agreed with the statement that the REF has increased the quality of research and outputs. One academic noted: *'Over the course of RAE and REF, research quality has improved.... I have been working alongside people on the REF panel and seeing that the bar for what classifies as high-quality research has increased*

substantially in the exercise.' Specifically, our interviewees stated that the REF has shifted the focus to producing fewer but higher-quality publications (often with the need to be 3* or 4*, as this is the threshold for funding¹⁸)(UKRI 2021). For further detail, see Section 4.3.

Other academics, however, questioned whether the REF has increased the quality of research. Some stated that the REF may have generated a drive towards producing certain types of outputs, i.e. creating high-impact journal publications and chasing journal-level metrics rather than genuinely generating and publishing quality research. There was a concern from social scientists and Arts and humanities scholars that certain types of publications (e.g. books and monographs) were less 'REF-able' and therefore less valuable, even though they are more important to the discipline.

The influence of the REF on research integrity was discussed in three focus groups. The views of the survey were reinforced in the focus groups, where, in a small subset of focus groups, relatively little of the discussion focused on **research integrity** by participants.¹⁹ Those who did comment stated that the REF did not impact on research integrity or on reproducibility. In the survey data, mid-career researchers perceived the REF to have decreased research integrity to a greater extent than did early career researchers or established researchers.

When asked about **interdisciplinary research**, researchers in Medicine, health and life sciences (Main Panel A) perceived an increase compared with other disciplines. Similarly, early career researchers reported an increase, which was significantly greater than that reported by the other career stages (mid-career

researchers and established researchers), who were neutral (Table 5).

The influence of the REF on interdisciplinary research was discussed in 11 focus groups. The majority of focus group participants who discussed interdisciplinary research believed that the REF does not encourage interdisciplinary research and may even discourage it. Elements of the REF that make interdisciplinary working challenging or may even de-incentivise interdisciplinary working and collaboration include: the use of disciplinary UOAs and related challenges for panels to assess and value multidisciplinary research through this framework; the status of interdisciplinary journals, which typically have lower citation impact; and challenges around co-authorship and attribution. The challenges related to assessment by REF panels were summarised by one academic as follows: *'In terms of culture, I think the scoring system for outputs has affected things. In terms of outputs, it has driven research that is done based on how the outputs are scored. You lose the wider aspects of some research, which is just as valuable. The outputs are assessed in such different ways, and it is inevitably subjective. This is challenging for multidisciplinary research. It would be better if [the panels] could appreciate quality in different ways.'* An institutional leader also stated that the 'blocks of entities' that the research is submitted in create barriers for interdisciplinary research.

A lack of cooperation and interdisciplinarity was even highlighted as one of the unintended consequences of the REF. For instance, one academic believed that the REF does not represent authors who have multiple authorship or where there is collaboration in

18 The funding allocation is based on the volume of activity assessed as 4* and 3* at a ratio of 4:1.

19 This theme was discussed at 3 focus groups.

producing a paper. One institutional leader also stated that REF can accentuate and distort what they called ‘scholar activism’, where academics are either overly committed to the establishment point of view or try to present the alternate view more strongly, and that impact will be perceived differently on different sides of the political spectrum.

A small number of participants from focus groups who discussed interdisciplinary research stated that the REF has had a positive impact on this area. Aspects raised included the role of the REF in driving a more collaborative culture across different levels of staff (e.g. senior and junior members), driving interdisciplinary research and increasing recognition of disciplines through high scores in elements of output or impact.

2.1.4. The majority of researchers believe that the REF has decreased authenticity and novelty of research in the research community

Findings from the survey indicate that researchers perceive that the REF has to a moderate or great extent decreased levels of research authenticity and novelty in their research community (Figure 9). Novelty of research was defined in the survey as,

for example, pursuing blue sky research, which may not yield predictable outcomes. Authenticity of research was defined as an expression of the researcher’s/research community’s intellectual interests in terms of how the work is an authentic expression of the community’s intellectual interests and agenda rather than reflecting other drivers.

There are differences in responses across disciplines, with Arts and humanities researchers (Main Panel D) perceiving a greater decrease in authenticity than those in Social sciences (Main Panel C) (Table 6). Both of these disciplines perceived a greater decrease than did researchers in STEM subjects (Main Panels A and B).

Those in Social science and Arts and humanities (Main Panels C and D) reported that the REF had more strongly decreased novelty in their research community than did STEM subjects (Main Panels A and B).

The influence of the REF on authenticity was discussed in three focus groups, and novelty, in five focus groups. In line with the survey findings, the general view was that the REF has had a negative impact on authenticity and novelty. This was because the desire to score highly and the link between HEI achievement and individual benefit affected

Figure 9: Proportional representation of survey respondents’ views on the influence of the REF on novelty and authenticity in their research community

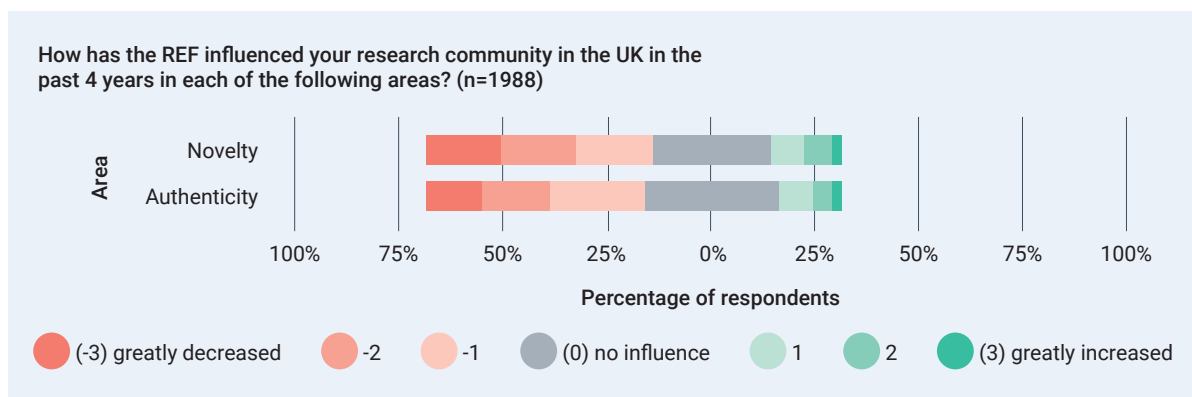


Table 6: Mean responses and sample sizes for survey respondents' views on the influence of the REF on authenticity and novelty by main panel, career stage and research intensiveness of the HEI

| Category | Authenticity | | | Novelty | | |
|--------------------------|--------------|-------|---------------------------|---------|-------|------------------------------|
| | Mean | n= | Statistical significance | Mean | n= | Statistical significance |
| Main Panel A | -0.53 | 680 | * C, ** D | -0.73 | 707 | NS |
| Main Panel B | -0.59 | 545 | ** D | -0.57 | 583 | * C,D |
| Main Panel C | -0.77 | 846 | * A | -0.90 | 856 | * B |
| Main Panel D | -1.02 | 453 | ** A,B | -0.94 | 443 | * B |
| Early career researchers | -0.63 | 600 | * Mid-career | -0.59 | 609 | ** Mid-career, * Established |
| Mid-career researchers | -0.86 | 872 | * Early career | -0.91 | 880 | ** Early career |
| Established researchers | -0.70 | 1,052 | NS | -0.86 | 1,110 | * Early career |
| Less research-intensive | -0.65 | 1,362 | * Research-intensive | -0.75 | 1,382 | NS |
| Research-intensive | -0.80 | 1,162 | * Less research-intensive | -0.82 | 1,217 | NS |

Key: * p < .01. ** p < .001. NS = non-significant.

where academics devoted their time and energy. In particular, shifting a focus to work that would be 'REF-able', favouring short-term outputs and impacts at the expense of longer-term projects, encouraging research that is more likely to be able to demonstrate impact, and staying away from areas perceived to be riskier – such as interdisciplinary research (discussed in more detail above) or research that is published in journals with lower impact factors. One academic highlighted: *'The REF means you can't take the time to explore the more ambitious long-term work because of the constant pressure, which is stifling to the creative process.'* Participants stated that the REF creates pressure on academics and that the panel is not equipped to assess novel (often interdisciplinary) work (e.g. it is perceived to provide narrow oversight and assessment). Overall, there was a concern that true creativity may be stifled and that it is important to maintain academic freedom and a

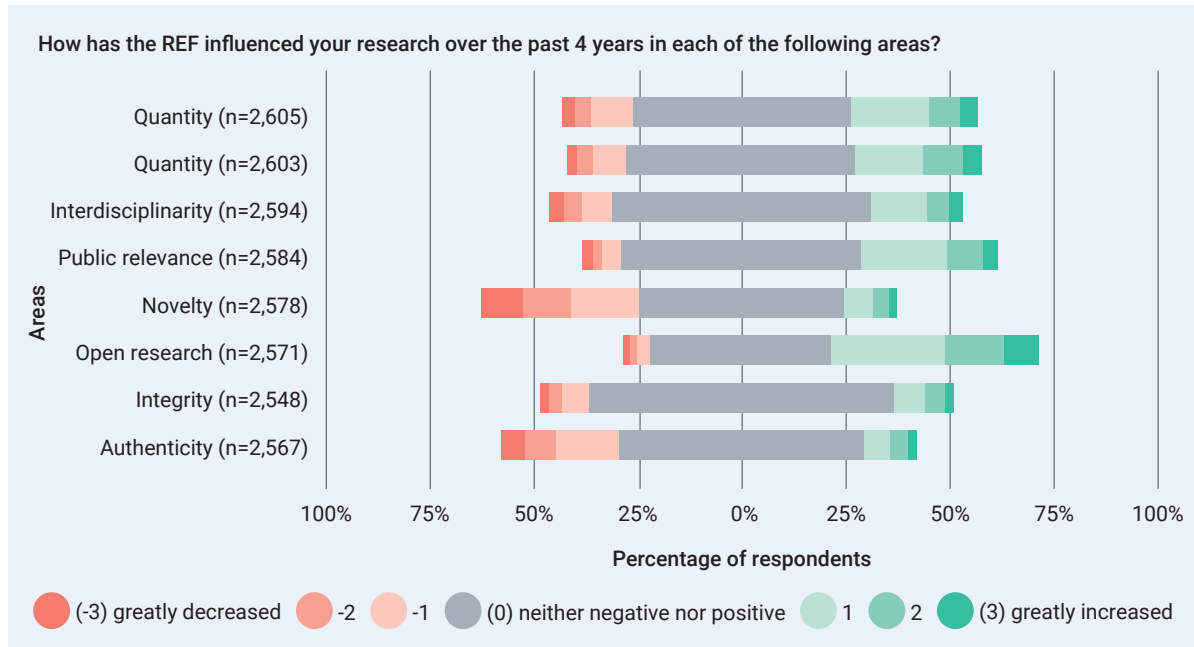
distance between the academy and the funders in setting research priorities.

2.2. The majority of researchers stated that, at an individual level, the REF has not influenced their own research

The most common response to the majority of questions on the impact of the REF on a researcher's own research was that it had no substantial influence (Figure 10).

Where an impact was observed, the REF was seen to mildly increase the quantity and quality of outputs, public relevance of research and open research (Table 7). Respondents stated that the REF had no impact on interdisciplinarity or integrity, and the REF was reported to have mildly decreased researcher authenticity and novelty. This is largely consistent with the views that researchers reported in relation to the influence of the REF

Figure 10: Proportional representation of survey respondents' views on the influence of the REF on their own research



Note: For each aspect, survey respondents were asked to score the influence of the REF as follows: -3 (the REF has greatly decreased this); -2; -1; 0 (the REF has had no influence); 1; 2; 3 (the REF has greatly increased this).

on these same aspects with respect to their research community (Section 2.1). One area where there was some disparity in the views of researchers on the influence of the REF on their own research and their research community was integrity. Researchers perceived a decrease in integrity in the research community (Figure 10), but reported no effect of the REF on the integrity of their own research.

Medicine, health and life sciences and Physical sciences, engineering and mathematics (Main Panels A and B) perceived the highest increase in interdisciplinary practices as an influence of REF, standing in sharp contrast to Social science (Main Panel C), which reported a decrease in interdisciplinary practices due to the REF (Table 7). There is also a difference between responses from early career researchers, who perceive an increase,

compared with researchers later in their careers, who are neutral.

Medicine, health and life sciences (Main Panel A) perceived the biggest increase in the quality of their own research as a function of the REF, compared with Arts and humanities (Main Panel D). In terms of output quantity, early career researchers perceive that the REF has increased it more compared with those in later career stages. With regards to novelty in their research, researchers from Physical sciences, engineering and mathematics (Main Panel B) reported an increase compared with those from Social sciences and Arts and humanities (Main Panels C and D), who reported a decrease. Looking at the data by career stage, we note that mid-career researchers reported a bigger reduction in novelty than did early career researchers as a function of the REF.

Table 7: Mean responses and sample sizes for survey respondents' views on the influence of the REF on their own research by main panel, and career stage

| Area of influence | All | MPA | MPB | MPC | MPD | Early career | Mid-career | Established | Less research-intensive | Research-intensive | |
|-------------------|-----|-------|-------|-------|-------|--------------|---------------------------|----------------|-------------------------|--------------------|-------|
| Quantity | M= | 0.20 | 0.17 | 0.13 | 0.25 | 0.34 | 0.39 | 0.15 | 0.13 | 0.25 | 0.20 |
| | n= | 2,605 | 707 | 562 | 861 | 448 | 605 | 871 | 1,102 | 1,387 | 1,191 |
| | Sig | | NS | NS | NS | NS | **mid-career, established | **early career | **early career | NS | NS |
| Quality | M= | 0.22 | 0.38 | 0.26 | 0.22 | 0.14 | 0.28 | 0.19 | 0.28 | 0.28 | 0.22 |
| | n= | 2,603 | 706 | 561 | 857 | 452 | 606 | 868 | 1,102 | 1,386 | 1,190 |
| | Sig | | *A | NS | NS | *D | NS | NS | NS | NS | NS |
| Interdisciplinary | M= | 0.04 | 0.22 | 0.16 | -0.08 | .04 | 0.20 | 0.02 | 0.03 | | |
| | n= | 2,594 | 703 | 563 | 853 | 448 | 601 | 868 | 1,098 | 1,383 | 1,184 |
| | Sig | | *C | *C | *A,B | NS | *mid-career, established | *early career | *early career | 0.13 | 0.04 |
| Public relevance | M= | 0.30 | 0.31 | 0.29 | 0.28 | 0.44 | 0.34 | 0.30 | 0.35 | 0.37 | 0.29 |
| | n= | 2,584 | 694 | 559 | 853 | 451 | 599 | 861 | 1,097 | 1,372 | 1,185 |
| | Sig | | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Novelty | M= | -0.48 | -0.44 | 0.26 | -0.56 | -0.61 | -0.32 | -0.58 | -0.50 | -0.44 | -0.49 |
| | n= | 2,578 | 701 | 562 | 843 | 445 | 600 | 854 | 1,097 | 1,378 | 1,173 |
| | Sig | | NS | **C,D | **B | **B | **mid-career | **early career | NS | NS | NS |
| Open research | M= | 0.69 | 0.90 | 0.80 | 0.57 | 0.57 | 0.78 | 0.65 | 0.69 | 0.69 | 0.73 |
| | n= | 2,571 | 699 | 561 | 844 | 441 | 589 | 860 | 1,096 | 1,361 | 1,184 |
| | Sig | | **C,D | **C,D | **A,B | **A,B | NS | NS | NS | NS | NS |
| Integrity | M= | 0.02 | 0.11 | 0.08 | -0.01 | 0.00 | 0.10 | 0.00 | 0.04 | 0.07 | 0.01 |
| | n= | 2,548 | 696 | 555 | 843 | 426 | 590 | 857 | 1,073 | 1,354 | 1,166 |
| | Sig | | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| Authenticity | M= | -0.25 | -0.17 | -0.15 | -0.36 | -0.32 | -0.20 | -0.33 | -0.22 | -0.22 | -0.28 |
| | n= | 2,567 | 695 | 550 | 848 | 447 | 594 | 858 | 1,088 | 1,368 | 1,172 |
| | Sig | | *C | *C | *A,B | NS | NS | NS | NS | NS | NS |

Note: Mean responses are adjusted for: main panel (MP), career stage and research intensiveness of the HEI. Research intensiveness of HEI not statistically significant and therefore data not shown. **Key:** * p <.01. ** p <.001. Sig = significance; NS = non-significant.

Table 8: Mean responses for survey respondents' views across two years on how the REF has influenced their own research

| Area of influence | Valence | | | Amount | | |
|---|-------------|-------------|--------------------------|-------------|-------------|--------------------------|
| | Mean (2018) | Mean (2020) | Statistical significance | Mean (2018) | Mean (2020) | Statistical significance |
| Quantity of outputs | -0.18 | -0.16 | NS | 1.81 | 1.72 | NS |
| Quality of outputs | 0.41 | 0.22 | NS | 2.15 | 1.83 | NS |
| Scope of outputs | 0.19 | 0.04 | NS | 1.28 | 1.26 | NS |
| Novelty | -0.18 | -0.16 | NS | 1.33 | 1.19 | NS |
| Prestige of output (journal, publisher) | 0.15 | 0.16 | NS | 2.49 | 2.24 | NS |
| Public relevance (societal impact) | 0.44 | 0.35 | NS | 1.81 | 1.49 | NS |
| Creativity | -0.44 | -0.41 | NS | 1.44 | 1.11 | NS |
| Open research practices | 0.70 | 0.75 | NS | 2.55 | 2.15 | * |
| Authenticity | -0.35 | -0.36 | NS | 1.43 | 1.30 | NS |

Note: Valence reflects the extent to which influence was stated to be very negative (-3), neutral (0), or very positive (+3). Amount reflects the extent to which respondents felt there was no influence (0) to very much influence (6). Statistical significance compares scores in 2018 with scores in 2020. **Key:** * $p < .01$. NS = non-significant.

The impact on open research is stronger in Medicine, health and sciences and Physical sciences, engineering and mathematics (Main Panels A and B) than in either Social sciences or Arts and humanities (Main Panels C and D).

Those surveyed twice (the longitudinal sample) showed no changes across the two years (i.e. two time-points) in their perceptions of the impact of the REF on their own research

activities (Table 8). Across most indicators, researchers also reported a similar *amount* of impact, from none to a lot (negative or positive), as they had two years earlier. However, we saw a mild decrease in the perception that the REF impacts open research practices from two years ago to the current measurement.

3 Changes to the REF for 2021 and preparations for assessment

Researchers responding to the surveys and those who participated in the qualitative research were asked for their views on changes made to the REF in 2021 following an independent review of the exercise in 2016. The key findings are provided in the box below. Specifically, changes to the REF that researchers were asked about included:



Eligibility criteria for submissions:

Compared with REF 2014, REF 2021 aims to be a less selective exercise, and 'each

HEI participating in REF2021 must return all eligible staff with significant responsibility for research. Such staff will normally be identified by the core eligibility criteria, as set out for "Category A eligible staff"; however, where these criteria will also identify staff who do not have significant responsibility for research, the institution may develop and apply an agreed process to identify who among their staff meeting the core eligibility criteria have significant responsibility for research. This process must be documented in a code of practice' (REF 2019).



Approach to impact as measured by the REF:

There is an increase in the weighting for the impact element, from 20 per cent in REF

2014 to 25 per cent of the overall exercise in REF 2021, with one impact case study per 10 full-time equivalent (FTE) staff (REF 2019).



Selection of outputs to be submitted to the REF:

REF 2014 required the return of four outputs for each submitted staff member, with reductions only for agreed

'special circumstances' or early career staff. In REF 2021, 'submissions must include a set number of items of research output, equal to 2.5 times the combined FTE of Category A submitted staff included in the submission' (REF 2019).



Portability of outputs:

Compared with REF 2014, which allowed for portability of outputs (in which research outputs followed

researchers), REF 2021 introduced a transitional approach to non-portability of outputs, which 'will allow a submitting unit to include the outputs of staff formerly employed as Category A eligible (former staff). Outputs attributable to these staff are eligible for inclusion where the output was first made publicly available while the staff member was employed by the institution as a Category A eligible member of staff' (REF 2019).



Open access research practices:

'To embed open access as an intrinsic part of the research process, the funding bodies have

introduced a policy requirement on open access in REF 2021. The open access policy applies to journal articles and conference

contributions (with an International Standard Serial Number (ISSN)). It requires these research outputs to be made open access for those outputs to be eligible for submission in REF 2021' (REF 2019).



Submission of interdisciplinary

outputs: There are provisions within the REF panels to support the assessment of interdisciplinary research outputs, including,

among others, appointing an IDAP to advise the REF team and developing a definition for interdisciplinary research to better enable HEIs to identify interdisciplinary outputs at the point of submission (REF 2019).

Respondents were also asked to provide their views on whether changes to the REF had altered expectations placed on them as researchers. Researchers were asked to provide details on the activities undertaken by their institution to prepare for the REF, and whether such activities were helpful or harmful to researchers. Finally, researchers were asked about the sources that they predominantly use to access information about the REF. The following subsections explore these themes in more detail.

Key findings for changes to the REF for 2021 and preparations for assessment

- The majority of academics perceive that changes to the rules for REF 2021 are positive for them.
- Early career researchers feel, more than more-established researchers, that changes to the REF affect the expectations, both positive and negative, placed on them.
- There are different approaches to preparing for the REF at an institution level, and some are seen as helpful and others as harmful. Helpful approaches were highlighted as being carried out more commonly.

3.1. The majority of academics perceive that changes to the rules for REF 2021 are positive for them

In general, the majority of respondents stated that the change to the rules for REF 2021 were positive for them (Figure 11). In particular, eligibility for submission, where over 65 per cent of respondents were positive and under 20 per cent were negative. The exception to this is increasing the weighting of impact (defined as ‘approach to impact’ in the survey), where views were more evenly split, with 45 per cent negative and 37 per cent positive.

There is only statistically significant variability in the data by types of respondent for approach to impact and open access (Table 9). Different disciplines hold differing views on the increase in weighting of impact case studies. Arts and humanities researchers (Main Panel D)

were the most negative, followed by Main Panel B, whose responses are statistically significantly different from Medicine, health and life sciences scholars (Main Panel A), who generally held neutral views.

Views on the need for certain outputs to be open access differed by career stage and discipline. Early career researchers were more likely to view developments around open access research practices as positive than did established researchers, although, overall, established researchers were positive on this change. By discipline, researchers in Medicine, health and life sciences (Main Panel A) had the most positive attitude towards changes to open access, whereas researchers in Main Panel D, in particular stated that this was a mildly positive change, a response that is statistically different from that of all other disciplines.

Figure 11: Proportional representation of survey respondents’ views on changes to the rules for REF 2021

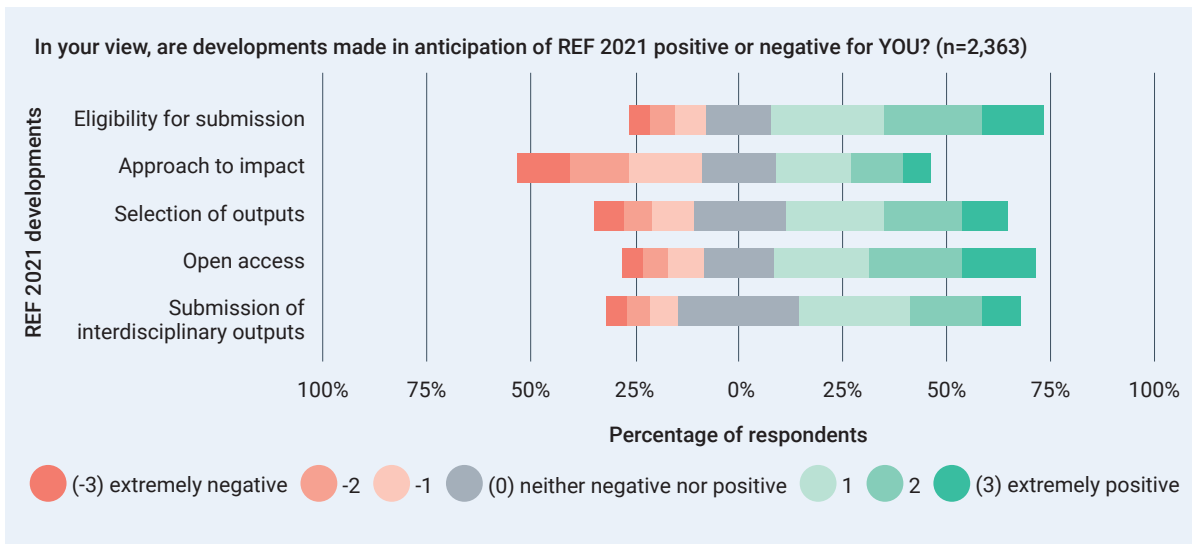


Table 9: Mean response and sample sizes for survey respondents' views on changes to the rules for REF 2021

| Category | Eligibility for submission | | | Approach to impact | | | Selection of outputs | | | Open access | | | Submission of interdisciplinary outputs | | |
|-------------------------|----------------------------|-------|-----|--------------------|-------|----------------|----------------------|-------|-----|-------------|-------|-----------------|---|-------|-----|
| | Mean | n= | Sig | Mean | n= | Sig | Mean | n= | Sig | Mean | n= | Sig | Mean | n= | Sig |
| All | 0.84 | 2,540 | | -0.24 | 2,465 | | 0.50 | 2,408 | | 0.84 | 2,546 | | 0.57 | 2,284 | |
| Main Panel A | 0.81 | 686 | NS | -0.01 | 661 | *B, **D | 0.52 | 657 | NS | 1.26 | 706 | **C,D | 0.61 | 628 | NS |
| Main Panel B | 0.97 | 546 | NS | -0.37 | 531 | *A | 0.48 | 530 | NS | 1.00 | 555 | **D | 0.57 | 487 | NS |
| Main Panel C | 0.78 | 836 | NS | -0.16 | 818 | *D | 0.41 | 783 | NS | 0.74 | 823 | **A, *D | 0.50 | 759 | NS |
| Main Panel D | 0.81 | 446 | NS | -0.54 | 431 | **A, *C | 0.57 | 414 | NS | 0.41 | 437 | **A,B *C | 0.56 | 390 | NS |
| Early career researcher | 0.77 | 585 | NS | -0.09 | 661 | * Mid-career | 0.44 | 538 | NS | 1.10 | 579 | ** Established | 0.68 | 501 | NS |
| Mid-career researcher | 0.91 | 860 | NS | -0.43 | 531 | * Early career | 0.50 | 819 | NS | 0.83 | 862 | NS | 0.55 | 770 | NS |
| Established researcher | 0.85 | 1,069 | NS | -0.30 | 818 | NS | 0.55 | 1,027 | NS | 0.62 | 1,080 | ** Early career | 0.53 | 993 | NS |
| Less research-intensive | 0.86 | 1,370 | NS | -0.19 | 1,317 | NS | 0.56 | 1,287 | NS | 0.87 | 1,361 | NS | 0.63 | 1,225 | NS |
| Research-intensive | 0.83 | 1,144 | NS | -0.35 | 1,124 | NS | 0.43 | 1,097 | NS | 0.83 | 1,160 | NS | 0.54 | 1,039 | NS |

Key: * p <.01. ** p <.001. NS = non-significant.

In agreement with the survey, overall, academics in the focus groups appeared to be more positive about REF 2021 than for previous research assessment exercises and REF 2014. Some academics and institutional leaders highlighted the role of the Stern Review (Stern 2016) in improving the assessment, stating that, in principle, the changes recommended were well intentioned and may have somewhat reduced the scope for game playing. However, others reported that unintended consequences were still prevalent, for example, the impact of the shift in focus from the individual to a collective submission through the changes to staff selection (discussed further in Section 3.1.1). One academic noted: *'The evolution has been a good thing, but it has not gone anywhere near where it should be. It should be directed towards judging institutions, not by proxy individuals, particularly those at an early stage of the career.'*

Another academic said: *'Although I can see that REF 2021 has some laudable aims, it hasn't removed gaming. With some of the rules to reduce the gaming, it has become increasingly difficult to understand and to work through the different outcomes. People who are not involved in decision making feel disenfranchised and those involved feel overburdened with work.'*

Despite the changes, some academics and the majority of institutional leaders interviewed highlighted that the REF is still burdensome, and that REF 2021 was even more burdensome than previous exercises – although the Stern Review and other consultation sought to streamline the process, as noted by one

institutional leader: *'I think Stern had the laudable aim of saving us time and reducing the bureaucratic burden, but it just hasn't happened.'* Institutional leaders and research managers suggested that the burden has shifted from academics to those managing the exercise. Reasons for the continued burden of the exercise included the increased complexity around 'significant responsibility for research' and the flexibility in the number of outputs per person (discussed below in Sections 3.1.1 and 3.1.2 respectively). The burden may even have increased because of moves to professionalise preparation (i.e. the hiring of professional services staff to manage the REF process). The rules are also stated to have been communicated late, by both academics and one institutional leader.

Looking at the longitudinal survey, we note there was no change in the positive view regarding all staff submission (namely, that research-intensive staff should be submitted with an average of 2.5 outputs), selection of outputs, and open access (Table 10).

However, changes were observed across two years in two elements. Views expressed in 2018 regarding the shift in impact weighting from 20 per cent to 25 per cent were mildly positive, and these views had become mildly negative two years later. Furthermore, researchers expressed less-positive attitudes towards the REF's approach to submission of interdisciplinary outputs in the current measurement than they did in the initial pilot conducted in 2018.

Table 10: Mean responses for survey respondents' views across two years on whether developments made in anticipation of REF 2021 are positive or negative for the research community within the UK

| Areas of influence | Mean | | Statistical significance |
|--|------|-------|--------------------------|
| | 2018 | 2020 | |
| Staff submission at average 2.5 | 0.86 | 1.00 | NS |
| Selection of outputs | 0.71 | 0.54 | NS |
| Open access | 1.01 | 1.01 | NS |
| Impact weighting at 25% | 0.15 | -0.16 | * |
| Support for interdisciplinary research | 1.25 | 0.74 | * |

Note: Statistical significance tests compare the change in participants' responses from 2018 to 2020. **Key:** *p <.05. NS = non-significant.

3.1.1. Selection of staff

The REF 2021 guidance asked each HEI participating in REF 2021 to return all eligible staff with 'significant responsibility for research'. Such staff would be identified by the core eligibility criteria, as set out for 'Category A eligible staff' (REF 2019).²⁰

One fifth of all academic focus groups and six institutional leadership interviews discussed changes to the rules around the selection of staff. The majority of academics and institutional leaders welcomed the move towards including all research eligible staff, as the move is seen to be fairer and more inclusive. Academics and institutional leaders stated that this change moved the focus away from the individual to a more team-based approach and to recognising and valuing the diversity of research and impacts rather than just an 'elite' selection of staff. In addition, they stated that it reduced barriers for early career researchers being hired post-PhD and moving institutions, as they are less of a risk

for institutions than previously, when, after they joined an institution, outputs would be required to be submitted.

As a result, an institutional leader noted that the eligibility criterion had helped to ensure greater understanding and buy-in to the REF among staff. A couple of interviewees also reported that the changes to the rules around staff have enabled them to accelerate planned strategic transformations at their institutions.

However, several academics mentioned unintended consequences as a result of including all staff in the REF. There is the perception that it has created a 'two-tier' system, in which a number of academics knew of or had heard of others (not necessarily in their institution) who had been moved onto teaching-only contracts. Several institutional leaders reported implementing teaching-only contracts for some staff (as response to the rules around the designation 'significant responsibility for research' (SIGRESS)) to reflect a focus on teaching and learning rather

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Category A eligible staff are defined as academic staff with a contract of employment of 0.2 FTE or greater, on the payroll of the submitting institution on the census date, whose primary employment function is to undertake either 'research only' or 'teaching and research' (REF 2019).

than research and noted that this had created some initial discontent among staff who had to change role profile. As one institutional leader stated: *'Less active research people were asked to change role profile to a teaching and learning profile. There was some disquiet about that. But most of those people when they thought about it were much more orientated around teaching... It's a slightly unsettled divide but generally, now...people...admit..."Yeah actually, you know, I'm not really a researcher, I'm a teacher who applies some research in the classroom." So, we've now generated two types of career path.'*

It was noted by academics participating in focus groups and one interviewee that the changes to focus on the institution over individuals do not go far enough, with a suggestion to altogether remove the 'significant responsibility for research' distinction. One interviewee was of the view that the partial decoupling has introduced a degree of complexity to the process compared with REF 2014, with wide variation in how SIGRESS has been interpreted and implemented. The need to identify who was eligible for submission, as well as the inclusion of greater numbers of staff, has also created more administrative burden (in terms of having to manage the SIGRESS designation).

Participants from less research-intensive HEIs stated that this creates a distinction between teaching and research. They said that a two-tiered system has been created among academics, whereby they feel that they are either research active or not research active. They noted that, as a result, some academics felt that their work was less valuable than that of their colleagues. They also noted that there was no significant way for academics to illustrate that they are research active through their teaching, which creates a false dichotomy. This dichotomy has resulted in institutions putting in place different contracts for different staff to ensure that some staff do not have to

meet the significant requirements for research defined by the REF. One research manager indicated that, as a result, after consultation with unions, *'we excluded the REF from the promotion process because it was so divisive.'*

It should be noted that the undervaluing of teaching in UK higher education is a wider issue that is not solely driven by REF (Academy of Medical Sciences, The Physiological Society, Heads of University Biosciences and the Society of Biology 2014).

These findings appear to be in contrast to the survey findings, in which the vast majority of researchers indicated that they had not discussed a change in contract in relation to the REF. This discrepancy may reflect a disconnect between reported changes perceived to be happening to academics elsewhere and real changes that academics have experienced or interpretation of the wording in the survey. Further data on the prevalence of practices around selection of staff were gathered through questions on the approaches HEIs used in preparing, and how these activities were perceived by respondents (Section 3.3).

3.1.2. Selection of outputs

Set number of outputs per submitting unit

The REF 2021 guidance asked each submitting unit to return a set number of outputs as determined by the FTE of Category A submitted staff. The total number of outputs had to equal 2.5 times the summed FTE of the unit's submitted staff. This set number of outputs applied to a minimum of one output per staff member returned and no more than five outputs per staff member (REF 2019).

The change in the selection of outputs was discussed in two fifths of academic focus groups, and the majority of those who commented welcomed the change in the rules to ensure that research staff can be submitted

with one output. This shift being positive was also noted by several institutional leaders and many research managers. It was thought to be more inclusive (e.g. towards early career researcher staff or others who had time away that would previously need to be declared under staff circumstances e.g. maternity leave) by recognising that researchers' publishing varies depending on time and discipline; reducing the emotional and intellectual pressure placed on researchers (by reducing the focus on needing to have a set number of high-quality outputs) and shifting the focus away from quantity to quality. One institutional leader reflecting on this said that: *'What's been lovely, it's reduced the emotional burden, because everybody's in.'*

In contrast, others thought that the collective approach to outputs has had the unintended consequence of increasing the complexity around selecting outputs and leading to tensions between researchers (because of having to compare the work of colleagues against each other to determine what was 'best' to submit). It was recognised that although the collective approach has reduced the stress on individuals, it has just shifted the burden from staff to the selection of outputs. One academic highlighted that different institutions were approaching these changes in different ways, with some institutions still requiring four outputs per person and others requiring many academics to submit a single output graded 4*.²¹

Inclusion of publications from staff previously employed

The REF 2021 guidance detailed that institutions could return the outputs of staff who were previously employed as Category A eligible. Outputs attributable to these staff are eligible for inclusion in cases where the output was first made publicly available while the staff member was employed by the institution as a Category A eligible member of staff (REF 2019).

Some academics who discussed the inclusion of publications from staff previously employed thought that this is a positive element of the REF. One interviewee stated that this is beneficial for less research-intensive institutions, which can lose high-performing academics to research-intensive institutions in the run-up to REF. One academic said: *'A positive aspect of the REF has been the portability of submissions, which has had a huge impact on gender, Black and Minority Ethnic and ECR colleagues, allowing them to advance their careers because of the publications they have built.'* Now, even if the individual moves on, the institution where the research was conducted can include the individual's research in their REF return. One academic noted that *'Removing portability could leave people stranded in institutions.'*

21 The REF assessment criteria and the definitions of the starred levels that are used in the assessment are set out as follows: Four star: quality that is world-leading in terms of originality, significance and rigour; three star: quality that is internationally excellent in terms of originality, significance and rigour but which falls short of the highest standards of excellence; two star: quality that is recognised internationally in terms of originality, significance and rigour; one star: quality that is recognised nationally in terms of originality, significance and rigour; and unclassified: quality that falls below the standard of nationally recognised work or work which does not meet the published definition of research for the purposes of this assessment (REF 2021a).

However, some suggested that returning outputs for people who are no longer employed at an institution is unethical, particularly if they had been made redundant by the institution, and some even stated that it reflected the culture of game playing that institutions engaged in around REF. Many research managers noted that they faced challenges with including past staff in their REF outputs. They noted that it was difficult to decide how to include staff depending on the circumstances of the individual's departure. There were different processes in place at different institutions, from using publications that had been published at the time an employee was employed by the institution to either not using these outputs, or contacting the individual about the planned inclusion, or waiting for an individual to contact the HEI and ask to be included.

3.1.3. Equality, diversity and inclusion

The REF 2021 assessment cycle placed a greater emphasis on the promotion of equality and diversity in research careers by introducing new measures to promote equality and diversity in research careers, which includes guidance and a template for codes of practice.²²

Academics from two focus groups who discussed EDI mentioned that the changes to the REF have addressed more EDI issues (e.g. part-time working, maternity leave): *'There are better ideas of inclusivity this time around in REF.'*

Several research managers appreciated the focus on EDI. They stated that it was a positive idea and policy driver that helped to increase awareness of the importance of EDI as well as attempting to make the exercise more inclusive – through such measures as staff circumstances (discussed below) and declaring diversity. However, some reported that the current process increased the chances of game playing; by providing more opportunities for people to claim circumstances, there were more opportunities for the institution to create a false picture of their unit.

22 The codes of practice at institutions should cover processes for identifying staff with significant responsibility for research, for determining research independence, and for selecting outputs. The measures included: i) working with the equality and diversity advisory panel (EDAP) to improve and monitor the representativeness of the panel; ii) briefing main and sub-panels on equality and relevant employment legislation that will affect REF 2021; iii) strongly encouraging HEIs to represent all their excellent research related to the submitting unit's total output requirement and requirement them to submit one output for each Category A submitted staff member; iv) instructing each HEI making a submission to develop, document and apply a code of practices on their process for the identification of staff with significant responsibility for research, to determine research independence and selecting outputs; v) submitting an institutional-level environment statements on how equality and diversity in research careers is supported; vi) as part of the description of the unit-level environment, requiring research about how the unit promotes staff equality and diversity; vii) ensuring that funding bodies monitor and analyse at sector level any analysis impacts; and viii) working with EDAP to develop appropriate briefing materials to support institutions to take account of equality and diversity when preparing submissions.

Staff circumstances

The REF 2021 guidance put in place measures to recognise the effect that individuals' circumstances may have on research productivity (REF 2019). 'All HEIs participating in REF 2021 will be required to establish safe and robust processes to enable individuals to declare voluntarily their individual circumstances and have the impact of those circumstances reflected in the HEI's expectations of their contribution to the output pool. These processes must be documented in the institution's code of practice. Where required, submitting units may optionally request a reduction, without penalty, in the total number of outputs required for a submission. It is expected that requests will only be made where the cumulative effect of circumstances has disproportionately affected the unit's potential output pool' (REF 2019).

Although several interviewees in principle welcomed the changes to the rules around staff circumstances (including individual circumstances and the UOA reductions processes²³), they were critical of the difficulty in implementing them. Overall, institutional leaders and research managers stated that the changes to the rules have not reduced the burden associated with them and have potentially rendered them even more complex. In particular, as the declaration of circumstances is at the discretion of the individual, institutions are disadvantaged by those with a case who do not apply. Some may choose not to declare circumstances because they have at least one output, but this creates challenges for the unit to submit a greater number of papers from a smaller sample

of academics. On the other hand, several interviewees also noted that the changes to the number of outputs required per individual had not significantly decreased the volume of declarations (and hence burden) around individual circumstances, which suggests that this discrepancy may reflect researchers' desire to justify their number of outputs.

Where staff did comply, there was concern that it involved asking colleagues for more paperwork; that circumstances might not be accepted; and that academics were asked to relive potentially traumatic experiences in order to be told by someone else whether these warranted a reduction in their contribution. Managers in both focus groups stated that it was outside the remit of the REF to assess circumstances and that the funding bodies should trust that institutions already have processes in place through their human resources departments to deal with staff circumstances. This point was echoed by two other participants, who noted that the REF should trust that process.

Research managers stated that it was difficult to assess whose circumstances one should include under the current guidelines. Both focus groups of research managers stated that the initial guidelines were unclear in terms of the circumstances required for a unit reduction and that, following feedback on what others had had accepted, were now considering whether to risk a request at the time of submission – although this would result in uncategorised outputs if the circumstances were not accepted.

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Submitting units may optionally request a reduction in the total number of outputs required for a submission (2.5 outputs per FTE) to reflect the impact of individual staff circumstances.

Introduction of institution-level environment statement

The REF 2021 guidance introduced the requirement for an institutional-level environment statement for each submitting institution (REF 2019). 'Information is required about the institution's strategy and resources to support research and enable impact, relating to the period 1 August 2013 to 31 July 2020, consisting of the following sections:

- Context and mission: an overview of the size, structure and mission of the institution.
- Strategy: the institution's strategy for research and enabling impact (including integrity, open research, and structures to support interdisciplinary research) in the assessment period and for the next five-year period.
- People: the institution's staffing strategy, support and training of research students, and building on the information provided in codes of practice, evidence about how equality and diversity in research careers is supported and promoted across the institution.
- Income, infrastructure and facilities: the institutional-level resources and facilities available to support research, including mechanisms for supporting the reproducibility of research as appropriate to the research focus of the HEI, and to facilitate its impact.'

There were mixed views among academics in focus groups that discussed the environment statement. The environment statement was perceived to be useful in helping academics to think about a strategy for the unit of assessment, but the environment statement was also considered to be a burden, and the REF was perceived to not have influenced the environment (e.g. EDI issues within it).

Some research managers highlighted that the institutional environment template added to the administrative burden of the REF, creating a document solely for the purpose of assessment. They stated that the questions in the template were hard to answer and difficult to combine with unit of assessment statements, that the purpose of the template was not clear, and that the exercise was more focused on how evidence was presented in the template rather than being an objective exercise. On the flip side, two research managers stated that producing the environment template had helped them to think about how the institution supports a pipeline of impact activity.

3.1.4. Emphasis on interdisciplinary research

REF 2021 placed a greater emphasis on the support for the submission and assessment of interdisciplinary research, by using several measures (REF 2019):

- Appointing an IDAP to advise the REF team, REF panel chairs and the UK funding bodies on the development and implementation of measures to support the submission and assessment of interdisciplinary research in the REF.
- Appointing at least one member to each main panel with specific responsibility for providing guidance on the assessment of interdisciplinary research, and who will join IDAP for the assessment phase. In addition, appointing at least two members of each sub-panel to the role of interdisciplinary research adviser to provide guidance on the assessment of interdisciplinary research submitted in that UOA and to work with advisers in other subpanels to ensure its equitable assessment.
- Developing a definition of interdisciplinary research for the REF to better enable HEIs

to identify interdisciplinary outputs at the point of submission.

- Developing additional guidance for the subpanels on assessing interdisciplinary research outputs according to the generic assessment criteria for outputs.
- Appointing assessors to work with more than one sub-panel, where there are strong cross-disciplinary connections between particular subpanels.
- Within the institutional-level environment statement and the unit-level environment template, giving HEIs the option to provide information about their approach to supporting interdisciplinary research.
- Publishing a briefing document drawing together all guidance and criteria relating to interdisciplinary research.

It was noted by institutional leaders that REF 2021 aims to improve how interdisciplinary research is assessed by providing more support and clarity to the evaluation panel. However, the changes have not addressed the uncertainty around how interdisciplinary research will be evaluated, and the disciplinary silos that are still created as part of the disciplinary boundaries created by the REF UOA structure, with one academic suggesting that: *'although [interdisciplinarity] has improved, I don't think the improvements have necessarily landed with a broader community. And there isn't necessarily the confidence that interdisciplinary input will truly be dealt with properly.'*

When thinking about the emphasis on interdisciplinary research in REF 2021, research managers' views varied, from valuing the creation of interdisciplinary advisers and feeling reassured that interdisciplinary research will be assessed more fairly by the panels than in previous assessments, to feeling that the focus on interdisciplinary research was not

significantly different from the last REF (e.g. due to perceiving a lack of guidance and clarity around assessment and the definition of what counts as interdisciplinary). Some of those who stated there was no change stressed that the exercise should be moving away from a pilot to a more tangible process of what counts as interdisciplinary.

3.1.5. Societal impact (public relevance) of research

The majority of the discussion on societal impact of research focused on the influence of impact, since 2014, as a criterion of the REF (see Section 2.1.1). However, two interviewees commented on the changes to the rules and the implications. For example, those who stated that REF had a positive influence on the value and recognition of societally relevant work welcomed the **increased weighting of impact case studies** in REF 2021. Several interviewees thought that the greater weighting of impact is positive because it has created a more level playing field between institutions and they consider impact a strength of certain institutions and part of their strategy. One institutional leader reflected that they are supportive of the increased weighting of impact because *'impact increasingly...becomes the means by which the university reaches out of itself, and to kind of a wider sense of its civic mission. And I've come to believe very strongly in that because of the commitment we've had as an institution to public engagement.'*

In contrast, two interviewees suggested that the increased weighting may increase the stress and burden associated with preparing impact case studies, while one other suggested that the emphasis on only submitting the best impact case studies hides the wide breadth of impact that takes place.

Another change to REF 2021 was the broadening of the definition of impact to include impact on teaching within and beyond

the submitting institution, the inclusion of the unit's approach to supporting and enabling impact from research to the environment template, and the REF requiring upfront submission of corroborating evidence for impact case studies. However, few comments were made with regard to these in the focus groups or interviews when we probed the participants on changes to REF 2021. As noted in Section 2.1.1, there was criticism from some academics that the definition of impact was not broad enough to capture all types of impact, including impact from teaching. However, impacts from teaching are eligible in REF under the REF 2021 definition of impact, suggesting that the changes have not necessarily been communicated clearly to the broader community.

3.2. Early career researchers feel, more than more-established researchers, that changes to the REF affect the expectations, both positive and negative, placed on them

Roughly three quarters of survey respondents responded that changes to the REF have affected the expectations placed on them (Figure 12). Nearly 25 per cent view this as a

positive effect and up to 50 per cent see this as a negative effect.

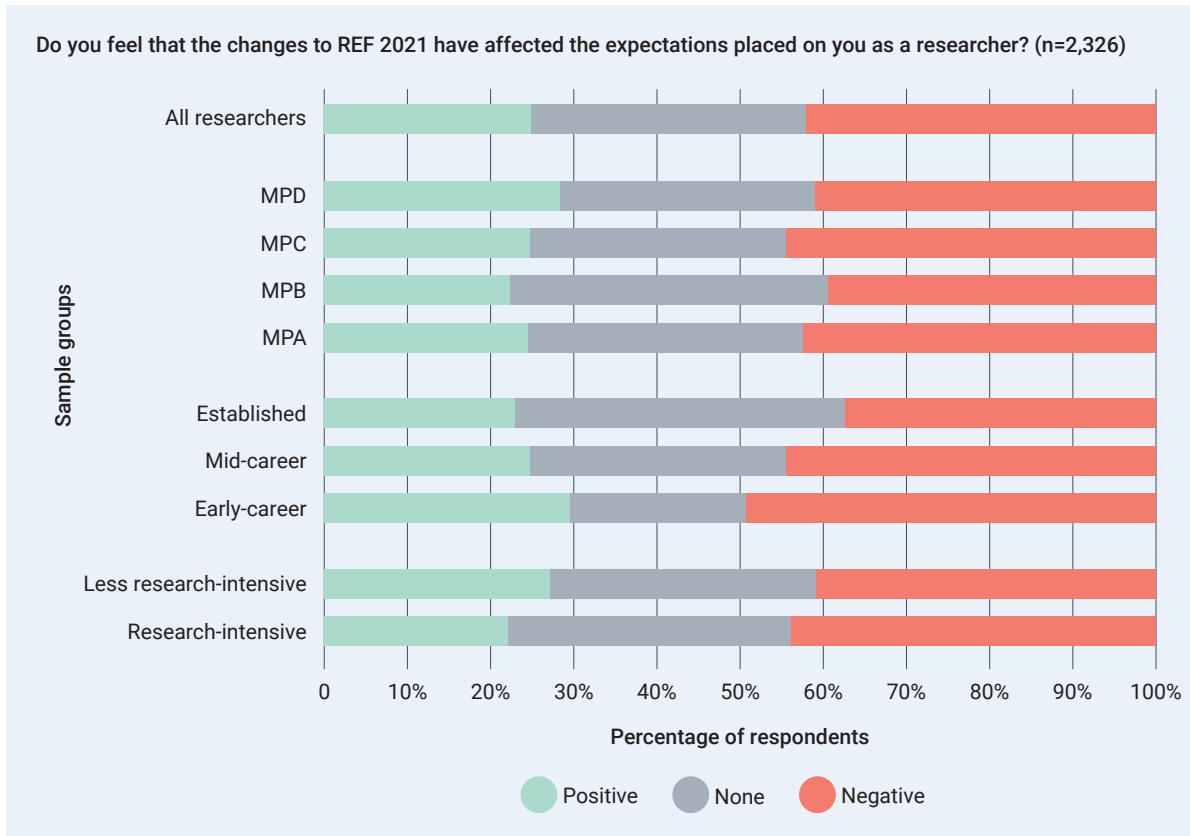
However, characteristics of the respondents affected the way they responded to this question. For example, the proportion of researchers who indicated that the REF had no effect on the expectations placed on them increased with each advancing career stage (21.1 per cent of early career researchers reported no REF effect on expectations; 30.7 per cent of mid-career researchers reported no REF effect on expectations; 39.8 per cent of established researchers reported no REF effect on expectations). Established researchers were least likely to report both positive and negative expectations; instead, more of them reported the REF did not affect expectations on them at all. On the other hand, early career researchers were more likely to report that negative expectations were placed on them as a result of the REF, and, to a lesser extent (at half the rate), more of them also reported that positive expectations were placed on them as a result of the REF.

Indeed, researchers in less research-intensive HEIs were more likely to report a positive impact of the REF on the expectations placed on them (58.5 per cent of positive responses were from less research-intensive institutions, compared with 40.1 per cent from research-intensive institutions).²⁴

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A total of 1.4 per cent of positive responses here could not be classified due to missing HEI data on research intensiveness.

Figure 12: Proportional representation of survey respondents' views on the effect of the REF on expectations placed on researchers



Note: n =2,326 in the overall sample. By main panel: MPA – n=616; MPB – n=495; MPC – n=734; MPD – n=401. By career stage: early career – n=500; mid-career – n=782; established – n=1,044. By research intensiveness: research-intensive – n=1,064; less research-intensive – n=1,245.

3.3. There are different approaches to preparing for the REF at an institution level, and some are seen as helpful and others as harmful. Helpful approaches were highlighted as being carried out more commonly

Researchers were asked in the survey whether particular activities were undertaken by their department/faculty/school (hereafter department, within this section) in preparation for the REF 2021, and if so to indicate their perceptions of these activities.

The type of support reported by academics varied (Figure 13). The majority reported that their department provided feedback on their contribution to the REF 2021 and that their department had communicated the importance of research quality, environment and impact outside of REF. Just under half of researchers reported that their department had made them feel supported in their research activities.

There were some activities in particular that had not been undertaken by departments for the vast majority of researchers responding to the survey (Figure 13): proposing role changes due to a lack of eligible REF 2021 submission;

Figure 13: Survey respondents' views on activities undertaken within their institution in preparation for REF 2021



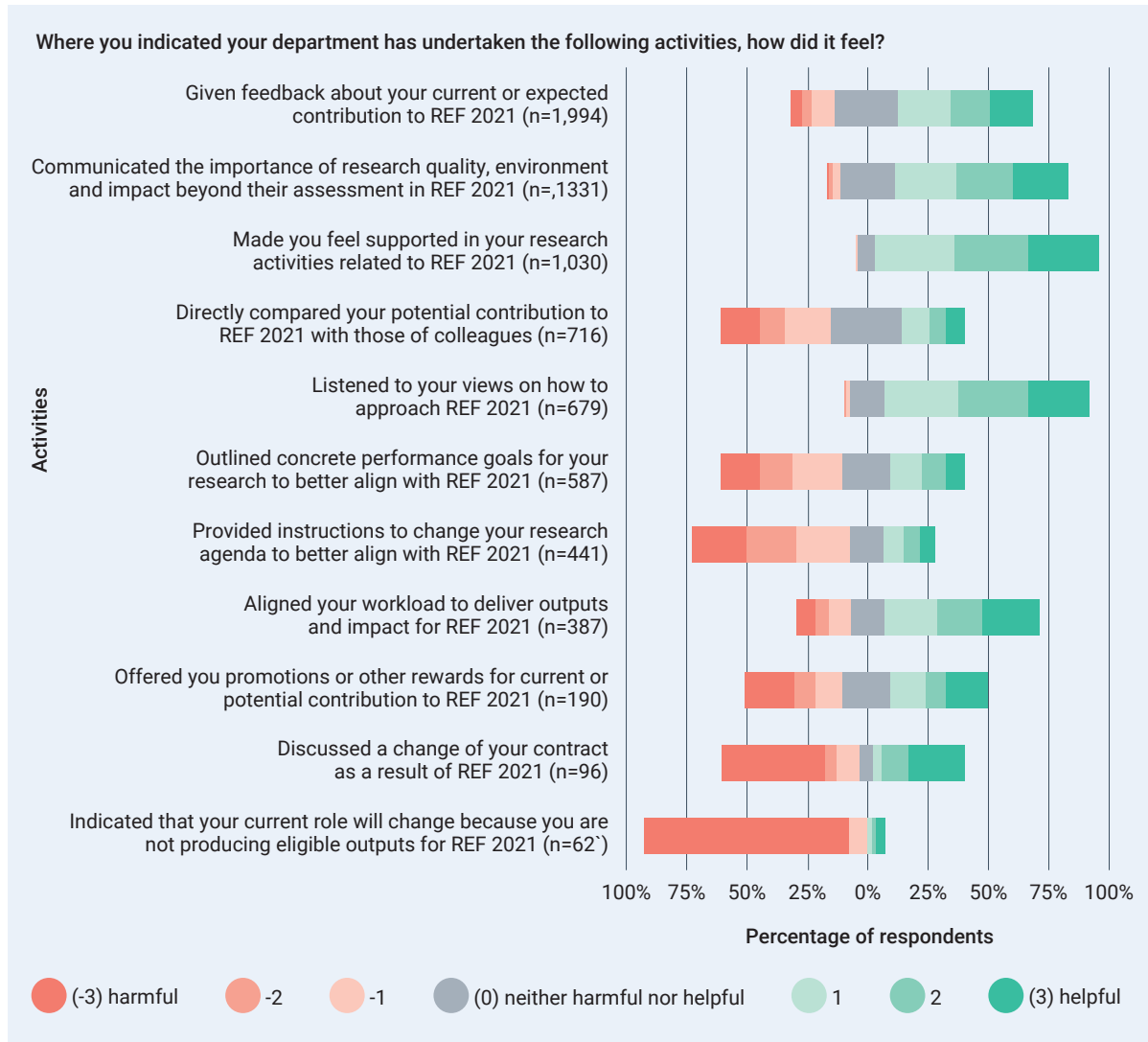
discussing a change of contract as a result of the REF 2021; and offering promotions or other rewards for potential contributions to the REF 2021.

The majority of researchers also indicated that the following activities had not taken place in their department (Figure 13): aligning of workload for the REF 2021; outlining performance goals to better align with REF

2021; and providing instructions to change research agendas to better align with REF 2021.

Around two thirds of researchers reported that their department had not listened to their views on how to approach the REF 2021, and a similar proportion indicated that their department had not compared their potential REF 2021 contributions with that of their colleagues.

Figure 14: Survey respondents' views on the nature of activities undertaken in preparation for REF 2021



Note: Sample sizes for each item vary depending on the number of researchers who indicated that the activities presented in Figure 12 had taken place.

Those who reported having experienced these activities were asked for their views on whether activities taken in preparation for the REF felt helpful or harmful (Figure 14 and Table 11).²⁵ Changes to current roles of not producing eligible outputs for REF 2021

or changes to contracts were thought to be extremely harmful. However, these were the least frequently reported activities, with less than 4 per cent of respondents stating they had personally experienced this from their department. Among more widely experienced

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Due to the small sample size, these results are not disaggregated by type of respondent.

Table 11: Mean response and overall sample sizes for survey respondents' views on whether their HEIs' REF activities are helpful or harmful

| Activity | Mean | n= | Statistical significance |
|--|-------|-------|--------------------------|
| Feedback | 0.77 | 1,994 | ** $d = 0.48$ |
| Compare with colleagues | -0.42 | 716 | ** $d = -0.25$ |
| Promotion or other rewards | -0.09 | 190 | NS $d = -0.05$ |
| Change of contract | -0.90 | 96 | ** $d = -0.38$ |
| Role change | -2.37 | 62 | ** $d = 1.67$ |
| Communicate the importance of research quality, environment and impact | 1.31 | 1,331 | ** $d = 0.98$ |
| Change research agenda | -0.92 | 441 | ** $d = -0.52$ |
| Outline performance goals | -0.40 | 587 | ** $d = 0.23$ |
| Align workload to REF | 0.86 | 387 | ** $d = 0.47$ |
| Listened to your views | 1.62 | 679 | ** $d = 1.53$ |
| Made you feel supported | 1.81 | 1,030 | ** $d = 1.88$ |

Note: n= refers to the number of individuals who reported experiencing each activity, and were therefore shown the additional question regarding the activity being helpful or harmful. Statistical significance refers to whether the mean response deviated significantly from 0 (neutral view). d = Cohen's effect size (can be understood as 0.20=small effect; 0.50=medium effect, >0.80=large effect); NS = non-significant.

activities (n=411, or more than 15 per cent), those who received instructions to change their research agenda felt this to be harmful. Comparing one's contributions to those of colleagues was also felt to be harmful, but by a smaller proportion of respondents, as was outlining concrete performance goals.

On the other hand, feeling supported in research activities related to the REF 2021 was perceived as helpful, as was listening to researchers' views on how to approach REF 2021 and communicating the importance of research quality, environment and impact

beyond assessment in REF 2021 (Figure 14). Furthermore, alignment of workload to the REF 2021 and feedback on contributions to the REF 2021 were perceived to be helpful, albeit to a slightly lesser degree.

Focus group participants and interviewees were asked about preparations for the REF at their institution. Academics, institutional leaders and research managers described a range of support mechanisms, as summarised in Box 2 and discussed in more detail in the sections below.

Box 2: Support mechanisms for the REF in HEIs

- Review of outputs by academics (internal or external to their HEI) and research officers
- Technical support, training and funding to develop impact case studies
- Mentoring or support from those who have previously been through the process
- Management processes to prepare for the REF
- Decisions around contracts, hiring and promotions

Approaches to selecting outputs

Institutions use academics (internal or external to their HEI) and research officers to review and grade outputs or impact case studies for the REF. The degree to which academics and institutional leaders found that reading and grading papers was helpful differed. Some academics and an institutional leader found it useful to have review exercises because they provided extra support. Some noted friction around the review of outputs due to the burden of review – which, participants reported, often fell to mid-career or senior academics, taking time away from grant applications. In addition, participants flagged their concern that review outcomes were used for promotion decisions, and noted that there was some resistance among academics. One institutional leader perceived there to be greater resistance in the humanities and the social sciences, which are traditionally more lone-scholar disciplines, compared with Medicine, health and life sciences, where there may be a greater degree of familiarity with regular input to outputs. Further, it was suggested that this process may be more valuable before the research was published and finalised, to allow scope to develop and to improve the research, and thereby reduce resistance.

Mock exercises conducted on an annual or biannual basis were mentioned by some as institutional preparation for the REF.

These ‘mini REFs’ were an opportunity to go through the mechanics of the process so that departments could make strategic decisions at an early point to focus research over the submission period and help academics understand what to submit. These ‘mini REFs’ often attempted to include people who have experience of REF panels to provide insight. Some institutional leaders also emphasised the importance of having a structure and system for the REF in place early on, including regular review of REF outputs, and having interim deadlines to decide on final outputs for the REF. However, others highlighted the burden of such exercises and noted that a more light-touch and consistent approach would be better.

A small proportion of academics said that because of the shortage of time, institutions would use metrics (such as journal impact factor) to select outputs to submit for REF. One academic highlighted that if their internal review processes predict the wrong score for the papers (based on their metric scoring), it was important to illustrate that more than citation metrics matter in the REF scoring.

Technical support, training and funding for impact case studies

Academics and leaders said that institutions have different processes in place to provide technical support and funding for impact case studies. This includes providing

funding to assist with writing impact case studies (e.g. hiring a research assistant to assist with collecting data and providing evidence). Institutions have also hired external consultants and impact officers to help understand the REF, write outputs, and review papers. Having external consultants was thought to be helpful, particularly as the REF impact case study might not be aligned with the writing style of different academics. Impact case officers and research assistants have also been used to take the burden off academics to collect evidence, which was perceived to be helpful. However, academics also stated that there were challenges with the support they received in collecting data to support narratives in the impact case studies. In one focus group, academics noted that their institutions will adapt to the REF to benefit the institution rather than individual academics, which creates increased pressure for researchers. They also noted that their institution had employed people to follow up with researchers, but they stated that these people had not necessarily helped with the REF, and that it would save time to just go through the Researchfish²⁶ entry instead. One academic also noted that there were challenges for those doing interdisciplinary research in their institution to receive financial support, as REF allocates money to each unit of assessment. Some academics also noted that academics could apply for funding to develop their impact case study.

Some institutions used training events to, for example, clarify REF policies and changes, such as open access, and provide insights into how to write a good impact case study, how to select a journal, and how to use preprints as part of the REF process. Some academics

noted that regular training and communication was important to help clarify the process.

Mentoring or support from those who have previously been through the process

Some researchers found it useful to have mentors and professors involved in providing support for the REF. Examples include a research mentor or colleagues in their department, as well as research office staff or a dean of research who had previously been involved in REF. Institutional leaders said that UOA leads or heads of department review papers, ensure that scores are given, support people with impact case studies, and provide additional support if needed. Some have created directors of impact in bigger departments and schools in their institution, and the director of impact and director of research will collaborate to provide support to academics. Deputy deans of research in their institution will also work with the UOA groups to ensure that preparations move forward. In one instance, the institutional leader was also involved in going through every impact case study. Other types of support included teaching relief, internal and external reviewing of different parts of the REF, workshops, and writing support. One institution had tried to provide more support to professional service colleagues. One academic also highlighted that the support from their institution had improved as a result of the COVID-19 pandemic.

Some institutions have set up management processes to prepare for the REF

One institutional leader highlighted management processes they have in place to prepare for the REF. Aspects that were highlighted were a review of all the UOAs as part of the REF to decide on which ones

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Researchfish is an online platform for reporting research outcomes used by the majority of public funders in the UK (<https://researchfish.com/>).

were viable for continuation, and which areas could grow, change, merge, and be submitted when they had not been submitted to the REF before. The decisions in the review process were subject to both internal and external review. They stated that this was important in establishing the support and development agenda for the REF in their institution. There was also a REF away-day a year before submission in one institution, where the institution formalised the final deadlines and review of papers, case studies, and environment statements. Academics noted that central management systems, such as databases, have also been used to collect research outputs. One academic said that they had a less centralised support system in their institution, as their REF submission had been coordinated by two senior lecturers in their department. One REF manager also noted that it was important to have a strong REF management team in place from the outset of the assessment cycle to gather evidence as the cycle progresses.

Institutional leaders highlighted aspects of preparation in their institution that they found particularly positive. These included collaborative work towards a common goal, which created a shared sense of achievement for a positive REF submission, and using REF preparations to contribute to decision making in institutions, in particular deciding where they should prioritise providing support to academics through the monitoring exercise used for the REF. Similarly, one research manager noted that they benefited from including REF in their research strategy and having a centralised REF planning system that tracks the number of outputs, and that they set deadlines mid-way and at the end of the process to ensure that REF 2021 was focused on throughout the process. This has been resource and time consuming at the

HEI, but participants noted that it helped with submission in the long run.

Institutional leaders also highlighted some of the challenges of the management structures that are in place to prepare for the REF, particularly around the time it takes to prepare for the REF. However, the time spent on preparing for the REF might differ among institutions, as two institutional leaders from one institution said that preparations for the REF at their institution were more extensive than preparations at other institutions. One institutional leader also noted that they had to change some of their management processes because of changes to REF, such as prioritising their code of practice and defining the research that falls within the scope for significant responsibility for research. As a result, they stated, REF had become a research audit framework and the volume of work had increased, particularly for less research-intensive HEIs. They also thought that the amount of preparation that had gone into the REF in their institution had increased because of COVID-19.

Research managers reflected on the fact that there are different processes in place to prepare, largely depending on the size of the institution. One research manager said that while the institution has a team that manages the REF process, the perception at the institution is that REF is something that comes up infrequently, where the HEI looks back on what they have achieved, rather than being a process that they proactively prepare for. They hoped that, moving forward, REF will be more embedded in institutional processes and more proactively prepared for. Another research manager said that the degree to which institutions are able to prepare for the REF depends on the size of the HEI and available resources, as less research-intensive HEIs have to split resources with teaching rather than purely administration around research – such as the REF.

Institutions have made contract, hiring and promotion decisions to prepare for the REF, which, most academics stated, was an unwelcome consequence of the REF

The preparation process for the REF that was most frequently mentioned by academics (although not necessarily based on personal experience) was the creation of new contracts and the use of REF as a basis for hiring decisions in their institution. Academics said that institutions had created new contracts to distinguish between academic and non-academic researchers, that the REF has been used as leverage against or for promotion, to hire new staff, and to create teaching and research pathways. They also said that research allocation was tweaked for the REF and to put academics under special circumstances. One academic said that although their institution had not created new contracts, they thought that other institutions had. These findings were not necessarily based on personal experience, but reported as happening in other institutions. As noted in Section 3.1.1, these findings also appear to be in contrast to the survey findings, in which the vast majority of researchers indicated that they had not discussed a change in contract in relation to the REF. As highlighted previously, this discrepancy may reflect a disconnect between reported changes perceived to be happening to academics elsewhere and real changes that academics have experienced.

Academics expressed that they were discontent with the creation of contracts and the making of hiring decisions based on the REF. Reasons that were mentioned for this discontent included that it creates a divide between research and teaching, failed to recognise that research results from community efforts rather than the best efforts of an individual, could have detrimental impacts on good research, failed to recognise inequalities that create barriers to becoming a

researcher, and sent a message that teaching is a punishment for failing in the REF. Two academics agreed that it had particularly detrimental consequences for academics who had children and who were unable to produce REF-able outputs, and had been put on teaching and scholarship contracts as a result. It was also highlighted that it was difficult to get a research contract once you had been put on a teaching-only contract. One academic said that some of these challenges in their institution had been addressed by a colleague who had asked to have a reduced workload in order to get them back on a research contract. Participants thought that, instead, institutions should value diversity and recognise some of the barriers to becoming a researcher.

The negative impact of the REF on hiring and contract decisions in institutions was countered by one academic, who appreciated the creation of new contracts for the REF. They said that to prepare for the REF, their institution had put early career research staff on contracts so that they could be submitted for the REF. Some also reported that there had been some improvements and that there was less of a distinction between teaching and research staff in the latest REF.

Institutional leaders recognised some of the challenges related to the creation of new contracts, but said that they had tried to avoid creating new contracts at their institution. Institutional leaders said that the REF informed institutions' decisions about strategic hires for the institution and that they had given colleagues the opportunity to develop a new career path in education and teaching based on workload management (rather than the REF). They also indicated that they had not submitted staff to the REF who worked with more applied research and that they had changed the 'profiles' of academic staff to a 'teaching and learning profile' because they did not fit the REF criteria. One institutional leader

said that there was some disquiet around the creation of new profiles, but that academics had come to recognise that their work was more focused on teaching than on research. Another institutional leader highlighted some of the challenges around the SIGRESS criteria,

which make it more difficult to hire researchers with significant industry experience. Even though these researchers do not fit traditional academic research profiles (e.g. publication records), they often do not consent to moving to a teaching-only contract.

4 General attitudes towards the REF

Having asked about attitudes towards specific elements of the REF, we were interested in overarching views on the beneficial and detrimental qualities of the REF and its influence on researchers in the UK. This section explores findings from the different data collection activities along these themes. The key findings are presented in the box below.

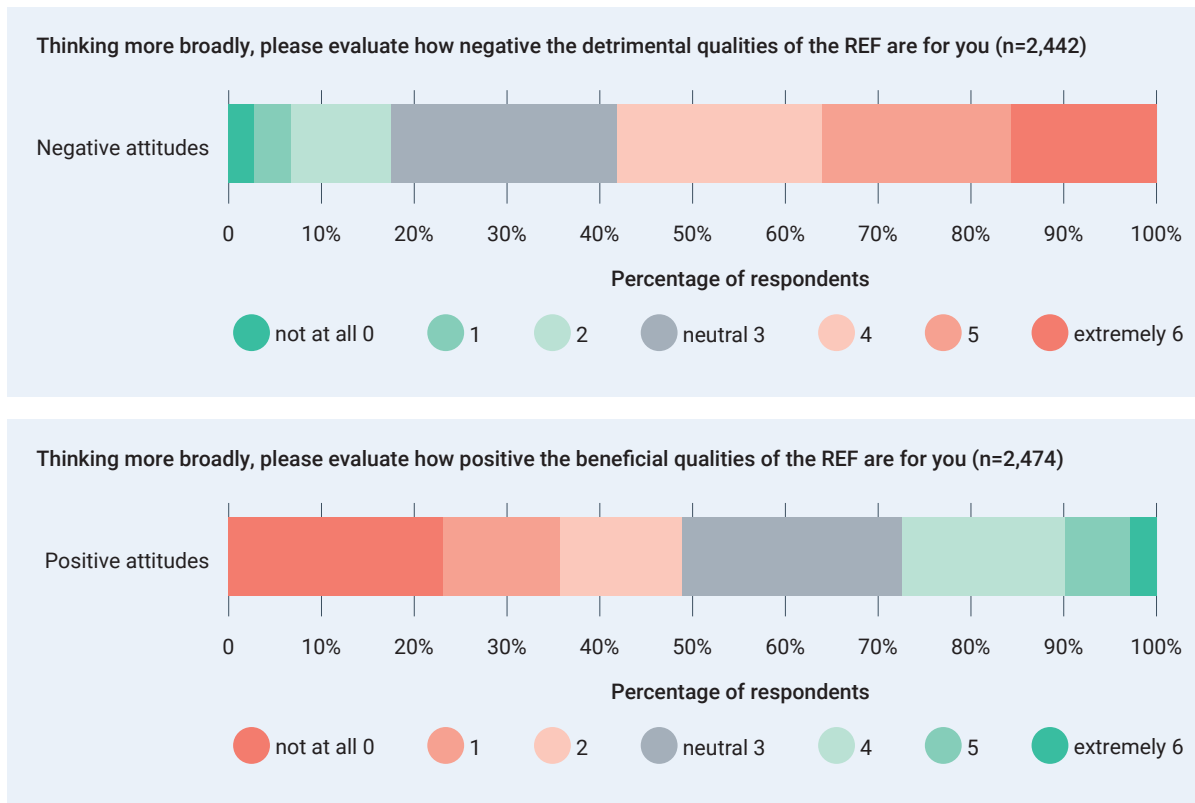
Key findings on general attitudes towards the REF

- Researchers have varied views on how positive and negative the beneficial and detrimental qualities of the REF are for individual researchers.
- The majority of researchers stated that, overall, to a lesser or greater extent, the REF has a negative influence on UK researchers.
- Some academics and institutional leaders raised a number of positive aspects of the REF.

4.1. Researchers have varied views on how positive and negative the beneficial and detrimental qualities of the REF are for individual researchers

Nearly 60 per cent of survey respondents reported that the detrimental qualities of the REF were negative for them (Figure 15, top), whereas only 20 per cent of respondents stated that the beneficial qualities of the REF were positive for them (Figure 15, bottom).

Attitudes towards the detrimental and beneficial qualities of the REF did not differ across career stages or main panels. However, attitudes from researchers working in research-intensive HEIs were less positive and more negative²⁷ than from less research-intensive institutions (Table 12). Possible drivers for these results are discussed in the remaining sections of this chapter. Examining changes in the longitudinal sample across two years, we noted that researchers reported no significant change in the perceived benefit or costs of the REF on their own activities (Table 13). These responses are also broadly aligned with the averages in the national survey.

Figure 15: Researchers' views on the detrimental and beneficial qualities of the REF**Table 12: Mean responses and sample sizes for survey respondents' views on the detrimental and beneficial qualities of the REF by main panel, career stage and research intensiveness of the HEI**

| Category | Detrimental | | Statistical significance | Beneficial | | Statistical significance |
|--------------------------|-------------|-------|--------------------------|------------|-------|--------------------------|
| | Mean | n= | | Mean | n= | |
| All researchers | 3.84 | 2,474 | | 2.34 | 2,442 | |
| Main Panel A | 3.78 | 653 | NS | 2.40 | 667 | NS |
| Main Panel B | 3.80 | 526 | NS | 2.40 | 535 | NS |
| Main Panel C | 3.86 | 804 | NS | 2.31 | 819 | NS |
| Main Panel D | 4.03 | 434 | NS | 2.21 | 426 | NS |
| Early career researchers | 3.85 | 568 | NS | 2.38 | 5,573 | NS |
| Mid-career researchers | 4.00 | 812 | NS | 2.26 | 826 | NS |
| Established researchers | 3.79 | 1,037 | NS | 2.36 | 1,048 | NS |
| Less research-intensive | 3.79 | 1,299 | * | 2.47 | 1,318 | ** |
| Research-intensive | 3.95 | 1,118 | * | 2.20 | 1,129 | ** |

Key: * = $p < .01$. ** = $p < .001$. d = Cohen's effect size; NS = non-significant.

Table 13: Survey respondents' views over time on the detrimental and beneficial qualities of the REF

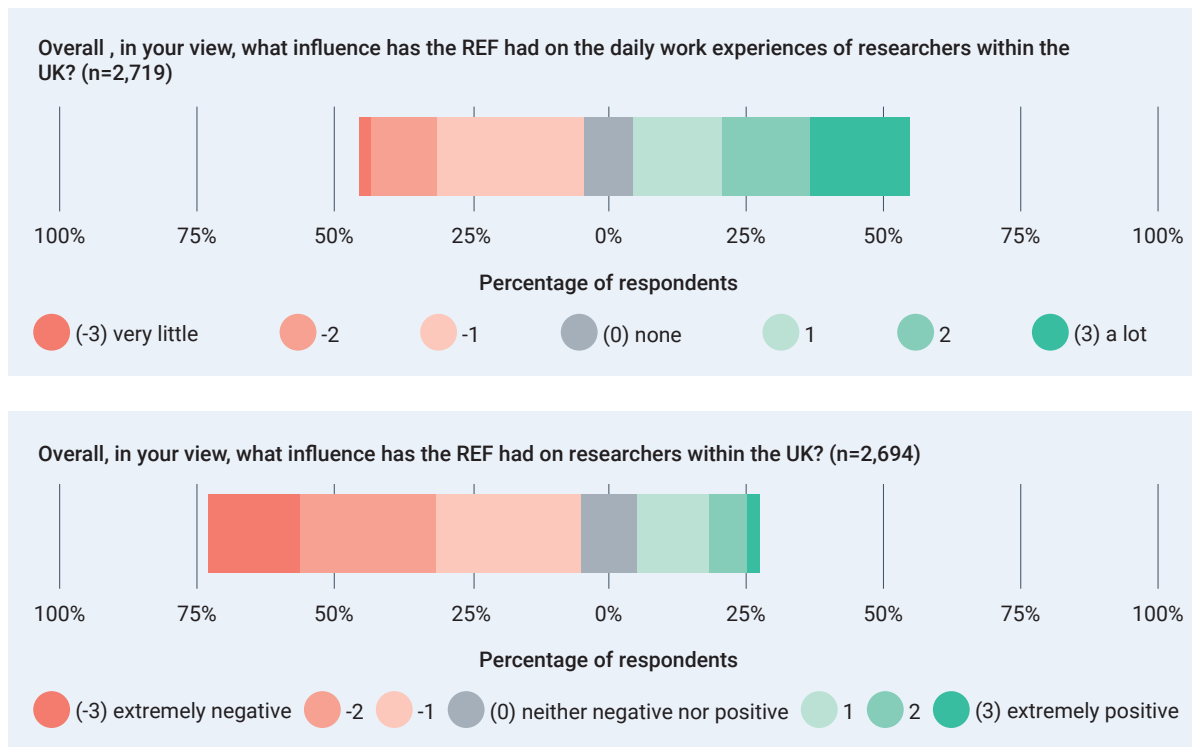
| View | n= | Mean (2018) | Mean (2020) | p value |
|-------------|-----|-------------|-------------|---------|
| Beneficial | 120 | 2.74 | 2.45 | 0.05 |
| Detrimental | 117 | 3.66 | 3.82 | 0.05 |

4.2. The majority of researchers stated that, overall, the REF has a negative influence on UK researchers

Researchers responding to the survey were asked to consider the influence of the REF on the daily work experiences of UK researchers (Figure 16, top) and then evaluate the overall influence of the REF on UK researchers (Figure 16, bottom). Table 14 presents the adjusted means here. Respondents perceived that the REF does have an influence on the daily

work experiences of UK researchers. This is reflected in Figure 16, which shows that while responses were slightly weighted towards the REF having had an influence, they were generally spread evenly either side of the neutral position. Responding to questions on the influence of the REF on UK researchers overall, respondents answered that the REF has a negative influence; indeed, just under three-quarters of respondents indicated, to a lesser or greater extent, that the REF has had a negative influence on researchers in the UK.

Figure 16: Researchers' views on the overall influence of the REF on daily work experiences and on UK researchers



There are no differences by career stages when we consider the overall influence of the REF on UK researchers, but there are differences among disciplines and types of institution (Table 14). Social scientists (Main Panel C) reported more influence of the REF on researchers and their daily working experience than researchers in Medicine, health and life sciences or Physical sciences, engineering and mathematics (Main Panels A and B).

Considering the overall impact of the REF on UK researchers, although all views highlighted a negative influence of the REF on UK researchers, respondents from Physical sciences,

engineering and mathematics (Main Panel B) were the least negative about the influence of REF, while those in Arts and humanities (Main Panel D) were the most negative about the influence of REF. In addition, those working in research-intensive HEIs perceived more of a negative impact on the research community compared with colleagues in less research-intensive institutions.

Looking at the longitudinal data, we note that perceptions of the positive or negative impact of the REF on UK researchers stayed the same – namely, mildly negative – across two years (Table 15).

Table 14: Views on the overall influence of the REF on UK researchers by main panel, career stage and research intensiveness of the HEI

| Category | Amount of influence on daily work experiences | | | Positive or negative influence on researchers | | |
|--------------------------|---|-------|--------------------------|---|-------|--------------------------|
| | Mean | n= | Statistical significance | Mean | n= | Statistical significance |
| All researchers | 0.43 | 2,719 | | -0.97 | 2,694 | |
| Main Panel A | 0.28 | 736 | **C | -0.95 | 722 | NS |
| Main Panel B | 0.29 | 588 | **C | -0.77 | 593 | **D |
| Main Panel C | 0.68 | 894 | **A,B | -0.95 | 888 | NS |
| Main Panel D | 0.46 | 472 | NS | -1.25 | 463 | **B |
| Early career researchers | 0.43 | 656 | NS | -0.91 | 658 | NS |
| Mid-career researchers | 0.42 | 924 | NS | -1.11 | 912 | NS |
| Established researchers | 0.43 | 1,110 | NS | -0.91 | 1,096 | NS |
| Less research-intensive | 0.48 | 1,447 | NS | -0.88 | 1,427 | *RI |
| Research-intensive | 0.36 | 1,243 | NS | -1.08 | 1,239 | *LRI |

Key: * = $p < .01$. ** = $p < .001$. NS = non-significant; RI = research-intensive; LRI = less research-intensive.

Table 15: Survey respondents' perception of the influence of the REF on researchers over time

| Category | Mean (2018) | Mean (2020) | n= | Statistical significance |
|---|-------------|-------------|-----|--------------------------|
| Positive or negative influence on researchers | -0.78 | -0.89 | 134 | NS |

Box 3: Reasons for negative attitudes towards the REF

Impacts on individuals:

- There is a perception that the burden of the REF (e.g. in terms of time, costs and workload) outweighs the benefits.
- There is a perception that the REF has had a negative impact on individual research careers.
- There is a dislike of being assessed and frustration at pre-submission assessment.
- Negative perceptions were believed by participants to differ depending on the individual researcher's involvement with the REF and the support that the researcher receives.

Impacts on the HEI sector in the UK:

- There is a perception that the REF is misaligned with the research priorities of academics.
- There is a perception that the REF is a form of performance management.
- Overall, there is a lack of understanding of what the REF is trying to achieve, and this lack of understanding drives certain behaviours in the system.

In alignment with the survey, the majority of academics in the focus groups had a negative attitude to the REF. While some stated that the survey findings were aligned with their personal view, other academics were surprised that the attitude to the REF in the survey came out as only mildly negative. These more negative attitudes were explained by negative consequences participants had observed and experienced which they attributed to REF. Reasons that they provided for their negative attitude to the REF are summarised in Box 3.

The burden of the REF is perceived to outweigh the benefits

The most frequently mentioned reason for the negative attitudes to the REF is the excessive burden it created in terms of time, resources (in terms of costs for both the individual and the HEI), and workload required to complete the REF exercise for both academics and administrators. Some academics, as well as REF managers and institutional leadership, reported that it was

overly bureaucratic. Research managers and institutional leadership argued that the burden increased with each exercise, as the rules evolved and additional measures were added which required collecting, collating and auditing additional information. There was disappointment that while the intention of the Stern Review and rhetoric from the funding bodies following the review of REF 2014 had been to reduce the burden, the perception was that this had not materialised in practice. They stated that the changes to the rules designed to reduce burden had just shifted it. For example, the inclusion of all staff had shifted the focus from selecting individuals to collating a larger pool of outputs.

Many academics said that the cost of the exercise outweighed the benefits, and that the opportunity cost of the REF was significant; reviewing colleagues' papers or developing documents solely used for assessment, such as impact case studies or environment statements, took away time which would have been spent doing research. As noted by one academic: *'The*

cost is too high compared to the benefit. It is a big competition ranking institutions, and this could be achieved another way.'

Institutional leaders were more balanced, viewing the REF as a good way to monitor research within HEIs, but they still stressed the high level of detail required (and therefore the academic and administrative time needed).

Related to the issue of burden, some academics stated that there had been duplication of effort in the review of outputs. They reported that outputs assessed through the REF have been assessed elsewhere – for example through the publication in peer-reviewed journals or the funding through grants, and yet still had to be rated by an internal REF panel at the institution level, as well as during the submission itself. There is a belief that many judgements by the REF panels are made on metrics, such as journal impact factor. This affects the institutional assessment, which, academics reported, also use metrics to determine what outputs to select for assessment. This belief is linked to frustration that assessment within the HEIs is conducted by colleagues who, academics sometimes think, do not have the knowledge to assess and comment on their work.

One academic suggested that, as publications can take a long time to be accepted, they could be re-evaluated by different REF panels within different cycles of REF, often resulting in inconsistency across scores. Some participants questioned the need of REF 2021 to drive open access. There was a feeling in one focus group that inclusion of open access requirements in REF 2021 was duplicating existing efforts in this space, such as policies from other parts of UKRI, who are already supporting open access, and in one instance even stated it was not within the remit of the REF to drive this.

The perceived burden compared with the perceived benefits resulting from the REF was argued to differ depending on an individual's role in the process and their level of participation in REF preparations. Focus group participants stated that those who are less involved in REF preparations often reported that it was a bigger burden than did those who are heavily involved. This was echoed by some institutional leaders, who said that their perception of the burden of the REF had been greater when they were less involved.

Some academics believed that the perception of burden was dependent on the financial gains to the institution from the REF. Some academics from research-intensive institutions believed that the costs were therefore higher for less research-intensive HEIs, as these HEIs receive less benefits with a higher burden. This was not a view generally shared by researchers in less research-intensive HEIs. However, one interviewee highlighted that some research-intensive HEIs have over-engineered the process, which created additional burdens for them as an institution.

Furthermore, some also stated that the burdens of the REF have been exacerbated by the COVID-19 pandemic. Focus group participants said that extra administrative work and having to adapt their ways of working, by, for example, changing teaching materials, had contributed to other burdens on academics, alongside REF. Some said that this burden was not sufficiently recognised by REF. Interviewees also expressed that the drain on a large number of people's time was complicated by COVID-19 and had created additional pressures on people's time. Some research managers disagreed with this, as they expressed that the extra time given to the REF because of COVID-19 had been appropriate and the extra time also recognised the challenges faced by HEIs during the pandemic.

REF has a negative impact on individual researcher careers

Several academics described how the REF, and its results, are used to measure the success, or otherwise, of individual academics. One academic noted that: *'there is a tension between decisions made in terms of getting the best possible outcome for the REF and then impact on people's careers.'* Some gave examples of where they believed poor performance against REF criteria had resulted in termination of employment, or movement off a research-active contract. This type of pressure meant that the REF worries and upsets some academics and affects well-being. Some academics stated that pressure was put on individual researchers because of the REF, either by making them submit to the REF or by punishing researchers if they were not aligned with the REF. However, one academic highlighted that the proliferation of demands on academics should not be conflated with the demands on academics through the REF. One academic also said that there was an emotional burden of interacting with individuals for the REF. This was contradicted by others, who said that a lot of the stress and anxiety of the REF has gone out of the system with the most recent changes. However, they noted that there was still a significant burden for those writing an impact case study, in particular because, they said, the amount that each impact case study is worth has increased in the latest REF cycles.

Some stated that the problem with the REF was not what it tries to achieve, but how it is operationalised. One academic said: *'I am on the supportive side of the REF in principle, but I am critical of the institutional handling of REF. There are negative aspects around the administrative burden associated internally in terms of preparing submissions. I have experience at previous places I have worked where sometimes you see that not*

the best institutional management behaviours have come through.' They disagreed with how the REF measures research. Specific aspects that were highlighted were: use of metrics, demonstrating impact, the focus on a particular type of output (journal articles), assessment and value of interdisciplinarity, and creation of HEI rankings (see Chapters 2 and 3 for more detail on these different aspects).

There is a dislike of being assessed and frustration at pre-submission assessment

When academics were asked about their general attitude towards the REF, many said their negative attitude towards the exercise was due to a general dislike of being assessed. One institutional leader also said that academics are fatigued by the very principle of research management. Some stated that the REF was a form of individual performance management based on judgements of an academic's research by individuals and panels who were not qualified to assess these outputs. This was mentioned particularly when deciding which outputs from an institution should be submitted, where assessors were not qualified either because it was outside the reviewer's field of expertise or because they were not an academic. These challenges may be amplified in small departments, where internal panels may not have specialist knowledge of all research conducted in the department. This sentiment was echoed by several academics, who said that there were disparities between the scores generated by internal and external reviewers.

For some academics, there is a lack of understanding of, and agreement with, the underpinning logic of the REF. Some stated that they had invested significant time into submitting only what they considered to be 4* papers, but that only half of their papers were given a 4* rating. As a result, they stated, their 'best efforts were only just good enough'.

In particular, there was frustration at REF processes introduced by institutions, with the assessment of outputs to be submitted to REF being conducted by those who were not best qualified to make judgements (e.g. research support or academics from unrelated areas – within or beyond one’s own institution) to decide on the output’s quality and whether it should be submitted or would score well. There is a feeling that research was monitored by a third party or people who do not understand the processes that academics have to go through. Some also highlighted that the REF is a subjective rather than objective exercise, and that it therefore became an emotive process to participate in. Some academics reported that the dislike of being assessed was due to the impact of assessment on academic creativity. They said that there is a general fatigue around targets and testing, and academics feel like they constantly have to prove their worth, which can stifle academic creativity.

Several institutional leaders also reported a general dislike of the fact that REF was aligned closely to the league tables. One institutional leader said that the REF created a league table culture that failed to recognise all the ‘fantastic research’ that is being conducted in the UK. Academics said that the REF perpetuated the status quo of funding allocation to less research-intensive HEIs, and they stated that hiring people for the REF decreased the pursuit of research excellence at their institution. One academic highlighted the development at their institution, where professional services staff have been hired to support research development, which has coincided in a reduction in researchers in the research-active tenure track.

Negative perceptions were believed by participants to differ depending on one’s involvement with the REF, institutional processes and the support that individual researchers receive

The negative perceptions of the REF were believed to differ depending on the involvement in the REF process for different groups within the HEI (such as different disciplines).

However, some academics and institutional leaders noted that perceptions of the REF depend on how institutions carry out the exercise, rather than the REF itself. For instance, one academic stated that perceptions were more negative if the REF was driven more by top-down than by bottom-up initiatives (e.g. in discussion with academics). This was echoed by some academics, who noted that their negative views towards the REF were influenced by the lack of support from management within their institutions. For example, a lack of communication and training was noted by focus group respondents. This results in a lack of understanding across an institution of how HEIs and the REF rank topics and outputs in the REF and an inability by academics to convey that the REF should not be ‘the be all and end all’.

There is a perception that the REF is misaligned with the research priorities of academics

Some focus group respondents stated that the REF did not align with the research priorities of academics in the UK. They believed that the REF was disconnected and distanced from the research that academics want to carry out in HEIs. In some instances, it was noted that HEIs and individual academics had aligned their research agenda with what they believed would score highly in REF, for example a focus on applied rather than blue sky research, publication of journal articles rather than books (this was highlighted by respondents

in Main Panels C and D), or research areas that were not novel and that span the REF units of assessment structure (i.e. often interdisciplinary or boundary-spanning work) (see Section 2.1.4). Some academics stated that their negative attitude stemmed from the perception that there was a lack of trust in the REF that academics will carry out good research or that academics know what works (see Section 5.1.1). One institutional leader reported that this disconnect was a result of the connection between league tables and the REF. One academic said that the pigeon-holing and categorisation of funding from the REF results in innovative work not receiving support. Some attributed the disconnect between the REF and academics' priorities to the way in which the REF is managed in an institution. They said that the internal panels stifle innovation and approach the REF with a very narrow oversight. The REF is perceived to have created a risk-averse culture in some institutions around publications, due to uncertainty around the panel's assessment.

Misalignment reported by academics was also perceived to be influenced by the type of HEI. One academic stated that the REF had led to some challenges in less research-intensive HEIs, as the REF has created an environment in which research is perceived as an income-generating rather than a knowledge-generating activity. One academic attributed the misalignment with the REF to their institution being a teaching-centric HEI and said that the REF does not align with the priorities of their colleagues. One institutional leader highlighted that they tried to counter some of these pressures and make sure that different types

of research are valued and that their institution celebrates research that does not end up in the REF. For instance, one academic said that the non-hard science disciplines find it more difficult to categorise their work against the REF criteria.

Overall, there is a lack of understanding of what the REF is trying to achieve, which drives behaviours in the system

Overall, some academics said, there is a lack of understanding of what the REF is trying to achieve (see Section 5.1 for further discussion around the purpose of the REF). One academic said that it was unclear what the purpose of the REF was and that if the purpose were better explained, academics might feel more positive. The lack of understanding of what the REF is trying to achieve was reported to have an impact on the performance management of individuals, resulting in a lack of collaboration between academics on research and interdisciplinarity. Institutional leaders noted that the REF was too closely aligned with the rankings.

4.3. Some academics and institutional leaders raised a number of positive aspects of the REF

Some academics and institutional leaders said that their overall attitude to the REF was positive. In addition, other focus groups identified positive aspects, even if their attitudes were broadly negative. Positive aspects that were highlighted are included in Box 4.

Box 4: Reasons for positive attitudes towards the REF

Individual impacts:

- The REF values different types of research
- The REF has led to positive promotion and hiring decisions

Impacts on the sector:

- The REF has contributed to wider HEI research strategy
- The REF has contributed to a drive to focus more on research quality than on quantity
- The REF has facilitated increased investment and funding

Other reasons for the positive views held by academics and institutional leaders included the emphasis REF places on impact and the positive attributes of REF processes, including that REF is transparent, fair and accountable and that it uses a common framework for assessment in institutions. These advantages were highlighted by several participants when comparing the REF to research assessment systems in other countries.

The REF values different types of research

The REF was perceived as valuable by some academics and institutional leaders because it values different types of research and measures research performance across different HEIs and because the REF has been crucial for the sustainability of particular disciplines (such as sports and exercise sciences). As noted by one academic, *'The aims of the REF are very positive because it allows research to be funded for the department rather than individual groups, and so this could help to fund individuals who may not get funding otherwise.'*

Three institutional leaders also said that the REF valued the spectrum of disciplines, which had been important for the sustainable financing and recognition of these disciplines. Overall, one academic stated, because the REF

values different types of research, it is more fair than other assessment systems.

Influence on promotion or hiring decisions in HEIs

Some academics stated that their overall attitude towards the REF was positive because they had personally benefited by being hired or promoted based on the value an institution placed on their current or future contribution to REF. One academic wrote: *'You know, if you've got a good individual track record that would align itself to do well, the REF, then chances are your career is going to blossom, you'll get promotion, you'll get recognition, you'll be feeling valued and secure [in] your job.'* Focus group participants argued that this was valuable to retain high-quality academics within the UK system and that it helped ensure that appointments are based on merit rather than nepotism and favouritism. One academic suggested that *'The REF was a way for people who were productive but not conventional to have a career that would not otherwise be possible, and so for me it worked to my advantage. The REF has created opportunities that are ignored.'* This drive to recruit and retain those who perform was also echoed by several institutional leaders, with one saying: *'it [the REF] has really forced universities to think about the research quality and research potential of*

Box 5: Examples given by institutional leaders of areas that the REF had contributed to delivering

- Set up world-class research centres and laboratories
- Contribute to the promotion of research and scholarship across HEIs
- Inform HEI strategies
- Accelerate and promote policies and conversations related to research, integrity, impact and responsible metrics
- Get more contacts from local businesses because of an improved focus and discipline resulting from the REF
- Make HEIs consider and conceptualise 'what good looks like' and adapt strategies and structures accordingly

the people that they hire and the people that they promote' and ensures that recruitment is merit based.

The REF is perceived by institutional leadership to contribute to wider HEI research strategy

The most frequently mentioned positive that institutional leadership highlighted about the REF was its contribution to wider HEI research strategy. They noted that the REF was a good exercise to monitor research across the institution, to take stock and to focus the business of HEIs on research. Institutional leaders also highlighted that REF gave them leverage to implement policies HEIs wanted to introduce. Some of these are listed in Box 5.

The REF has contributed to a drive on research quality over quantity

In contrast to the findings of the survey and some of the focus group participants (see Section 2.1.3), there was a feeling among some academics and institutional leadership that the REF has contributed to a focus on research quality over quantity compared with the 1980s. As one academic noted: *'It forces us to think about how to produce the highest-quality research.'* The REF's contribution to a drive

on research quality over quantity was echoed by one institutional leader, who argued that some of their highest-scoring research is not funded by competitively awarded grants, and therefore scoring highly in the REF expanded the definition of quality.

The REF has facilitated increased investment and funding

One academic said that the REF was important because it justifies QR funding. This point was also echoed by some institutional leaders, who stated that QR funding under the REF was more valuable than giving money to the research councils and asking them to spend it, because, they stated, it would probably reduce the quality of research going on in HEIs and be more expensive than the REF. One institutional leader also said that the REF was a 'lifeline' for specific topic areas that lack dual funding systems, and that the funding that had been received from the REF was crucial from a sustainability perspective. One leader from a less research-intensive institution also said that the REF provides very important strategic financial support for smaller HEIs in the UK, even if they receive comparatively less than larger and more research-intensive HEIs. This was countered by one academic who

said that QR funding is related to the REF, but that if the REF were changed, the system still would be oriented towards QR funding. So they suggested that there should be a disconnect between the two. One institutional leader also noted that funding allocations could happen without the REF. As a funding allocation mechanism, one institutional leader said, that the REF is too over-engineered.

5 Looking to the future of the REF

Researchers were asked to think about a number of themes related to the future of the REF in the different data collection activities. These included what purposes the REF *should* hold, how the REF has changed research culture within their community, and what the overall future of the REF should be. This section explores findings from the different data sources that are aligned to these themes.

Key findings on views from survey respondents, and focus group and interview participants, on the future of the REF

- There is a lack of clarity on the purpose of the REF, and there are a range of views on what the purpose of the REF should be.
- There are divergent views on what the future of the REF should be.

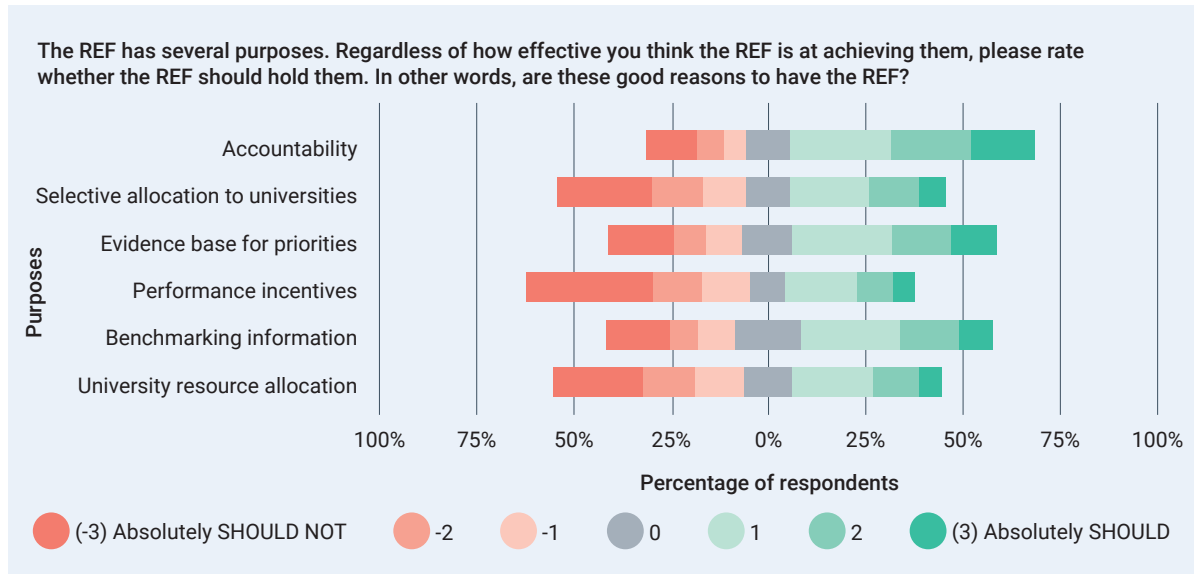
5.1. There is a lack of clarity on the purpose of the REF, and there are a range of views on what the purpose of the REF should be

Respondents to the survey were asked for their views on the appropriateness of the different

purposes of the REF, which were specified in the survey as:

- To provide accountability for public investment in research
- To inform the selective allocation of funding to HEIs for research
- To provide an evidence base to inform strategic national priorities
- To create a performance incentive for individuals and HEIs
- To provide benchmarking information
- To be used by HEIs and other bodies to inform decisions on resource allocation

Overall, the top 3 preferred purposes were: accountability, evidence base for priorities, and benchmarking information (Figure 17 and Table 16). However, even within these preferred purposes, there were divergent views, with at least 25 per cent of respondents stating these purposes were inappropriate. The majority of respondents stated that the REF should not have the purpose of creating a performance incentive for individuals and HEIs, guiding the allocation of resources within HEIs, or informing the allocation of funding to HEIs for research.

Figure 17: Survey respondents' views on the appropriateness of REF purposes

Importantly, there are differences among type of respondent surveyed (Table 16). Early career researchers were more likely than more-established researchers to endorse accountability and strategic national priorities as two legitimate purposes. Established researchers, on the other hand, were least likely to disagree with funding allocation for HEIs and within HEIs as legitimate purposes the REF should have and most likely to endorse benchmarking as a purpose.

Looking at views on these different purposes by discipline, Medicine, health and life sciences (MPA) were more likely to endorse accountability as a purpose, whereas Arts and humanities (Main Panel D) reported to feel neutral about this. Researchers in Arts and humanities (Main Panel D) were least likely to

endorse all other purposes, and they deviated from the other disciplines in this respect.

Finally, less research-intensive HEIs were more likely to endorse, or less likely to disagree with, nearly all purposes except selective allocation of funding to HEIs, which researchers tended to disagree with regardless of type of institution. Specifically, researchers from less research-intensive HEIs were more likely to endorse accountability and benchmarking information and were the only group to endorse strategic national priorities. Researchers from research-intensive HEIs were less likely to disagree with performance incentives and resource allocation within HEIs; however, they generally stated that the REF should not be used for benchmarking information and were typically neutral on strategic national priorities.

Table 16: Survey respondents' views on the appropriateness of REF purposes by Main Panel, career stage and HEI research intensiveness

| | | All | MPA | MPB | MPC | MPD | ECR | MCR | ER | Less research-intensive | Research-intensive |
|---------------------------------|-----|-------|--------|-------|-------|--------|-------|-------|-----------|-------------------------|--------------------|
| Accountability | M= | 0.57 | 0.97 | 0.64 | 0.46 | 0.16 | 0.71 | 0.46 | 0.49 | 0.68 | 0.43 |
| | n= | 2,479 | 676 | 535 | 816 | 427 | 588 | 814 | 1,052 | 1,328 | 1,126 |
| | Sig | | *C,D | *D | *A | *A,B | NS | NS | NS | *RI | *LRI |
| Funding to HEIs | M= | -0.44 | -0.50 | -0.33 | -0.40 | -0.77 | -0.62 | -0.61 | -0.26 | -0.48 | -0.52 |
| | n= | 2,481 | 676 | 538 | 811 | 431 | 590 | 813 | 1,053 | 1,324 | 1,132 |
| | Sig | | NS | *D | *D | *B,C | *ER | *ER | *ECR, MCR | NS | NS |
| Evidence-based priorities | M= | 0.15 | 0.42 | 0.28 | 0.09 | -0.25 | 0.31 | -0.02 | 0.10 | 0.26 | 0.00 |
| | n= | 2,432 | 670 | 525 | 799 | 415 | 573 | 790 | 1,046 | 1,310 | 1,099 |
| | Sig | | *C **D | **D | *A | **A,B | *MCR | *ECR | NS | *RI | *LRI |
| Performance incentives | M= | -0.83 | -0.78 | -0.62 | -0.85 | -1.15 | -0.77 | -0.92 | -0.86 | -0.73 | -0.97 |
| | n= | 2,502 | 680 | 541 | 821 | 435 | 596 | 820 | 1,061 | 1,337 | 1,140 |
| | Sig | | NS | **D | NS | **B | NS | NS | NS | *RI | *LRI |
| Benchmarking | M= | 0.08 | 0.21 | 0.19 | 0.05 | -0.31 | 0.07 | -0.12 | 0.15 | 0.13 | -0.07 |
| | n= | 2,394 | 658 | 516 | 790 | 406 | 569 | 777 | 1,033 | 1,285 | 1,085 |
| | Sig | | **D | **D | NS | **A,B | NS | *ER | *MCR | NS | NS |
| Research allocation within HEIs | M= | -0.47 | -0.43 | -0.42 | -0.43 | -0.82 | -0.52 | -0.70 | -0.36 | -0.40 | -0.65 |
| | n= | 2,470 | 676 | 533 | 810 | 427 | 582 | 810 | 1,054 | 1,320 | 1,126 |
| | Sig | | *D | *D | *D | *A,B,C | NS | *ER | *MCR | *RI | *LRI |

Key: * p <.01. ** p <.001. MP = main panel; ECR = early career researcher; MCR = mid-career researcher; ER = established researcher; RI = research-intensive; LRI = less research-intensive; NS = non-significant.

When asked about the purpose of the REF in focus groups and interviews, academics generally reported a lack of clarity around the purpose of the REF, with one academic noting that *'the REF is confused as to what its purpose is. A rethink of what the purpose is would not go amiss'* (see Section 4.2). Several academics stated that the purpose of the REF could be more clearly worded and better communicated. One academic reflected, *'if people had a better understanding of what the purpose is, and this was explained, then they might feel more positive. The REF is perceived as an external monolith over which you have not too much control and so it is bound to be disempowering.'* This was also supported by REF managers, who noted that the purpose of the REF should be more explicitly articulated by the funding bodies. When probed about the different stated purposes, academics had varied opinions on several purposes, including accountability for public investment, allocation of funding, and performance incentives for individuals or institutions.

Across two sets of responses (2018 and 2020) collected from the longitudinal sample, we asked respondents to rate whether the REF should have certain purposes, using the same set of purposes as was shown to the national

survey sample (Table 17). With respect to most, individuals' views were consistent across two years. Broadly consistent with their earlier views, in 2020 they endorsed accountability for public investment and disagreed with the REF being used by HEIs to inform decisions on resource allocation. They were consistently neutral on the REF being used to drive the selective allocation of funding to HEIs, and for its use to provide benchmarking information.

However, two views changed across two years. First, across time, respondents were more likely to endorse the view that the purpose of the REF should be to provide an evidence base to inform strategic national priorities. Specifically, in 2020 the respondents endorsed the view that the REF *should* be used as an evidence base for informing national priorities, whereas they were neutral on this issue in 2018.

Conversely, whereas in 2018 the respondents in this sample were entirely neutral about whether performance incentives for individuals and HEIs should be a purpose of the REF, in 2020 they stated that this should not be one of the purposes. Thus, the use of the REF as a performance incentive was seen as more negative across the two years of the study.

Table 17: Survey respondents' views on the appropriateness of REF purposes across two years

| REF purposes | Mean (2018) | Mean (2020) | Statistical significance |
|--|-------------|-------------|--------------------------|
| Provide accountability for public investment in research | 0.49 | 0.82 | NS |
| Inform the selective allocation of funding to HEIs | 0.03 | -0.32 | NS |
| Provide an evidence base to inform strategic national priorities | -0.14 | 0.40 | * |
| Create performance incentives for individuals and HEIs | 0.00 | -0.90 | ** |
| Provide benchmarking information | -0.24 | 0.11 | NS |
| To be used by HEIs to inform decisions on resource allocation | -0.05 | -0.45 | NS |

Key: *p <.05. **p <.01. NS = non-significant.

5.1.1. Accountability for public investment

When asked on their views regarding the purpose of REF, academics and institutional leaders considered accountability for public investment an important purpose. One institutional leader highlighted that REF allowed institutions to demonstrate to the taxpayer the high-quality outputs and impact that investment in research and HE has had, as well as demonstrating value for money to the public and government. Academics reflected that engagement with the wider public, as well as end users of research, was an important purpose of REF. This was seen to increase community trust in researchers. Impact case studies were highlighted as having an important role in demonstrating the impact of research. That said, academics did state that more could be done to engage with lay persons.

However, both academics and institutional leaders reported that the REF made the research community and institutions feel there was a lack of trust in them. An institutional leader and a REF manager also stated that there should be a greater degree of trust in institutions and that the REF was used to micromanage institutions.

5.1.2. Allocation of funding

Academics considered the allocation and distribution of funding a purpose of the REF. Academics and institutional leaders reflected that this was an important purpose from an institutional perspective. Despite this, some academics were unsure how money secured through the REF as QR funding was used in their institution and noted that the benefits of funding were not necessarily realised by them personally. One institutional leader reflected that it was important to demonstrate

to researchers that the REF does provide the resources for researchers to carry out many of their research activities, and that this was sometimes not appreciated or understood by researchers who did not appreciate that the REF (and associated QR funding) was a source of income.

Academics also reflected that the REF was an attempt to make funding processes fairer. However, certain aspects of the REF, such as the game playing, were felt by some academics to limit the degree to which the process was fair. In addition, there were concerns by academics around the distribution of funding from the REF. Respondents also noted that funding would often end up going to the 'the usual suspects' regardless of the REF outcome, mentioning the high percentage of funding concentrated in a small number of institutions.²⁸ For example, some stated that the funding allocation did not necessarily adequately reward the diversity of academic institutions across the UK, and that to complement principal investigator-awarded competitive grants, QR funding should enable research to happen across the UK and support research not typically funded by other parts of UK Research and Innovation (UKRI) and other competitively awarding funders.

5.1.3. Performance incentives for individuals and HEIs

The degree to which individual academics noted that the REF was linked to their own career progression varied, with some academics noting that the REF was linked to performance reviews and promotion criteria within their institution, but others stating this was not the case. Institutional leaders reported that the REF incentivised researchers to

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Approximately two thirds of research funding going into the university sector is won by Russell Group institutions (Technopolis Group 2018).

increase the quality of the research that they produce and optimise their outputs. Academics in one mid-career focus group also perceived that the REF had increased the quality of research. One institutional leader noted that the REF enabled an 'audit of quality' for the institution. They reported that the REF enabled them to consider the support for research that they provide, the environment for PhD students, the outputs they produce and the impact they have on both a global and a local scale. They stated they were able to use the REF as benchmarking against both themselves and other institutions. One academic noted that REF was seen as a core benchmarking exercise in setting investment. Another academic reflected that although the purpose of the REF was to benchmark, this was not of use to the individual researchers.

5.1.4. There were a range of additional views on the purpose of the REF

There were a range of additional views on the purpose of the REF, and academics differed in their views on its purpose. Academics stated that REF enabled both high-quality research and emerging research to take place. One academic highlighted that REF could also have a role demonstrating innovation in research through greater emphasis on impact. Academics noted that more could be done within the REF to promote equality across institutions and level the playing field between them.

Some academics responded that the REF should focus more on the quality of research processes than on outputs *per se* – for example, the reporting of non-significant data. Others responded that the REF should place a greater focus on the types of research being conducted, such as blue sky research. The REF was cited as a way in which the institutional environment could be assessed, and participants highlighted that a 'knowledge ecology' rather than simply a 'knowledge

economy' could be one way of framing the research environment to include aspects of the broader environment. This influence of the REF on equality, diversity and inclusion, as well as on interdisciplinary research, was also considered very important. However, some participants noted that achieving equality, diversity and inclusion were broader societal objectives and not necessarily the purpose of the REF, but something that the community are doing regardless. In addition, institutional leaders highlighted that the REF should be more about the product and the output than about the research environment. An interviewee highlighted that regulation could be put in place to enforce better research ethics or greater collaboration, and they stated that this was not the job of the REF.

5.2. There are divergent views on what the future of the REF should be

There are a range of views on what the future of the REF should be. For example, REF managers advocated for the need for continuity and stability in the REF guidance and process, stating that changes to guidance or templates created confusion. One REF manager also highlighted the need to consider practical elements, such as administrative challenges that arise when introducing new guidance.

Alternatively, when asked about improving the system, some suggested abolishing it, stressing that other countries allocated funding without an assessment such as REF (e.g. Canada, the Netherlands). Some academics suggested distributing all funding through competitive grants awarded to individual researchers. However, many academics could see the benefits of the dual system of funding, as QR supports things that might not receive funding elsewhere, including the full range of disciplines and institutions across the UK.

Suggestions for the distribution of QR in the absence of the REF included to distribute according to volume (the total number of researchers or students within an institution), to randomly allocate funds; to support those with less competitive grant income; and to distribute funding equally across institutions. One academic also suggested that institutional reputation, via student ratings of satisfaction, could be used to target funding to institutions.

The detail below on potential changes to national research assessment (currently conducted through REF) is broken down into sections on how to assess, when to assess, what to assess and who to assess.

5.2.1. How to assess

Many mid-career and established academics across all main panels, as well as institutional leaders, stated that the REF could and should be lighter touch, simplified, and less burdensome. One way of achieving this, voiced by many academics and institutional leaders, is the use of metrics, which, they stated, would reduce the burden that the REF places on institutions and individual researchers. This is because, some academics stated, the REF was a waste of time and too resource intensive, claiming REF scores correlated with the impact factor of a paper. Many academics, across career stage and main panel, were in favour of metrics. In particular, the use of metrics was suggested as a way to reduce the burden on reviewers reading outputs, as well as reducing duplication of effort of outputs that had already been reviewed through peer review for publication. Other perceived advantages listed included: limiting the subjectivity brought in by human reviewers, complementing impact case study narratives with broader metrics, both of which, some respondents believe, would reduce game playing. To ensure fairness, the need for a broad range of metrics was stressed. Examples suggested included

metrics targeted at interdisciplinary work, methodological impact, theoretical broadening, societal benefit and international influence.

Despite some being in favour of metrics, other academics and institutional leaders were concerned over the possible use of metrics in the REF, for example, the potential of metrics to exacerbate existing biases and the fear that a focus on metrics could drive behaviour to target those particular measures. Respondents suggested that metrics have limitations with respect to what they can capture. For example, they cannot capture impact or the potential disadvantage or detrimental impact on certain disciplines or career stages (such as early career researchers or those who have taken parental leave during the assessment period).

In addition, reducing the administrative burden on institutions was also suggested as being important. Institutional leaders and REF managers stressed that adding new components to the REF created additional complexity and that systems were required to collate and audit data to comply with these requirements. Some academics reported that there was a duplication of effort relating to the REF and that it would be better to use data already gathered for other reporting purposes, such as Researchfish data on outputs and outcomes of funding, which is required annually by most UK public funders for the duration of an award and for five years afterwards.

5.2.2. When to assess

Several academics stated that the timing of the REF should be changed. There was a range of opinions suggested, with some favouring the cycle being lengthened (up to 10 or 20 years) to reduce burden, and others suggesting it should be shortened or even removed entirely in favour of a rolling review. A rolling review was suggested as being less subject to game playing. One academic suggested that the REF

could be more similar to an inspection by the Office for Standards in Education, Children's Services and Skills (OFSTED) in schools. The timing of the REF was suggested to have an impact on an academic's choice of output type – for example, starting to write a book in the middle of a REF cycle was considered risky because it might not be completed in time.

REF managers suggested that timings for different reporting could be sequenced to reduce burden of reporting on different initiatives simultaneously, such as Knowledge Exchange Framework or Higher Education Statistics Agency returns.

5.2.3. What to assess

There were a range of views presented on where future assessments should focus attention, from the advantages of maintaining the status quo, to shifting the focus of assessment from outputs.

Outputs

The recognition of scholarly output was considered important. The association of an individual's outputs to the REF exercise gave researchers a sense of pride in the submission, and that was considered important to the exercise. On the other hand, there was a desire for a broader range of output types to be encouraged: examples included literature reviews as well as single-authored monographs, both of which may require more time than multi-author papers. Finally, it was also noted that outputs put emphasis on the individual researcher and that there was not a complete decoupling between the individual and the REF.

Impact

Several academics and institutional leaders noted that the focus on impact was important and that it enabled a more 'holistic' approach to assessing and valuing research. Suggested

improvements to future cycles of the REF included broadening the way impact is captured, with one academic noting that impact on the local economy could be an important aspect to be captured. It was also suggested that the number of impact case studies could be reduced in cases where a discipline is new to an institution, and therefore had not had time to develop fully. One institutional leader also noted that there were areas of impact and engagement that were undertaken by individuals not recognised as having significant responsibility for research. This was supported by one REF manager, who stated that submission to the REF should not be predicted by the type of contract, but by the degree to which research staff can contribute to an impact case study.

Environment

Several academics thought that the wider environment was an important focus of the REF and added nuance to the assessment process. Some academics thought that there should be a greater focus of the REF on the research process (environment) rather than the product (outputs and impacts). One academic suggested: *'The research environment is a good measure, but this can be a proxy for how long the institution has been around. We should be focusing on the process not the product. In addition, we should consider the trajectory of the institution.'* For example, improvements suggested included a focus on culture: by asking whether the department offers collegiality, a nurturing environment, mentorship, support to early career researchers, and a mechanism to encourage innovation and creativity. Others suggested that the REF should consider the trajectory of the institution (i.e. whether the institution had improved), or where there were institutions, such as smaller institutions, who were 'punching above their weight'. One institutional leader highlighted that, rather than functioning

as a regulatory instrument, the REF should support behavioural change.

Participants expressed concerns that the current environment statement did not work and raised questions about the suitability of the narrative style. Some suggested that a more metrics-based approach, bringing in other aspects, such as Athena Swan²⁹ or staff retention, would build up a truer picture of the environment. A greater focus on equality, diversity and inclusion, as well as interdisciplinary work, were considered by some to be important for future cycles of REF. In terms of EDI, one academic suggested that single-blind peer review (where reviewers do not know the identity of the author) would be one step towards this. This was echoed by an institutional leader, who stated that there should be additional discussion around

how commitments to inclusion, equality and diversity could be further embedded into the research culture and integrated into the REF.

5.2.4. Who to assess

Several academics reported that, despite the institutional focus and the institutional benefits resulting from the REF, the data were often collected at the level of the individual (i.e. outputs and impact case studies). Institutional leaders and academics argued for greater decoupling of outputs from individuals. Although some academics reported that their institutions took the products of their research and managed the REF process independently of them, many stated the REF was a constant presence and pressure. Furthermore, academics did not like the influence of the REF on individual career progression.

6 Concluding thoughts

Views and attitudes towards the REF are mixed

Views on the influence of the REF on academic research and the research community are mixed. The use of the REF as a policy lever and a driver of change and behaviour is often cited as a benefit of REF, for example, the inclusion of impact in the 2014 assessment and in the current exercise; the drive for open access; and the importance of the equality, diversity and inclusion agenda. Others believe that these 'add-ons' are beyond the scope of the exercise and that funding bodies should *trust* that institutions have processes in place to deliver these agendas over time. However, it could be said that these endeavours are enhanced by collective agreement and action across all funders compared with being the responsibility of one element of the system.

The big driver of negative attitudes is the burden of the exercise, and specifically that the burden is perceived to outweigh the benefits. There is also a lack of understanding of what the REF is trying to achieve (i.e. its purpose). It would be important to set out clearly the purpose and desired outcomes of the REF (and align the approach of the exercise to that), as a better understanding of this purpose might help mitigate the perceptions of burden. The negative perceptions of the REF may also in part be driven by how institutions and individual academics interpret the REF rules and the

processes institutions have put in place to implement these rules.

Changes made to REF 2021 are broadly seen as positive

The evolution of the exercise from 2014 to 2021 is broadly seen as positive, in particular the move away from the individual towards a collective and team-based approach. Institutional responsibility is stressed as being important in creating the environment and conditions within which high-quality research and impact can be achieved, and this is an important shift for REF to continue to build on.

In general, there is openness to change for future exercises, but also a desire to know what is coming. For example, several academics and institutional leaders stressed that the rules should be stated early, be clear, and not undergo changes during a cycle. Therefore, in future rounds, it would be important to act quickly and provide clarity to the sector as early as possible, to make the rules as simple as possible, and ensure rules and changes are communicated clearly.

Going forward, there is a need for funders to engage with the academic community to create understanding and buy-in. The rules of the exercise are perceived to have become very complex, although this is often for good reasons, such as to better accommodate different circumstances. However, there may

be an argument for a simpler but less nuanced approach to the exercise, as this complexity, as well as the perceived lack of clarity and understanding, is driving some of the burden of the process.

There are a range of views on what the future of the REF should be

There are a range of views on what the purpose of the REF should be. Although the purposes may hold different weights, going forward, it is important to be explicit about the purpose of the exercise to ensure the sector is clear on its value and can put the burden into context. There is a call from the sector to simplify the exercise, and make it more light touch and less burdensome. There are a range of views on the way the REF could be altered following 2021. These include changes to the timing and frequency of assessment; use of metrics or more qualitative assessment; use of a selective or inclusive exercise; focus on outputs, impacts or environment/culture. Another aspect we want to highlight in thinking about the future shape of the exercise is that the process HEIs have developed involves multiple layers of assessment (such as the use of review, potentially internal and external, for outputs in curating an institution's submission in addition to the REF panel's assessment). This narrows the definition of high quality by the institutions before the panel even see the breadth of work that is conducted and could exacerbate the belief that highly cited work scores define high quality and are rewarded in REF.

There is a need for further research and consultation with the sector on the ways to take the exercise forward – for example, looking at international comparisons to learn from other systems to allocate funding and

conduct national assessments, as well as considering the options and associated trade-offs of the alterations listed above. If over the past 40 years the REF and previous exercises (including the Research Assessment Exercise and Research Selectivity Exercise) have achieved the objective of raising the quality of UK research, is it necessary to measure the quality anymore? Thinking about the current challenges to academia, we wonder whether the exercise could focus on creating a culture to maximise high-quality research and impact in the 21st century. We think that this could, for example, be achieved through building on the collective and team-based approach to assessment and focusing on the wider HEI environment.

This real-time evaluation has allowed a comprehensive analysis of attitudes and perspectives towards the REF across disciplines, career stages and types of institution. In general, although overall attitudes and perspectives of the sector towards the REF are negative, they are also very mixed, and the picture depends on personal experiences and context. When asked about specific elements, researchers can identify some aspects which have improved as a result of REF, and which correlate with positive attitudes towards the exercise. The longitudinal sample has enabled us to assess changing attitudes across time, which has been valuable, particularly in this area, where there appears to be a lag in changing attitudes and a reliance on information and hearsay informed by previous exercises, which can lead to outdated and incorrect information. It will be interesting to rerun this study in coming years and see how attitudes shift, or not, over time.

References

- Academy of Medical Sciences, The Physiological Society, Heads of University Biosciences and the Society of Biology. 2014. "Improving the Status and Valuation of Teaching in the Careers of UK Academics." As of 26 June 2021: https://static.physoc.org/app/uploads/2019/10/18090020/Improving_the_status_and_valuation_of_teaching_in_the_careers_of_UK_academics_WEB_version.pdf
- AdvanceHE. 2021. "Athena Swan Charter." 2021. As of 26 June 2021: <https://www.advance-he.ac.uk/equality-charters/athena-swan-charter>
- BEIS, and Amanda Solloway. 2020. "Science Minister on 'The Research Landscape.'" 2020. As of 26 June 2021: <https://www.gov.uk/government/speeches/science-minister-on-the-research-landscape>
- RAE. 2005. "Research Assessment Exercise. Guidance to Panels. RAE 01/2005." As of 26 June 2021: <http://www.rae.ac.uk/pubs/2005/01/rae0105.pdf>
- REF. 2019. "Guidance on Submissions (2019/01)." As of 26 June 2021: <https://www.ref.ac.uk/publications/guidance-on-submissions-201901/>
- . 2021a. "Panel Criteria and Working Methods (2019/02)." As of 26 June 2021: <https://www.ref.ac.uk/publications/panel-criteria-and-working-methods-201902/>
- . 2021b. "Timetable." 2021. As of 26 June 2021: <https://www.ref.ac.uk/about/timetable/>
- Stern, Nicholas. 2016. "Building on Success and Learning from Experience: An Independent Review of the Research Excellence Framework." As of 26 June 2021: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/541338/ind-16-9-ref-stern-review.pdf
- UKRI. n.d. "REF Impact." n.d. As of 26 June 2021: <https://re.ukri.org/research/ref-impact/>
- . 2021. "Quality-Related Research Funding." 2021. As of 26 June 2021: <https://re.ukri.org/funding/quality-related-research-funding/>
- Weinstein, Netta, James Wilsdon, Jennifer Chubb, and Geoffrey Haddock. 2019. "The Real-Time REF Review: A Pilot Study to Examine the Feasibility of a Longitudinal Evaluation of Perceptions and Attitudes Towards REF2021." As of 26 June 2021: <https://osf.io/preprints/socarxiv/78aqu>

Annex A. Overview of methodological approach

In this section, we provide a detailed description of the methodological approach, across the surveys, interviews and focus groups, that we adopted in the study. Figure 18 provides an overview of the research approach.

As shown in the figure, the work consisted of five main tasks conducted over three main phases of work. Each of these tasks is discussed in more detail below.

A.1. Surveys

We conducted two online surveys: a longitudinal survey that was aimed at the four pilot study HEIs and intended to capture changing views

since the pilot study, and a large-scale national survey aimed at researchers across the UK.

A.1.1. Sampling

Longitudinal survey

The longitudinal survey consisted of the four HEIs that participated in the pilot: University of Sheffield, Cardiff University, University of Sussex and University of Lincoln. Within these HEIs, the sample focus was on eight subpanels of the REF, two drawn from each of the four main panels: MPA: UOA3, UOA4; MPB: UOA11, UOA12; MPC: UOA17, UOA23; MPD: UOA28, UOA34. Email invitations containing a link to the survey were sent out to 345 participants from the pilot

Figure 18: Overview of the evaluation approach

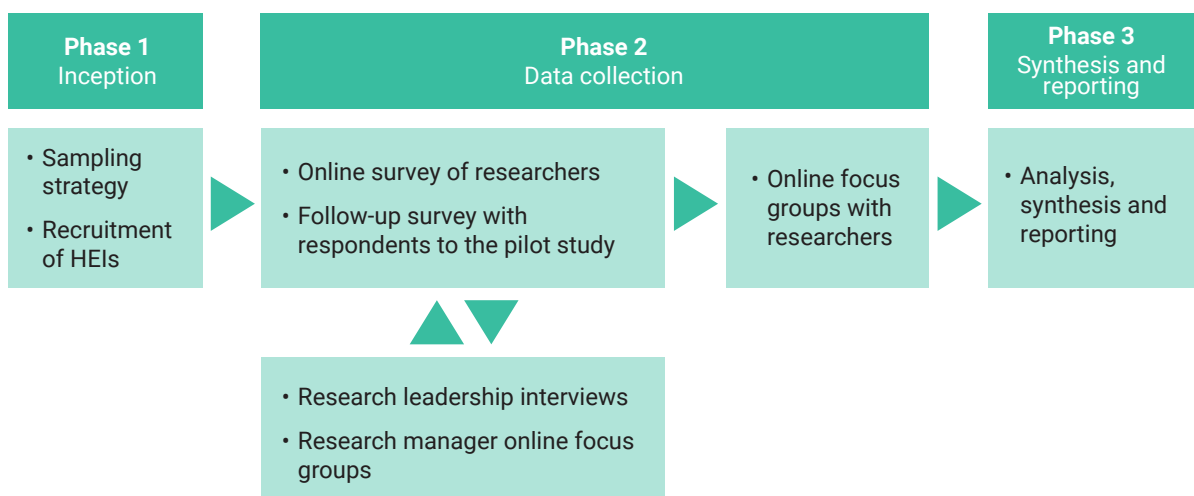


Table 18: HEIs recruited to participate in the evaluation of the REF

| HEIs recruited to participate in the evaluation | |
|--|--------------------------------------|
| Aberystwyth University | The University of Brighton |
| Bath Spa University | The University of Essex |
| Bournemouth University | The University of Exeter |
| Cardiff University | The University of Kent |
| Glasgow Caledonian University | The University of Lincoln |
| Keele University | The University of Sheffield |
| Liverpool John Moores University | The University of Southampton |
| London School of Economics and Political Science | The University of Sunderland |
| Queen's University Belfast | The University of Central Lancashire |
| Swansea University | Ulster University |
| Teesside University | University of Chester |
| The Royal Veterinary College | University of Worcester |
| The University of Aberdeen | |

study conducted in 2018 who had agreed to be re-contacted as part of this wider study.

National survey

We developed a sample of HEIs stratified according to geography and size based on data from the Higher Education Statistics Agency (HESA). We identified ten geographical regions: London; East of England; the South East; the South West; the North East; the North West; the Midlands; Scotland; Wales; and Northern Ireland. In addition, we stratified institutions in terms of their size, based on number of FTE staff. For institution size, we used two groups: large institutions (1,000 FTE staff or more) and small institutions. Institutions within these categories were selected using a random number generator. If the initial institution we approached was unable to participate, we

substituted that institution with one having a similar profile (i.e. in terms of size and geography). Overall, we contacted 36 HEIs, of which 25 were willing to distribute the survey to their staff (Table 18). The final sample included institutions from all ten regions, both large and small, submitting to multiple UOAs.

In addition to the targeted approach, we opened the survey to all UK academics and advertised it through the RAND Europe Twitter account and newsletters, such as *Vitae*, and learned societies, including the Royal Society of Biology, to reach the broadest group of academics across the UK.

We had balanced coverage in our survey in terms of career stages³⁰ (Table 19); disciplines, covering all main panels and units of assessment (Table 20 and Table 21); and institutions, covering different types³¹ (Table 22).

30 ECRs are defined as those who completed their PhD in 2013 or later. Mid-career researchers are those who completed their PhD between 2003 and 2012, while established researchers are those who completed their PhD in 2002 or earlier.

31 HEIs were categorised as 'research-intensive' or 'less research-intensive'. Research-intensive HEIs were categorised as the top fifth of HEIs that received the highest level of research income from 'funding body grants'.

Table 19: Number of respondents to the national survey by career stage

| Career stage | n= (%) |
|--------------|---------------|
| Early career | 767 (26.1%) |
| Mid-career | 984 (33.6) |
| Established | 1,183 (40.3%) |

Note: n=2,934.

Table 20: Number of respondents to the national survey by Main Panel

| Main Panel | UOA | n= (%) |
|--|-------|-------------|
| MPA (Medicine, health and life sciences) | 1-6 | 814 (27.9%) |
| MPB (Physical sciences, engineering and mathematics) | 7-12 | 646 (22.1%) |
| MPC (Social Sciences) | 13-24 | 957 (32.8%) |
| MPD (Arts and humanities) | 25-34 | 504 (17.3%) |

Note: n=2,921; 13 respondents did not provide their main panel. **Key:** MP = main panel; UOA = unit of assessment.

Table 21: Number of respondents to the national survey by Unit of Assessment

| Main Panel | UOA | UOA title | Frequency | % of MP total |
|---|-----|--|-----------|---------------|
| Main Panel A (Medicine, health and life sciences) | 1 | Clinical Medicine | 57 | 7.7 |
| | 2 | Public Health, Health Services and Primary Care | 101 | 13.7 |
| | 3 | Allied Health Professions, Dentistry, Nursing and Pharmacy | 174 | 23.5 |
| | 4 | Psychology, Psychiatry and Neuroscience | 164 | 22.2 |
| | 5 | Biological Sciences | 239 | 32.3 |
| | 6 | Agriculture, Food and Veterinary Sciences | 5 | 0.7 |
| Main Panel B (Physical sciences, engineering and mathematics) | 7 | Earth Systems and Environmental Sciences | 88 | 13.8 |
| | 8 | Chemistry | 72 | 11.3 |
| | 9 | Physics | 84 | 13.2 |
| | 10 | Mathematical Sciences | 88 | 13.8 |
| | 11 | Computer Science and Informatics | 105 | 16.5 |
| | 12 | Engineering | 199 | 31.3 |

| Main Panel | UOA | UOA title | Frequency | % of MP total |
|------------------------------------|-----|---|-----------|---------------|
| Main Panel C (Social sciences) | 13 | Architecture, Built Environment and Planning | 33 | 3.5 |
| | 14 | Geography and Environmental Studies | 95 | 10.1 |
| | 15 | Archaeology | 35 | 3.7 |
| | 16 | Economics and Econometrics | 66 | 7.0 |
| | 17 | Business and Management Studies | 184 | 19.7 |
| | 18 | Law | 100 | 10.7 |
| | 19 | Politics and International Studies | 111 | 11.9 |
| | 20 | Social Work and Social Policy | 74 | 7.9 |
| | 21 | Sociology | 79 | 8.4 |
| | 22 | Anthropology and Development Studies | 22 | 2.4 |
| | 23 | Education | 72 | 7.7 |
| | 24 | Sport and Exercise Sciences, Leisure and tourism | 65 | 6.9 |
| Main Panel D (Arts and humanities) | 25 | Area Studies | 9 | 2.6 |
| | 26 | Modern Language and Linguistics | 2 | 0.6 |
| | 27 | English Language and Literature | 101 | 29.5 |
| | 28 | History | 105 | 30.7 |
| | 29 | Classics | 14 | 4.1 |
| | 30 | Philosophy | 27 | 7.9 |
| | 31 | Theology and Religious Studies | 13 | 3.8 |
| | 32 | Music, Drama, Dance, Performing Arts, Film and Screen Studies | 67 | 19.6 |
| | 33 | Communication, Cultural and Media Studies | 4 | 1.2 |

Key: MP = main panel; UOA = unit of assessment.

Table 22: Number of responses to the national survey by type of institution

| Focus of institution | n= (%) |
|-------------------------|---------------|
| Research-intensive | 1,341 (46.0%) |
| Less research-intensive | 1,572 (54.0%) |

Note: n=2,934; 21 respondents did not provide their HEI.

Table 23: Longitudinal sample characteristics pilot (2019) and present (2021)

| Category | 2019 responses | 2021 responses |
|-------------------------|----------------|----------------|
| Early career researcher | 36.8% | 32.2% |
| Main Panel A | 27.8% | 38.4% |
| Main Panel B | 23.4% | 15.1% |
| Main Panel C | 17.1% | 18.5% |
| Main Panel D | 17.6% | 17.1% |

Note: Percentage reflects the percentage of the original sample (2019 responses) and the current sample (2021 responses) that endorsed this characteristic.

The coverage of different criteria in the longitudinal survey, and the comparison to the previous data, is presented in Table 23.

A.1.2. Design

Key areas explored in both surveys are outlined below (see Annexes B and C for the full surveys).

- Perceived influences of the REF on the research activities undertaken by the academic community
- Knowledge academics have regarding the changes to the rules for REF 2021
- Changes to REF 2021 and the extent and benefits of their influence
- General attitudes towards the REF – perceived potential benefits and challenges
- Approaches at institutions to prepare for the REF – perceived benefits and challenges
- Perceptions on the purpose of the REF

The longitudinal survey employed the same questions as the pilot exercise, for comparison purposes. The questions for the national survey were broadly based on the pilot, but were altered and expanded in some areas.

The survey questions were implemented in SmartSurvey.³² The survey was piloted with individuals at RAND Europe, resulting in some minor changes.

Data collection was undertaken from October 2020 to November 2020, for a period of eight weeks. Institutions promoted a link through email communication with their academics, and we promoted the survey link on social media to target the community beyond our sample of HEIs. Participants from the pilot study who had agreed to be re-contacted as part of a wider study were emailed personally with the survey link.

The procedure was reviewed and approved by the School of Psychology Ethics Committee at Cardiff University. Participation was entirely voluntary. Participants were informed about the study procedures and data handling approach before participating. Data were and will be handled in accordance with the General Data Protection Regulation (GDPR).

A.1.3. Analysis

The national and longitudinal surveys were analysed using a combination of descriptive and deductive statistical techniques.

At a descriptive level, frequency counts and calculations of the proportion of respondents falling into each response category were tabulated or presented graphically to show the distribution of the sample across the different response options in survey items included in the analysis.

The statistical techniques employed in the survey analysis consisted of two main strands. First, multiple linear regression modelling was used to estimate the mean response adjusted for particular characteristics of respondents. These characteristics included: main panel, career stage, and research intensiveness of the HEI. In each model, responses to the relevant survey item were included as the dependent variable, while main panel, career stage and research intensiveness of the HEI were included as independent variables. Whether or not the estimated adjusted means from the modelling are statistically significant (i.e. if $p < .05$) was also reported. Second, effect sizes associated with the adjusted means were estimated in order to calculate a standardised estimate of the magnitude of the deviation of the adjusted means from the neutral position in the survey question (usually 0). Effect sizes were estimated using Cohen's d :

$$d = \frac{M_1 - M_2}{SD_{pooled}}$$

Where M_1 is the adjusted mean, M_2 is the neutral position (usually 0) and SD_{pooled} is the standard deviation across the sample for which the adjusted mean was constructed.

Sample sizes underpinning the estimation of adjusted means and effect sizes are reported for all survey items included in the analysis.

A.2. Interviews

Across our sample of 25 HEIs, we invited university leadership to participate in individual interviews to provide an additional perspective

to the study. We conducted interviews with 18 individuals, representing research leadership covering a total of 15 HEIs. The individuals included senior leaders, such as vice chancellors, pro-vice chancellors and department heads.

Interviews were held between December 2020 and January 2021. They were conducted using Zoom and lasted between 45 minutes and 1 hour. During the interviews, the following topics were discussed: (1) general attitude towards the REF; (2) impact of the REF on the research community and culture; (3) institutional support for REF preparations; and (4) the purpose and future of the REF (see Annex D for the full interview protocol).

Data were collected using audio recordings of each meeting and transcribed using Otter.ai software.

A.3. Focus groups

Following the survey, we conducted online focus groups to gain qualitative insights into the perceptions and attitudes of researchers and understand the perspectives of research managers. We conducted 25 focus groups: 23 online focus groups with academics, speaking with 95 researchers from 31 HEIs, and 2 online focus groups with institutional research directors and managers, who often had responsibility for the REF submission, from 12 HEIs. To recruit participants for our focus groups, we used two strategies. For the focus groups with research managers, we directly contacted HEIs in our sample (see Section A.1.1, on our sampling strategy), inviting research managers to participate. For the focus groups with academics, we recruited participants using the survey, therefore reaching a wider group of HEIs than those in our sample.

The focus groups were conducted using Microsoft Teams. The focus groups with

research managers lasted 1.5 to 2 hours, and the focus groups with academics lasted 1 hour. Group sizes ranged from 2 to 9 people per focus group. During both sets of focus groups, the following topics were discussed: (1) general attitude towards the REF; (2) impact of the REF on the research community and culture; (3) institutional support for REF preparations; and (4) the purpose and future of the REF (see Annexes E and F for the full focus group protocols). In the focus groups with academics, we used the survey results to present data for discussion to allow us to explore in more depth the results of the survey and to understand why certain results and views are present.

Data were collected by taking detailed notes as well as audio recordings of each meeting.

A.3.1. Qualitative analysis

All transcripts were then coded using QSR NVivo 12 International software.³³ The research team developed an NVivo code book for the analysis of unstructured qualitative data based on interview answers. The code book is presented in Annex G. Thematic codes were used to code the qualitative data itself and were based around the interview protocol.

Each set of data from a focus group was coded by a member of that focus group team. There were also regular meetings among the coders to ensure consistency in coding practice and to discuss any additions or necessary changes to the code book. Once all focus group notes had been coded, a thematic analysis of codes was performed to develop the emerging key findings and observations.

A.4. Synthesis and analysis

Following data collection, we synthesised and triangulated the data collected across the different phases of work to identify key findings and themes. Analysis focused on: influence of the REF on researchers and the research community; changes to REF 2021; general attitudes towards the REF; and the future of the REF. Key findings for each phase, as well as for the overall project, were identified, and a narrative was developed that was presented to the Steering Group and Research England for their input and feedback. This input and feedback was incorporated into the final report.

Annex B. National survey questionnaire

1. Do you consent to us processing your ethnicity and disability data for this project to understand the representation of our sample and where inequality might lie across the system?

- Yes
- No

2. I have read the above information and agree to participate

- Yes
- No

3. Which best describes your role (tick one or more)?

- Upper management role within the school or university
- Professor
- Reader
- Associate Professor
- Senior Lecturer/Principal Lecturer
- Lecturer
- Assistant Professor
- Senior Research Fellow
- Research Fellow
- Senior Teaching Fellow
- Teaching Fellow
- Research Associate
- Postdoctoral researcher
- PhD Candidate
- Research Assistant

- Capturing clinic
- Other academic position _____

This first section asks about your career. Our goal is to understand how the REF is experienced differently or similarly by individuals in different circumstances.

4. What year did you receive your highest degree (e.g., PhD)?

- 2020, 2019 ... 1990
- Before 1990 (30 years or more ago)

5. Do you have any formal responsibility for REF activities within your school (e.g. reviewing submissions, making submission decisions, management responsibility for REF activities)?

- Yes
- No

6. Your academic position is...

- Full-time
- Part-time

7. Your academic position is...

- Open-ended
- Fixed-term

8. Your institution is: _____

9. What percentage of your time do you spend on research?

Please select a % time from 0-100 ____

10. The Research Excellence Framework (REF) units of assessment are grouped under Main Panels. These panels also have mechanisms to support the assessment of interdisciplinary research. Which of these panels best describes your area of research?

- PANELS HERE (with brief descriptions)
- Don't know

The REF's assessment panels' remits are grouped into research areas. Which of these best describes your area of research?

- [Don't know; undecided]

11. Do you identify yourself as an Early Career Researcher?

- Yes
 No

The following section asks about your attitudes towards the Research Excellence Framework (REF) in relation to the community. We will ask about your personal experiences later. There are no right or wrong answers; we are interested in your perspective.

12. How has the REF influenced YOUR RESEARCH COMMUNITY IN THE UK OVER THE PAST 4 YEARS in each of the following areas?

| | (-3) greatly decreased this | -2 | -1 | (0) no influence | 1 | 2 | (3) greatly increased this |
|--|-----------------------------|----|----|------------------|---|---|----------------------------|
| QUANTITY of outputs (number of outputs produced) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| QUALITY of outputs (including originality, significance, or rigour of research) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| INTERDISCIPLINARY working practices (e.g. propensity to collaborate) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| PUBLIC RELEVANCE (for culture / society / economic) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| NOVELTY of research (for example, pursuing 'blue sky' research that may not yield predictable outcomes) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| OPEN RESEARCH practices (including making published work, methodology, evidence, and/or data widely available) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| INTEGRITY of research practices (including cautious and conservative analysis and science communication) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| AUTHENTICITY (in terms of how the work is an authentic expression of the community's intellectual interests and agenda rather than reflecting other drivers) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| "GAME-PLAYING" by institutions (e.g., staff recruitment, embellishment of impact) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |

13. Overall, in your view, what influence has the REF had on researchers within the UK?

- (-3) extremely negative
- 2
- 1
- (0) neither negative nor positive
- 1
- 2
- (3) extremely positive
- no opinion

14. Overall, in your view, what influence has the REF had on the daily work experiences of researchers within the UK?

- (-3) very little
- 2
- 1
- (0) none
- 1
- 2
- (3) a lot
- no opinion

15. With respect to REF 2014, were you:

- Submitted
- Considered for submission, but not submitted
- Not considered for submission or involved in the process
- Don't know

This section asks questions about your knowledge and views on REF 2021.

16. The following is a list of possible sources of information about the REF. How much information about the REF do you get from the following sources?

PILOT: Original item

NATIONAL: New item

NO INFORMATION ---- ALL MY INFORMATION

- _____ Social media sources
- _____ Senior Management in the Department or School
- _____ University-wide (REF coordinator)
- _____ Informal discussions with colleagues
- _____ From UK REF Team/UKRI / Research England / SFC / HEFCW / Department for the Economy Northern Ireland
- _____ Academic mentor
- _____ Professional services within the school
- _____ REF website
- _____ Other

17a. Longitudinal sample: In your view, are developments made in anticipation of REF 2021 **positive or negative** for the research community within the UK?

17b. National survey: In your view, are developments made in anticipation of REF 2021 **positive or negative** for YOU?

| Please leave item blank if you do not know the answer | (-3) extremely negative | -2 | -1 | (0) neither negative nor positive | 1 | 2 | (3) extremely positive |
|--|-------------------------------|----|----|---|---|---|------------------------------|
| ELIGIBILITY FOR SUBMISSION: All staff with significant responsibility for research to be submitted, with a minimum of one output each, a maximum of five, and an average of 2.5 outputs per full-time equivalent (FTE); compared to 4 per person in 2014 | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| APPROACH TO IMPACT: An increase in the weighting for impact from 20% to 25% of the overall exercise, with one impact case study per 20 full-time equivalent (FTE) staff | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| SELECTION OF OUTPUTS: Outputs may be submitted by both the institution employing the staff member on the census date and the originating institution | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| OPEN ACCESS: Certain outputs should be made open access to be eligible for submission to REF2021 | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| SUBMISSION OF INTERDISCIPLINARY OUTPUTS: Provisions within the REF panels to further support the assessment of interdisciplinary research outputs | -3 | -2 | -1 | 0 | 1 | 2 | 3 |

18. Do you feel that the changes to REF 2021 have affected the expectations placed on you as a researcher?

- No
- Yes, positively
- Yes, negatively
- Unknown

Earlier in the survey, we asked about your views regarding the influence of the REF on the research community. The following section asks about YOUR PERSONAL experiences with the REF and its implementation. Again, there are no right or wrong answers. We are interested in your perspective.

19. How has the REF influenced on YOUR RESEARCH OVER THE PAST 4 YEARS in each of the following areas?

| | (-3) greatly decreased this | -2 | -1 | (0) no influence | 1 | 2 | (3) greatly increased this |
|--|-----------------------------|----|----|------------------|---|---|----------------------------|
| QUANTITY of outputs (number of outputs produced) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| QUALITY of outputs (including originality, significance, or rigour of research) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| INTERDISCIPLINARY working practices (e.g. propensity to collaborate) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| PUBLIC RELEVANCE (for culture / society / economic) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| NOVELTY of research (for example, pursuing 'blue sky' research that may not yield predictable outcomes) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| OPEN RESEARCH practices (including making published work, methodology, evidence, and/or data widely available) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| INTEGRITY of research practices (including cautious and conservative analysis and science communication) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| AUTHENTICITY (in terms of how the work is an authentic expression of your intellectual interests and agenda) | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Changed the proportion of your time spent on research (compared to teaching or administration) | -3 | -2 | | | | | 3 |

20. I feel that, overall, my school/department/institute ...

| | (0) not at all agree | 1 | 2 | 3 | 4 | 5 | (6) strongly agree |
|---|----------------------|---|---|---|---|---|--------------------|
| Finds me important only to the extent that it helps them to accomplish their goals. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Values me (communicates that I am important or worthwhile). | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Helps me to feel capable and effective in my work. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Encourages me to have a voice in what happens. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Makes me feel controlled and pressured. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Encourages closeness and trust with others at work. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Creates a competitive climate in which colleagues are concerned with "finishing on top" | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Places more value on meeting metrics, than it does on research quality | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

21. Has your department undertaken these activities in preparation for REF 2021?

(don't know, not applicable)

| | No | Yes |
|---|-----------------------|-----------------------|
| Given you feedback about your current or expected contribution to REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Directly compared your potential contributions to REF 2021 with those of colleagues | <input type="radio"/> | <input type="radio"/> |
| Offered you promotions or other rewards for current or potential contributions to REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Discussed a change of your contract as a result of REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Indicated that your current role will change because you are not producing eligible outputs for REF2021 | <input type="radio"/> | <input type="radio"/> |
| Communicated the importance of research quality, environment and impact beyond their assessment in REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Provided instructions to change your research agenda to better align with the REF 2021 | <input type="radio"/> | <input type="radio"/> |

| | | |
|---|-----------------------|-----------------------|
| Outlined concrete performance goals for your research to better align with the REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Aligned your workload to delivery of outputs and impact for REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Listened to your views on how to approach REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Made you feel supported in your research activities related to REF 2021 | <input type="radio"/> | <input type="radio"/> |

This has felt harmful -3 -2 -1 0 1 2 3 helpful

22. Thinking more broadly, please evaluate how POSITIVE the beneficial qualities of the REF are for you.

- (0) Not at all positive
- 1
- 2
- (3) neutral
- 4
- 5
- (6) extremely positive
- 7- don't know

23. Thinking more broadly, please evaluate how NEGATIVE the detrimental qualities of the REF are for you.

- (0) Not at all negative
- 1
- 2
- (3) neutral
- 4
- 5
- (6) extremely negative
- 7- don't know

24. Genuine and effective steps are taken to support my personal wellbeing

25. How would you rate your overall satisfaction with your current job?

- 0 Not at all satisfied ---- 6 highly satisfied

26. How true are these statements of how you feel, in general

Not at all (0) ---- extremely true (6)

[items below presented in random order]

26a. My job is a source of considerable personal strain

26b. The REF is a source of considerable personal strain

26c. I often think of quitting this job

26d. I feel secure about the future of my job

27. At my institution, there is a good communication between management and academics about the REF

Not at all (0) ---- extremely true (6)

28. How would your responses to the items **just above** on job satisfaction and security have been different BEFORE the COVID-19 outbreak impacted UK HEIs or your own work?

- (-3) Less secure or satisfied before the COVID-19 outbreak
- 2
- 1
- (0) no change
- 1
- 2
- (3) More secure or satisfied before the COVID-19 outbreak

28a. The REF has created a PERFORM or PERISH mentality in relation to ...

(Strongly Disagree = 0 to Strongly Agree = 6)

Research outputs (journal papers, books, or other outputs)

Research impact (effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia)

28b. Setting aside the REF, it is the very nature of the academic workplace to create a PERFORM or PERISH mentality in relation to ...

(Strongly Disagree = 0 to Strongly Agree = 6)

Research outputs (journal papers, books, or other outputs)

Research impact (effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia)

29. Do you expect your research output(s) to be submitted in REF 2021?

- Yes
- No (DON'T SHOW 29/30)
- Don't know (DON'T SHOW 29/30)

30. To the best of your knowledge, approximately how many outputs have you completed or accepted that might be considered for submission for REF 2021, which you consider would be graded as internationally excellent or world leading in originality, rigour, and significance?

- 0, 1,2 ... 10 or more, unsure

31. Does your institution plan to submit an impact case study based on your research for REF 2021?

- Definitely
- Likely
- Unsure
- Unlikely
- No

In a final section concerned with the REF, please consider the overarching purposes of the REF.

32. The REF has several official purposes. Regardless of how effective you think the REF is in achieving them, please rate whether the REF *SHOULD* hold these purposes. In other words, are these good reasons to have the REF?

Please leave item blank if you do not know the answer.

| | (0) Absolutely should not | 1 | 2 | 3 | 4 | 5 | (6) Absolutely should |
|--|---------------------------------|---|---|---|---|---|-----------------------------|
| To provide accountability for public investment in research | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To inform the selective allocation of funding to universities for research | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To provide an evidence base to inform strategic national priorities | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To create a performance incentive for individuals and HEIs | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To provide benchmarking information | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To be used by universities and other bodies to inform decisions on resource allocation | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

This section asks about the impact of COVID-19

33. Were your opinions about the **REF** different BEFORE the COVID-19 outbreak impacted UK HEIs or your own work?

- (-3) More negative before the COVID-19 outbreak
- 2
- 1
- (0) no change
- 1
- 2
- (3) More positive before the COVID-19 outbreak

34. Were your opinions about **your Institution/Department** different BEFORE the COVID-19 outbreak impacted UK HEIs or your own work?

- (-3) More negative before the COVID-19 outbreak
- 2
- 1
- (0) no change
- 1
- 2
- (3) More positive before the COVID-19 outbreak

Finally, we have a few questions about how COVID-19 has impacted your REF preparations. We appreciate that in some ways it might be having a negative and/or positive impact on you.

35. To what extent has the **funding bodies' response** to COVID-19 impacted on your REF preparations (e.g. shifting the deadline for the exercise, extending the eligibility dates for the impact case studies etc.)?

- (-3) extreme negative impact on my REF preparations
- 2
- 1
- (0) no impact
- 1
- 2
- (3) extreme positive impact on my REF preparations

36. To what extent has COVID-19 **negatively** impacted your REF preparations (e.g. selecting outputs, writing impact case studies and drafting environment templates)?

- (-5) extreme negative impact on my REF preparations
- 4
- 3
- 2
- (-1)
- (0) no negative impact on my REF preparations

37. To what extent has COVID-19 **positively** impacted your REF preparations (e.g. selecting outputs, writing impact case studies and drafting environment templates)?

- (5) extreme positive impact on my REF preparations
- 4
- 3
- 2
- (1)
- (0) no positive impact on my REF preparations

The following questions ask about PROTECTED CHARACTERISTICS, specific aspects of a person's identity defined by the Equality Act 2010. 'Protection' relates to protection from discrimination, and it is important individuals with different identities are represented in U.K. academic institutions, and receive equal treatment. These questions are meant to understand where inequalities lie.

38. I am

▼ 18-24... prefer not to say

39. How would you describe yourself?

▼ Female... Prefer not to say

40. I would describe my ethnic origin as

▼ White - British... Other

41. Do you have any caring responsibilities? (tick all that apply)

- None

- Primary carer of a child or children (under 18 years)
- Primary carer of a disabled child or children
- Primary carer or assistant for a disabled adult (18 years and over)
- Primary carer or assistant for an older person or people (65 years and over)
- Secondary carer (another person carries out main caring role)
- Prefer not to say

42. Have you taken any of the following types of leave since December 2014?

▼ Maternity leave... Prefer not to say

The Equality Act 2010 considers a person disabled if:

You have a physical or mental impairment or disability that has lasted or is likely to last at least 12 months, and this condition or disability has a substantial long-term effect on your ability to carry out day to day activities.

43. Do you consider yourself disabled?

▼ I do not wish to reply... No

We would like to understand the socioeconomic (SES) distributions of academics within the UK. It may be that different SES backgrounds are not sufficiently represented in UK academics, but there are no data to speak to this issue yet. As such, the following question is not directly related to your REF experiences.

44. What is the highest level of qualifications achieved by either of your parent(s) or guardian(s) by the time you were 18?

- Prefer not to say
- At least one has a degree level qualification
- Qualifications below degree level
- No formal qualifications
- Don't know
- Not applicable
- Other (please specify):

ID SECTION

This survey may be followed by future Real Time REF reviews so that we can try to understand how academic perceptions towards the REF change over time. If you would consider taking part in follow-up surveys, please respond to the questions below to allow us to connect your responses to any future ones while protecting your anonymity.

Responding to these questions does not commit you to taking part in further research, but would give us the possibility of understanding how your views change over time if you do choose to take part. Only the immediate research group will have access to the data.

45. First letter of YOUR FIRST (GIVEN) Name

46. What DAY of the month were you born on (in two number format, e.g., 01 or 30)?

47. Number of OLDER brothers (including half-brother, living, or deceased, if none, use X)

48. Number of OLDER sisters (half-sister, living, or deceased, if none, use X)

49. What are the first TWO letters of your MOTHER'S FIRST (Given) name (e.g., Do)?

50. What is the FIRST letter of your FATHER'S FIRST (Given) name (e.g., D)?

51. What are the first THREE letters of your CITY/TOWN/VILLAGE of birth (e.g., Lon)?

52. What is the FIRST letter of your MIDDLE name (if none, use X)?

Thank you for participating in this survey.

If you would be interested to: (1) take part in further research during the next phase of the project; (2) be entered into a draw for a chance to win a cash prize of up to £500; or (3) would like to provide contact details to be able to exercise your rights as stated in the privacy notice, please provide your email address and respond to the questions below.

To thank you for participating in this study, you have the option to be entered into a draw for a chance to win a cash prize of up to £500.

53. Would you like to be entered into the prize draw?

- Yes
- No

The next phase of this project is to explore the themes and views emerging from the survey through focus groups. We are holding these virtually towards the end of 2020 and in early 2021. They will last up to 1.5 hours

54. Would you be willing to be contacted about participating in an online focus group to discuss attitudes, perceptions and behaviour towards the REF further?

- Yes
- No

RAND Europe operates in accordance with the Data Protection Act 2018 and GDPR. You are provided with certain rights that you may have the right to exercise through us.

55. Do you wish for us to retain your email address to allow for identification for the purpose of exercising your rights?

- Yes
- No

56. To enable us to contact you for the online focus groups, prize draw or to exercise your rights as stated in the privacy notice, please provide your email address in the text box below.

Annex C. Longitudinal survey questionnaire

I have read the above information and agree to participate

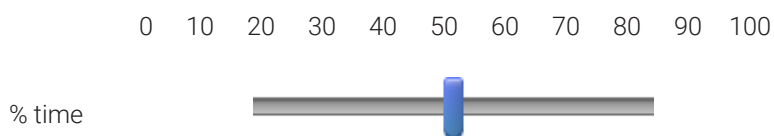
- Yes
- No

This first section asks about your career. Our goal is to understand how the REF is experienced differently or similarly by individuals in different circumstances.

Do you have any formal responsibility for REF activities within your school (e.g. reviewing outputs for submission, making submission decisions, management responsibility for REF activities)?

- Yes
- No

What percentage of your time do you spend on research?



Do you identify yourself as an Early Career Researcher?

- Yes
- No

The following section asks about your attitudes towards the Research Excellence Framework (REF) in relation to the community. We will ask about your personal experiences later. There are no right or wrong answers; we are interested in your perspective.

How has the REF influenced YOUR RESEARCH COMMUNITY IN THE UK OVER THE PAST 4 YEARS in each of the following areas?

Please leave item blank if you do not know the answer.

In your view, has the REF changed the extent to which researchers, in general...

| | (-3) greatly decreased this | -2 | -1 | (0) no change | 1 | 2 | (3) greatly increased this |
|--|-----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| engage with potential users of their research findings (in policy, business, civil society etc) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| seek to change the number of highly rated outputs they produce | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| pursue risky 'blue sky' research that may not yield predictable outcomes | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| pursue incremental research that is more likely to yield predictable short-term outcomes | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| engage in interdisciplinary research | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| engage in open research practices (including making published work, methodology, evidence, and/or data widely available) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| undertake research with integrity (including cautious and conservative analysis and science communication) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| engage in "game-playing" (e.g., staff recruitment, embellishment of impact) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Overall, in your view, what influence has the REF had on researchers within the UK?

- (-3) extremely negative
- 2
- 1
- (0) neither negative nor positive
- 1
- 2
- (3) extremely positive

Do you expect your research output(s) to be submitted in REF 2021?

- Yes
- No

To the best of your knowledge, approximately how many 3-4* outputs do you have completed or accepted that will be available for submission to REF 2021? (that is, outputs that are internationally excellent or world leading in originality and significance).

- 0, 1, 2... 10 or more, unsure

29. To the best of your knowledge, approximately how many outputs have you completed or accepted that might be considered for submission for REF 2021, which you consider would be graded as internationally excellent or world leading in originality, rigour, and significance?

- 0, 1, 2... 10 or more, unsure

30. Does your institution plan to submit an impact case study based on your research for REF 2021?

- Definitely
- Likely
- Unsure
- Unlikely
- No

This section asks questions about your knowledge and views on REF 2021.

Where do you receive most of your information about the REF?

Please rank the following sources from most information to least information by dragging the statements below in the order that best reflects this where:

1 or top of list = most information

9 or bottom of list = least information

_____ Social media sources

_____ Head of Department or School

_____ University-wide communications

_____ Informal discussions with colleagues

_____ From UKRI / Research England / SFC / HEFCW / Department for the Economy Northern Ireland

_____ Academic mentor

_____ Professional services within the school

_____ REF website

_____ Other

In your view, are developments made in anticipation of REF 2021 **positive or negative** for the research community within the UK?

Please leave item blank if you do not know the answer.

| | (-3) extremely negative | -2 | -1 | (0) neither negative nor positive | 1 | 2 | (3) extremely positive |
|--|-------------------------------|-----------------------|-----------------------|---|-----------------------|-----------------------|------------------------------|
| ELIGIBILITY FOR SUBMISSION: All staff with significant responsibility for research to be submitted, with a minimum of one output each, a maximum of five, and an average of 2.5 outputs per full-time equivalent (FTE; compared to 4 per person in 2014) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| APPROACH TO IMPACT: An increase in the weighting for impact from 20% to 25% of the overall exercise, with one impact case study per 20 full-time equivalent (FTE) staff | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| SELECTION OF OUTPUTS: Outputs may be submitted by both the institution employing the staff member on the census date and the originating institution | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| OPEN ACCESS: Certain outputs should be made open access to be eligible for submission to REF2021 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| SUBMISSION OF INTERDISCIPLINARY OUTPUTS: Provisions within the REF panels to further support the assessment of interdisciplinary research outputs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Do you feel that the changes to REF 2021 have affected the expectations placed on you as a researcher?

- No
- Yes, positively
- Yes, negatively
- Unknown

Do you feel that the expectations of research assessment nationally, the expectations of your university and the expectations of your school are the same?

- (0) not at all
- 1
- 2
- 3

| | | | | | | | |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| PRESTIGE OF OUTPUT (in terms of the journal, publisher, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| PUBLIC RELEVANCE (for culture / society / economic) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| CREATIVITY | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| OPEN SCIENCE PRACTICES | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| AUTHENTICITY (in terms of how the work is an authentic expression of your intellectual interests and agenda) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

I feel that, overall, my school/department/institute ...

| | (0) not at all agree | 1 | 2 | 3 | 4 | 5 | (6) strongly agree |
|---|----------------------|---|---|---|---|---|--------------------|
| Finds me important only to the extent that it helps them to accomplish their goals. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Values me (communicates that I am important or worthwhile). | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Helps me to feel capable and effective in my work. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Encourages me to have a voice in what happens. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Encourages me to feel free to be who I am. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Makes me feel controlled and pressured. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Encourages closeness and trust with others at work. | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Has your department undertaken these activities in preparation for REF 2021?

(don't know, not applicable)

| | No | Yes |
|---|-----------------------|-----------------------|
| Given you feedback about your current or expected contribution to REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Directly compared your potential contributions to REF 2021 with those of colleagues | <input type="radio"/> | <input type="radio"/> |
| Offered you promotions or other rewards for current or potential contributions to REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Discussed a change of your contract as a result of REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Indicated that your current role will change because you are not producing eligible outputs for REF2021 | <input type="radio"/> | <input type="radio"/> |
| Communicated the importance of research quality, environment and impact beyond their assessment in REF 2021 | <input type="radio"/> | <input type="radio"/> |

| | | |
|---|-----------------------|-----------------------|
| Provided instructions to change your research agenda to better align with the REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Outlined concrete performance goals for your research to better align with the REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Aligned your workload to delivery of outputs and impact for REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Listened to your views on how to approach REF 2021 | <input type="radio"/> | <input type="radio"/> |
| Made you feel supported in your research activities related to REF 2021 | <input type="radio"/> | <input type="radio"/> |

This has felt harmful -3 -2 -1 0 1 2 3 helpful

Thinking more broadly, please evaluate how POSITIVE the beneficial qualities of the REF are for you.

Please leave item blank if you do not know the answer.

- (0) Not at all positive
- 1
- 2
- (3) neutral
- 4
- 5
- (6) extremely positive
- 7- don't know

Thinking more broadly, please evaluate how NEGATIVE the detrimental qualities of the REF are for you.

Please leave item blank if you do not know the answer.

- (0) Not at all negative
- 1
- 2
- (3) neutral
- 4
- 5
- (6) extremely negative
- 7- don't know

22. Genuine and effective steps are taken to support my personal wellbeing

23. How would you rate your overall satisfaction with your current job?

0 Not at all satisfied ---- 6 highly satisfied

24. How true are these statements of how you feel, in general...

Not at all (0) ---- extremely true (6)

[items below presented in random order]

24a. My job is a source of considerable personal strain

24b. The REF is a source of considerable personal strain

24c. I often think of quitting this job

24d. I feel secure about the future of my job

25. How often do you worry about being able to meet normal monthly living expenses?

Never worry (0) to Worry all the time (6)

26. At my institution, there is a good communication between management and academics about the REF

Not at all (0) ---- extremely true (6)

27. How would your responses to the items **just above** on job satisfaction and security have been different BEFORE the COVID-19 outbreak impacted UK HEIs or your own work?

- (-3) Less secure or satisfied before the COVID-19 outbreak
- 2
- 1
- (0) no change
- 1
- 2
- (3) More secure or satisfied before the COVID-19 outbreak

28a. The REF has created a PERFORM or PERISH mentality in relation to ...

(Strongly Disagree = 0 to Strongly Agree = 6)

Research outputs (journal papers, books, or other outputs)

Research impact (effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia)

28b. Setting aside the REF, it is the very nature of the academic workplace to create a PERFORM or PERISH mentality in relation to ...

(Strongly Disagree = 0 to Strongly Agree = 6)

Research outputs (journal papers, books, or other outputs)

Research impact (effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia)

29. Do you expect your research output(s) to be submitted in REF 2021?

- Yes
- No
- Don't know

To the best of your knowledge, approximately how many outputs have you completed or accepted that might be considered for submission for REF 2021, which you consider would be graded as internationally excellent or world leading in originality, rigour, and significance?

▼ 0... Unsure

In a final section concerned with the REF, please consider the overarching purposes of the REF.

30. The REF has several official purposes. Regardless of how effective you think the REF is in achieving them, please rate whether the REF *SHOULD* hold these purposes. In other words, are these good reasons to have the REF?

Please leave item blank if you do not know the answer.

| | (0) Absolutely should not | 1 | 2 | 3 | 4 | 5 | (6) Absolutely should |
|--|---------------------------------|---|---|---|---|---|-----------------------------|
| To provide accountability for public investment in research | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To inform the selective allocation of funding for research | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To provide an evidence base to inform strategic national priorities | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To create a performance incentive for individuals and HEIs | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To provide benchmarking information | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| To be used by universities and other bodies to inform decisions on resource allocation | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

31. Were your opinions about the **REF** different BEFORE the COVID-19 outbreak impacted UK HEIs or your own work?

- (-3) More negative before the COVID-19 outbreak
- 2
- 1
- (0) no change
- 1
- 2
- (3) More positive before the COVID-19 outbreak

32. Were your opinions about **your Institution/Department** different BEFORE the COVID-19 outbreak impacted UK HEIs or your own work?

- (-3) More negative before the COVID-19 outbreak
- 2
- 1
- (0) no change
- 1
- 2
- (3) More positive before the COVID-19 outbreak

Finally, we have a few questions about how COVID-19 has impacted your REF preparations. We appreciate that in some ways it might be having a negative and/or positive impact on you.

33. To what extent has the **funding bodies' response** to COVID-19 impacted on your REF preparations (e.g. shifting the deadline for the exercise, extending the eligibility dates for the impact case studies etc.)?

- (-3) extreme negative impact on my REF preparations
- 2
- 1
- (0) no impact
- 1
- 2
- (3) extreme positive impact on my REF preparations

34. To what extent has COVID-19 **negatively** impacted your REF preparations (e.g. selecting outputs, writing impact case studies and drafting environment templates)?

- (-5) extreme negative impact on my REF preparations
- 4
- 3
- 2
- (-1)
- (0) no negative impact on my REF preparations

35. To what extent has COVID-19 **positively** impacted your REF preparations (e.g. selecting outputs, writing impact case studies and drafting environment templates)?

- (5) extreme positive impact on my REF preparations
- 4
- 3
- 2
- (1)
- (0) no positive impact on my REF preparations

This survey is going to be linked to the last Real Time REF review responses you provided 2 years ago so that we can try to understand how academic perceptions towards the REF have changed over time.

Please respond to the following questions so that we can link your data across time. As a reminder, these data will not be used to try to identify you and your responses below will not be made available outside the immediate research team.

What day of the month is your BIRTHDAY (in two number format, e.g., 01 or 30)?

What are the first THREE letters of your MOTHER'S maiden name (e.g., McG)?

What are the first TWO letters of your TOWN of birth (e.g., Lo)?

What is the FIRST letter of your MIDDLE name (if none, use X)?

Annex D. Interview protocol: Institutional leadership

Introductions

1. Name, and role in REF 2021, and involvement in 2014, if relevant.

General attitude towards the REF

2. How would you describe your attitude towards the REF?
3. Institutional leadership: How do you see your attitude and vision towards the REF reflected in your institution more widely? REF Managers: How does your attitude align with the attitude and vision towards the REF reflected in your institution more broadly?
4. Has your attitude changed towards the REF since 2014 and if so, why?
5. More recently, what impact has COVID-19 had on your attitude towards the REF?

Practical REF 2021 preparations at their institution (REF managers only)

6. What is your institution doing to prepare for REF 2021? (*Prompts: REF stock-take, feedback sessions, training, etc.*)
7. How have the preparations you have made been received within the institution?
8. How has the COVID-19 pandemic affected your REF preparations?

- a. Have resulting changes to the timetable and other measures been sufficient to manage any disruption?
- b. What are your views on the way the funding bodies handled the changes to the timeline?

Views on changes to the REF in 2021

9. What are your views on changes to the rules of REF 2021 compared to REF 2014? (*Prompts: larger number of researchers submitted; minimum of 1 output per member of staff returned and no more than 5 attributed to any staff members; inclusion of publications from staff previously employed; greater emphasis on open access to research; greater emphasis on equality and diversity in research careers; greater emphasis on interdisciplinary research; expanding definition of impact to include teaching within the submitting institution; introduction of an institution-level environment statement*)
 - a. Which changes do you think have been most significant? Please explain.
10. Overall, do you feel that the changes to REF 2021 have reduced or increased the burden of REF preparation in your institution, and has that burden been distributed differently to 2014?

11. For institutional leaders only: What are your views on the way the funding bodies handled the changes to the timeline, required in light of COVID-19?

Views on the benefits and challenges for research managers and the wider sector

12. In your view, what have the challenges of preparing for REF 2021 been to your institution, and more broadly to the sector? (Prompts: In terms of encouraging: greater quantity of outputs; quality of outputs; interdisciplinary working practices; public relevance; novelty of research/'blue sky' research; open science practices; integrity of research practices; game-playing by institutions)
for research managers prompt to ask about any challenges to wider research management activities.
13. In your view, what have the benefits of preparing for REF 2021 been to your institution and the sector more broadly? (Prompts as above)
for research managers prompt to ask about any benefits to wider research management activities.

14. Has the process of preparing for impact assessment through the REF changed your institutional approach to achieving research impact?

- a. Do you think this change will endure? Why or why not?

15. What effect do you feel the REF has had, if any, on overall research culture and researcher behaviours? (Prompts: e.g. pressure to compromise on quality of work; game-playing by institutions; researcher mental health and wellbeing; research integrity; focus on impact)

The future of the REF

16. Will you be using the experience of preparing for the REF to inform ongoing activities within your institution? (Prompts: *environment, impact, outputs*)
17. What would you do differently if you were to repeat the REF preparation process? (Prompts: *environment, impact, outputs*)
18. Are there other ways in which the design and management of the REF could be improved in the next (post-2021) assessment cycle?

Annex E. Focus group protocol: Research Managers

Introductions

1. Name, and role in REF 2021, and involvement in 2014, if relevant.

General attitude towards the REF

2. How would you describe your attitude towards the REF?
3. Institutional leadership: How do you see your attitude and vision towards the REF reflected in your institution more widely?
REF Managers: How does your attitude align with the attitude and vision towards the REF reflected in your institution more broadly?
4. Has your attitude changed towards the REF since 2014 and if so, why?
5. More recently, what impact has COVID-19 had on your attitude towards the REF?

Practical REF 2021 preparations at their institution (REF managers only)

6. What is your institution doing to prepare for REF 2021? (*Prompts: REF stock-take, feedback sessions, training, etc.*)
7. How have the preparations you have made been received within the institution?
8. How has the COVID-19 pandemic affected your REF preparations?

- a. Have resulting changes to the timetable and other measures been sufficient to manage any disruption?
- b. What are your views on the way the funding bodies handled the changes to the timeline?

Views on changes to the REF in 2021

9. What are your views on changes to the rules of REF 2021 compared to REF 2014? (*Prompts: larger number of researchers submitted; minimum of 1 output per member of staff returned and no more than 5 attributed to any staff members; inclusion of publications from staff previously employed; greater emphasis on open access to research; greater emphasis on equality and diversity in research careers; greater emphasis on interdisciplinary research; expanding definition of impact to include teaching within the submitting institution; introduction of an institution-level environment statement*)
 - a. Which changes do you think have been most significant? Please explain.
10. Overall, do you feel that the changes to REF 2021 have reduced or increased the burden of REF preparation in your institution, and has that burden been distributed differently to 2014?

11. For institutional leaders only: What are your views on the way the funding bodies handled the changes to the timeline, required in light of COVID-19?

Views on the benefits and challenges for research managers and the wider sector

12. In your view, what have the challenges of preparing for REF 2021 been to your institution, and more broadly to the sector? (Prompts: In terms of encouraging: greater quantity of outputs; quality of outputs; interdisciplinary working practices; public relevance; novelty of research/'blue sky' research; open science practices; integrity of research practices; game-playing by institutions)
for research managers prompt to ask about any challenges to wider research management activities.
13. In your view, what have the benefits of preparing for REF 2021 been to your institution and the sector more broadly? (Prompts as above)
for research managers prompt to ask about any benefits to wider research management activities.

14. Has the process of preparing for impact assessment through the REF changed your institutional approach to achieving research impact?

- a. Do you think this change will endure? Why or why not?

15. What effect do you feel the REF has had, if any, on overall research culture and researcher behaviours? (Prompts: e.g. pressure to compromise on quality of work; game-playing by institutions; researcher mental health and wellbeing; research integrity; focus on impact)

The future of the REF

16. Will you be using the experience of preparing for the REF to inform ongoing activities within your institution? (Prompts: *environment, impact, outputs*)
17. What would you do differently if you were to repeat the REF preparation process? (Prompts: *environment, impact, outputs*)
18. Are there other ways in which the design and management of the REF could be improved in the next (post-2021) assessment cycle?

Annex F. Focus group protocol: Academics

Introductions

1. Name, and your involvement with REF 2021, and 2014, if relevant.

General attitude towards the REF

2. Emerging findings from the survey (and highlighted in the pilot study) find general attitudes towards the REF to be mildly negative. What do you think drives this?
3. How do you think attitudes have changed over time or in light of COVID?

Impact of the REF

4. Survey respondents recognise a number of areas in which the REF influences the research community and research culture. What could the REF do to further encourage or limit the influence in these areas?
 - open research,
 - research integrity,
 - interdisciplinary working
 - societal impact (public relevance)
 - authenticity
 - novelty
 - game playing
 - outputs (quality and quantity)
 - equality, diversity and inclusion

Prompt: other categories covered in the survey which may come up are: game playing, authenticity, novelty

Support for REF preparations

5. What support does your institution/ department provide to support academics preparing REF submissions? What works well and what could be improved?
 - a. In particular how does your institution/ department communicate about the REF and how could this be improved?

Prompt: Was support different before and after COVID-19 outbreak?

The purpose and future of the REF

6. There are a number of purposes of the REF. What, in your opinion, should the purpose(s) of the REF be and why?

Prompt: purposes are - accountability for public investment, select allocation of funding, inform strategic national priorities, performance incentive for individuals and HEIs, benchmarking information, Resource allocation by HEIs and other bodies.

7. How would you improve the design and management of the REF in the next (post-2021) assessment cycle?
8. How would you distribute funding in the absence of the REF?

Annex G. NVivo code book for analysing qualitative research

- Attitudes to the REF
 - ▶ Positive
 - ▶ Negative
 - ▶ Other
- Areas of influence
 - ▶ Open research
 - Positive
 - Negative
 - Other
 - ▶ Research integrity
 - Positive
 - Negative
 - Other
 - ▶ Interdisciplinary research
 - Positive
 - Negative
 - Other
 - ▶ Societal impact (public relevance)
 - Positive
 - Negative
 - Other
 - ▶ Authenticity
 - Positive
 - Negative
 - Other
 - ▶ Novelty
 - Positive
- Game-playing
 - Positive
 - Negative
 - Other
- ▶ Outputs
 - Positive
 - Negative
 - Other
- ▶ EDI
 - Positive
 - Negative
 - Other
- ▶ Target
 - Positive
 - Negative
 - Other
- ▶ Other
 - Positive
 - Negative
 - Other
- Changes to REF 2021
 - ▶ Selection of staff
 - Positive
 - Negative
 - Other

- ▶ Selection of outputs
 - Positive
 - Negative
 - Other
- ▶ Open access
 - Positive
 - Negative
 - Other
- ▶ EDI
 - Positive
 - Negative
 - Other
- ▶ Introduction of institution level statement
 - Positive
 - Negative
 - Other
- ▶ Emphasis on interdisciplinary
 - Positive
 - Negative
 - Other
- ▶ Societal impact
 - Positive
 - Negative
 - Other
- ▶ Stern Review
 - Positive
 - Negative
 - Other
- ▶ Overall views
 - Positive
 - Negative
 - Other
- ▶ Other
 - Positive
 - Negative
 - Other
- Types of preparation and support within HEIs
 - ▶ Mock exercises
 - Works well
 - Could be improved
 - Other
 - ▶ Reading and grading papers
 - Works well
 - Could be improved
 - Other
 - ▶ Communication
 - Works well
 - Could be improved
 - Other
 - ▶ Feedback
 - Works well
 - Could be improved
 - Other
 - ▶ Use of metrics
 - Works well
 - Could be improved
 - Other
 - ▶ Contracts
 - Works well
 - Could be improved
 - Other
 - ▶ Other
 - Works well
 - Could be improved
 - Other
- Purpose of the REF
 - ▶ Accountability for public investment
 - ▶ Allocation of funding
 - ▶ Inform strategic national priorities
 - ▶ Performance incentives for individuals and HEIs
 - ▶ Benchmarking information

- ▶ Resource allocation by HEIs and other bodies
- ▶ Duplication and overlap
- ▶ Other
- ▶ Trust
- Future of the REF
 - ▶ Improvements to REF
 - Metrics
 - In favour
 - Against
 - Other
 - Timing
 - Focus
 - Outputs
 - Impact
 - Environment
 - Other
 - Light touch
 - Other
 - ▶ Absence of REF
 - ▶ International systems
 - ▶ Other
- Career Stage
 - ▶ ECR
 - ▶ Mid
 - ▶ Established
- Discipline
 - ▶ Main Panel A
 - ▶ Main Panel B
 - ▶ Main Panel C
 - ▶ Main Panel D
- Interviewer
- Note taker
- Discipline-specific statements
 - ▶ Medicine, health and life sciences
 - ▶ Physical sciences, engineering, mathematics
 - ▶ Social sciences
 - ▶ Arts and humanities
- COVID-19
- Quotes
- Type of HEI
 - ▶ Research-intensive
 - ▶ Less research-intensive

Annex H. List of recommendations from the Stern Review

A: Outputs

Recommendation 1: All research active staff should be returned in the REF

Recommendation 2: Outputs should be submitted at Unit of Assessment level with a set average number per FTE but with flexibility for some faculty members to submit more and others less than the average

Recommendation 3: Outputs should not be portable

Recommendation 4: Panels should continue to assess on the basis of peer review. However, metrics should be provided to support panel members in their assessment, and panels should be transparent about their use

B: Impact

Recommendation 5: Institutions should be given more flexibility to showcase their interdisciplinary and collaborative impacts by submitting 'institutional' level impact case studies, part of a new institutional level assessment

Recommendation 6: Impact must be based on research of demonstrable quality. However, case studies could be linked to a research activity and a body of work as well as to a broad range of research outputs

Recommendation 7: Guidance on the REF should make it clear that impact case studies should not be narrowly interpreted, need not solely focus on socio-economic impacts but should also include impact on government policy, on public engagement and understanding, on cultural life, on academic impacts outside the field, and impacts on teaching

C: Environment

Recommendation 8: A new, institutional level Environment assessment should include an account of the institution's future research environment strategy, a statement of how it supports high quality research and research-related activities, including its support for interdisciplinary and cross-institutional initiatives and impact. It should form part of the institutional assessment and should be assessed by a specialist, cross-disciplinary panel

Recommendation 9: That individual Unit of Assessment environment statements are condensed, made complementary to the institutional level environment statement and include those key metrics on research intensity specific to the Unit of Assessment

D: Wider context

Recommendation 10: Where possible, REF data and metrics should be open, standardised and combinable with other research funders' data collection processes in order to streamline data collection requirements and reduce the cost of compiling and submitting information

Recommendation 11: That Government, and UKRI, could make more strategic use of REF, to better understand the health of the UK research base, our research resources and areas of high potential for future development, and to build the case for strong investment in research in the UK

Recommendation 12: Government should ensure that there is no increased administrative burden to Higher Education Institutions from interactions between the TEF and REF, and that they together strengthen the vital relationship between teaching and research in HEIs

Note: These are the recommendations as presented in the Stern Review (Stern 2016, p.36)