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University of
BRISTOL

Elizabeth Blackwell Institute
for Health Research

MORE+BRAINS

“If we use the strength of diversity among researchers we can only improve the quality and impact of our research”

Issues of equality, diversity, inclusion, and transparency in the process of applying for research funding



July 27th 2024

Photo by Kristina Paukshtite:
<https://www.pexels.com/photo/blue-white-and-red-poppy-flower-field-712876/>

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1. Introduction

This paper sets out the recommendations that have emerged from a six-month-long exploration and discussion of the processes that take place before research is submitted for funding: the ‘pre-award’ environment. Our work concentrated on how this environment is experienced by researchers at all career stages and from a variety of backgrounds, demographics, and disciplines, as well as by research managers and research support professionals. In the later stages of our exploration, representatives from research funders were also involved in the discussions.

The primary component of this project was an analysis of pre-award activities and processes at UK universities, using information collated from workshops with researchers and research management and support staff. The findings of this analysis were presented as a workflow diagram, which was then used to surface issues relating to equality¹, diversity, inclusion, and transparency in context. This workflow, and a description of our methods, are included in [Appendices A](#) and [B](#) (below). The workflow diagram and the issues highlighted by it were used to structure discussions at a symposium for a range of research stakeholders, held in Bristol, UK, in January 2023. The recommendations set out in this paper are drawn from discussions that took place at that event.

This paper is not an exhaustive landscape analysis, nor a review of existing research and practice in the area of pre-award processes or of recent thinking on the topics of equality, diversity, and inclusion (EDI). Instead, it aims to summarise and encapsulate the suggestions put forward by the stakeholders during the symposium. These recommendations, from experienced professionals working in the field, are based on their encounters with the issues raised in the project. They do not solely relate to those working on pre-award processes, but may also apply to funders, policymakers, university leaders, and professional associations, since many of the challenges flagged in our research are systemic and cultural, and reach far beyond the research office.

An optimal environment in which to apply for research funding would consist of transparent processes that are easily understood and articulated. Practical help and assistance would be available to all, tailored to the situations of those applying for funding, and the impacts and effects of this support would be evaluated rigorously. An equitable system, in which a more diverse range of researchers are funded to conduct high-quality, cost-effective, innovative research, requires equal access to information about funding opportunities; tailored support for underrepresented academics; allocation of sufficient time and resources to the development of applications; and appropriate training for those in decision-making positions.

Participants in this work, however, described a series of official and unofficial gatekeeping points, biases, and other obstacles encountered by many researchers and research-related staff. These obstacles are often invisible and include avoidable time pressures, poorly understood requirements, and inequities across disciplines, career stages, institutional resource levels, and more. The

¹ Throughout this article we use the term ‘equality’ as in the acronym EDI, for equality, diversity and inclusion to refer to approaches and values that may lead to equitable outcomes. We appreciate that the terms ‘equality’ and ‘equity’ are different and felt that the focus on equality of rights and opportunities was highly pertinent in the context of the pre-award process.

workflow diagram sets out many of these issues, drawn directly from the experiences reported to us by participants in the project.

Without action there is a risk that talented researchers will not flourish, to the detriment of the UK research sector as a whole, as well as to the individuals involved. This contributes to phenomena such as disillusionment, imposter syndrome, issues relating to belonging or engagement, brain drain, and the reinforcement of unfair systems. These challenges are well recognized within universities, with efforts being made across multiple fronts (including Athena Swan² and the Race Equality Charter³). Nevertheless, there is still some way to go to build from the current position, as members of the research community report gaps and issues despite clear examples of good practice. Our work aims to contribute to this ongoing discussion by focussing on openness, transparency, and inclusion in pre-award processes.

2. The project background and context

This project was supported by the Wellcome Trust's Institutional Strategic Support Fund (ISSF) award to the Elizabeth Blackwell Institute for Health Research at the University of Bristol. The Elizabeth Blackwell Institute supports interdisciplinary health research and has a strong commitment to open research and inclusion. As part of the work funded by ISSF, the Institute sought "to identify ways to create greater openness and transparency for applicants to funding opportunities, and to explore concrete ways by which equality, diversity and inclusion (EDI) can be improved in accessing these opportunities for researchers at all levels. The focus on the pre-award environment in universities was motivated by a desire to provide equal access to research collaboration and funding opportunities.

In many academic fields, securing external funding for research is central to career development and progression. Evidence suggests that a minority of researchers secure a majority of research income, resulting in apparent Matthew Effects⁴, with the 'rich' becoming 'richer' in terms of funding income, while the 'poor' become 'poorer'. Additionally, there are documented demographic imbalances in the academic workforce, the cohort of researchers receiving grants, and the makeup

² <https://www.advance-he.ac.uk/equality-charters/athena-swan-charter>

³ <https://www.advance-he.ac.uk/equality-charters/race-equality-charter>

⁴ Merton, R. K. The Matthew effect in science: the reward and communication systems of science are considered. *Science* 159, 56–63 (1968). Bol T, de Vaan M, van de Rijdt A. The Matthew effect in science funding. *Proc Natl Acad Sci U S A*. 2018 May 8;115(19):4887-4890. doi: 10.1073/pnas.1719557115. https://en.wikipedia.org/wiki/Matthew_effect

of research teams (whether measured by gender⁵, ethnicity⁶, disability⁷ or class⁸). Research has shown that these inequities are intensifying over time in at least some disciplines⁹.

Over the course of this project, we worked with groups of researchers, research-related staff, and other stakeholders to build a detailed workflow of pre-award processes (see [Appendix A](#) for the workflow diagram and accompanying information). After evaluating existing analyses of pre-award workflows, we developed a draft of the workflow. This was reviewed and revised via a virtual workshop involving a diverse range of staff and researchers at the University of Bristol, with 22 participants in total. We then facilitated a virtual workshop with 20 members of the Association of Research Managers and Administrators (ARMA)¹⁰, selected from 120 volunteers. The group invited represented a range of perspectives from across the UK and/or they had EDI expertise and experience. This enabled us to stress-test and refine our findings from phase one, and to update the draft workflow accordingly.

Once a stable version of the workflow had been established, we convened an in-person symposium in Bristol, to explore the findings to date and discuss potential interventions. After the symposium, the project team collated all the challenges and potential solutions offered by participants during the workflow development process and at the symposium. The collated results have been synthesised into the suggestions for policy, funding, and practical interventions set out in this paper. For more information about this process, see [Appendix B](#).

Initially, we took a broad view of the pre-award environment. We asked participants to highlight potential barriers to open and transparent research grant-writing, including engagement with university and funder IT systems, costings, and ethics procedures. Although participants identified some issues in these systems and processes, the most salient and frequent challenges related to equality and inclusion¹¹. These occurred at many stages of research funding application processes and were thought to contribute to a lack of diversity in applicants. In response to these concerns, subsequent work, and the symposium, focussed on matters relating to EDI in the current pre-award environment.

⁵ Santos, G.; Dang Van Phu, S. Gender and Academic Rank in the UK. *Sustainability* 2019, 11, 3171. <https://doi.org/10.3390/su11113171>

⁶ Joice, W.; Tatlow, A. Baselines for Improving STEM Participation: Ethnicity STEM Data for students and academic staff in higher education 2007/8 to 2018/19. Royal Society 2021. Available at: <https://royalsociety.org/topics-policy/publications/2021/trends-ethnic-minorities-stem/>

⁷ <https://www.sciencecampaign.org.uk/app/uploads/2023/03/Improving-Diversity-in-STEM-2014.pdf>

⁸ Universities and Colleges Union. The Impact of Class on Experiences Working in Post-16 Education. Universities and Colleges Union, 2022. Available at: https://www.ucu.org.uk/media/13180/Social-class-report/pdf/Social_class_report_Jul22_2.pdf

⁹ Nguyen M, Chaudhry SI, Desai MM, Dzirasa K, Cavazos JE, Boatright D. Gender, Racial, and Ethnic Inequities in Receipt of Multiple National Institutes of Health Research Project Grants. *JAMA Netw Open*. 2023;6(2):e230855. doi:10.1001/jamanetworkopen.2023.0855

¹⁰ <https://arma.ac.uk>

¹¹ See University of Bristol EDI policy statement at <https://www.google.com/url?q=https://www.bristol.ac.uk/inclusion/governance-policy-and-guidance/edi-policy-statement/>

One participant remarked that “funders and institutions are responsible for creating barriers (inadvertently) and therefore must be responsible for removing them”¹². To tackle these issues, funders, researchers, and research professionals within Higher Education Institutions (HEIs) need better connections and communications to increase transparency in the pre-award environment. If they are to present a united front to create systemic change, and work together to lobby for shifts in government policy where appropriate, they also need to be proactive in cultivating more mutual understanding and alliances.

Willingness to support those with caring responsibilities with dedicated resources, accepting costs for mentorship, and funding more interdisciplinary work are some of the ways that funds could be leveraged to drive change. It will take time to address the lack of diversity in academic communities (for example, increasing diversity in early and mid-career stages to feed through into later career roles) and resources in the sector are stretched. We can, however, more rapidly create open and transparent research processes which, in conjunction with EDI-focused training for academics, better representation, and appropriate positive action at key decision-making points, can create a more equitable and inclusive research culture in which diversity has the chance to flourish.

3. Addressing openness, equality, diversity, and inclusion in pre-award processes

The findings of the project are drawn from experiences of the university researchers, research managers, institutional leaders, and funders who contributed to the development and refinement of the pre-award workflow diagram, the identification of EDI and transparency issues throughout the processes it describes, and subsequent discussions. These conversations elicited many practical suggestions for changes that could be made to improve pre-award processes and their outcomes. We have synthesised these suggestions into 11 recommendations, grouped into three thematic sections for clarity and context: training, mentoring, and leadership in universities; career structures and workload; and creating new opportunities with timeliness, transparency, and openness.

3.1 Training, mentoring, and leadership in universities

Training needs to be embedded at every career stage, and to reach beyond traditional research methods, technical skills, or writing and communication to create a workforce that is not just more diverse, but also equipped to support and nurture diversity. Academic culture still bears the marks of a strongly hierarchical and patriarchal framework that does not reflect the scale or diversity of modern society and the research that takes place within it. Programmes such as Research England’s Enhancing Research Culture funding stream¹³ are intended to tackle some of these issues, but are

¹²This quotation is reproduced with permission from a presentation given by Jennifer Gladstone at the symposium, in which she summarised the findings of : Gladstone, J., Schipper, L., Hara-Msulira, T., Casci, T. (2023). Equity and Inclusivity in Research Funding: Barriers and Delivering Change. doi:<http://dx.doi.org/10.5287/bodleian:KZjBY77pO>

¹³ <https://www.ukri.org/publications/enhancing-research-culture-funding-allocations-2022-to-2023/>

time- and geography-limited in a way that culture is not. The British Academy Early Career Researcher (ECR) Network¹⁴, which opens up support and training across specific regions to benefit ECRs, is an example of a cultural intervention that uses the power of mentorship and access to wider networks to support and empower researchers.

Recommendation 1: Equip academics to address exclusionary behaviours consistently, and head on

If the academic environment is unwelcoming to certain groups, members of that group will (and do) leave for other careers. Participants at the symposium pointed to cultural changes that are in progress to address disadvantage related to gender. They argued that, in comparison to the Athena Swan Charter, which aims to transform gender equality within HE, the Race Equality Chartermark has not yet attracted the same engagement and could be more impactful and accountable.

Antiracism training for all staff and researchers should go beyond focus on bringing bias to the surface and move on to training that enables biases to be directly addressed and reduced. Of course, factors beyond gender and ethnicity, including class, age, neurodivergence, and disability, also intersect to present individuals with complex challenges and barriers within the current system. Additional work will be needed to address these factors.

Alongside better management skills and improved support structures (see [recommendation 2](#) below), researchers and leaders of all kinds (from organisational units to research projects to funders) need to be trained to **model allyship** throughout the sector. Allyship is one way to support and create a culture that values and uplifts the diverse voices and experiences of all staff, and increases the willingness and ability to challenge problematic behaviour. This is best contextualised by understanding that allyship without critical reflection on systemic injustice can reinforce or replicate injustices; scholars such as Emma Dabiri¹⁵ have argued for a move away from allyship towards coalition or other approaches.

Recommendation 2: Redefine research leadership and re-formalise research support

We need to root out any implicit assumptions that research success equips an academic with line management or leadership skills, or with the ability to successfully support graduate students in their careers. As the UK Government's R&D People and Culture Strategy observes, "People are often promoted to leadership roles because of their expertise and reputation within their field. Less consideration is given to the skills and behaviours needed for leadership of people and teams".¹⁶

¹⁴ <https://www.thebritishacademy.ac.uk/early-career-researcher-network/>

¹⁵ Dabiri, Emma. *What White People Can do Next: from allyship to coalition*. Milton Keynes: Penguin, 2020.

¹⁶

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004685/r-d-people-culture-strategy.pdf p20

Training in how to **provide feedback and conduct peer review in a constructive way** should be offered by funders and institutions. Destructive feedback is a form of negative gatekeeping that can end projects before they begin, depriving them of fair and robust evaluation. Evidence suggests that ‘near misses’ in funding applications can result in more successful careers at later stages¹⁷, so training to provide targeted, actionable, and fair feedback to applicants would benefit research culture (see [recommendation 10](#) below). Promotion criteria should specify that candidates for roles with supervisory or management responsibility should have completed and implemented appropriate management training.

A model in which line management encompasses more leadership and support, and that is complemented by **properly trained and resourced mentors**, was endorsed in discussions at the symposium. Access to mentorship, or the lack thereof, emerged as a major factor in pre-award activities. However, mentorship can also be exploitative or toxic, or can reinforce cliques, cementing Matthew Effects. While mentorship should, therefore, be seen as a first-class contribution to research, and be supported with comprehensive training for mentors, it should be combined with a programme of 360-degree feedback and review to mitigate any risks. Multiple mentors and peer development networks also provide models which, if properly resourced, will have an empowering effect. In addition to mentoring, **coaching**¹⁸ and **sponsorship**¹⁹ of early career researchers by experienced academics can help minoritised researchers achieve their research goals and potential, and may also have hidden benefits that outweigh those of formal mentoring.

Data about researchers who are not applying for, not awarded funding, or not collaborating with those who are, will boost **transparency**²⁰. This information can be used to enable research teams and managers to explore the circumstances and contexts of bids and bidders, and intervene as needed. This will, in turn, open up access to optimal mentoring/sponsorship pairings, encouragement, and support services that are better aligned with EDI goals. However, care must be taken to ensure that this data is used to enable and recognise diverse career pathways, rather than to manage performance against one model of an academic career.

Recommendation 3: Ensure that the burden of change is not a tax on diversity

The workflow in [Appendix A](#) highlights many systemic issues that impact individuals, and these will require considerable efforts to resolve. We must ensure that **solutions do not impose an additional burden** on minoritised and underrepresented researchers. Representatives of discriminated-against

¹⁷ Wang et al (2019) Early-career setback and future career impact. Nature Communications. 10:4331

¹⁸ <https://www.timeshighereducation.com/blog/every-researcher-needs-coach>

¹⁹ Ayyala, Manasa S. MD; Skarupski, Kimberly PhD, MPH; Bodurtha, Joann N. MD, MPH; González-Fernández, Marlís MD, PhD; Ishii, Lisa E. MD, MHS; Fivush, Barbara MD; Levine, Rachel B. MD, MPH. Mentorship Is Not Enough: Exploring Sponsorship and Its Role in Career Advancement in Academic Medicine. Academic Medicine 94(1):p 94-100, January 2019. | DOI: 10.1097/ACM.0000000000002398

²⁰ <https://www.ukri.org/publications/epsrc-peer-review-diversity-data-2014-15-to-2019-20/>

groups in Higher Education (particularly women and academics from minority ethnic groups) already pay what has been termed a ‘diversity tax’: as well as performing their professional roles while dealing with manifestations of prejudice, they are asked to: act as mentors; join committees to ensure diversity requirements are met; take on more pastoral activities; and act as poster people for ‘diversity’ in Higher Education²¹.

3.2 Career structures and workload

One participant in the discussions noted that excessive workloads in academia are a “common theme that drives inequality ... carers, disabled persons, people with long-term illness etc... are just pushed out of the process”.

Rebalancing the personal and working lives of researchers, and re-evaluating diverse skills and talents of the academic workforce will take additional time and capacity, but will be rewarded by increased diversity and inclusion in research environments. This, in turn, will protect the diverse pool of early career researchers who are the future mid-career and experienced workforce, bringing longer-term improvements to diversity and inclusion.

Consistency and resources must match the scale and scope of this task. Core academic activities that enable research to develop and ensure that it is healthy, such as peer review and grant writing, do not necessarily appear in workload models in HEIs. Acknowledging the time taken to develop new project ideas, and to contribute to the broader research ecosystem, will not only depressurise the process of bidding for funding, but will also help to address related inequalities.

Recommendation 4: Stop incentivising burnout

Academic culture is often characterised by a ‘cult of busyness’ or ‘competitive overwork’. **Leaders at all levels need to be role models for not working excessively**, and institutions (and the many other recipients of unpaid labour, from publishers to conference organisers) need to rebalance their demands to make room for a healthy work culture and reduce the aspects of the environment that are often described as fostering unhealthy ‘hyper competition’. Generating new research ideas and writing bids for funding are often pushed out of regular working hours, selectively disadvantaging groups of researchers who are unable to work more hours than contracted. Although many researchers consider their work a vocation, having to conduct core research work outside of working hours in order to achieve academic success²² risks destroying the intrinsic motivation that underlies creativity in research. The structure of funding calls contributes to this problem (as detailed in [recommendation 9](#) below). Further schemes to re-incentivise research and academia

²¹ <https://scholarlykitchen.sspnet.org/2022/08/08/guest-post-reducing-the-burden-of-diversity-tax-the-tax-no-one-talks-about/>

²² Fontinha, R., Easton, S. and Van Laar, D. (2019) Overtime and quality of working life in academics and non-academics: the role of perceived work-life balance. *International Journal of Stress Management*, 26 (2). pp. 173-183. ISSN 1072-5245

(such as reconfiguring the role of publications in developing research careers), are outside of our current scope, but must be pursued as a priority.

Recommendation 5: Avoid training being yet another burden

If not adequately supported and resourced, the approaches to training that are required to deliver an ambitious programme of pre-award EDI (as outlined in [section 3.1](#) above) could create additional workloads for researchers faced with new requirements, and for research offices and others tasked with delivering the training. **Training must be appropriately prioritised and accounted for** in workload models and should fit around part-time work. Resources should be provided in a range of media and formats to allow those with time constraints or specific learning needs to access them in a manner that works for them, to prevent the training itself from becoming exclusionary.

Recommendation 6: Diversify our idea of research careers, and break down cultural silos

More transparency about contributions to and roles within research projects, and **recognition of a more diverse range of research careers**, will help to untangle rigid hierarchies and tame excessive workloads. Many essential and talented researchers do not wish to run large groups, and face career precarity or stagnation as a result. More visibility for roles that were previously obscured and undervalued in a collaborative research context allows for the creation of new roles, such as ‘deputy principal investigator’, to facilitate the accumulation of training and experience. This approach would also expose more roles that are not centred on the accumulation of grants, as well as re-surfacing contributions from researchers or disciplines that attract smaller or fewer funding awards. Symposium attendees supported prioritising the appraisal of how much time senior academics are spending on specific projects in which they are the lead or principal investigator, and how time is funded within the current Full Economic Costing system. Participants also indicated that early career researchers appear to spend more time on grants than they are costed for, while more experienced researchers appear to spend less.

Open research innovators are creating novel projects and spaces across academia that are reaching new communities and sectors and opening up collaboration. Thinking about the process of research as a way to embed inclusion, rather than focusing solely on the outputs and end-products of research, is a critical step towards widening access to opportunity. Rewarding these contributions will also encourage innovative career pathways.

Jargon, obscure language, and opaque processes and practices too often foster an ‘insider’ culture in academia, with knowledge about successful grant applications siloed within groups, disciplines, and institutions. They also pose an additional barrier for those for whom English is their second language. Barriers between these groups are cemented in preferential peer networks, described by symposium participants as ‘old boys clubs’, which have a disproportionate power to shape processes during grant development as membership often correlates with pre-existing success in winning funding. Labelling individuals or groups, and embedding assumptions about their abilities or

limitations in these processes, perpetuates othering and discourages inclusion. Changing this, reforming organisational visions and how they are expressed, should be seen as a tool for both attacking bias within organisations and improving research quality and conduct.

Recommendation 7: Explore and experiment fairly and transparently

Good management leads to better research culture and, in turn, better quality work. However, establishing such management within research groups may be effectively, although unintentionally, penalised in current workload models. Managers may find that their efforts to deliver positive management and culture add to the burden of unpaid work. The Higher Education sector must **make time for management**, and for the development and rigorous evaluation of new approaches to workloading. These might include fixed proportions of teaching time for all staff or other experimental approaches. New technology can help, but it must also be evaluated robustly to ensure that it is not itself creating new burdens. The goals, evaluation approaches, and outcomes of experiments should be shared within and across institutions to foster trust and participation in the process and to make good practice widely available.

3.3 Creating new opportunities with timeliness, transparency, and openness

Workloads (see [section 3.2](#) above) contribute strongly to time pressures in the pre-award environment. Time pressure, as noted repeatedly by researchers and research managers at our symposium, is the key barrier to efforts to increase diversity in the population of researchers applying for funding. Short timelines, coupled with privileged access to information relevant to upcoming research calls at both the institutional and funder level (see also [recommendation 6](#) above), cement inequalities in the application process, further strengthening Matthew Effects. **Reducing time pressures from deadlines, and restructuring the development and dissemination of research calls** into an open and transparent system (including more generous timelines) is likely to increase diversity at relatively low cost.

The transition to open research depends on equitable access to information. This emphasis on transparency and sharing implies other uses of the word ‘open’, such as collegiality (‘my door is always open’) and innovation (‘open to new ideas’). Factoring in solutions to equality challenges in this ongoing area of transition is a way to both extend the benefits of new approaches to research, and to shine new light on old problems. Many solutions proposed by participants in this project, and reported here, align well with those of the recent independent review of research bureaucracy, highlighting systemic issues that impact on many aspects of research²³.

²³ <https://www.gov.uk/government/publications/review-of-research-bureaucracy>

Recommendation 8: Provide better institutional access to information about research activities and expertise

Participants in the project highlighted their experiences of research within institutions as a 'closed shop', citing participation in consortia or access to timely insight into the work of others as frequently difficult. Providing frameworks that enable researchers to access current and upcoming bidding opportunities, initiate collaborations, or identify potential project partners is critical to lowering these barriers.

Alongside the vision of transparent and open research collaboration, **HEIs need dynamic, accessible, online tools to map out research expertise and activities**. When all researchers have fair and reliable access to such tools, inadvertent exclusion by information gatekeeping will be much harder.

Institutional or departmental decision-makers should consider the impact of changes to processes, including procuring information systems, on the accessibility of information and expertise, and should model the kinds of sharing and collaboration implied by this recommendation.

Recommendation 9: Consider the impact of how funding opportunities are designed, structured, and shared

It is desirable for funders to consult the community as broadly as possible when designing new calls. 'Sandpits', seminars, and other consultative activities are popular with many funders and are delivered as a way to foster engagement. For those unable to attend them, such opportunities may be seen as a form of gatekeeping. It is crucial that these processes are inclusive, open, and transparent, and do not further reinforce inequalities, but rather provide opportunities to broaden the population of researchers who apply. Many symposium participants noted that access to information to upcoming calls is asymmetric, with some researchers and institutions having privileged knowledge of the content of calls before they are officially released. Inevitably, in a research ecosystem that is sometimes described as 'hypercompetitive', researchers and research managers will attempt to build links with funders to access this information, but symposium attendees described these relationships as "opaque". Funders must ensure that **all stages of call design are transparent**, and that all researchers and institutions have equal access to information.

Funding applications take substantial time and effort to prepare, and those with an emphasis on project/partner co-creation, or interdisciplinary participation, take even more. One-off or short notice calls (especially for large projects with proportionally demanding application requirements) disadvantage certain groups, particularly those with caring responsibilities or disabilities. The timing of deadlines has non-trivial impacts that can increase inequalities in the submission of funding applications (for example, when deadlines are in or just after school holidays). For research managers who are disseminating opportunities to researchers, short timelines stifle attempts to increase diversity, by encouraging the prioritisation of established researchers who provide a 'safe pair of hands'. **Funders need to think about how they schedule calls** and reviews to take better account of institutional-level barriers to EDI. Other practical steps funders could take include

involving research-enabling staff from universities in their call design, or not requiring a full proposal at the first stage of assessment, when months of work preparing substantial documents will be triaged out as a significant portion of applications are rejected.

Demand management is the process by which institutions submit a limited number of proposals for funding opportunities, usually to maximise the chances of success but sometimes by funder requirement. While this helps to balance institutional and funder commitments, the ways in which it takes place can be unclear to potential applicants and can result in wasted effort, or discourage engagement by researchers who might wish to apply. Institutions and funders need to ensure that demand management processes do not add a further barrier to equal access to opportunities.

Recommendation 10: Leverage review and evaluation

Provision of constructive and detailed feedback based on review, and encouragement to reapply in future rounds, may have benefits to the research ecosystem. For instance, they may reduce applicants' sense that their efforts have been wasted and strengthen their chance of future success. When peer review is seen solely as a tool for selection and assessment in research, rather than a formative process, then its full potential to support positive research culture is not maximised. There is a strong argument for **seeing peer review as a tool for negotiating research culture change**. Funders should seize the opportunity for peer review feedback to act as a mechanism for both ensuring the integrity of the peer review process, and for providing a level of care towards the future careers of unsuccessful applicants²⁴.

Establishing EDI as a central component of review and assessment criteria will drive change. More diverse, better trained review panels, who can themselves access additional practical support for participating in reviewing, are vital to ensure that the culture of review is itself inclusive. The information that funders ask for in applications, CVs, and reporting for evaluation is a clear and unambiguous statement of their priorities; considering this information through the lens of EDI will ensure that it is helping us to make progress in these areas.

Recommendation 11: Be open and honest about what the research community wants

Within institutions, there are many ways to justify favouring previously successful bidders and providing them with support for their subsequent bids at the expense of their less successful colleagues, with the goal of increasing likely success rates. Funders employ similar practices, such as the release of calls that have been shaped by current grant holders, or calls only open to institutions that they have previously funded. Institutions that currently benefit from privileged access to information (see [recommendation 9](#) above) may be unwilling to relinquish this advantage. However, all these practices are exclusionary and consolidate inequality. **The research community must**

²⁴ Derrick, G.E., Zimmerman, A., Greaves, H., Best, J., Klavans, R. (2022) Targeted, actionable and fair: reviewer reports as feedback and its effect on ECR career choices. 10.31235/osf.io/a8psh

clearly define its priorities for EDI, and act on them in the structure and timing of funding calls, and the support given to potential applicants.

Funders also have opportunities to address exclusionary practices by setting clear expectations about inclusion in funded projects in the eligibility criteria they set for funding calls. **Stipulating EDI requirements for each stage in a project's life cycle, and enforcing them**, will help ensure the genuine and comprehensive assessment of inclusion and collaboration in research activity. However, care should be taken in assessing these requirements to avoid 'gaming' and to minimise any reporting burdens.

4. Suggestions for further research

This project has necessarily (in terms of scope, available time, and resources) been conducted at a general level. It is often the case that there is focus on an absence of ethnic and class diversity in academia, without deep attention to the specific experiences of particular groups or intersectionalities. More research is needed into a range of lived experiences of exclusion, on the basis of ethnicity, class, gender, disability, neurodiversity, sexual orientation, and other categories of social difference and experience. To address any form of bias, we need to know what its impact is and on whom.

Related, there is a consistent lack of robust data available, especially in small or more diffuse institutions, on the full range of EDI characteristics, such as hidden disabilities and socio-economic background, both of which are difficult to infer from current data, but can be a major source of discrimination (as noted in [section 2](#)). Systemic and structural inequalities take multiple forms, and need to be accounted for in any assessment of the status quo and in subsequent programmes of improvement. Where HEIs and funders are piloting new approaches to data collection, there should be concerted efforts to understand their value and relevance to change in a number of dimensions. For instance, such data should be used to examine application and success rates across a range of characteristics, accounting for disciplinary differences in demographic profiles, grant size, and other factors. This will enable better design and targeting of new interventions, with an evidence base to justify prioritisation and progress.

Our project has focused on the processes and practices involved in preparing applications for Principal Investigator-led grants. There are other issues associated with different models, such as programme grants or large-scale strategic grants, and these are worthy of dedicated investigation to round out our understanding of the pre-award environment.

We also note that this project has focused on applications for research funding in the context of universities. The process of securing research funding in other kinds of research-performing organisations (such as independent research organisations) should also be explored.

Future work should include a greater number of minoritised and marginalised stakeholders; the participants in our project were limited in diversity, which will have impacted the conversations that were initiated²⁵.

More broadly, the process of this project in both the workshop and symposium stages has highlighted the appetite of researchers, research managers, those who support research, and funders to have these sorts of conversations. Regular, open, and inclusive consultations or symposia investigating all facets of the research ecosystem need to take place to self-regulate, reflect, evaluate, and challenge processes, celebrate progress, and share good practice. This could, in turn, lead to the creation of long-lasting communities of practice that span a broad range of institutions, ensuring that different and diverse stakeholders have a safe platform to challenge each other's interventions or inactions.

5. Concluding remarks

Participants in the symposium noted that the benefits of equality, diversity, and inclusion will be significant, but that these benefits will not in and of themselves be enough of an incentive to make substantive and challenging changes to the research system. They need to be reinforced with consequences for poor practices. This, in turn, demands clarity on what constitutes good practice. Our aim in this paper has been to set out some suggestions for what good, or improved, practice might be in certain key areas of the pre-award process.

Allocating funding, or offering preferential support for one application over another, is the result of a series of choices; taking appropriate positive action in support of EDI needs to be one of them, along with incorporating much greater diversity in the makeup of funding organisations, boards, panels, reviewer pools, applicants, and call design.

The Higher Education sector needs to create time and space to reflect on the impact, priorities, and possible unintended consequences of interventions to improve EDI, and to engage in a rigorous evaluation of its own efforts to improve transparency and EDI in pre-award processes. This evaluation, if it is to be effective, must itself be conducted in an equitable way.

Fuller visibility of exclusionary, attritional, or discriminatory phenomena will enable better tailored interventions. Participants in our work described the need for such interventions to improve diversity in research teams. In an age of increasingly open 'team research', inclusivity is not just a value; it is a prerequisite for success.

Changing practice and culture across the academic research sector will take time, and will require the reallocation²⁵ of funds, the refocusing of priorities, and the willingness to take risks in pursuit of a fairer and more sustainable future for research. Investment in reform and diversity will result in

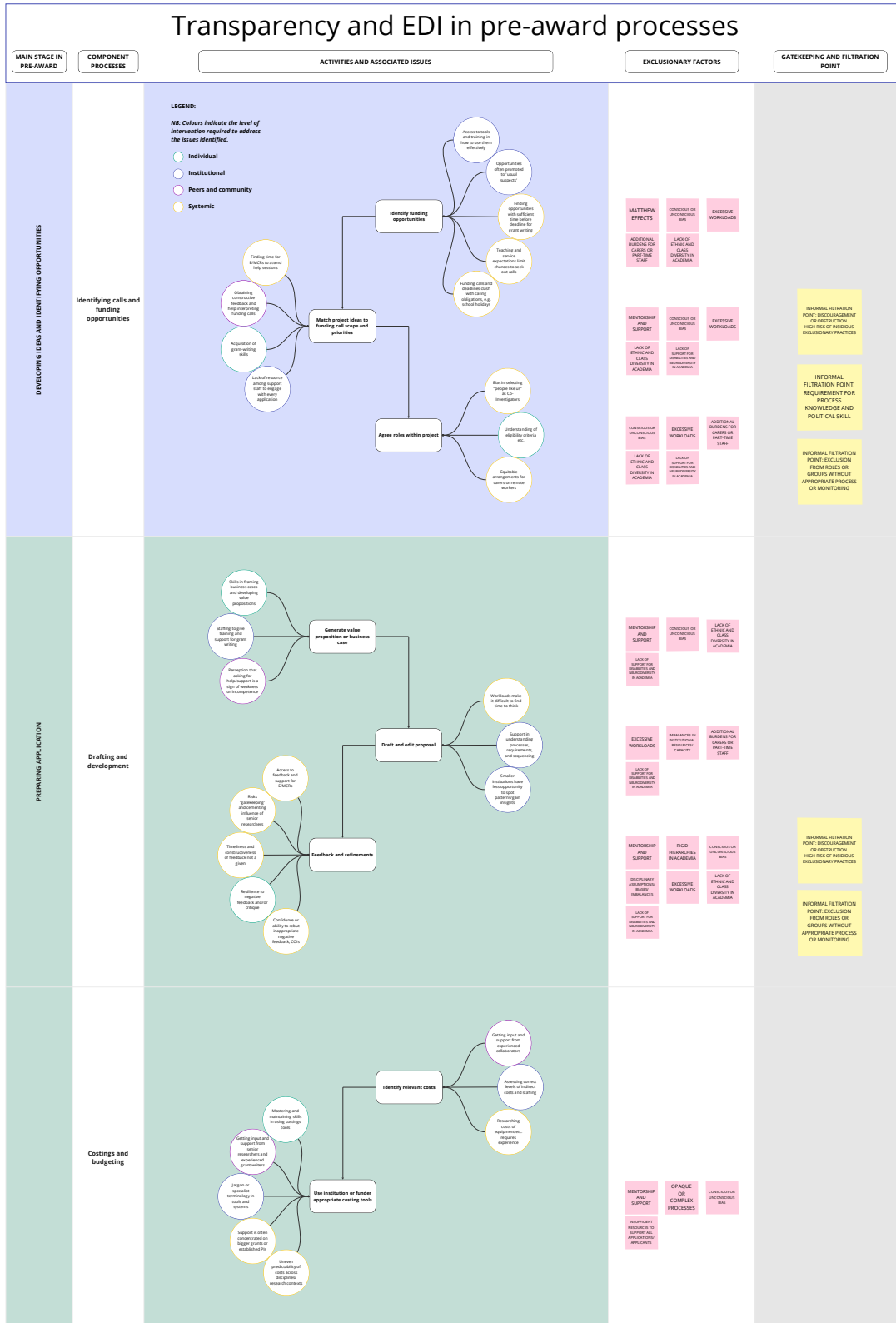
²⁵ Benschop, Y.W.M. (2021). Grand challenges, feminist answers. *Organization Theory*, 2 (3).

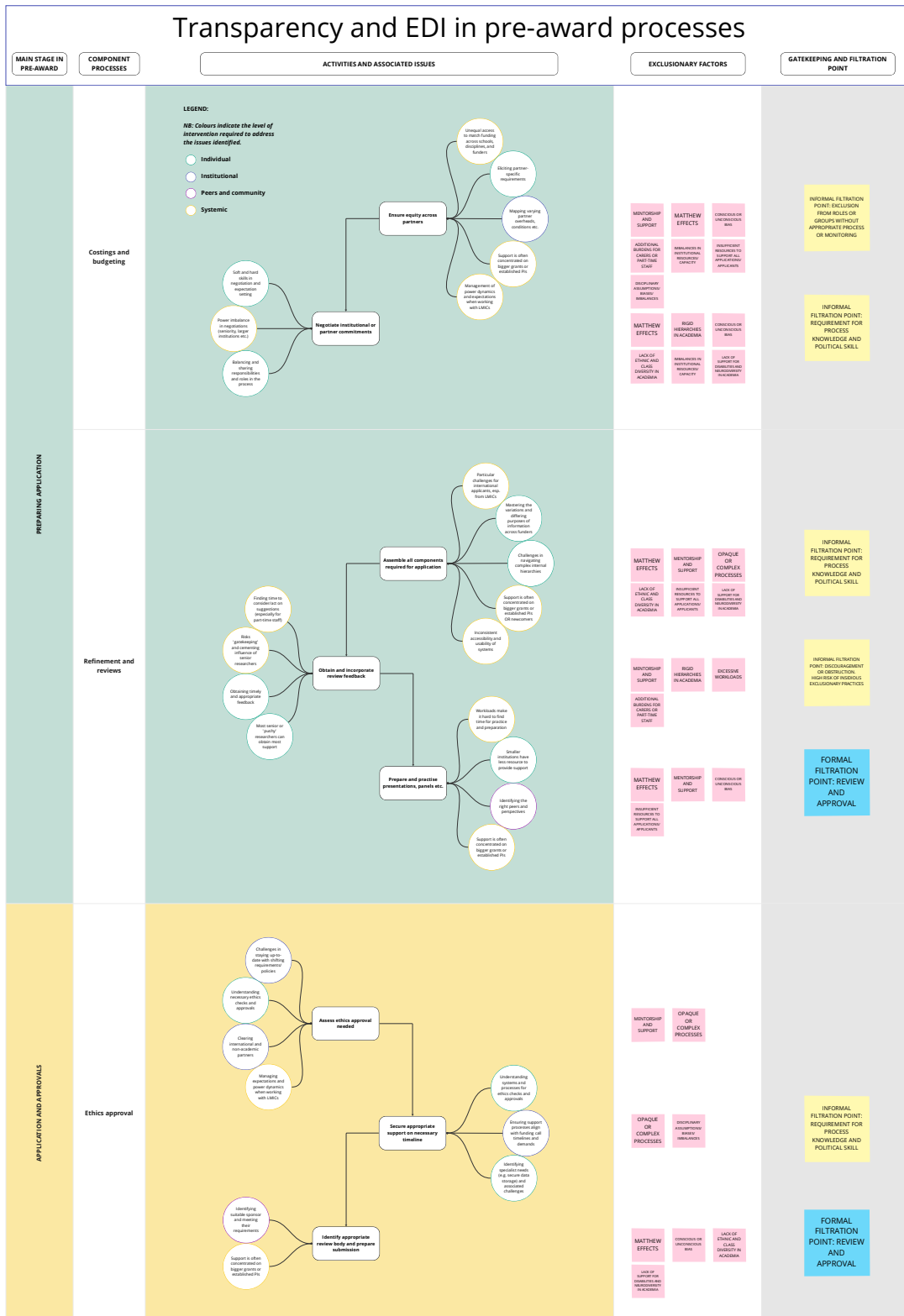
MORE+BRAINS

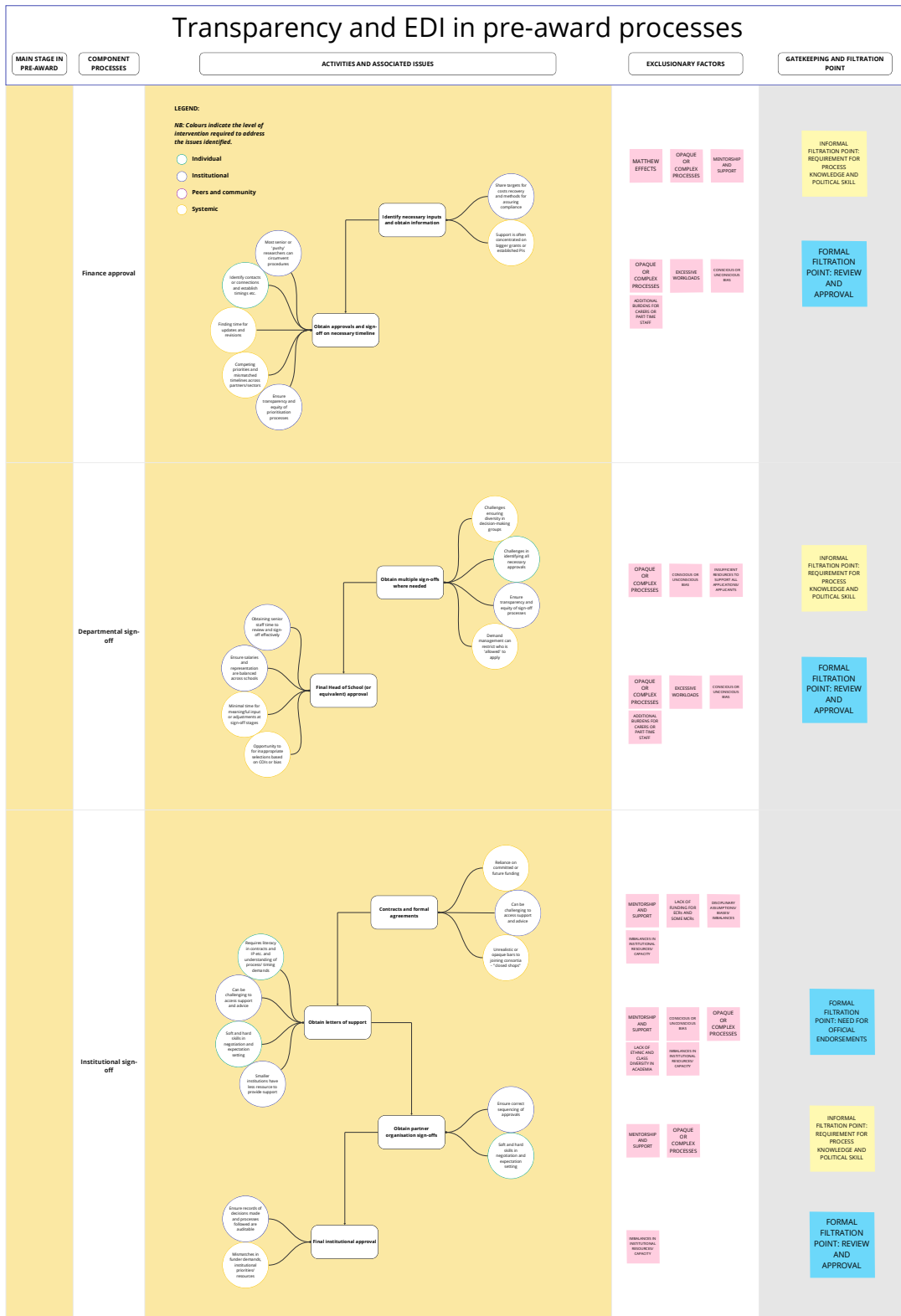


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better research outcomes, better working lives for researchers and professional staff, and a stable base for innovation and knowledge economies.







These diagrams are available online in PDF format: <https://doi.org/10.5281/zenodo.8189922>

Appendix B: Method

Our investigations began with a preliminary virtual workshop, in September 2022, comprising a mix of researchers, professional staff, and institutional leadership from the University of Bristol. We used the outcomes from the workshop to develop the first draft of a workflow, intended to show the make-up of pre-award processes in institutions, and to surface EDI issues that arise around each step. We included enough information to provide context for interventions, with a sufficient degree of generality that most HEI staff and funders would recognise most of the steps involved. The draft workflow was shared with the original workshop group for feedback, via a webinar and a feedback/comment period. A second draft was then created, incorporating the feedback received.

We then issued a call for expressions of interest to members of the UK Association of Research Managers and Administrators²⁶ (ARMA) to join us for a virtual workshop to explore the prototype workflow. We received 121 responses and selected 20 participants based on a balance of representation from regions/countries, institution size/focus, and stated experience/expertise in the area. During the workshop, which took place in November 2022, we explored the workflow in detail, and provided a version online for comments.

In further online meetings with a range of international funders and domain experts, we collated additional feedback and suggestions, both for improvements to the workflow, and for solutions to the problems it highlighted. The workflow was then revised again to incorporate these additional inputs, as well as the comments from the ARMA workshop participants. This third version of the workflow was then taken forward to the next stage in the project.

The workflow is divided into three main stages: “Developing ideas and identifying opportunities”, “Preparing application”, and “Application and approvals”. Each stage is further broken down into ‘component processes’, such as finance approval, identifying collaborators, and drafting and development. Each component includes specific activities that typically take place at that stage, linked to EDI issues that were flagged during our research and consultation. Each issue is colour coded to indicate the level at which an intervention would be required: Individual; Institutional; Peers and Community; and Systemic. To the right of the various activities are two further columns, one for categories of exclusionary factors that have been identified from issues highlighted, and one flagging formal and informal gatekeeping points.

The issues highlighted across the workflow were categorised into 13 classes of exclusionary factors:

- Conscious or unconscious bias
- Mentorship and support
- Lack of ethnic and class diversity in academia
- Opaque or complex processes
- Excessive workloads
- Additional burdens for carers or part-time staff

²⁶ <https://arma.ac.uk/>

- Rigid hierarchies in academia
- Imbalances in institutional resources or capacity
- Matthew Effects
- Disciplinary assumptions, biases, and imbalances
- Insufficient resources to support all applications and applicants
- Lack of funding for Early Career Researchers (ECRs) and some Mid-Career Researchers (MCRs)
- Opaque recruitment and career progression

On January 18 and 19, 2023, the University of Bristol and MoreBrains teams organised a two-day, in-person symposium in Bristol. Around 60 delegates attended, a mix of researchers, research managers and other professional staff, funders, and meta-researchers²⁷ and specialists in research systems and information.

The first day was spent exploring the problems identified during the workflow development process, with discussions of researchers' experiences of discrimination, exclusion, and unfair treatment. Almost every researcher who shared their experience with us was too concerned about retaliation to speak at the symposium, so their stories were instead anonymised and recounted by members of the project team. Attendees then went through the workflow in detail, one section at a time, in three breakout groups, and gathered feedback. At the end of the day, attendees heard from researchers in the field about the state of affairs in terms of EDI that they have uncovered or confirmed in their work.

The suggestions and additions offered by participants were incorporated into a fourth version of the workflow, which is included as [Appendix A](#) above.

Day two focused on ideas for potential solutions. In a series of breakout sessions, participants split into groups to discuss each of the 13 categories of issues identified in the workflow. Finally, the participants split into 'birds of a feather' sessions for researchers, research managers, funders, and meta-researchers to discuss what they had heard so far.

The project team then collated all the challenges and solutions suggested by the participants in the workflow development sessions and the symposium into one list, deduplicated and categorised them, and synthesised the results into the suggestions for policy, funding, and practical interventions set out in this paper.

²⁷ Ioannidis, J.P.A. Meta-research: Why research on research matters. *PLoS Biol* 2018 16(3): e2005468. <https://doi.org/10.1371/journal.pbio.2005468>