PEER REVIEW HISTORY

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ARTICLE DETAILS

<table>
<thead>
<tr>
<th>TITLE (PROVISIONAL)</th>
<th>An online survey exploring researcher experiences of research funding processes in the UK: the effort and burden of applying for funding and fulfilling reporting requirements.</th>
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<tr>
<td>AUTHORS</td>
<td>Fackrell, Kathryn; Church, Hazel; Crane, Ksenia; Recio-Saucedo,Alejandra; Blatch-Jones, Amanda; Meadmore, Katie</td>
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VERSION 1 – REVIEW

<table>
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<tr>
<th>REVIEWER</th>
<th>Broström, Anders</th>
<th>KTH Royal Institute of Technology</th>
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<td>REVIEW RETURNED</td>
<td>18-Oct-2023</td>
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GENERAL COMMENTS

The problem discusses in the paper – reporting burden and application requirements associated with external (grant) funding – is clearly relevant. There are several aspects that I find positive about the manuscript, including transparency about the questions asked. I will also raise a number of concerns and suggestions for developing the manuscript.

The process of applying for a research grant and that of managing a grant are two rather different problems, and the paper could do a better job in being clear about distinguishing these two discussions. For example, the Results section of the Abstract moves from discussing application submission in the first sentence, and then goes on to talk about what I interpret as being findings about grant reporting practices in the second sentence. Overall, I find that the paper’s results are focused on discussing reporting requirements. This is also where the paper has interesting findings to discuss – I wonder whether perhaps it would strengthen the paper to restrict the paper’s analysis to responses from the 143 researchers who have received grants?

The study employs a rather unsatisfactory sampling strategy, including links distributed through social media. It has a limited response rate. For this reason, I find it difficult to interpret the findings as representative. It is also unclear how responses from 6 persons without experience from application processes, or 24 persons with no funded projects on which they have to report, end up in the survey.

The paper primarily refers to literature of what I would call a “grey” nature (i.e. policy-oriented reports). Specifically, the authors fail to connect their work to extant state-of-the-art regarding grant funding and its impact. I provide a few references below as suggestions or guidance.

One aspect that I am concerned about is the discussion about how respondents assess the burden and usefulness of different
processes. First, the questions 3.3. and 4.6 in the survey are framed in a way that I find difficult to interpret (“Do you think is important...”). Important for what and whom, exactly? In my view, you cannot really use these responses to make clear interpretations. Second, you make this claim: “several processes were seen as unnecessary, and requiring time and effort that could be spent doing the actual research”. However, this is based on open text answers, as far as I understand. The lack of systematic survey questions on which to evaluate different ‘processes’ individually means that we must be cautious not to interpret these open responses as representing population-level views or attitudes.

On a minor note, I would suggest the information provided in Table 2 does not seem highly relevant. You may want to consider analysing and presenting this information in some other way.

References
Ayoubi, C., Pezzoni, M., & Visentin, F. (2019). The important thing is not to win, it is to take part: What if scientists benefit from participating in research grant competitions?. Research Policy, 48(1), 84-97.

REVIEWER
Hemphill, Rachel
Patient-Centered Outcomes Research Institute, Evaluation & Analysis

REVIEW RETURNED
06-Nov-2023

GENERAL COMMENTS
This paper presents results from a cross-sectional online survey assessing researchers’ experiences with applying for funding and reporting on funded studies. It is generally very clear and easy to read and offers helpful insights into researchers’ views and experiences of administrative burden in the research process, with some practical implications. I have a few clarification questions and suggestions to further strengthen the paper.

1. Please provide more information about the qualitative analysis of survey responses.
   a. I see there were two analysts, but it’s not entirely clear if both analysts coded the entire set of responses and then reconciled disagreements and finalized themes. I would appreciate a little more information about the process of coding and determining themes.
   b. It sounds like the responses from both samples (A and B) were pooled prior to qualitative analysis. How did the study team determine there were no notable differences prior to coding the data?
c. Did the team look for (or consider looking for) differences in responses/themes based on researchers’ experience level or any other characteristics that were collected? One could imagine there might be differences in early career researchers’ experiences of burden compared to senior researchers who have more experience with the processes-- this notion is mentioned a time or two in the paper, but in more of an offhand way, and it could warrant more focused attention.

2. I was initially confused about why Sample A (the pre-COVID sample) was the group that received questions about their experiences during COVID. It became clear later when I looked at the actual questions and saw they asked researchers to compare their experiences before and during COVID. The authors could avoid this potential confusion with some slight revisions to the Methods section to make this clearer.

3. The results and discussion sections are informative, but there are quite a few themes to keep track of. To make the findings more readily useful, it would be really helpful to add a table to highlight key implications/recommendations that funders or other organizations should pay attention to or consider implementing based on these findings.

4. In the Public and Patient Involvement section, please provide more information about the project advisory group. How were the members chosen? What was their role/activities in this work?

5. Questions/suggestions about the sample:
   a. I appreciate the clear information about how the sample was selected. Were invitations sent only to the principal investigator or were co-PIs or other study personnel also included?
   b. The authors note sample demographics as a limitation of the study. Do you have information about how the demographics of the study sample (particularly race and gender) compare to the research workforce in the UK? That would be helpful context to add.

6. Suggestions for minor adjustments to tables/figures:
   a. It would help if you used bolding in Table 2 to highlight the most common response for each type of reporting so readers can more quickly take in the results.
   b. The title of Figure 1 sounds like it’s just going to be a list of processes, not actual survey results. It will be clearer when the figure appears in text, but I suggest revising the title so it’s very clear that it’s showing frequencies from survey results.

REVIEWER
Chrzanowska, Iwona
Adam Mickiewicz University

REVIEW RETURNED
12-Nov-2023

GENERAL COMMENTS
The research topic is interesting and important, focusing on identifying the burdens associated with applying for, obtaining, and reporting scientific research funding in the British Health and Social Care Research Fund. Elaborate administrative procedures pose a challenge to public funding for scientific research worldwide. At the same time, it is difficult to envision scientific progress without research funding. Therefore, the research results may be of interest in understanding the mechanisms and potential modifications in this area, so that the procedures themselves do not discourage researchers from seeking funding for valuable scientific projects. The issue of financing scientific research is transnational in nature, which is why identifying the challenges and facilitators related to obtaining research funds constitutes a
significant contribution to the procedure and progress of science funding on an international scale.

Major remarks:
The report lacks a clear indication of the criteria for sample selection. The authors state that the study participants were researchers with experience in applying for research funding and/or meeting the requirements for reporting granted grants during the period of 2018-2021.

1. There is a need for a clear explanation regarding the inclusion criteria and an explanation of "and/or meeting the reporting requirement." Was it necessary to meet both criteria or just one? As the data in the report suggests, only 176 participants included in the study had experience in applying for research funding, and only 143, met the second criterion related to reporting within a specified time frame (study duration) of interim/final results.

2. This raises the question of how the sample of 182 individuals, whose responses were considered in drawing conclusions from the study, was formed. Please explain the discrepancy.

In reference to the research findings, the main issue is the low (10%) response rate. From the first part of the report, it appears that 2,300 invitations to participate in the study were sent out. However, 460 invitations did not reach their recipients.

3. It seems necessary to provide an expanded explanation of the reasons for the 20% loss of potential participants.

Another issue requiring clarification pertains to the final non-representativeness of the research sample. The research participants were mostly scientists at intermediate and advanced stages of their scientific careers, and the majority were of white ethnicity. It seems necessary to provide a more detailed report on the sample selection process, considering its representativeness, which should include, for example, young researchers or individuals from more diverse or minority social groups.

4. What procedures were employed to reach these groups of researchers?

5. Were the study authors aware of the potential lower response rate from this group of respondents?

For example, is the representation of young researchers in the research sample proportional to their representation among those who receive research project funding in the UK?

6. The obtained research results, in the context of sample size and non-representativeness, have limited scientific value. They do not allow for the recognition of the phenomenon and the explanation of the studied mechanisms, especially within the group of young researchers.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Dr. Anders Broström, KTH Royal Institute of Technology

Comment 1. The process of applying for a research grant and that of managing a grant are two rather different problems, and the paper could do a better job in being clear about distinguishing these two discussions. For example, the Results section of the Abstract moves from discussing application
submission in the first sentence, and then goes on to talk about what I interpret as being findings about grant reporting practices in the second sentence. Overall, I find that the paper’s results are focused on discussing reporting requirements. This is also where the paper has interesting findings to discuss – I wonder whether perhaps it would strengthen the paper to restrict the paper’s analysis to responses from the 143 researchers who have received grants?

Response. Thank you for your comments. The aim of the study was to look at potential effort and burden across the whole research lifecycle from applying, being awarded and during the funded period. Although there is much less evidence around reporting requirements, we feel that it is important to maintain the aim to gain valuable insights into the effort and burden experienced by researchers across the whole research lifecycle. However, we have rewritten sections of the abstract, results and discussion to make the distinction between findings for application and reporting processes more clear.

Comment 2. The study employs a rather unsatisfactory sampling strategy, including links distributed through social media. It has a limited response rate. For this reason, I find it difficult to interpret the findings as representative. It is also unclear how responses from 6 persons without experience from application processes, or 24 persons with no funded projects on which they have to report, end up in the survey.

Response. We have now clarified eligibility in the methods section. We anticipated that some researchers would not have experience of completing both funding applications and reporting requirements, and would still have valuable contributions to make about their experiences. As such, and as the application and reporting data were analysed separately, we included respondents who had experience of completing application but not fulfilling reporting requirements, and vice versa. Although the response rate was not as high as expected and our sample included more mid- to senior researchers and more white British researchers, this is aligned with other studies on the research workforce. In addition, as highlighted in the findings, researchers do not always start and finish the same research project, and we feel that including researchers with experience in just applications or reporting and those with experience provides multiple perspectives which adds to the richness of the data.

Comment 3. The paper primarily refers to literature of what I would call a “grey” nature (i.e. policy-oriented reports). Specifically, the authors fail to connect their work to extant state-of-the-art regarding grant funding and its impact. I provide a few references below as suggestions or guidance.

Response. Although there are a number of policy-oriented reports referenced in this paper, we believe that these reports are really important for context and demonstrate the need for this study. We have added some additional journal references to the introduction and discussion. We would also argue that this study does report the impact of grant funding – but from the perspective of the impact of preparing, submitting and reporting on funding applications on the applicants, in terms of workload and wellbeing. We have also added an additional paragraph to the introduction on other potential impacts from the references that you suggested.

Comment 4. One aspect that I am concerned about is the discussion about how respondents assess the burden and usefulness of different processes. First, the questions 3.3. and 4.6 in the survey are framed in a way that I find difficult to interpret (“Do you think is important…”). Important for what and whom, exactly? In my view, you cannot really use these responses to make clear interpretations.

Second, you make this claim: “several processes were seen as unnecessary, and requiring time and effort that could be spent doing the actual research”. However, this is based on open text answers, as far as I understand. The lack of systematic survey questions on which to evaluate different ‘processes’ individually means that we must be cautious not to interpret these open responses as representing population-level views or attitudes.

Response. The discussion integrates the findings from both free-text qualitative analysis and closed question quantitative analysis. Whilst we completely understand that it is important to not over
generalise or over state our results, we do believe that qualitative data provides sufficient evidence that our respondents did feel that some tasks were requiring time and effort, especially given that we specifically asked questions around the burden associated with tasks. This should not be undervalued. However, we have toned down our interpretations in the discussion and have also acknowledged our sample in the limitations.

Comment 5. On a minor note, I would suggest the information provided in Table 2 does not seem highly relevant. You may want to consider analysing and presenting this information in some other way.
Response. Thank you for raising this. We agree that the information was not highly relevant and another reviewer also raised concerns, therefore we have made the decision to remove this table.

Reviewer: 2
Dr. Rachel Hemphill, Patient-Centered Outcomes Research Institute

Comment 1. Please provide more information about the qualitative analysis of survey responses.

a. I see there were two analysts, but it’s not entirely clear if both analysts coded the entire set of responses and then reconciled disagreements and finalized themes. I would appreciate a little more information about the process of coding and determining themes.
Response. Thank you for your comments. We have updated the data analysis section to clarify the methods used for the qualitative analysis.

b. It sounds like the responses from both samples (A and B) were pooled prior to qualitative analysis. How did the study team determine there were no notable differences prior to coding the data?
Response. We have updated the data analysis section to clarify the methods used for the qualitative analysis and the two datasets.

c. Did the team look for (or consider looking for) differences in responses/themes based on researchers’ experience level or any other characteristics that were collected? One could imagine there might be differences in early career researchers’ experiences of burden compared to senior researchers who have more experience with the processes—this notion is mentioned a time or two in the paper, but in more of an offhand way, and it could warrant more focused attention.
Response. We did not conduct separate analysis for different career stages or characteristics as this was not in the remit of our research aim. We wanted to understand the experiences across all career stages and across the funding lifecycle and so whilst we tried to ensure our sample included representatives across career stage we did not link the qualitative data to individual characteristics. We agree however that this would be an follow-up study and have added this as a suggestion to the discussion.

Comment 2. I was initially confused about why Sample A (the pre-COVID sample) was the group that received questions about their experiences during COVID. It became clear later when I looked at the actual questions and saw they asked researchers to compare their experiences before and during COVID. The authors could avoid this potential confusion with some slight revisions to the Methods section to make this clearer.
Response. We have now clarified that the questions were aimed at comparing their experiences before and during covid in the method section.

Comment 3. The results and discussion sections are informative, but there are quite a few themes to keep track of. To make the findings more readily useful, it would be really helpful to add a table to highlight key implications/recommendations that funders or other organizations should pay attention to or consider implementing based on these findings.
Response. Thank you for this suggestion. We have added a supplemental table that highlights the key implications for each theme, including quotes from respondents.

Comment 4. In the Public and Patient Involvement section, please provide more information about the project advisory group. How were the members chosen? What was their role/activities in this work?
Response. We have added details on the advisory group to the PPI section.

Comment 5a. I appreciate the clear information about how the sample was selected. Were invitations sent only to the principal investigator or were co-PIs or other study personnel also included?
Response. We have updated the methods section to include details on how the sample were selected.

Comment 5b. The authors note sample demographics as a limitation of the study. Do you have information about how the demographics of the study sample (particularly race and gender) compare to the research workforce in the UK? That would be helpful context to add.
Response. We have updated the limitations section of the discussion to highlight that the study sample is comparable to the other studies looking at the research workforce.

Comment 6a. It would help if you used bolding in Table 2 to highlight the most common response for each type of reporting so readers can more quickly take in the results.
Response. Thank you for suggesting this. As the other reviewer questioned the relevance of the table, we made the decision to remove this table since all the relevant information is reported in the text and available in another table.

Comment 6b. The title of Figure 1 sounds like it’s just going to be a list of processes, not actual survey results. It will be clearer when the figure appears in text, but I suggest revising the title so it’s very clear that it’s showing frequencies from survey results.
Response. We have revised the title to 'The frequencies (%) in which respondents complete the key processes to prepare and submit an application.'

Reviewer: 3
Dr. Iwona Chrzanowska, Adam Mickiewicz University

Comment 1. The report lacks a clear indication of the criteria for sample selection. The authors state that the study participants were researchers with experience in applying for research funding and/or meeting the requirements for reporting granted grants during the period of 2018-2021. There is a need for a clear explanation regarding the inclusion criterion and an explanation of “and/or meeting the reporting requirement.” Was it necessary to meet both criteria or just one? As the data in the report suggests, only 176 participants included in the study had experience in applying for research funding, and only 143, met the second criterion related to reporting within a specified time frame (study duration) of interim/final results. This raises the question of how the sample of 182 individuals, whose responses were considered in drawing conclusions from the study, was formed. Please explain the discrepancy.
Response. Thank you for your comments. We have now clarified the inclusion criteria in the methods section. Respondents could have experience in applying for funding or they could have experience in reporting requirements or they could have experience of both. We included all respondents as we felt that they would all have valuable contributions to make about their experiences.

Comment 2. In reference to the research findings, the main issue is the low (10%) response rate. From the first part of the report, it appears that 2,300 invitations to participate in the study were sent out. However, 460 invitations did not reach their recipients. It seems necessary to provide an expanded explanation of the reasons for the 20% loss of potential participants.
Response. We have added further details on how researcher details were identified in the methods and have included possible explanations for the response rate and undelivered emails in the strengths and weaknesses section.

Comment 4. Another issue requiring clarification pertains to the final non-representativeness of the research sample. The research participants were mostly scientists at intermediate and advanced stages of their scientific careers, and the majority were of white ethnicity. It seems necessary to provide a more detailed report on the sample selection process, considering its representativeness, which should include, for example, young researchers or individuals from more diverse or minority social groups. What procedures were employed to reach these groups of researchers?
Response. We identified researchers through information provided on funded projects by 10 health research funding organisations. In particular, we identified lead applicants for each research project. This included a range of funding programmes aimed at early career researchers as well senior researchers. This was to try to ensure that we had a diverse sample across career stage. We randomly selected the researchers that were contacted for each funding organisation/programme and year. We invited all studentship holders as we assumed that these would include some early career researchers but unfortunately it was not clear whether the lead applicant was the student or supervisor. We did not have access to information on their backgrounds or career status beforehand (and did not have ethical approval to do this) and as such could not target researchers based on these characteristics. Additionally, the high proportion of mid- to senior researchers and white British researchers in our sample is aligned with other studies on the research workforce.

Comment 5. Were the study authors aware of the potential lower response rate from this group of respondents? For example, is the representation of young researchers in the research sample proportional to their representation among those who receive research project funding in the UK?
Response. We assumed that most of the lead applicants identified on funded projects by the health research funding organisations would be mid or senior career researchers, as there are often eligibility criteria attached to these types of awards. To address this and ensure that we were also targeting earlier career researchers we decided to invite all studentship holders; however, it was not clear whether the lead applicant was the student or supervisor. As mentioned above, our sample is aligned with other studies on research workforce and we believe that is a reflection of those who receive project funding.

Comment 6. The obtained research results, in the context of sample size and non-representativeness, have limited scientific value. They do not allow for the recognition of the phenomenon and the explanation of the studied mechanisms, especially within the group of young researchers.
Response. We do not agree with this conclusion. We have identified the perceived effort and burden associated with completing these processes, and how this effects the work-life balance and well-being of a range of researchers. The fact that we did not get as many early career researchers to complete the survey does not mean our findings have limited value as they still show the impact of these processes on a range of researchers across the UK. Furthermore, as noted, we did receive responses from early career researchers and did discuss issues raised by them including the need to understand processes and juggling other commitments. We have tried not to over generalise or over state our findings and have toned down our interpretations in the discussion, however, we do feel that these findings provide valuable insight into some of the efforts and burdens experienced by researchers in the UK.
GENERAL COMMENTS

Interpreted from a qualitative perspective, the paper highlights how many academics feel significant pressure to obtain grant funding, and irritated by (some of) the conditions for funding set up by funders and their own institutions (application process, reporting, etc). These are legitimate concerns, and relevant problems. The survey provides illustrations of academics' attitudes and concerns. Given the sampling strategy and the analysis presented in the paper, I would be very careful with any sort of inference to the target population. This means that when the authors write in the Conclusions that it was "... felt that the current systems ... are based on an unbalanced effort to reward ratio", and that this "impact on research wellbeing", I readily accept that some researchers feel that way, but I am not prepared to accept that the study has shown these attitudes to represent a majority of academics in the target population (or any other distribution). I would encourage the authors to consider revising the discussion slightly, if they agree with my assessment. I would also suggest that the Design section (or elsewhere, as the authors see fit) be slightly extended to clarify that they survey methodology is being used for slightly other purposes than the traditional purpose of estimating population averages by analysis of a representative sample.

REVIEWER
Hemphill, Rachel
Patient-Centered Outcomes Research Institute, Evaluation & Analysis

GENERAL COMMENTS
I appreciate the authors’ work to revise their paper presenting results from a cross-sectional online survey about researchers’ experiences with applying for funding and reporting on funded studies. These revisions have strengthened the paper, but I have a few additional follow-up questions and suggestions.

1. I appreciate the additional detail about the qualitative analysis. Please expand a bit more on the following points:
   a. How were the final codes applied/confirmed? Did the two analysts go back and recode the data after discussing and reviewing their preliminary codes and agreeing on a final codebook? The authors mention an iterative process to refine, but it’s not quite clear how they developed and applied the final set of codes.
   b. The addition of supplemental appendix 5 is very helpful, but it raised a question for me. How did the authors determine what should be highlighted as a key finding? Was there any sort of rough threshold? Were these all themes that were mentioned by multiple respondents?

2. I believe the authors need to more strongly and thoughtfully articulate some of the study limitations and areas for future research concerning important subpopulations of researchers. The paper states that "Future studies may consider targeting early career researchers or those with diverse backgrounds to further explore their experiences with these processes." This is a pretty vague suggestion that lumps together various subpopulations, and it deserves to be untangled and better articulated. There are already mentions in the paper about possible differences in experiences between early career researchers vs. more experienced researchers, so the authors could easily tighten that up and discuss it as a single point, rather than lumping it with
“those with diverse backgrounds.” The point regarding the diversity (or lack thereof) of the sample and the suggestion to focus on a more diverse sample in future needs more elaboration. What do the authors mean by diverse? There are many aspects of diversity. Do they mean racial/ethnic diversity? Nationality? These aspects of diversity are hinted at by the description of the sample as primarily white British but not directly articulated. I would like to see the authors give this more thoughtful attention and articulate why it’s important to consider the experiences of underrepresented researchers or those with certain characteristics that could affect experiences with applying for and receiving funding.

3. Also related to the sample, the authors have concluded that because their study’s sample is similar to a couple of prior studies about researchers in the UK, their sample is likely representative of the research workforce in the UK. I don’t think that’s a fair conclusion to draw, unless there is evidence that the prior studies they’re citing and comparing to were able to recruit representative samples, which is not clear in the current draft. Ideally, the authors should compare their study sample directly to data about the research workforce in the UK. If that’s not available, and if it’s not clear that the prior studies they cite had representative samples, the authors need to be more conservative with the conclusion they draw here.

4. The authors revised the title for Figure 1, but there is now some contradictory/confusing information about the figure. The manuscript text says it’s showing the % of respondents who considered each process as key to complete, but the figure title says it’s the % of respondents who completed each process. Please clarify which it is.

5. Thank you for the additional information regarding the project advisory group. Please more clearly specify the number of advisory group members representing each group. The current draft indicates there were six members representing various NIHR centres/services and two members of the public but does not specify the number of researchers/applicants.

GENERAL COMMENTS

The changes introduced by the authors adequately address my comments. This manuscript serves as a valuable introduction to further research on the issue, which should also consider, to a greater extent, aspects such as cultural and demographic diversity, as well as the survey participants’ scientific experience. The expanded section on methodology and limitations related to the conducted study will enable better execution of similar projects in this field in the future. I have no further comments.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Dr. Anders Broström, KTH Royal Institute of Technology
Comments to the Author:

Comment 1. Interpreted from a qualitative perspective, the paper highlights how many academics feel significant pressure to obtain grant funding, and irritated by (some of) the conditions for funding set up by funders and their own institutions (application process, reporting, etc). These are legitimate concerns, and relevant problems. The survey provides illustrations of academics' attitudes and concerns. Given the sampling strategy and the analysis presented in the paper, I would be very careful with any sort of inference to the target population. This means that when the authors write in the Conclusions that it was "... felt that the current systems ... are based on an unbalanced effort to reward ratio", and that this "impact on research wellbeing", I readily accept that some researchers feel that way, but I am not prepared to accept that the study has shown these attitudes to represent a majority of academics in the target population (or any other distribution). I would encourage the authors to consider revising the discussion slightly, if they agree with my assessment.

Response. Thank you for this comment. In our revision of the manuscript we did not set out to suggest that all of the views reported represent the majority of academics, and had tried hard to ensure that we reflected that our findings were based on our respondents and that not all respondents had the same views. Whilst, we feel that overall the discussion is quite balanced, we agree that the sentences referred to in the conclusion can be amended to reflect the accuracy of the results. As such, we have made revisions throughout the discussion to reinforce that these views are from some researchers, and we have revised the concluding statement and abstract accordingly.

Comment 2. I would also suggest that the Design section (or elsewhere, as the authors see fit) be slightly extended to clarify that they survey methodology is being used for slightly other purposes than the traditional purpose of estimating population averages by analysis of a representative sample.

Response. We designed the survey sampling strategy to target a range of researchers at different stages of academic career. We did not use any other characteristics to stratify sampling, as this data was not available to us. We have added relevant information to the distribution of the survey section. We have also added additional details about our sample, and the representativeness of it, to the limitations sections of the discussion.

Reviewer: 2
Dr. Rachel Hemphill , Patient-Centered Outcomes Research Institute

I appreciate the authors' work to revise their paper presenting results from a cross-sectional online survey about researchers' experiences with applying for funding and reporting on funded studies. These revisions have strengthened the paper, but I have a few additional follow-up questions and suggestions. I appreciate the additional detail about the qualitative analysis. Please expand a bit more on the following points:
Comment 1a. How were the final codes applied/confirmed? Did the two analysts go back and recode the data after discussing and reviewing their preliminary codes and agreeing on a final codebook? The authors mention an iterative process to refine, but it’s not quite clear how they developed and applied the final set of codes.

Response. Final themes were agreed by two authors through an iterative process whereby the themes and underlying codes would be discussed, reviewed and re-coded until both authors were satisfied with the theme. We have tried to make this more clear in our description in the Data analysis section.

Comment 1b. The addition of supplemental appendix 5 is very helpful, but it raised a question for me. How did the authors determine what should be highlighted as a key finding? Was there any sort of rough threshold? Were these all themes that were mentioned by multiple respondents?

Response. Key findings were identified as the main concepts to come out of each theme. Two authors went through each theme description and identified the key concepts that were being raised on a paragraph-by-paragraph basis. These concepts were then agreed by the two authors and checked so that each concept was only captured once for each theme. These key findings were then checked against the theme descriptions to ensure that they were a true reflection of the themes. This set of key findings was then reviewed by all authors, and all agreed that the main concepts were captured. All concepts reported in the themes were mentioned by multiple respondents.

Comment 2. I believe the authors need to more strongly and thoughtfully articulate some of the study limitations and areas for future research concerning important subpopulations of researchers. The paper states that “Future studies may consider targeting early career researchers or those with diverse backgrounds to further explore their experiences with these processes.” This is a pretty vague suggestion that lumps together various subpopulations, and it deserves to be untangled and better articulated. There are already mentions in the paper about possible differences in experiences between early career researchers vs. more experienced researchers, so the authors could easily tighten that up and discuss it as a single point, rather than lumping it with “those with diverse backgrounds.” The point regarding the diversity (or lack thereof) of the sample and the suggestion to focus on a more diverse sample in future needs more elaboration. What do the authors mean by diverse? There are many aspects of diversity. Do they mean racial/ethnic diversity? Nationality? These aspects of diversity are hinted at by the description of the sample as primarily white British but not directly articulated. I would like to see the authors give this more thoughtful attention and articulate why it’s important to consider the experiences of underrepresented researchers or those with certain characteristics that could affect experiences with applying for and receiving funding.

Response. Thank you for this comment. We agree that these are important points and needed further detailed discussion. Word count and previous revisions on this section meant that we grouped these different researcher groups together in an attempt to be concise but we agree that by doing this we have lost some of the importance of the message. We have now revised this section to focus more on career stage and have added more detail to our comments on diversity.
Comment 3. Also related to the sample, the authors have concluded that because their study’s sample is similar to a couple of prior studies about researchers in the UK, their sample is likely representative of the research workforce in the UK. I don’t think that’s a fair conclusion to draw, unless there is evidence that the prior studies they’re citing and comparing to were able to recruit representative samples, which is not clear in the current draft. Ideally, the authors should compare their study sample directly to data about the research workforce in the UK. If that’s not available, and if it’s not clear that the prior studies they cite had representative samples, the authors need to be more conservative with the conclusion they draw here.

Response. Thank you for this comment. We were trying to convey that we didn’t think that our sampling strategy had biased the sample as others have used different methods and recruited similar samples. However, we appreciate that this is not how this read. We have now revised this section.

Comment 4. The authors revised the title for Figure 1, but there is now some contradictory/confusing information about the figure. The manuscript text says it’s showing the % of respondents who considered each process as key to complete, but the figure title says it’s the % of respondents who completed each process. Please clarify which it is.

Response. Apologies for this inconsistency, we have now updated the figure title.

Comment 5. Thank you for the additional information regarding the project advisory group. Please more clearly specify the number of advisory group members representing each group. The current draft indicates there were six members representing various NIHR centres/services and two members of the public but does not specify the number of researchers/applicants.

Response. Thank you for pointing this out. This section was worded slightly incorrectly and should have read that of the 8 advisory group members, 5 also had experience of being researchers/applicants. We have now updated this section to clearly specify this.

Reviewer: 3

Dr. Iwona Chrzanowska, Adam Mickiewicz University

The changes introduced by the authors adequately address my comments. This manuscript serves as a valuable introduction to further research on the issue, which should also consider, to a greater extent, aspects such as cultural and demographic diversity, as well as the survey participants’ scientific experience. The expanded section on methodology and limitations related to the conducted study will enable better execution of similar projects in this field in the future. I have no further comments.

Response. We thank reviewer 3 for their previous comments.