

NERC Demand Management Review 2015-17

NERC introduced demand management for standard grants in 2015 and agreed to review the impacts of these practices after two years. The review found that success rates for discovery science standard grants have risen from 10-13% to 20%, because of a large decrease in the number of low-quality submissions. There is no evidence for a fall in the number of awards to new investigators or for a reduction in multi-institute awards. NERC will continue to monitor the impacts of demand management on new investigators.

NERC introduced a demand management policy in 2015, after engagement with the research community, to address the problem of very low success rates for those submitting proposals to NERC discovery science standard grant rounds. The success rate had dropped to 10-13%, which represents unacceptable inefficiencies for both research institutions and NERC in dealing with a large proportion of unsuccessful grant submissions.

The aim of the demand management measures was to increase the success rate of grant submissions to 20% by reducing the number of uncompetitive proposals. These measures comprised of two actions:

- The introduction of a new institutional-level cap on the number of submissions that each institution can submit for each grant round. This cap is based on historic application and award data for each institution and limits the number of proposals an individual institution can make where their success rate is <20%.
- A reduction in the standard grant limit from £1.2M to £800k (at 100% Full Economic Cost - FEC) to allow funding of more grants.

The review of demand management was in two parts: a quantitative review of the impact of the measures on the number of applications, success rates, and quality of applications; and a targeted survey of 20 institutions asking how they were responding to the demand management measures and the resulting impacts and benefits (Annex A). In addition NERC's Science and Innovation Director held open question and answer sessions at 14 institutions.

Feedback given as part of the survey (see Annex A) showed that whilst responding to the measures has increased the workload of research institutions, the overall quality of proposals was thought to be improving. Concerns were raised about whether demand management was having a more negative impact on smaller institutions, on more adventurous, high risk research and on early career researchers.

The review found that the introduction of NERC's demand management measures had improved success rates from 10-13% before measures were introduced to 20% in the most recent round, because of a reduction in the number of poor quality proposals submitted. Figure 1 shows the reduction in uncompetitive proposals (scoring 6 or less) from the peak in July 2014 (183 proposals) to July 2016 (65 proposals). There was no consistent difference in success rates between male and female submitters.

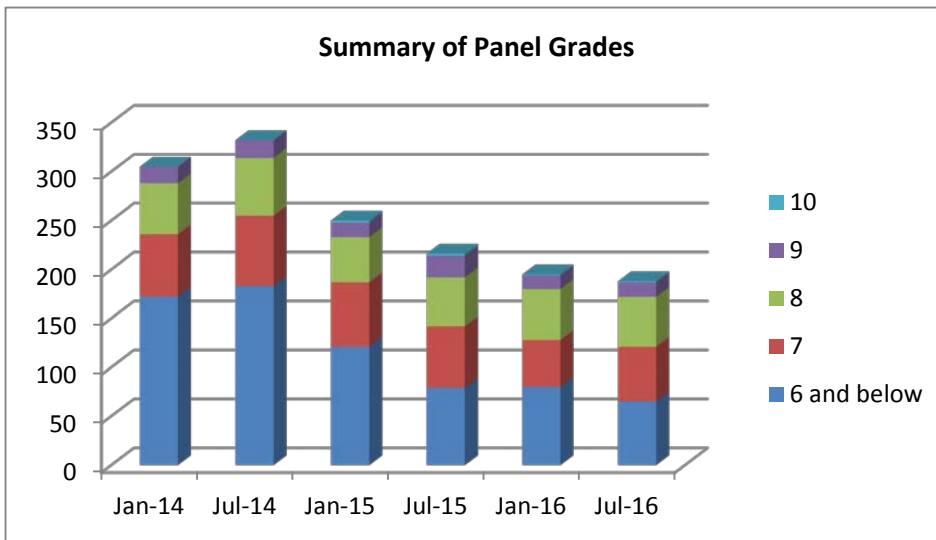


Figure 1 shows the scores received by proposals submitted to the standard grants rounds before and after demand management was introduced in July 2015.

The average proposal cost is still around £625k and has not changed following the reduction in the grant limit from £1.2M to £800k. The decrease in the funding limit does not appear to have reduced the proportion of collaborative proposals being submitted involving applicants from multiple institutions (see Figure 2). Co-applicants from different institutions are more likely to be entered on the lead applicants JeS form. Less than 10% of proposals were submitted on multiple JeS forms in the July 2016 round. There was no evidence of a change to the riskiness of proposed research.

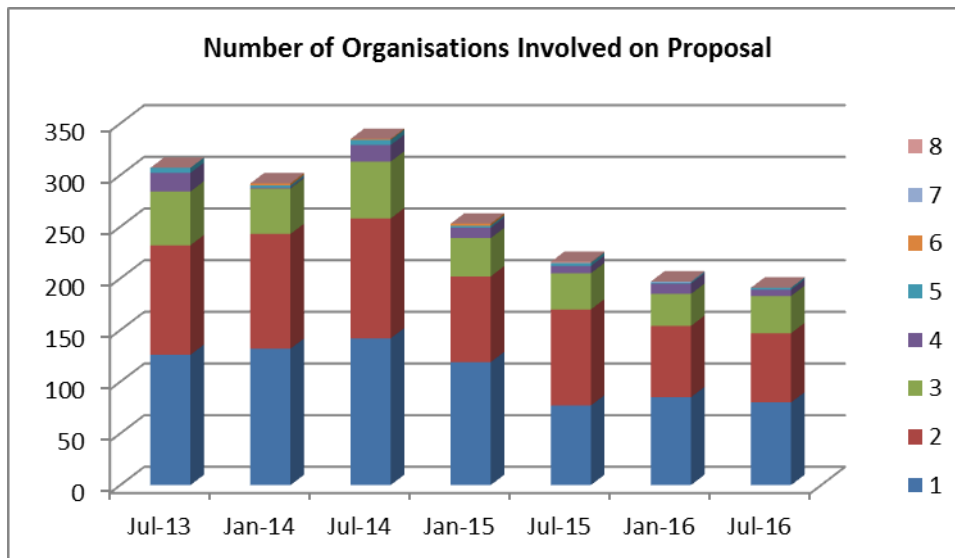


Figure 2 shows the number of different institutions involved in proposals before and after demand management.

NERC is receiving many fewer proposals from new investigators. Whilst the total number of proposals submitted to the standard grant round has decreased by 43% since the peak in July 2014, the proportion of new investigator proposals has dropped from 24% to 14%. However, the number of new investigator awards has been maintained at a similar level to that before the introduction of demand management.

Standard Grant Round	Proposals Submitted				Grants awarded			Success Rate		
	Non-NI	NI	Total	% of NI applications	Non-NI	NI	Total	Non-NI	NI	Total
Jul-13	248	62	310	20%	35	5	40	14%	8%	13%
Jan-14	237	68	305	22%	27	8	35	11%	12%	11%
Jul-14	253	80	333	24%	29	5	34	11%	6%	10%
<i>demand management announced</i>										
Jan-15	204	46	250	18%	25	5	30	12%	11%	12%
<i>demand management introduced</i>										
Jul-15	173	44	217	20%	25	6	31	15%	14%	14%
Jan-16	156	39	195	20%	30	7	37	19%	18%	19%
Jul-16	165	26	191	14%	32	6	38	19%	23%	20%
Jan-17	153	25	178	14%						

Table I shows the numbers of proposals submitted, awarded and the subsequent success rates over the period before and after the measures were introduced. The table shows the split between those who are eligible as new investigators (NI) and those who are not (non-NI).

NERC Science Board and Council have both considered the demand management review. Council agreed that the current NERC demand management approach should continue, and that the same depth of reporting and review should remain in place to monitor the number of applications and success rates of new investigators and to ensure that any adverse unintended consequences that may emerge will be detected and responded to.

Demand Management Survey Report

A range of institutions were consulted on how they were responding to the NERC demand management measures and the resulting impacts and benefits. Twenty institutions were consulted, to include a range of institutions in terms of size of NERC funding; extent of cap; region; university/NERC research centre.

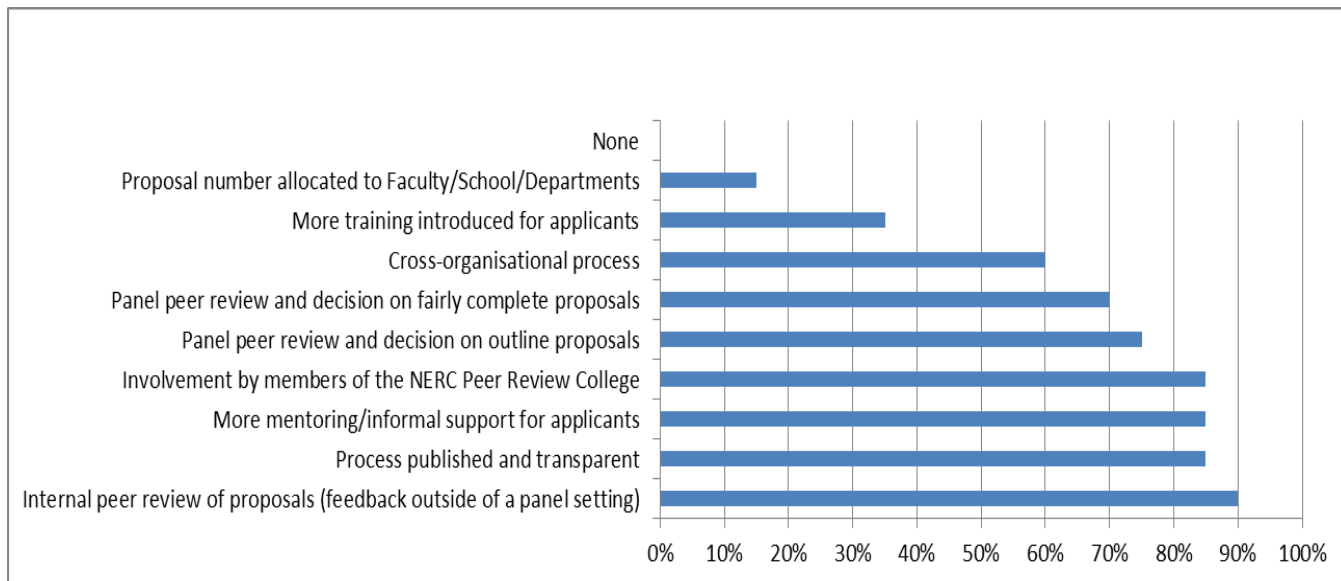
In addition the Science and Innovation Director, Professor Tim Wheeler, visited 14 institutions to discuss a range of issues in open sessions with staff and students, including demand Management.

Research Institutions that responded to the targeted consultation
University College London
University of Bristol
University of Sussex
University of East Anglia
Manchester University
University of Oxford
Imperial College London
University of Reading
Aberystwyth University
Cardiff University
NERC British Antarctic Survey
University of Edinburgh
NERC Centre for Ecology and Hydrology
The Open University
Lancaster University
University of Stirling
Scottish Association for Marine Science
Queens University Belfast
Heriot-Watt University
Northumbria University

Research institutions where open sessions were held by the NERC Science and Innovation Director
Bangor University
University of Bristol
University of Cambridge
University of East Anglia
University of Edinburgh
University of Exeter
Imperial College London
University of Leeds
University of Manchester
University of Oxford
Plymouth University
University of Reading
University of Southampton
University College London

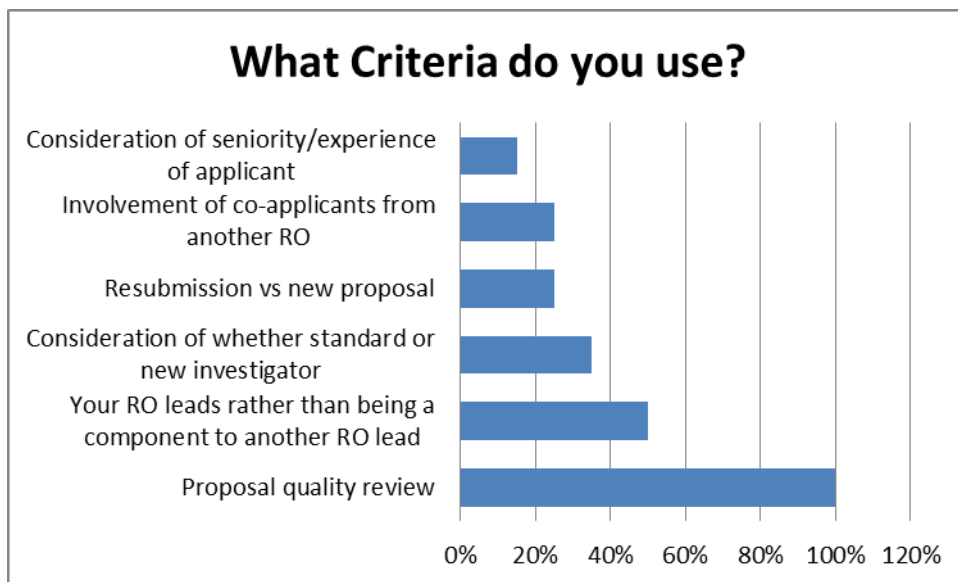
Question 1 was the name of the institution and submitter.

Question 2: What processes have you introduced to manage demand?



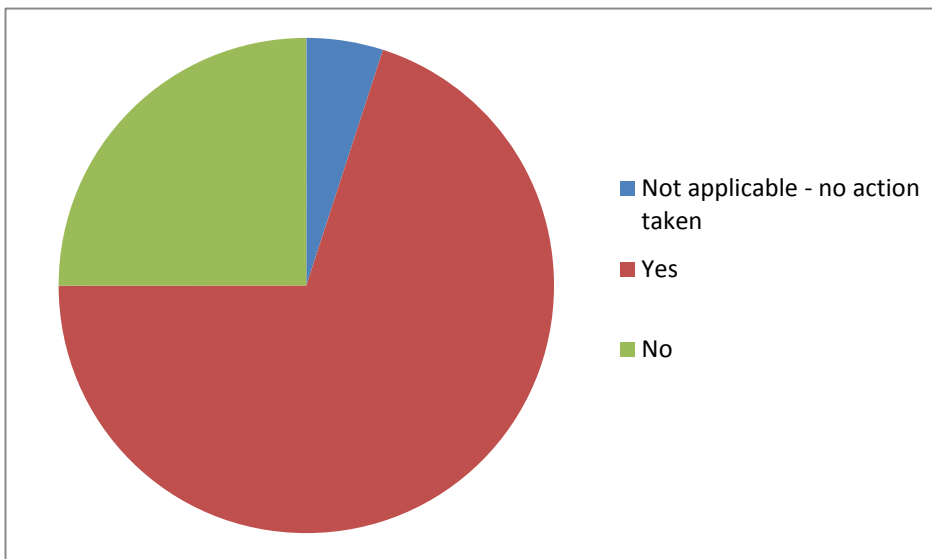
All institutions had introduced processes to improve proposal quality, although some had introduced these prior to 2015. In most institutions, the process was implemented across the whole institution, with only three institutions (15%) allocating proposal numbers internally to departments and faculties to manage. Many institutions had developed a two stage process involving review at an outline and then full proposal stage with feedback at both stages. Some involve reviewers from outside of their institution.

Question 3: What criteria do you use in deciding which proposals are submitted?



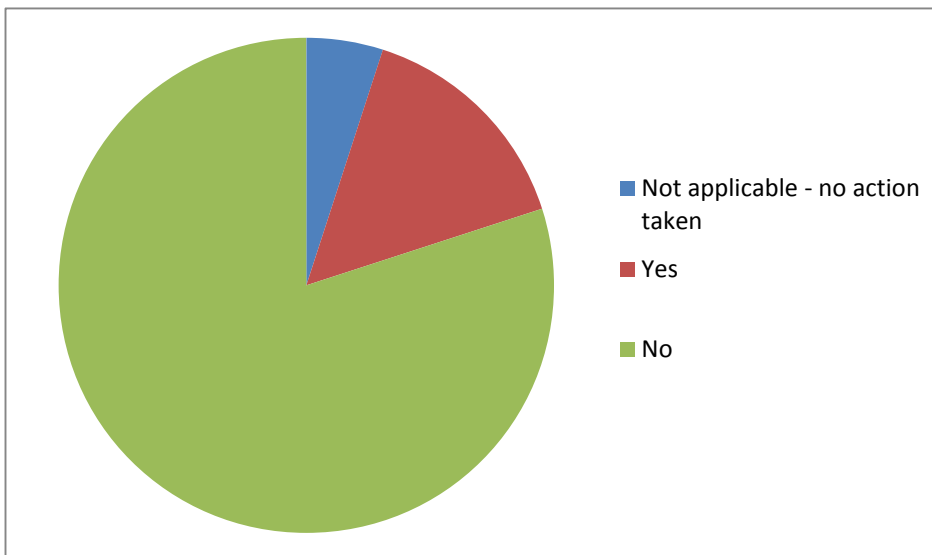
All institutions used proposal quality as the main criterion. A number of institutions used the NERC standard panel guidance and criteria and proposals were only allowed to be submitted if the internal review process considered the proposal would score at least 8 for Research Excellence. In some cases other factors were considered. Where there were a number of proposals that met the quality standard, other considerations, such as urgency and/or career progression might inform which were submitted.

Question 4: As a result of your actions, has there been an increase in the quality of proposals being submitted?



The choice of “not applicable” was selected where an institution had already brought in internal review processes. Although there were comments that it is too early to have definitive evidence and the sample size is too small to reach statistical significance, the majority of respondents (70%) thought that there had been an increase in the quality of proposals. Other comments included, that the days of the “why not have a go” attitude have gone.

Question 5: As a result of your actions have you seen an increase in success rates for NERC Standard grants and/or other calls?



Although the majority did think the proposal quality was improving, only 3 institutions (15%) reported a potential increase in success rates at this point. For most it was too early to see real effects with the outcome of only two rounds being known when the survey was issued (especially for those institutions with a cap of one). Comments were received around the increase in quality overall and the need to achieve a high 8 to be successful. Also the relatively “random” nature of ranking (so a high 8 on one panel may get a low 8 on another)

Question 6: Have there been other positive impacts resulting from the demand management implementation?

18 of the 20 institutions considered that there had been positive impacts resulting from the implementation. The main positive impacts were:

- Proposals being prepared earlier so that the research offices have more time and no last minute proposals getting through
- Timeframe has resulted in greater preparation and more internal review
- Proposals better developed and attuned to the criteria
- Researchers, and newer academics in particular, receiving increased support and mentoring
- More individual departments now actively engaged in internal peer review
- Feedback coming from a wider range of researchers so considering linkages/wider issues

Question 7: Have there been negative impacts or unintended consequences resulting from the demand management implementation?

100% of respondents considered there to have been negative impacts. The main points raised (with more common points first) were:

- Concern that talented individuals (including early career researchers - ECRs) were being put off applying for DS grants because of a range of issues (extra hurdle with internal peer review, low success rates, long timescale required). So the greater effort versus the potential reward was putting people off.
- Specific comments in relation to the effects on ECRs and New Investigators, especially where the institution had a very small cap. Difficulties for individuals in passing probation where they required grant funding and less opportunities for individuals to get experience of proposal writing.
- The added workload for both academics (resulting in less time to write their own proposals) and research offices.
- A decrease in high risk/high reward proposals in favour of less adventurous, “safer”, proposals that are more likely to get through potentially multiple review processes (at more than one institution if joint). There was also a concern raised about applied proposals being less likely to be selected for submission so a bigger gap between DS and innovation projects.
- Concerns around being able to attract new appointments, where the institution was capped
- Concerns over potential bias in the internal process and the outcome not representing the actual research strength in schools.

Question 8: have you changed your approach to joint grants since the DM implementation?

The majority of respondents (12 institutions, 60%) had changed their approach to joint grants. The data shows a clear reduction from the July 2015 closing date in the number of components submitted through the standard grant round. Feedback from the survey supported this data, with most institutions requiring individuals to be a co-investigator on another institutions form, rather than submit a form directly. Where multiply JeS components were used, the project often had to pass internal review by multiple institutions. Also for joint proposals, where only a potentially minor percentage of the funding was going to that institution, the risks of a separate form were considered to outweigh the benefits. There were concerns that as a result of this change, individuals were relinquishing leadership to external partners.

Question 9: Do you think any other demand management measures would work more effectively and be fairer?

Most institutions (84%) responded that they considered that alternative approaches would be fairer. Suggestions included:

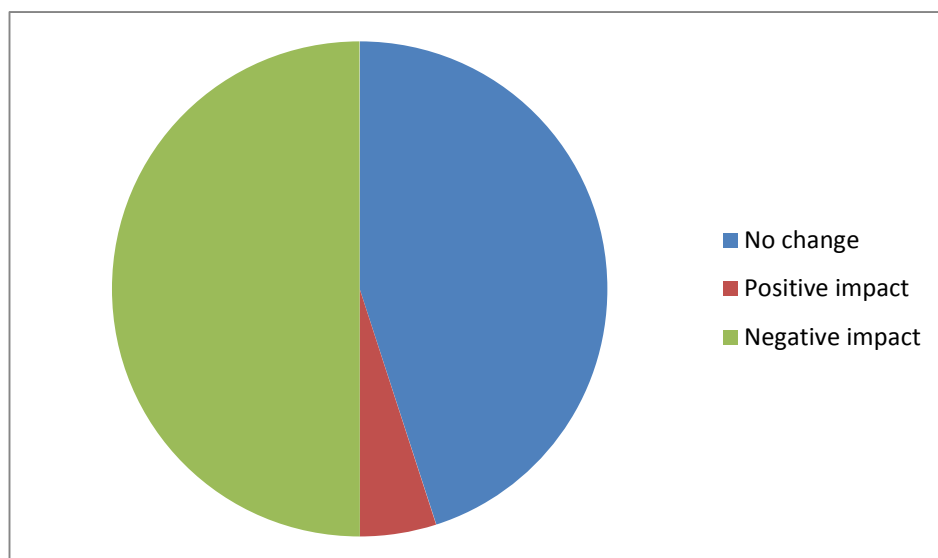
- Individual level sanctions
- Consider final Research Excellence score and not just funded/unfunded
- One round per year

- Use of outlines
- Removing closing dates
- Restrict to one proposal as PI/Col per round/year
- Introduce a cap or proposal limit for all institutions.
- Cap based on the absolute number of unsuccessful proposals
- Carrying unused “tickets” to the next round, so if an institution had a cap of 2, they could submit one to the first round and 3 to the next.
- Reinstate small grants scheme/greater look at value for money on grants so fund more cheaper grants

Other points that came up in the survey included:

- Exclude ECRs/NIs from the cap
- Reinstate a dedicated NI round
- Take into account success rates in other schemes (e.g. strategic programmes)
- Have a single outcome for joint proposals (not different depending on if on same/different JeS form)
- Randomness of success (around cut-off in those scoring 8) has greater effect on institutions with a small cap.
- Concern that those institutions with cap of one will never get out of it and will result in a knock on effect with less likelihood of success through Strategic calls.

Question 10: The Standard grant limit was also reduced from £1.2M to £800k as part of the implementation. Has this had any positive or negative impacts?



50% of respondents said positive impact or no change. Comments included:

- Supported the possibility of awarding more grants
- There was a perceived improvement in chances of funding for those who apply for lower amounts.
- It discourages the trend of predominantly large multi-institution bids and a good idea supported by a single researcher is viable.

50% of respondents considered it to have negative impact and comments included:

- Significant large collaborative grants can be hard to contain in the cap
- It reduces the potential equipment/infrastructure budget
- It can exert pressure on investigator time, which may be reduced to fit the budget
- It can lead to restrained ambition in projects, particularly where there are significant consumable expenditure (e.g. genomics) or significant fieldwork components
- Less interdisciplinary work is likely to be funded
- It has created a gap between standard (£800k) and large grant (£1.2M) limits.