Equality Impact Assessment

Research Excellence Framework 2021

July 2021

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1. Introduction

The University of Reading is committed to diversity and inclusion and supports and develops staff from a variety of different backgrounds, recognising their individual contributions to the University's vibrant research community, both in terms of breadth and excellence. This commitment is reflected by an institutional Athena Swan Silver Award, Top 100 Stonewall Employer status, and Disability Confident committed status. There are highly active staff networks, including a Women@Reading network, an LGBT+ and Allies network, a BAME network, a Disability and Neurodiversity network and a Parent and Family network. The role of Chair of the national Athena Swan Governance Committee is currently held by the Pro-Vice-Chancellor for Research and Innovation. There is visible senior leadership in the form of University Executive Board champions for protected characteristics. In May 2021, the University published a comprehensive Race Equality Review, outlining twenty recommendations to address racial inequalities at the University.[1]

Diversity and inclusion at the University are underpinned by a range of polices, including the Equal Opportunities Policy; the Code of Good Practice (Valuing Ourselves and Others), Harassment and Bullying Policies and Procedures, Trans and Gender Identity: Supporting Information and Procedures for Staff/Students, Family Leave Procedures, as well as Provision of Gender Neutral Toilets.[2] Specific governance structures strengthen the work and commitment in this area: for example, in 2015, the role of the Dean for Diversity and Inclusion was created, with responsibility for strategic action on equality, diversity and inclusion. A Diversity and Inclusion Advisory Board brings together representatives from all areas of the University's work to ensure that good practice in equality, diversity and inclusion is embedded in everything we do; this Board is chaired by the Deputy Vice-Chancellor/Pro-Vice-Chancellor for Research and Innovation, who is also the University Executive Board lead for equality, diversity and inclusion.

For the submission to the Research Excellence Framework (REF) 2021, the University drew on a range of policies and procedures to ensure that it met its legal responsibilities with regards to equality and diversity in line with the Equality Act 2020 and the Prevention of Less Favourable Treatment Regulations 2000 and 2002. These responsibilities are set out in the University's Code of Practice (COP), which also ensured that the University adhered to the principles of transparency, consistency, accountability and inclusivity. The importance of adherence to these principles in the process of identifying eligible staff and selecting research outputs for submission is clear: embedding and strengthening the equality and diversity practices throughout the entire REF process ensures a submission which balances optimisation of quality with diverse representation of researchers who are at different career stages and have different personal circumstances. This diversity enables the University to make a submission that represents as much as possible, the full breath of our excellent research.

[1] For the Race Equality Review, see https://www.reading.ac.uk/news-and-events/releases/PR856690.aspx.
[2] For further information, see https://www.reading.ac.uk/internal/diversity/diversity-policies-and-procedures.aspx.

A key instrument for ensuring that the University meets the principles above is the proactive use of data on equality and diversity to check that the University's day-to-day operations are in line with relevant policies. As outlined in the COP, Equality Impact Assessments (EIAs) were conducted at different stages of the REF 2021 process prior to finalising the University's submission; the first interim EIA being carried out in April 2020 and the second interim EIA in February 2021. The rationale behind the timing of the interim EIAs, their research design, findings and subsequent governance actions are also included in this report.

Following the University of Reading's submission to the REF 2021, the overarching aim of the final EIA presented in this report is to identify any potential bias against the following protected characteristics: age, disability, race (ethnicity/nationality), religion, sex, and sexual orientation). Data on marriage/civil partnerships and pregnancy have not been included in this report as these data are not routinely collected by the University, meaning that there are completeness and accuracy issues that would seriously compromise the quality and reliability of any subsequent analysis. Gender reassignment data is collected; however, we have very low declaration rates that cause similar data issues. As per the Preventions of Less Favourable Treatment Regulations 2000 and 2002, the final EIA also analysed data on contract mode (part-time/full-time) and contract type (fixed term/permanent). We also reviewed a range of additional factors (career stage), which will be detailed further below.

The key aims of the EIA are to:

1) Identify potential bias in the processes for:
    a. Determining research independence and dealing with possible appeals resulting from the process of determining research independence
    b. Output selection for submission

2) Reflect on EDI issues in the processes for:
    a. Declaration of personal circumstances
    b. Developing impact case studies for submission.

3) Identify learning that can be incorporated into our institutional policies and practices to ensure EDI considerations are adequately considered

The data for this report was compiled from various sources: staff data was obtained from the iTrent HR system for all staff employed at the University of Reading on the census date, 31 July 2020. Data on research independence and personal circumstances was sourced from specific forms, safeguarding the confidential nature of this data. Where possible, statistical tests were carried out to analyse the profile of the submitted outputs and outcomes of the process for determining research independence. Overall, the key findings of the final EIA are:

1. ECRs are more likely to have fewer outputs represented in the submission, while Professors are more likely to have more.
2. Female researchers at grade 8 are more likely to have fewer outputs, and this may be connected to a greater proportion of personal circumstances related to family matters in this group.

3. Non-British Black researchers are more like to have one output, but non-British Asian researchers are more like to have five outputs represented in the submission.

This report is structured as follows: section 2 provides an overview of the REF 2021 governance structures at the University of Reading and the implementation of policies and procedures, some of which were developed following the previous REF exercise in 2014. The third section presents the findings of the interim EIAs and discusses how these informed subsequent actions taken by the University. The data, methods and key outcomes of the final EIA are also discussed in this section, and the concluding section draws out recommendations for further development of university policies and procedures where equality and diversity could be further supported.

2. Background

2.1 REF 2021 Governance Structures

To oversee the REF submission, a formal REF Planning Group (REF PG) was established in January 2018, chaired by one of the Pro-Vice-Chancellors for Research and Innovation (currently held as a job-share). Other members were the Chair of the COP Group (also Pro-Vice-Chancellor for Research and Innovation) the Research Deans for each of the University's research themes (Agriculture, Food & Health; Environment; Heritage and Creativity; Prosperity & Resilience), the Dean for Postgraduate Research Studies and the Dean for Diversity and Inclusion, the REF and Research Planning Manager and the Head of Planning & Reporting from the Planning and Strategy Office. The REF PG was responsible for all decisions relating to the REF process and submission and responsible for advising the University Executive Board (UEB) on any matters relating to the submission.

In spring 2018, 22 Unit of Assessment Leads (UOA Leads) were appointed to lead the preparation of the REF submission for their respective UOA. UOA Leads collaborated with a range of academic colleagues in leadership roles (such as Research Division Leads and Head of Schools) and were also supported by a wide range of members of the professional services, as well as the REF PG.

The REF Code of Practice (COP) Group was established in Autumn 2018 and included key members from the REF PG and an HR Partner to ensure consideration of HR policies. Its remit was to set out the key steps to ensure that the University would adhere to its legal obligations with regards to equality and diversity during the REF process, to publish these in the form of the COP, to ensure wide dissemination of the Code and to set out plans to ensure the Code was implemented appropriately. After submission, the group, with revised membership, was responsible for carrying out the final EIA, ensuring timely input from with the Diversity and Inclusion Advisory Board and the University Committee for Research & Innovation.

A Personal Circumstances Group (PCG) was formed in September 2019, comprising the Dean for Diversity & Inclusion; the Equality, Diversity and Inclusion Lead from the School of Chemistry, Food & Pharmacy; and the Equality, Diversity and Inclusion Lead from the School of Law. The Group was supported by an HR Partner in an advisory

capacity. The PCG was responsible for reviewing personal circumstances declarations, preparing a summary statement of the personal circumstances and their impact, and making decisions on individual reductions in outputs in accordance with the REF submission guidance on reductions for staff circumstances. Declarations were anonymised prior to being provided to the PCG.

A standing Appeals Committee was created in January 2020 to hear appeals resulting from the process of determining research independence and appeals resulting from the process of determining reductions in outputs, following the assessment of voluntarily declared personal circumstances. The Appeals Committee was chaired by the (then) Deputy-Vice Chancellor (who was not involved in the REF process), together with Pro-Vice Chancellor for Academic Planning & Resource and a Teaching and Learning Dean as the other two members. However, no appeals were received relating to either process.

2.2 Development of E&D Policies and Procedures since REF 2014

The University carried out an EIA of its submission to the REF 2014 exercise. The key findings of this evaluation were:

- At institutional level, there were no significant differences in the percentage of eligible staff submitted with respect to sex, disability, contract hours, contract type, nationality, ethnicity or age, relative to the comparator group of category A eligible staff.
- The University's selection rate by gender compared favourably with the sector. There was evidence of a lower proportion of Black, Asian and Minority Ethnic staff and female staff in some disciplines – an aspect of ongoing concern, which the University is addressing through the following actions, which have been developed since the last REF.

Support for Early Career Researchers has been taken forward by the University's HR Excellence in Research Strategy and Implementation Plan, while ECRs are supported with clear probationary targets, mentoring, clear workload allocation and tailored developmental opportunities. This is aligned with key actions in the University's Athena Swan Silver action plan. For example, attracting a gender balance in applications, which feeds into gender-balanced shortlists and appointments, promoting clear pathways to progression including job-shares and flexible working, and the review of local workload models to ensure fair workloads. Actions in our Athena Swan action plan are also aligned to our Race Equality action plan, including supporting female Black, Asian and Minority Ethnic staff to progress to the highest levels of the organisation and providing opportunities to engage in various leadership programmes, i.e., Aurora Advance HE, Diversifying Leadership, Mandala, Springboard and Steller HE.

The University has also revised its procedures for academic staff probation and promotion over the last five years to become more criteria and evidence based. Eligible staff are proactively considered for promotion and there is opportunity for voluntary declaration of personal circumstances to enable staff to identify personal, familial and/or other relevant circumstances which may have impacted upon their work

for a defined period and in relation to the criteria for promotion or completion of academic probation.

2.3 E&D actions taken as part of the REF Process

Drawing on these policies and procedures, the COP outlines a range of actions specific to the REF 2021 submission to ensure a transparent and fair process. Actions were developed by the COP Group and the REF PG was responsible for overseeing the actioning of them. These actions fell into three broad areas: (1) communication and briefing sessions, (2) E&D and unconscious bias training, and (3) specific E&D procedures related to the identification of eligible staff and outputs.

2.3.1 Communication and Briefing Sessions

The COP was published on the internal Staff Portal webpages, which also contained additional resources and information on all aspects of the REF exercise and links to funding bodies' REF webpages. Regular all-staff briefing communications were sent between 2019 and 2020, as well as individual email communications, where appropriate. To ensure that staff absent from work at these times received all necessary information, details of the COP and related processes were sent to them by post. In October 2019, the Pro-Vice-Chancellors for Research and Innovation visited every School in person to provide an overview of the REF 2021 process, to explain how the COP was being implemented, and to answer questions and facilitate discussion. Staff members were encouraged to contact the REF and Research Planning Manager directly, and communication between academic staff and professional staff supporting the submission was further enhanced by providing a specific email address for any queries related to the REF process. A specific email address was created to support the process of personal circumstances declarations, thus enhancing confidentiality of this process.

2.3.2 E&D and Unconscious and Implicit Bias Training

In addition to the training session on REF requirements, staff members with significant responsibility for the development of the submission were also required to complete training on equality and diversity. In addition to an online course on E&D practices, training on unconscious and implicit bias in the REF was provided. This was followed by reflection sessions tailored to each of the specific groups (REF PG, UOA Leads), which explored areas requiring particular attention to avoid bias. The aim of this training was to enable discussions about how unconscious bias could affect specific pieces of work and to think of action plans in how to nullify any effects. Training on the responsible use of metrics was also provided to REF PG, UOA Leads and the Appeals Committee in order to ensure that the REF processes aligned with the University's Statement on responsible use of metrics in research.

2.3.3 Scope of E&D Procedures

As outlined above, the scope of the final EIA covers two key areas of the REF process: (i) the identification of staff with significant responsibility for research, considering personal circumstances and (ii) the identification of eligible outputs. The following section provides a brief overview of these processes.

Assessment of research independence

The University returned 100 % of Category A eligible staff, as defined in the REF Guidance on Submissions, using the census date of 31 July 2020. Staff on research only contracts at Grade 6 or 7 holding a fellowship identified in the list of Independent Research Fellowships published by the funding bodies were automatically considered as Category A staff. For staff on research only contracts at Grade 6 holding an externally funded Fellowship not on this list and all other staff on research only contracts at Grade 7, research independence was dependent on meeting at least 4 out of 6 criteria, as outlined in the COP.[3] Decisions were made by the REF PG, based on information and evidence provided by staff via an institutional template. Additional information and evidence was sought where necessary.

Decisions were made in November 2019, July 2020 and September and October 2020 to ensure that all staff were given sufficient opportunity to have their cases considered. The first interim EIA and the final EIA sought to identify whether there were any differences between staff deemed to be research independent and the assessed population.

Appeals related to research independence and personal circumstances

As noted above, the Appeals Committee was established to hear any appeals resulting from the process of determining research independence. Appeal cases had to be submitted within 14 days of receiving formal notification of independence decisions by REF PG. For any appeals resulting from the process of declaring personal circumstances, a similar standing Appeals Committee was created. No appeals were made throughout the entire REF process; therefore, no further analysis was carried out on this element.

Identification of outputs for submission

Outputs

As outlined in the COP, staff members were asked to select up to a maximum of 10 outputs to be considered for inclusion in the eligible pool of outputs for submission, using an online platform that sits alongside the University's repository. These outputs were validated for technical eligibility by the appropriate professional staff and for academic eligibility by UOA Leads; staff members were able to make changes to this pool on an ongoing basis to account for new publications.

UOA Leads were asked to model the submission, balancing optimisation of quality with inclusivity.

Initial analysis for the Mock REF submission was based on the proportion of staff for each category of output number, compared to the total number (headcount) of the submitted Category A population and also compared to the total number of available

[3] See COP at http://www.reading.ac.uk/research/impact/ref-2021.aspx.

outputs in the eligible pool. The analysis ensured that selections were evaluated for their representation relative to the submitted staff population and also the pool of outputs from which the UOA leads made their selection.

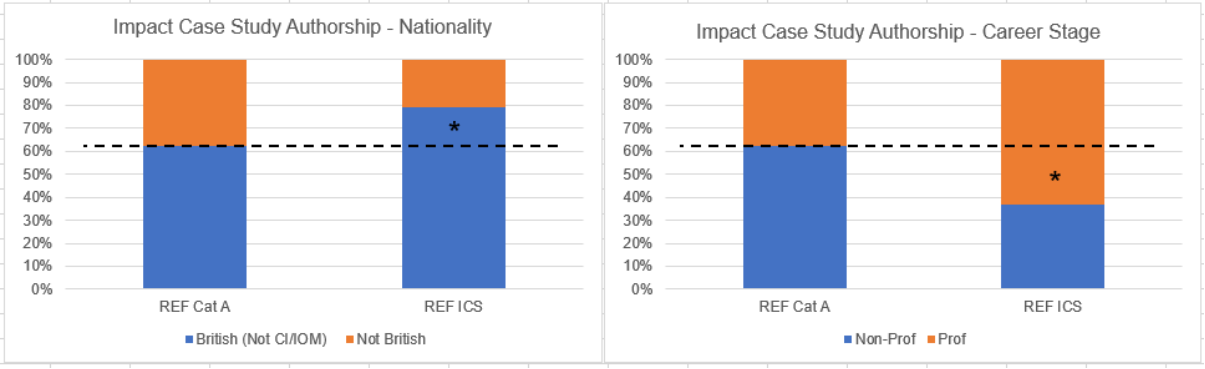
3. Impact Case Studies and Personal Circumstances

Separate to output selection and research independence (see section 4) we did look at the selection of impact case studies and at the declaration of personal circumstances

3.1 Impact

Impact case studies were not subjected to equality impact analysis during the preparation of the submission. This is partly because meaningful data on the wider pool of impact activity and of staff undertaking those activities was not available. We have identified this as a gap that requires addressing in the future.. For this EIA, the selected impact case studies were retrospectively analysed to evaluate whether authors represent the submitted category A population. Conclusions from this analysis, together with future analysis on protected characteristics of staff undertaking impact activity and deployment of institutional support may provide insight into whether institutional practices to support the development of research impact may be biased in any way.

In this EIA, we analysed whether distribution of authorship of an impact case study represented the submitted population. While there were no differences with regard to sex or ethnicity, there was a higher proportion of British and Professorial case study authors.



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[4] Dashed line allows comparison with comparative headcount population. * denotes a significant different with a P-Value of less than 0.05.

3.2 Personal circumstances

Requesting unit output reductions

The approach taken by the University to determine whether to request a reduction in outputs for submitting units is outlined in the Code of Practice document on pages 20-21. The mechanism used to make those decisions is detailed in Annex G of the Code of Practice.

In summary, the REF Planning Group received information from the Personal Circumstances Group (PCG) on the total number of declarations and aggregated agreed outputs reduction for each Unit of Assessment (UOA). The REF Planning Group then used the following criteria to determine whether Unit reductions should be requested from the funding bodies:

- the percentage of staff declaring eligible circumstances in any given Unit and the impact of the aggregated circumstances on the productivity of the Unit as a whole.

- the total output reduction agreed by the PCG as a proportion of the total output requirement for the Unit.

- the number and type of circumstances declared, unit size and disciplinary norms such as publication practices.

Prior to making final decisions, UOA Leads were consulted to ensure that the full extent of the impact of circumstances was captured.

Personal circumstances

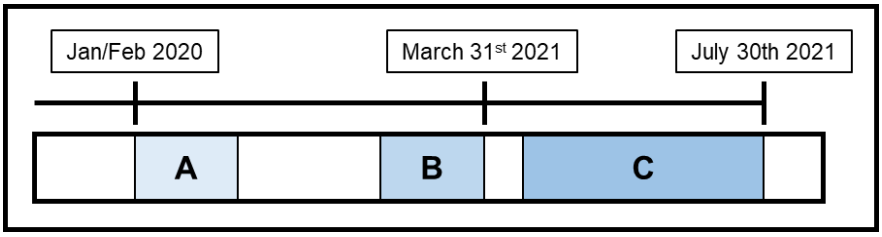
The following table provides an overview of declarations of personal circumstances, outlining both the percentage of all circumstances declared and those requiring judgement by the PCG, grouped by the following characteristics: sex, nationality, disability, race and framework grade.

	Sex		Nationality		Disability		British (not CI/IOM)		Not British		Framework grade			
	Female	Male	British	Not British	Declared disability	Not declared	White	BAME	White	BAME	Professor	Grade 8	Grade 7	Other
REF eligible staff	**43%**	**57%**	**63%**	**37%**	**2%**	**98%**	**91%**	**9%**	**73%**	**27%**	**38%**	**27%**	**26%**	**2%**
All circumstances	67%	33%	58%	42%	5%	95%	92%	8%	67%	33%	20%	22%	53%	5%
Requiring judgement	66%	34%	68%	32%	10%	90%	94%	6%	91%	9%	43%	32%	23%	1%

There was a higher proportion of female researchers declaring personal circumstances, primarily on account of family-related leave declarations, and a greater proportion of circumstances requiring judgement declared by female researchers. There was also a higher proportion of researchers with declared disabilities requiring judgement compared with the eligible population.

4. Analysis

The University took an iterative approach to the REF submission, running several validation and modelling exercises throughout the REF process. A mock submission was carried out in January 2020, bringing all elements of the submission together to assess progress, adjust procedures where required, review the degree of adherence to the COP within UOAs and to provide a fixed data point to carry out the first interim EIA. The timing of this interim EIA (A) would enable us to identify potential bias at an early stage whilst providing sufficient time to make any necessary adjustments to processes if issues were identified.. Before we submitted our final REF return in March 2021, there was a second phase of analysis (B) to look for any bias in the outputs selected for submission. The timing of this analysis would help us identify any issues on the final pool of outputs with sufficient time to follow up prior to submission. Lastly, after the final submission had been confirmed we performed the final EIA analysis (C) which aimed to look at multiple aspects of the REF submission and help to outline any lessons learned or things that will need to be adapted for future exercises.



Phase of Submission	Date	Dataset	Main Aims	Analysis	Outcomes
Mock Exercise	**Spring 2020**	**Full Mock Submission**	1. Identify any potential bias against protected characteristics (research independence and output selection) 2. to determine whether any adjustments in processes or further action was required to minimise the bias	1. Analysis at HEI and Main Panel-level. 2. Comparisons were related to headcount of prospective submitted population	1. Potential bias in the process for output selection relating to race and sex, leading to actions to address these differences
Prior to Submission	**Jan/Feb 2021**	**UOA Leads Final Selections**	1. Highlight anomalies at UOA-level for which the REF PG considered there was no evidence of reasonable justification and agreed next steps in relation to these	1. Analysis at HEI and UOA-level. 2. HEI and UOA-level analysis included comparisons to headcount. 3. Follow-up analysis included comparisons to eligible pool of outputs	1. Identified potential bias in the process of output selection related to career stage, and two UOAs with potential bias in outputs selection relating to sex 2. Review of data an UOA processes confirmed that there was no bias in selection processes
Post Submission	**Spring/Summer 2021**	**Full Final Submission**	1. Analysing final submission with regard to protected characteristics. 2. Develop recommendations to improve processes both for a potential future REF and for the university's day-to-day business.	1. Analysis at HEI-level. 2. All analysis inlcuded headcount and eligible pool comparisons. 3. Follow-up analysis/intersectionaly performed	1. Identified statistical differences in sex, career stage and race in the final submission. 2. Lessons learned. 3. Future planning

4.1 First interim EIA (April 2020)

The key aim of the first interim EIA was to identify any potential bias against protected characteristics in the process of determining research independence and output selection and to determine whether any adjustments in processes or further action was required to minimise the bias. The analysis considered the following protected characteristics: age, disability, race, religion, sex and sexual orientation. In addition,

the analysis also investigated whether there was any bias in output selection in relation to contract type, specifically with regards to contract hours (part-time vs full-time), position (fixed-term vs permanent), academic employment function (research only vs teaching and research) and career stage (grade 6 to Professor).

Data on staff and outputs were compiled as outlined in the introduction to this report. All staff considered to be research independent by December 2019 were included in the mock exercise and the interim EIA. For the mock submission, staff members were asked to formalise their pool of eligible outputs in November 2019, which then constituted the set of outputs for selection by UOA Leads and the set for this analysis. For each of the characteristics above, a comparison of the profile of the selected population (the number of authors assigned 1 to 5 outputs) of the mock submission was made with the entire eligible population, using a Z-test for two population proportions[5], which analyses the difference between two populations.

Research independence

The first round of assessment of research independence for staff on qualifying contracts was performed prior to the mock submission. Staff were required to submit evidence against the criteria set out in the COP; the requirements were based on contract type, irrespective of job title, to ensure that all relevant staff had the opportunity to be assessed. In the first interim EIA, 58 staff were considered (11 Grade 6, 39 Grade 7 and 8 Marie Curie Fellows). Of the 39 grade 7 staff considered, 29 (74%) were determined as independent. With some staff qualifying automatically by virtue of their fellowship, there was a total of 43 independent staff.

Given the size of this sample and low declaration rates for some of the protected characteristics, only sex and race (ethnicity and nationality) were considered. For these characteristics, there were no statistically significant differences between those deemed to be research independent and the assessed population. Following this analysis, the REF-PG found no evidence of a bias in the process for determining research independence.

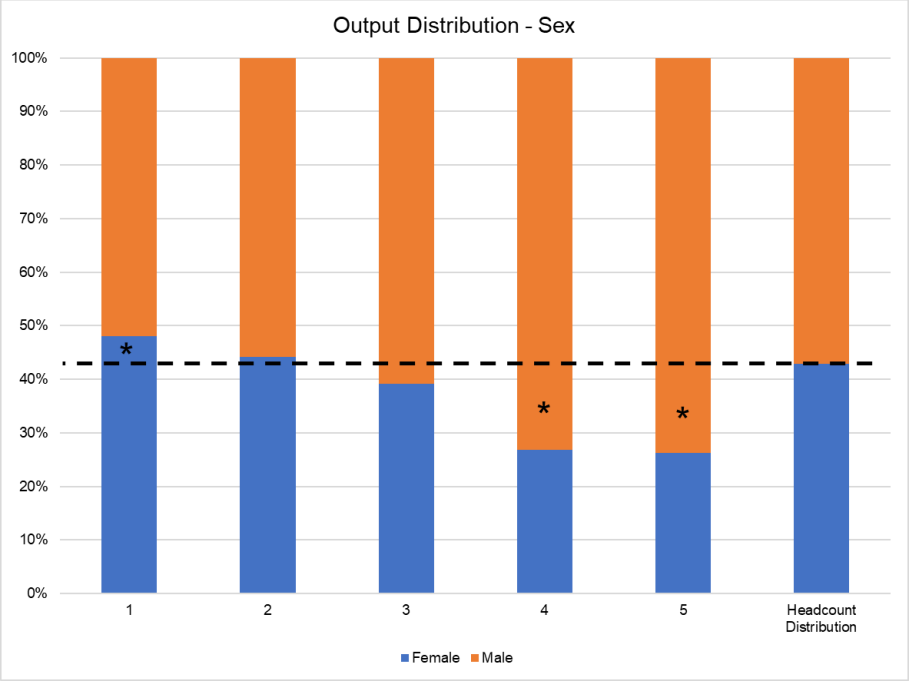
Output selection

We looked at the following characteristics for the initial analysis regarding output distribution: sex, age, nationality, sexual orientation, ethnicity, disability, grade, contract hours, contract type, religion and academic employment function.

The analysis showed no statistically significant differences for most areas with the exception of female authors and ethnicity as follows:

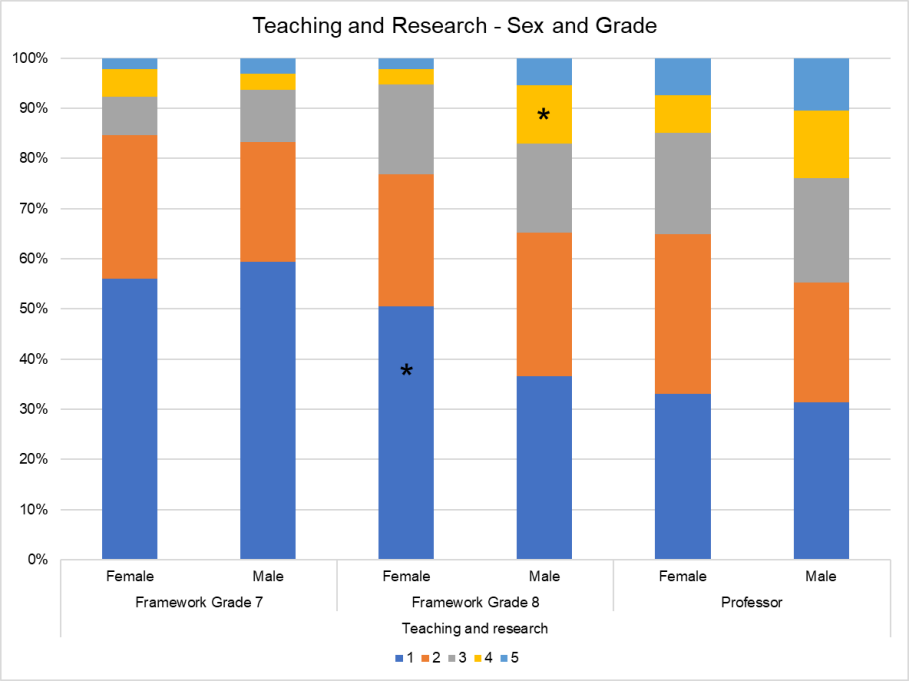
Female authors: there was a higher proportion of female authors with one selected output, and a higher proportion of male authors with four and five selected outputs (see Figure 1). Further analysis demonstrated a **significantly higher proportion of female grade 8 staff on a teaching and research contract with one selected** output compared to the submitted population (see Figure 2).

[5] https://www.socscistatistics.com/tests/ztest/default2.aspx



[6]

Figure 1



[7]

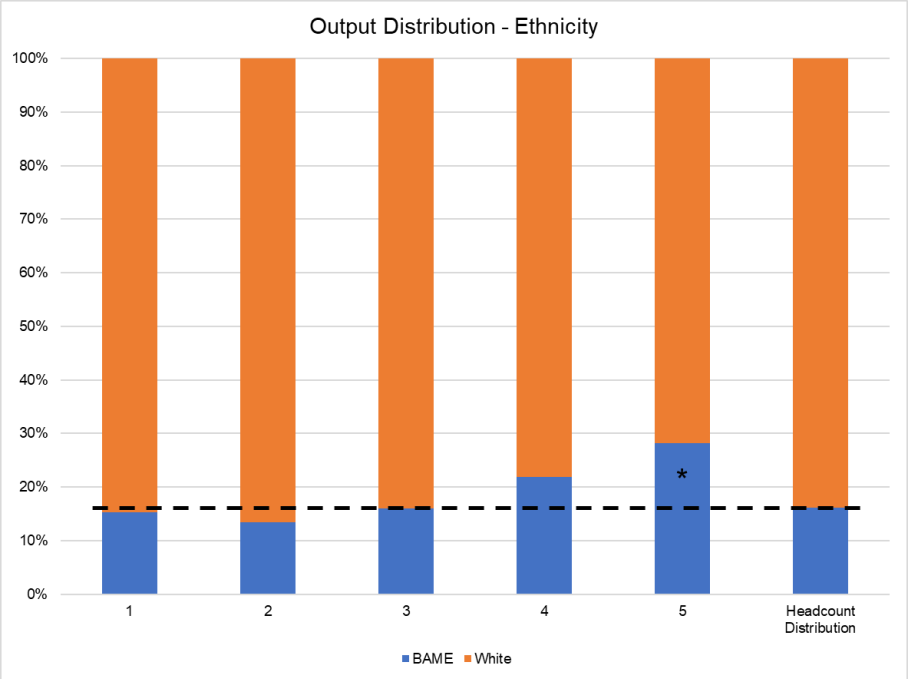
Figure 2

Ethnicity: The analysis also demonstrated variation for selected outputs according to ethnicity (see Annex Figure 1A); in particular, a higher proportion of Black, Asian and Minority Ethnic Staff with 5 assigned outputs compared to white staff (see Figure 3).

[6] Dashed line allows comparison with comparative headcount population. * denotes a significant different with a P-Value of less than 0.05.

[7] * denotes a significant different with a P-Value of less than 0.05.

Disaggregation of the data demonstrated that there was a **higher proportion of Asian staff with 5 selected outputs** compared with white staff (see Annex Figure 2A). However, **a higher proportion of Black staff had only one selected output** compared with white staff (see Annex Figure 3A).



[8]

Figure 3

The interim EIA was published on the University's internal webpages, highlighted in a communication to all eligible staff and discussed within Communities of Practice, which were attended by all UOA Leads. Facilitated by the REF and Research Manager, these sessions provided UOA Leads with the opportunity to reflect on the findings of the first interim EIA, particularly where significant issues were identified, and discuss possible implications for their UOA, for example with a view to the process of quality assessment for eligible outputs. Furthermore, the REF PG and the Dean for Diversity and Inclusion were provided with supplementary information about the distribution of protected characteristics for declared circumstances and individuals with decision-making roles in the REF process.

The differences seen in the interim EIA for sex and ethnicity could have been due to a number of reasons such as implicit bias in the selection at UOA level, a bias in the underlying quality assessment (peer review) either as part of REF preparations or as part of routine peer review, or bias in construction of the eligible output pool.
Outcomes of the interim EIA were shared with UOA Leads who were asked to reflect on the outcomes corresponding to the institution and their Main Panel. Further discussions were focussed on:

[8] Dashed line allows comparison with comparative headcount population. * denotes a significant different with a P-Value of less than 0.05.

- How their UOA used available outputs and selections and whether any differences seen in the interim EIA could impact their UOA selections and if so, whether these could be justified.
- What changes/additional processes were required in order to minimise the potential for bias. These included:
    - Review of local selection processes, with an emphasis on ensuring that the selected pool was representative of the breath of research in the UOA
    - Identify needs for additional peer review of candidate outputs (internal/external) within the UOA for specific outputs
    - Identify a need for changes in business-as-usual peer review practices to address potential imbalances in the wider pool of available outputs.

4.2 Second Interim EIA (February 2021)

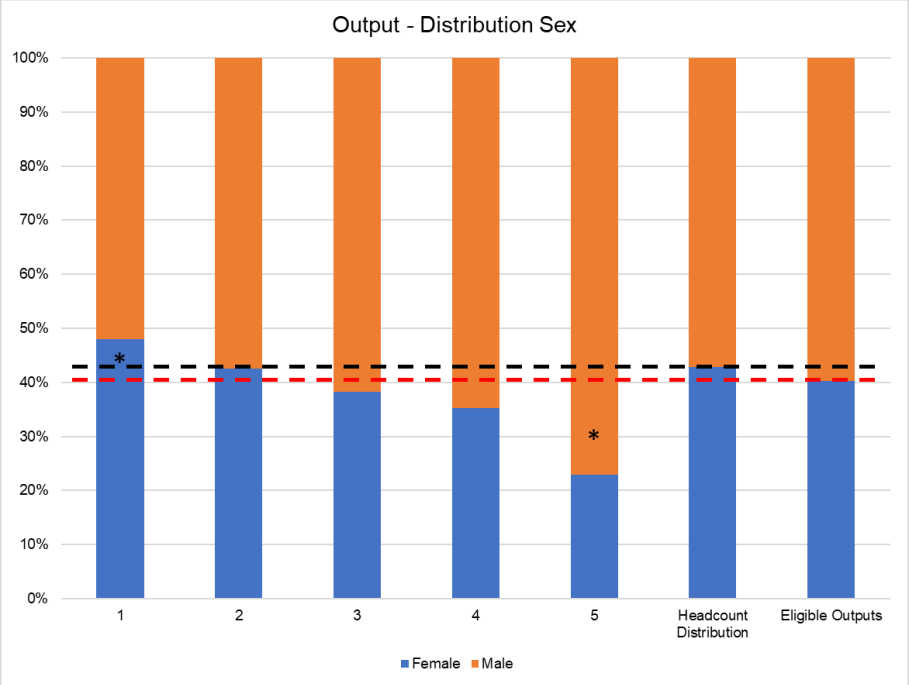
The second interim EIA was carried out prior to the final submission and aimed to identify any bias in the final pool of selected outputs. UOA Leads were asked to complete their final selection by January 2021, pending any adjustments to this selection resulting from the second interim EIA. It is important to note that this analysis only considered three characteristics: sex, career stage (Professorial status, ECR status) and contract type (FT/PT). For information, ECRs were as defined by REF; started position after the first of August 2016 and had been reported as so in the HESA staff return in 2019/20.

The analysis was carried out in two stages: Z-tests were performed first at institutional level and in a number of cases at UOA level to achieve a more granular analysis. Note that for UOAs with small numbers of researchers, the analysis would be unlikely to be able to highlight any statistically significant differences. The key purpose of the second interim EIA was to identify any anomalies in the final selection and to differentiate between:

- potential biases for which the REF PG considered there was a reasonable justification and therefore did not conclusively represent a biased selection
- potential biases for which the REF PG considered there was no evidence of reasonable justification and agreed next steps in relation to these

The key findings of the analysis are highlighted below:

Female/male authors: As seen in the first interim EIA there was a **higher proportion of female colleagues linked to one output** and a **higher proportion of male colleagues linked to five outputs** (when compared to the submitted population – see Figure 4).



[9]

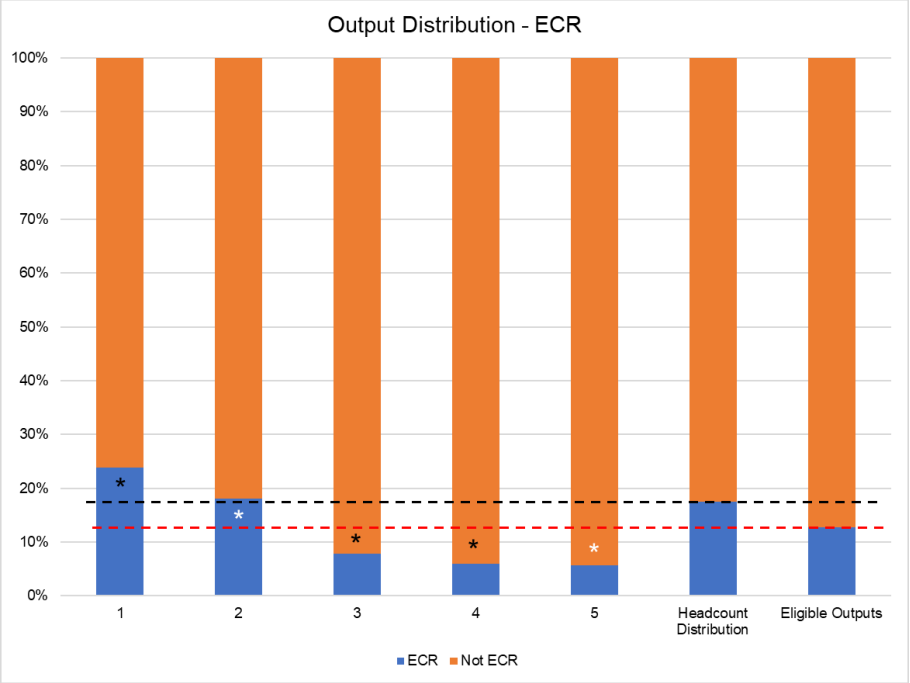
Figure 4

Career stage: There was also:

(i) higher proportion of non-professors linked to one output and a higher proportion of professors linked to four and five outputs (see Annex Figure 4A)

(ii) a higher proportion of ECRs linked to one and two outputs and a higher proportion of non-ECRs linked to three, four and five outputs (see Figure 5)

[9] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs..



[10]

Figure 5

The unit-level analysis highlighted some UOAs where differences were significant. These included statistical differences relating to sex and ECR status. With regards to ECRs, the REF-PG reviewed the overall conclusions and the specific UOAs and concluded that the reduced numbers of outputs by ECRs was in line with expectation at that career stage. With regard to sex, there was evidence of potential unexplained bias for two UOAs. The REF PG and relevant Research Deans, who discussed the analysis and possible factors contributing to the findings with the UOA Leads. In both cases, it was confirmed that the submission had been compiled in a clear and transparent manner, and in the case of one of the UOAs it was evident that double weighting had skewed the selection, rather than there being an inherent bias. Based on the respective reports of the relevant Research Deans, the REG PG agreed that there was no concern or need for further action.

4.3 Final EIA (May 2021)

The overall demographic of the population was available to us when performing final stage of EIA analysis.

[10] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.

Disability			Nationality		British (not CI/IOM)		Not British		Sex	
Disabled	Not disabled	Not known	British (not Channel Islands or IOM)	Not British	White	BAME	White	BAME	Female	Male
2%	86%	12%	63%	37%	91%	9%	73%	27%	43%	57%

These tables were used as a baseline for distribution of outputs with regards to characteristics (both protected and not protected).

Contract status		Framework grade				
Permanent	Fixed term	Professor	Associate Professor	Lecturer	Senior researcher (R8 and above)	Researcher
92%	8%	38%	27%	26%	2%	7%

Research independence

As for the first interim EIA, when we evaluated research independence, and had finished all rounds of evaluation. In total, 77 staff were considered. 54 staff were deemed research independent (11 grade 6, 38 grade 7 and 5 Marie Curie Fellows). When looking at protected characteristics (sex, race and disability) there were no significant differences between the total population that were assessed and those that were deemed research independent.

Output selection

Both the first and second interim EIA compared the profile of the selected and total population investigating, for example, the number of female staff with 1 to 5 selected outputs. However, taking into account that factors such as career stage, personal circumstances or disciplinary practice (i.e. the publication of journal articles vs the production of non-text based outputs) may affect the number of eligible outputs per staff member available for submission, a second analysis compared the submitted outputs with the total number of eligible outputs available.

Age

There were no age-related differences between the submitted and eligible population and pool.[11] When staff were grouped according to age above and below the median (47 years), there were no differences when comparing authors to the total population, but there was a higher proportion of outputs submitted for colleagues (with two and three outputs) below the median age when compared to the total number of available outputs in the eligible pool (see Annex Figure 5A).

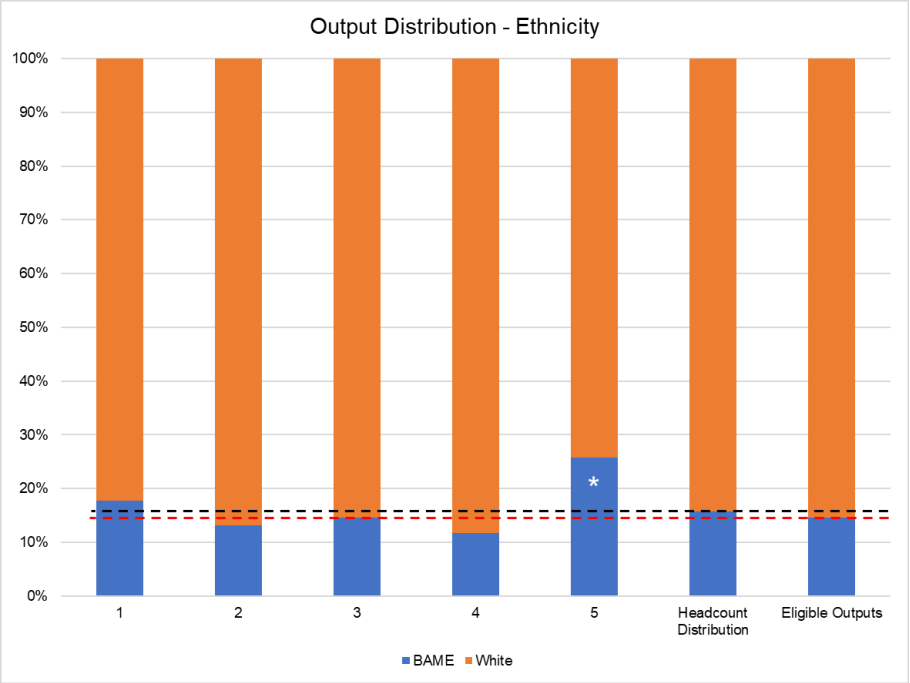
Disability

[11] Note that the analysis considered the following age groups: under 30s, 30 to 39, 40 to 49, 50 to 59, and over 60s to create a meaningful comparison.

Neither comparing authors to the submitted population nor to the eligible pool of outputs highlighted any differences related to disability (see Annex Figure 6A).

Race (Ethnicity)

The final EIA confirmed that a higher proportion of Black, Asian and Minority Ethnic researchers with 5 outputs was submitted relative to the eligible pool of outputs, as noted in the earlier interim EIA (see Figure 6).



[12]

Figure 6

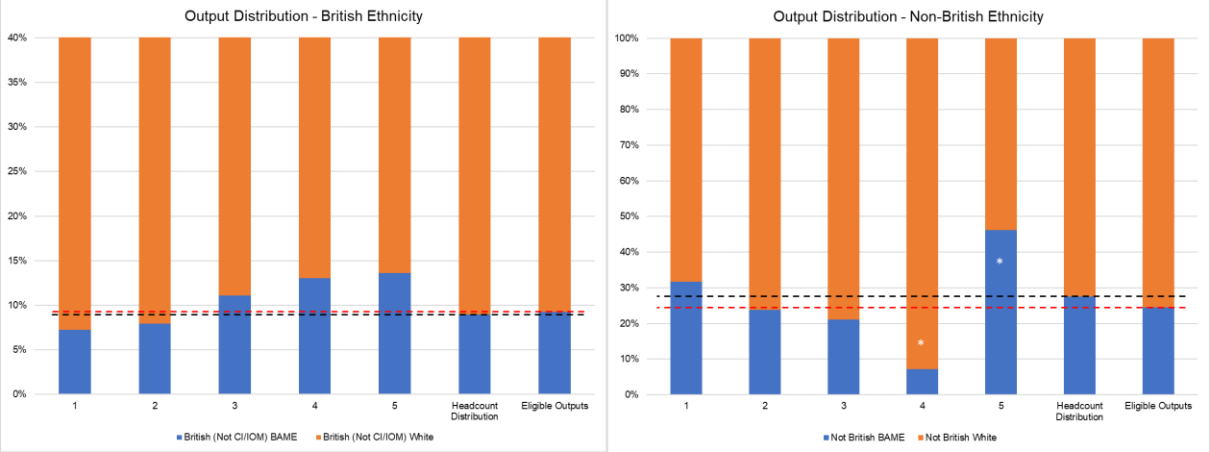
While the analysis did not show any differences when comparing outputs for Asian vs white researchers or Black vs white researchers, there was a higher proportion of Asian researchers associated with five outputs and Black researchers associated with one output than the distribution in the eligible pool of outputs (see Annex Figure 7A/B).

Nationality

The submitted REF population was 63% British and 37% non-British. There was a lower proportion of non-British researchers with 1 output and a higher proportion of British researchers with 4 outputs (see Annex Figure 8A).

Having examined ethnicity and nationality separately, they were then evaluated simultaneously. We first grouped authors by nationality and then examined whether there were any ethnicity-related differences in the distribution of outputs.

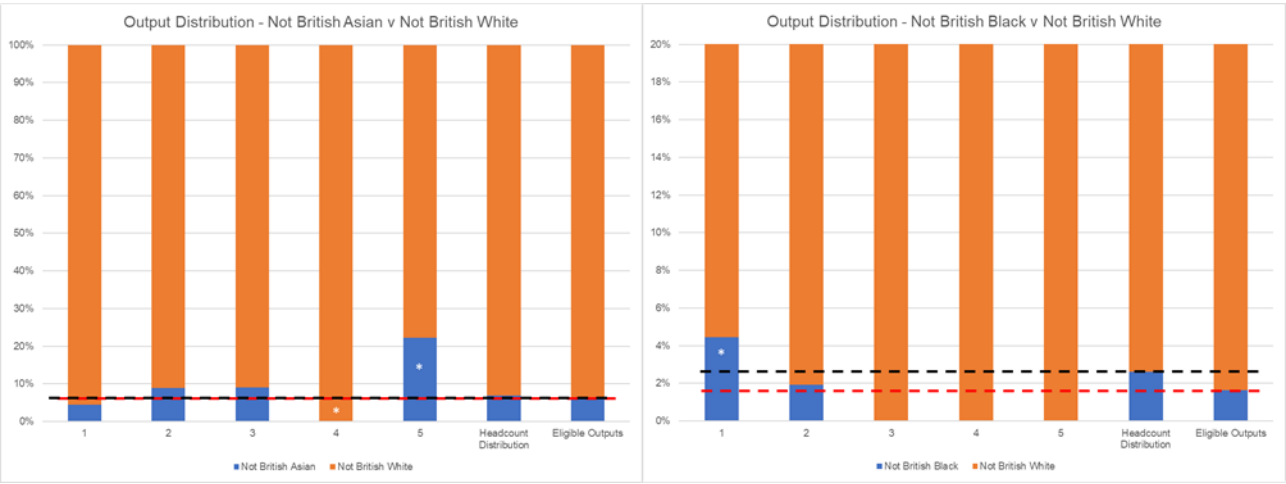
[12] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.



13

Figure 7

The higher proportion of BAME staff with five outputs was only evident in the non-British population (see Figure 7). In addition, the differences for Asian authors (higher proportion of five outputs) and Black authors (higher proportion of one output) were also only evident in the non-British population (see Figure 8).



14

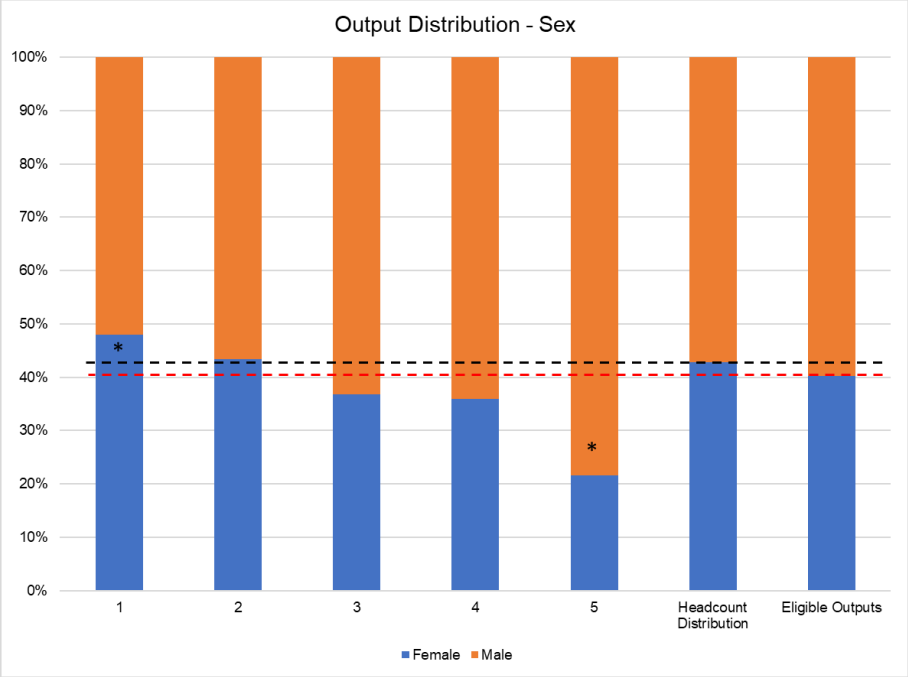
Figure 8

Sex

[13] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.

[14] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.

As for previous interim analyses, there was a higher proportion of female staff linked to one output and a higher proportion of male staff linked to five outputs (when compared to the submitted population – see Figure 9).



[15]

Figure 9

Religion

There is no sensitive or respectful grouping possible for Religion. Therefore, the output distribution for religion was not statistically compared. However, when looking at the graph, there were no obvious differences (see Annex Figure 9A).

Sexual orientation

As for religion, the output distribution for sexual orientation was unable to be statistically compared. There were no obvious differences in the distribution, but it is worth noting that all authors with 5 outputs were heterosexual or had not declared their sexual orientation (see Figure 10A).

Contract type (fixed-term or permanent)

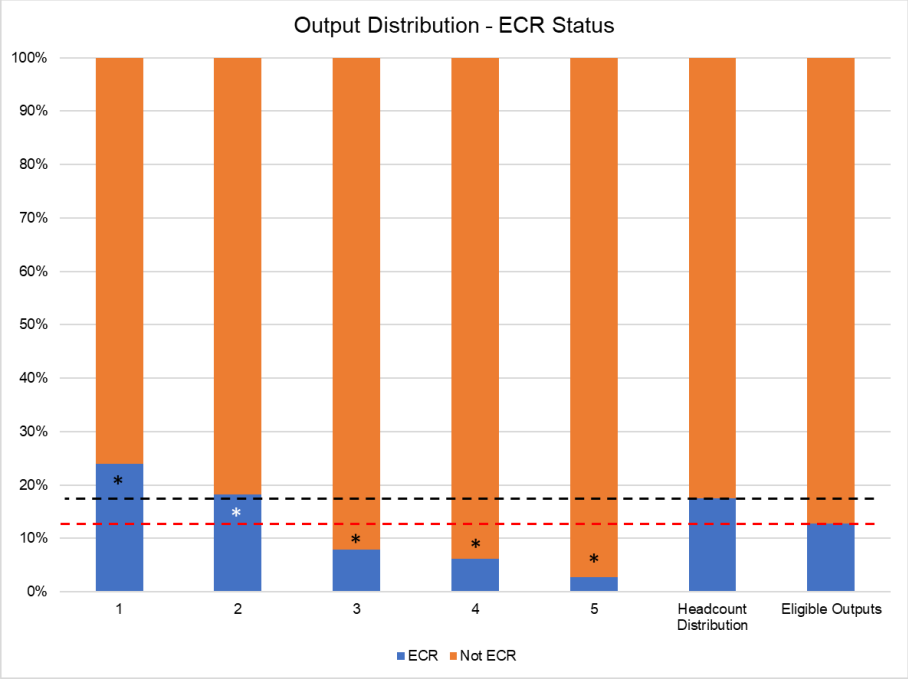
There was a higher proportion of permanent staff with four and five outputs than was represented in the pool of eligible outputs (see Annex Figure 11A).

Contract hours (Full-time vs Part-time)

[15] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs.

There was a higher proportion of part-time staff with one output and a higher proportion of full-time staff with two outputs. Relative to the pool of eligible outputs, there was a higher proportion of full-time staff with three outputs (see Annex Figure 12A).

Career stage



[16]

Figure 10

There was a higher proportion of authors defined as ECRs with one output and non-ECRs with three, four and five outputs when compared to the submitted population, but there was a higher proportion of ECRs associated with two outputs compared to the eligible pool of outputs (see Figure 10).

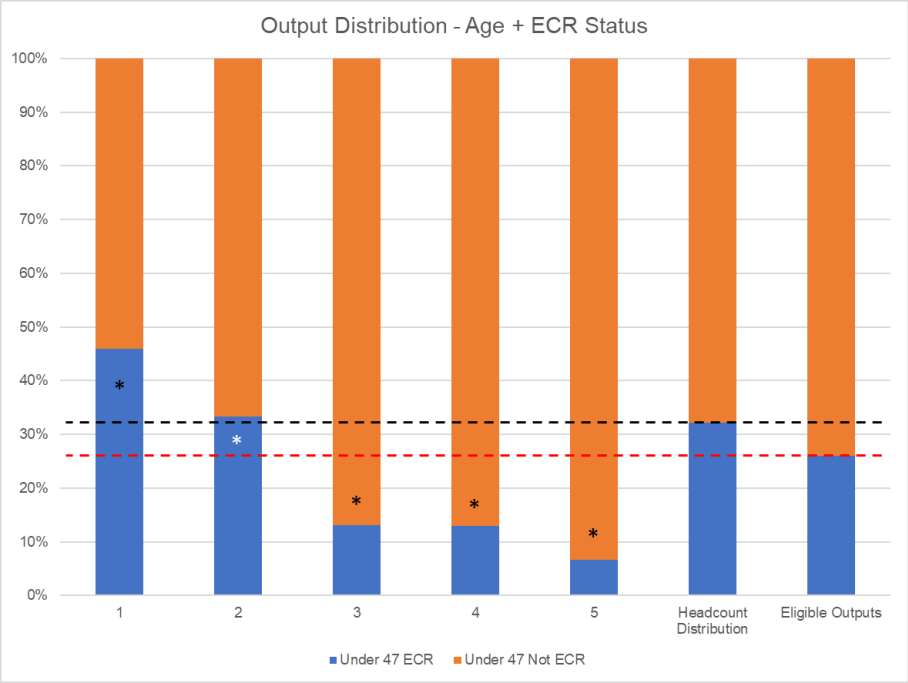
There was a higher proportion of non-professorial staff with one output and a higher proportion of Professors with four and five outputs (see Annex Figure 13A).

Age/ECR intersectionality

Intersectional analysis followed up on the observation that more authors below the median age had 2 or 3 outputs when compared to the distribution of outputs in the eligible pool. It was hypothesised that these age-related differences were driven (at least in part) by career stage. To verify this, authors were split by median age and the data examined for career stage-related differences. For authors below the median age, there were clear career stage-related differences (see Figure 11) with a higher

[16] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.

proportion of 'young' ECRs having one or two outputs, and 'young' non-ECRs having three, four and five. The interconnection between age and career stage is therefore clearly important in interpretation.



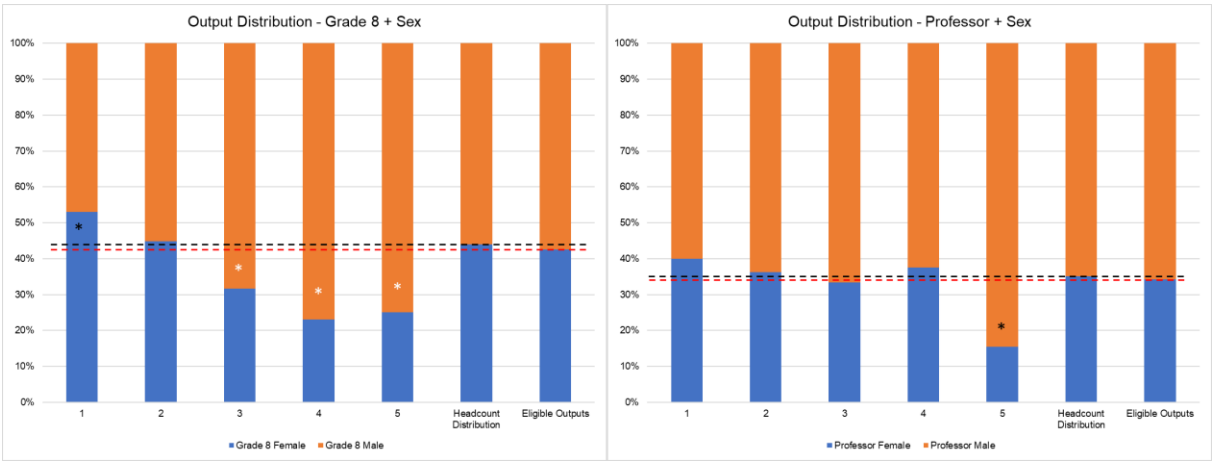
[17]

Figure 11

Grade/sex intersectionality

Further investigation of the differences relating to sex, namely the higher proportion of female authors with one output and higher proportion of male authors with five outputs involved splitting authors by grade and then verifying whether there were sex-related differences in the output distribution at each grade. There were no statistical differences for staff at grades 6 or 7, but there was a higher proportion of grade 8 female authors with one output. Additionally, at professorial level (grade 9), there was a higher proportion of male authors with five outputs (see Figure 12).

[17] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.



[18]

Figure 12

It was notable that of the circumstances declared by staff at grade 8, 70% were from females, which may at least partly explain the sex-related lower proportion of outputs by this category of staff. It is also notable that of the declared circumstances, the majority were family-related leave.

[18] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.

5. Conclusion and Recommendations for Future Action

The outcome of the EIA of the University of Reading REF submission highlighted three key findings.

1. ECRs are more likely to have fewer outputs represented in the submission, while Professors are more likely to have more.
2. Female researchers at grade 8 are more likely to have fewer outputs, and this may be connected to a greater proportion of personal circumstances related to family circumstances in this group.
3. Non-British Black researchers are more like to have one output, but non-British Asian researchers are more like to have five outputs represented in the submission.

This section explores these findings, considers lessons learned and evaluates whether existing institutional and local actions and support are sufficient. It may be necessary to consider whether they need revising in order to make the required improvements to minimise the way in which certain staff groups may be at a disadvantage or are not in a position to contribute in an equitable way in relation to output submissions.

5.1 Career stage

ECRs tended to have fewer outputs when compared to the submitted population and Professors tended to have a higher number of outputs represented in the submission. It could be argued that such a pattern is entirely predictable, but we currently lack any comparative data that would allow us to judge this. It would be extremely informative to gain insight from benchmarking data after the publication of the REF results so that we are able to gauge whether the distribution of outputs relative to career stage is in line with the sector and for the EDAP to provide guidance about expectations based on this data.

In the meantime, we continue to ensure that support for ECRs includes setting clear probationary targets, which are reviewed at 18 and 36 months, mentoring, clear workload allocation and expectations, and tailored development opportunities.

5.2 Sex

The lower number of outputs from females at grade 8 resulted in an overall male/female difference in our submission, which was accompanied by a greater number of declared personal circumstances connected with family-related leave in this group. It is therefore relevant to examine what support is provided to female researchers who are mid-career and have caring responsibilities, whether this support is effective or whether there are gaps which need to be addressed.

The current University of Reading Athena SWAN Action Plan sets out a number of key actions in this context, including:

<u>Actions relating to flexible/agile working and career breaks</u>

- Enhancing awareness of the full range of flexible working options available.

- A proactive culture in which flexible working is promoted and valued.
- Fair, transparent and consistent decision-making for flexible working requests, by line managers for all staff.
- High level promotion/understanding/acceptance of the benefits of flexibility in ways of working, embracing technology.
- Remove barriers to conference/training attendance for staff with children.

Actions relating to maternity/adoption/shared parental Leave (family leave)

- Central funding around family leave is used effectively and imaginatively to support returners.
- All parents and staff taking family leave, and the line managers that support them, have access to effective support networks.
- Men and women at UoR are supported to play an equal role in parenting following birth/adoption.
- All staff are supported and have appropriate and accessible facilities during pregnancy and to facilitate breast-feeding
- A fair approach to use of staff on Open Days.

Actions relating to staff mentoring

- Continue to build the network of mentoring representatives from each School and Function, sharing best practice across the University and providing support to Schools to improve their local mentoring schemes to effectively monitor and evaluate the impact of the mentoring relationships

Actions relating to workload management

- Review existing workload models with the outcome of developing clear guidance for best practice (e.g. an institutional-wide template), including a steer on gender and wider diversity considerations, and share good practice on workload models across the institution.
- Expand recent work on staff wellbeing to undertake a project focused on understanding the perceptions and realities in relation to workloads for staff across the University and to propose relevant actions

Consultation on the EIA with a range of stakeholders, including the Chair of the Parent and Family Network, suggested that while the above actions are broadly understood, implementation is variable across the organisation. A priority for action is therefore for the PVCs R&I to work with Heads of School, Research Deans and Research Division Leaders, with support from Human Resources to improve the consistency in the support provided to female researchers, particularly at mid-career stage, across the organisation. Equally to continue to actively engage with the Parent and Family and Women@Reading Networks, UCU and the Staff Forum to better understand the barriers staff with caring and parental responsibilities face in being able to undertake research effectively and to work with the staff representative groups to raise awareness of the support that is available to mid-career, female staff in particular in relation to flexible working, family leave, support for preparing for and

returning to work following periods of family leave in terms of workload and career management

In addition, the University Board for Research and Innovation will evaluate whether there are inconsistencies in support across research disciplines and identify appropriate actions to address these as required.

5.3 Race

The EIA suggested that non-British Black researchers were represented by fewer outputs in the submission, while non-British Asian researchers were represented by a greater number of outputs, although the numbers under consideration here were small.

Over the last year, the University has engaged a wide range of internal stakeholders as part of a race equality review, with the final report published in May 2021. The report highlights a perception of lack of open meritocracy for opportunities amongst researchers from ethnic minority backgrounds, exclusion from decision-making circles, a scarcity of role models and a greater burden of equality work, which reduces the opportunity for progression in their main role. The report sets out twenty recommendations to improve race equality for both staff and students. Actions relevant to researchers include sponsored places on externally delivered programmes aimed at developing BAME leaders, better representation on decision-making committees and a wider strategic programme examining equity in workload allocation across the organisation. The latter is particularly important because consultation on the EIA with key stakeholders once again suggested inconsistency in practice across different disciplines within the organisation.

5.4 Availability of data for protected characteristics and an intersectional approach for the future

Due to the lack of routine collection of data relating to some protected characteristics (marriage/civil partnership, pregnancy and gender reassignment) there were some gaps in our EIA. We are contributing to an ongoing HESA consultation relating to data on marriage and civil partnerships, which may lead to sector-wide changes in due course. The University does collect data on gender reassignment, but declaration rates are too low to be meaningfully evaluated. The University is currently working to improve declaration rates for all protected characteristics to improve the reach of its equality work. The Dean for Diversity and Inclusion and the Human Resources team take an intersectional approach to equality work, identifying common themes in action plans across the spectrum of protected characteristics. The action plans are visible to ensure that they are adopted to support cultural and systemic process changes and can be audited and assessed so that the University is able to measure improvements against internal and external benchmarks/targets and can be held accountable. Feedback during the EIA consultation suggests that further work is required to strengthen this approach.

5.5 Concluding remarks

The EIA for the University of Reading's REF submission identified three key areas of potential concern, namely whether ECRs achieved the expected level of representation in the submission, whether mid-career female researchers with caring responsibilities are sufficiently supported to achieve the expected level of outputs, and whether there is an unexplained ethnicity gap in our REF submission. Actions to further evaluate and address these issues will include review of institutional and local action plans relating to protected characteristics using an intersectional approach. Feedback from the consultation suggests that it will be important to work with line managers and staff representative groups to improve consistency in practice across the organisation.

6. Annex

In this section we include some supplimentary graphs from our three phases of EIA analysis (see sections 6.1-6.3). References to all can be found in the 'Analysis' section (see Section 4).

6.1 First Interim EIA (April 2020)

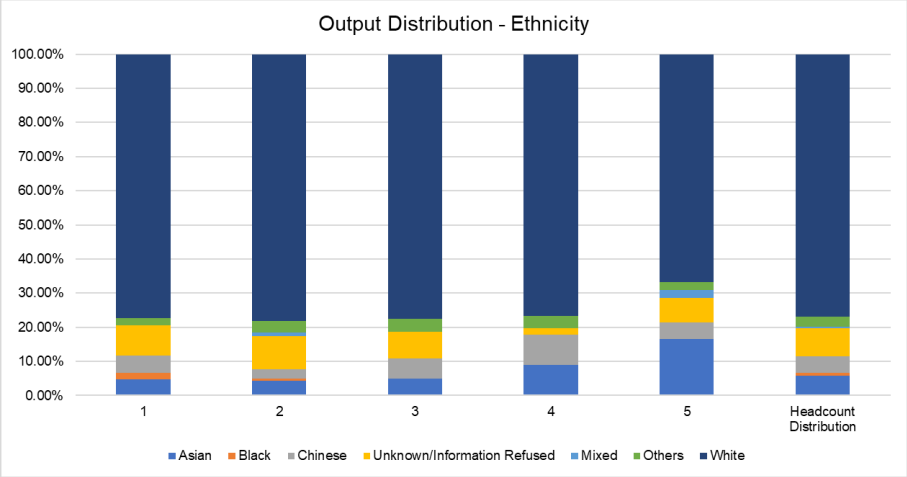
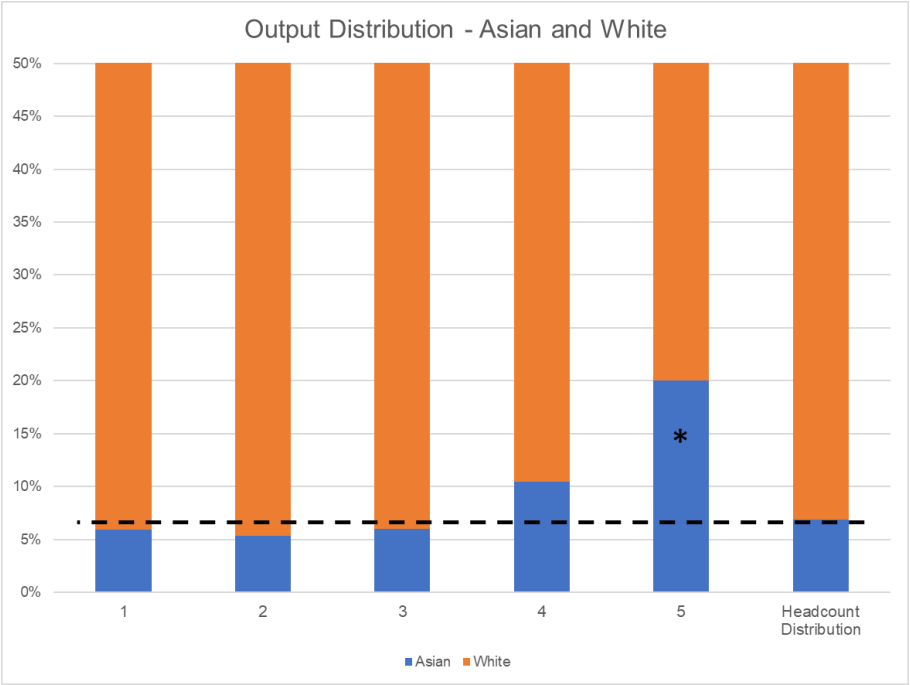


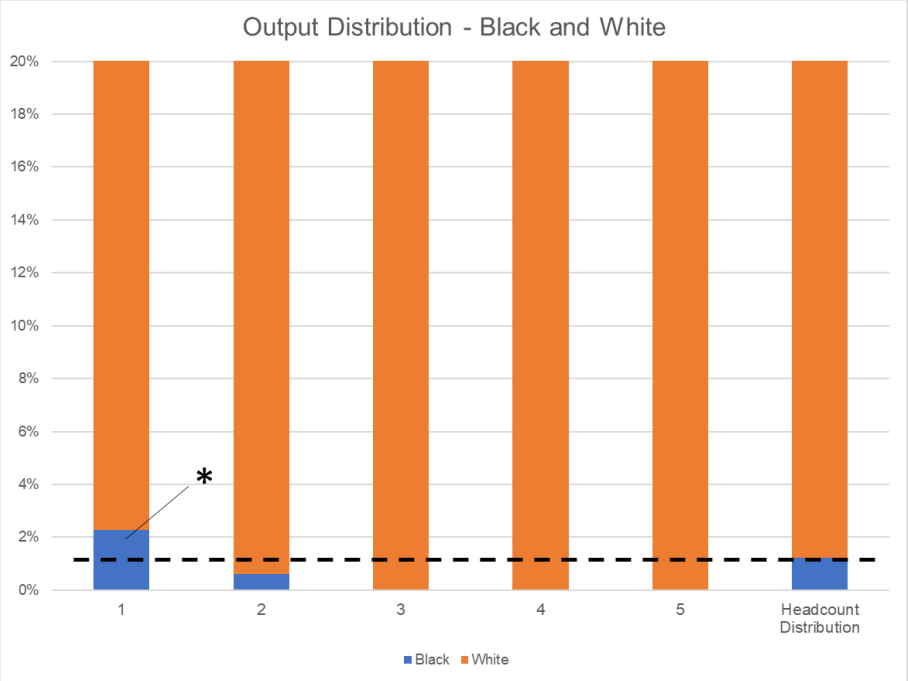
Figure 1A



[19]

Figure 2A

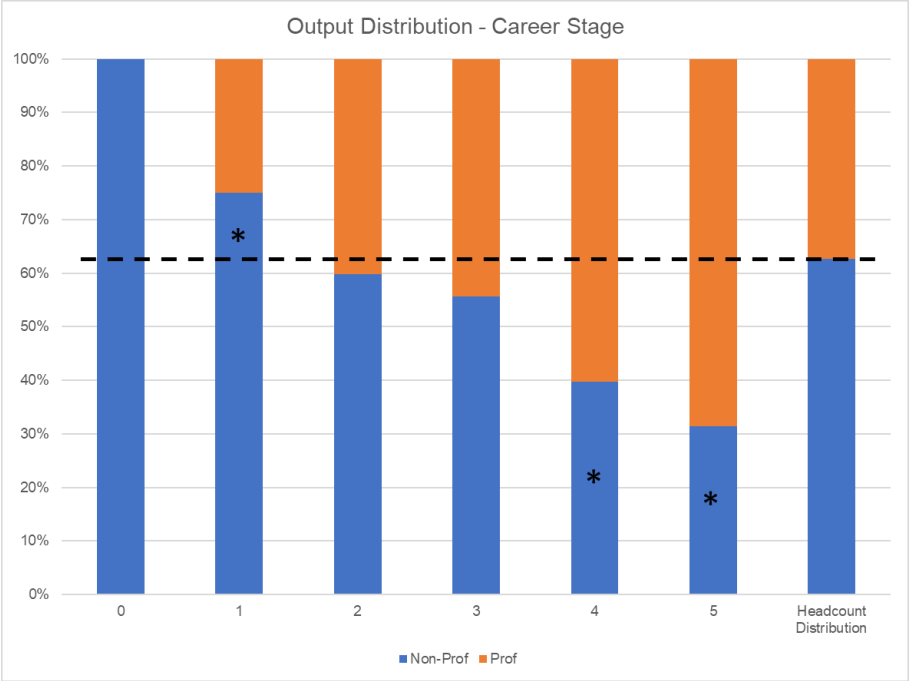
[19] Dashed line allows comparison with comparative headcount population. * denotes a significant different with a P-Value of less than 0.05.



[20]

Figure 3A

6.2 Second Interim EIA (February 2021)



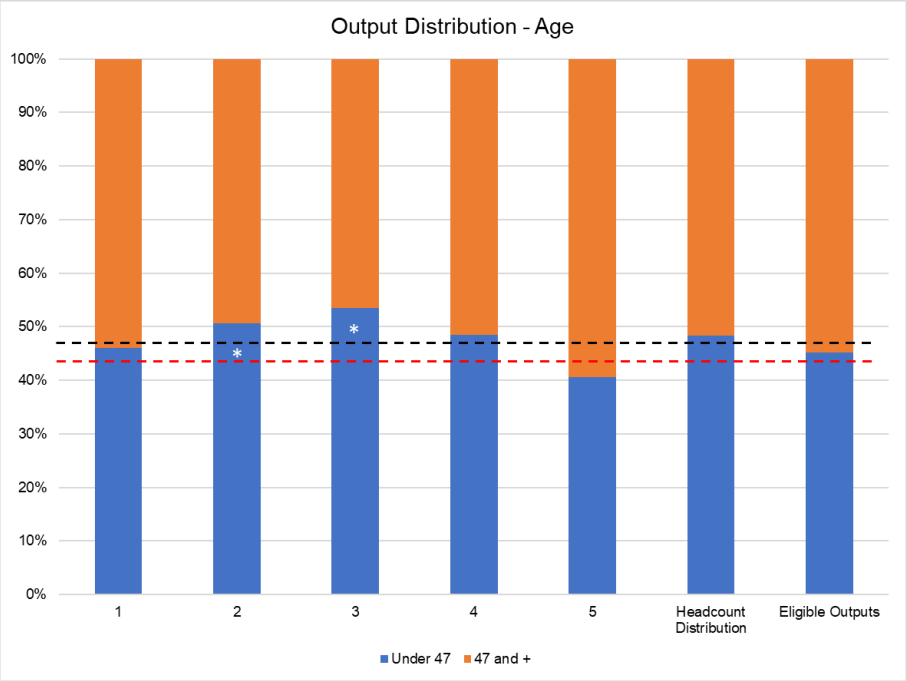
[21]

Figure 4A

[20] Dashed line allows comparison with comparative headcount population. * denotes a significant different with a P-Value of less than 0.05.

[21] Dashed line allows comparison with comparative headcount population. * denotes a significant different with a P-Value of less than 0.05.

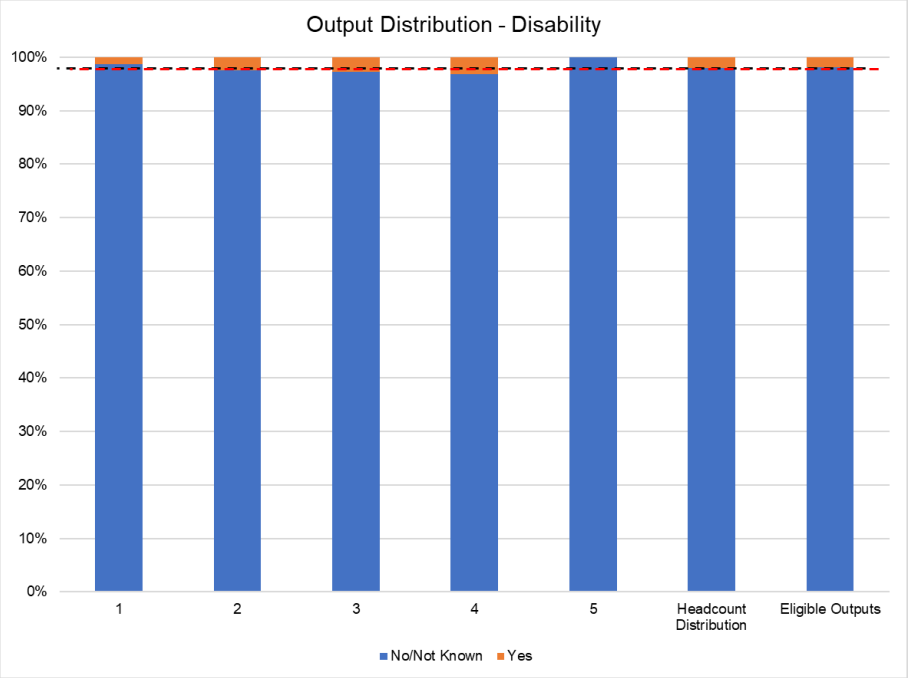
6.3 Final EIA (May 2021)



[22]

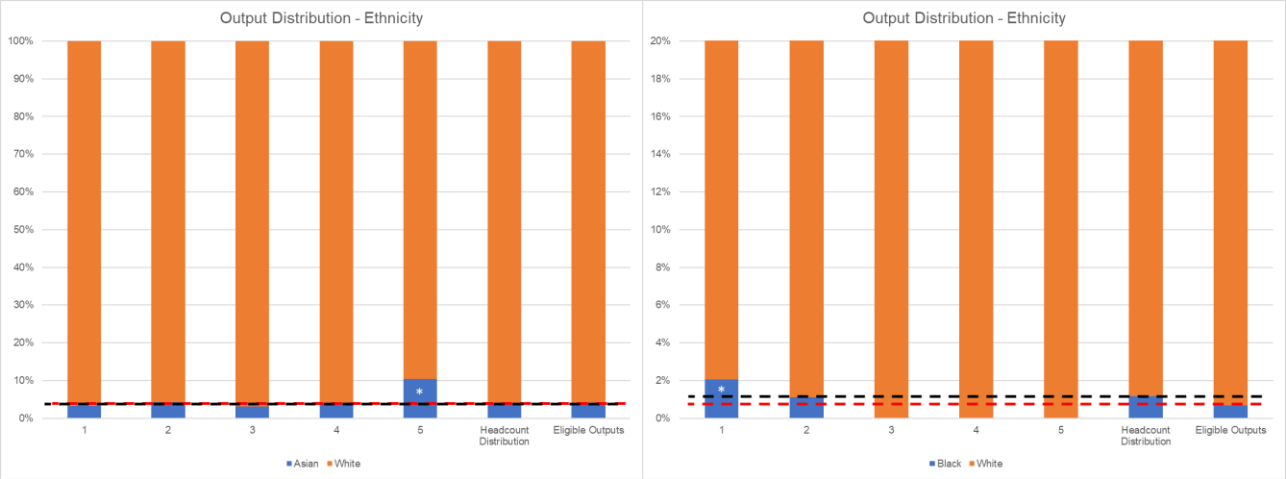
Figure 5A

[22] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.



[23]

Figure 6A

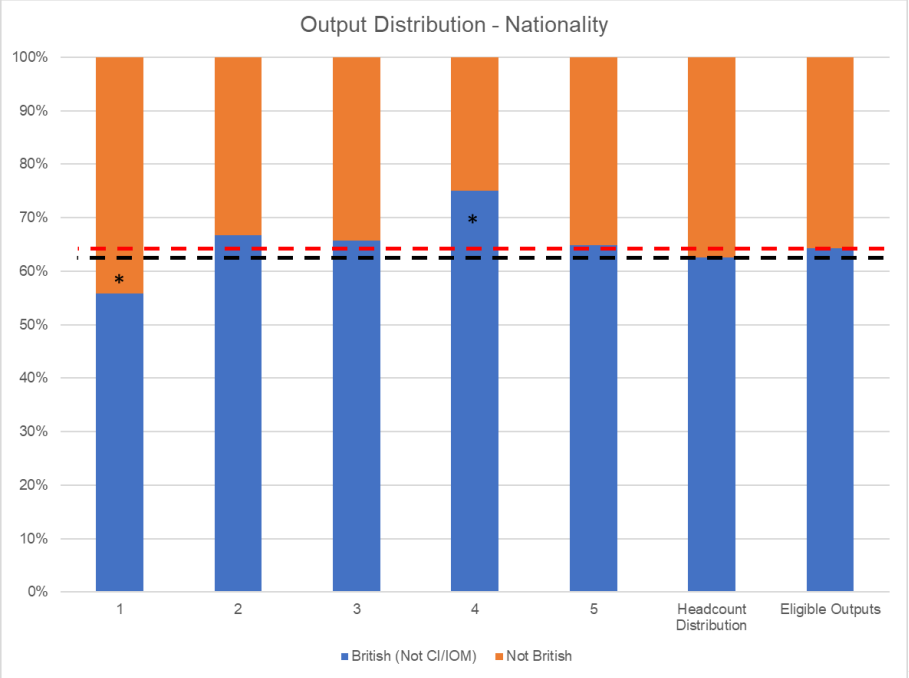


[24]

Figure 7A/B

[23] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs.

[24] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.



[25]

Figure 8A

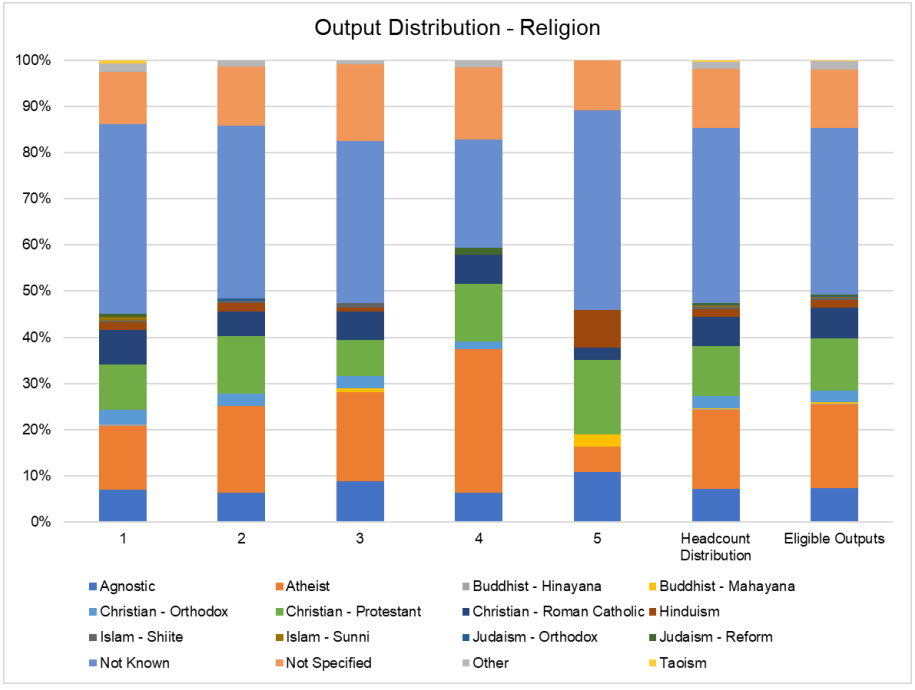


Figure 9A

[25] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs.

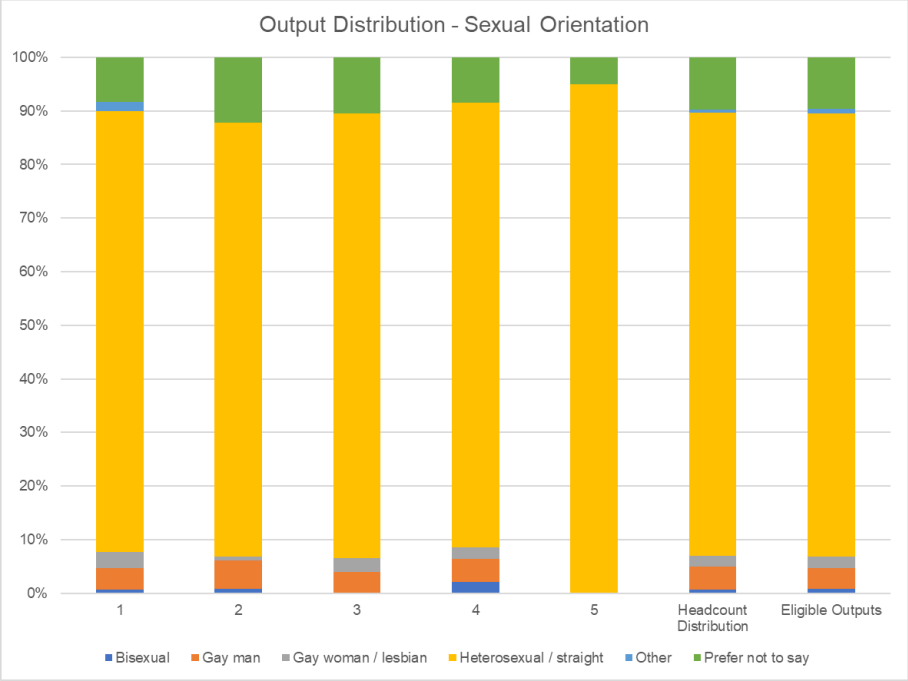
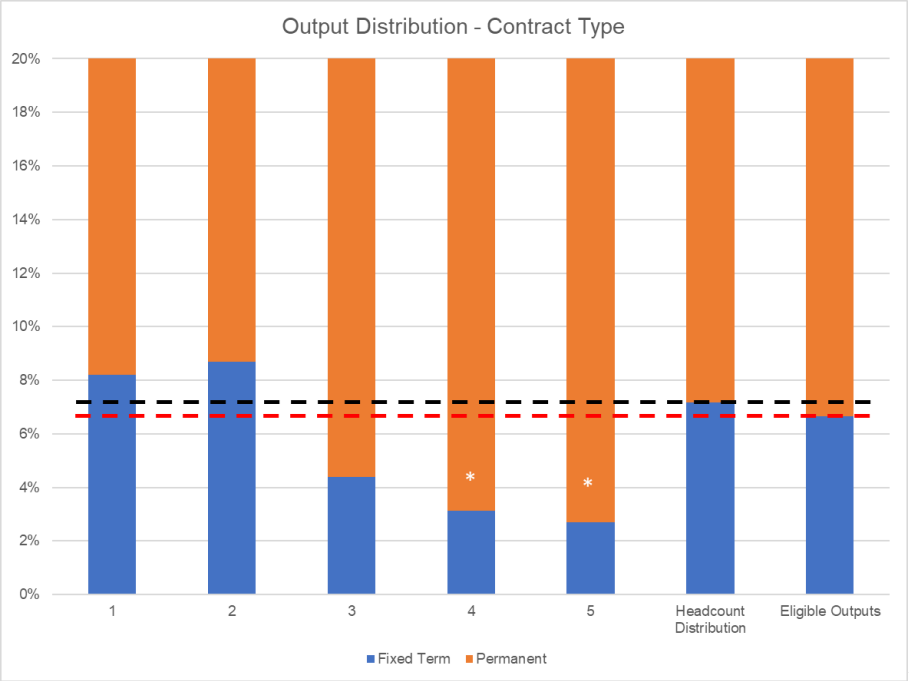


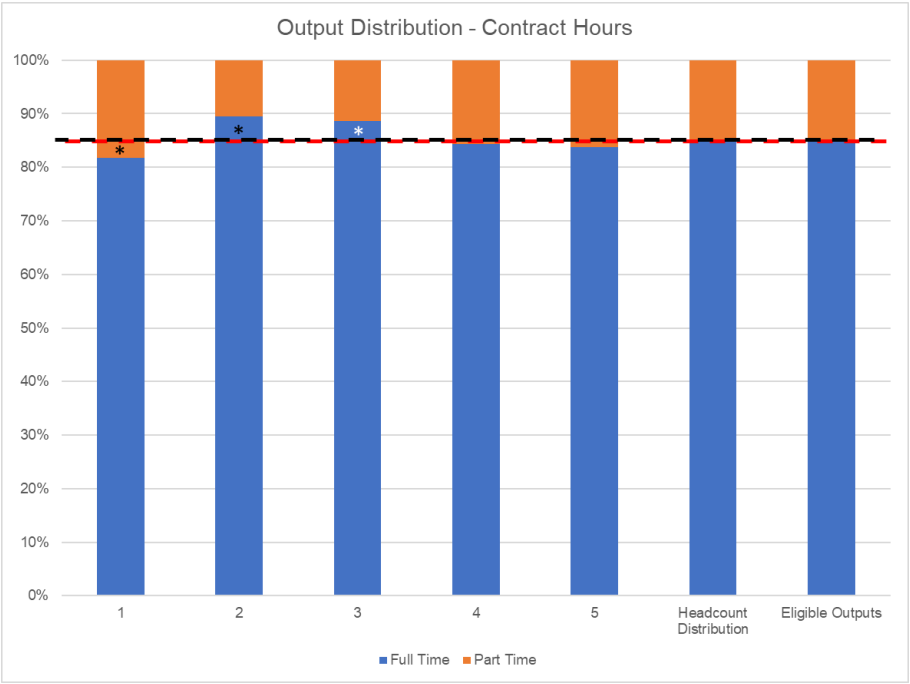
Figure 10A



[26]

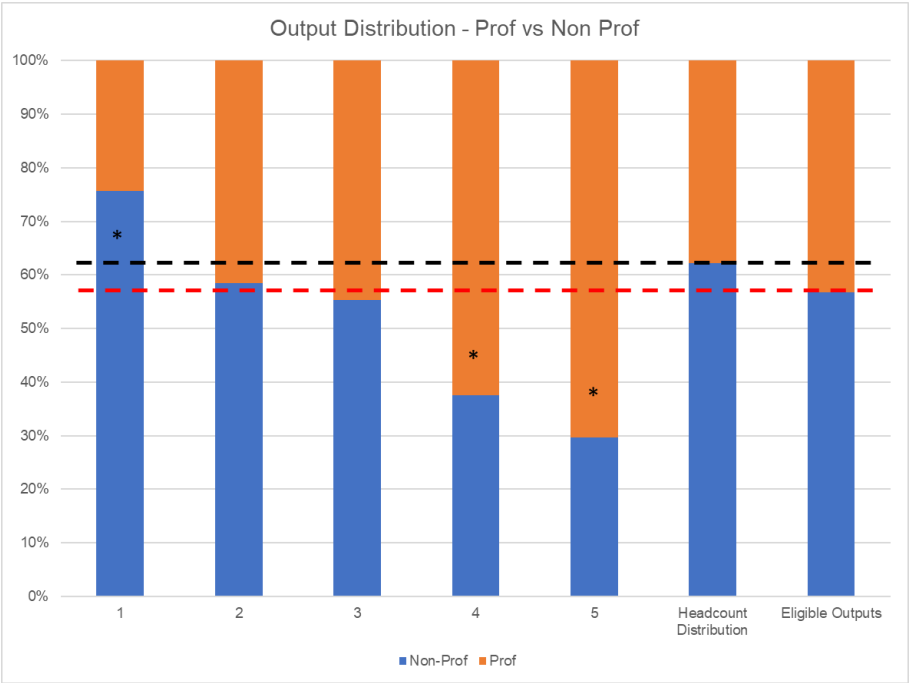
Figure 11A

[26] Black line allows comparison with comparative headcount population. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.



[27]

Figure 12A



[28]

Figure 13A

[27] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs. White asterisk denotes a significant different with a P-Value of less than 0.05 relating to outputs.

[28] Black line allows comparison with comparative headcount population. Black asterisk * denotes a significant different with a P-Value of less than 0.05. Red line allows comparison with distribution of eligible pool of outputs.