

Environmental Biotechnology Network (EBNet)

Reflections on the move to a double-blind Proof-of-Concept Call - EBNet

Report prepared by Dr Louise Byfield, EBNet Network Co-Manager

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Reflections on the move to a double-blind Proof of Concept Call

It is of paramount importance to EBNNet that we select the highest quality research for funding, primarily through our open-call Proof of Concept awards. But it is widely acknowledged that, particularly within small specialist fields, any procedure which relies upon peer review may encounter conflicts of interest within the relatively small pools of available experts. Since such conflict cannot be avoided without compromising the ability to seek meaningful input on cutting edge research topics, ways must be found to manage the issue.

Standard procedures exist to sift, review, and assess multiple proposals in open calls. Confidential reviews allow experts to give honest feedback. Obtaining multiple reviews allows for differing viewpoints and areas of expertise; while assessment by panel ensures a diverse set of opinions and oversight at the decision-making stage. Self-declaration of conflict of interest is requested, expected and generally common to encounter in practice. As a system, this works well. But given the high ratios of bids to awards, any undetected bias can be predicted to impact success – particularly in the liminal 'grey' area of marginal decisions. Where applicants provide identifying information about themselves or their institution in their bids, there is always at least the potential for bias to creep in.

Recent criticisms within academia and a strong focus on EDI initiatives have highlighted anxieties about inequalities in the workplace. Our diverse research community needs to be assured that we take inclusion seriously and will act to safeguard the quality of funded research by eliminating, wherever possible, opportunities for bias in our processes. In this way, in areas under our aegis, we can support the basic principles of fairness. Accordingly in 2022, at the direction of the Executive Group, EBNNet undertook a review of our existing practices and came up with recommendations to move to a 'double-blind' system for our funding calls.

The double-blind system

The purpose of a double-blind system is to remove 'identifiers' from the review/decision-making process, leaving the scientific proposal to stand or fall on its merits. Identifiers can be gender or status specific (he/she/Dr/Prof), or provide other identifying information based on location. Even simply knowing that a bid comes from a certain University can be enough of a clue in a small field to identify the research group or the applicant personally.

EBNNet tackled this issue by amending its application, sift, review and assessment panel processes. Since this was a novel intervention, we anticipated a higher-than-normal number of enquiries. Hence, as applicants encountered issues or queried us on details, we incrementally improved the guidance on our regularly updated website. For example, it early became clear that we had missed a potential identifier when requesting Finance department contact details (the email address would reveal location). This minor issue was rapidly addressed. Tapping into our community feedback in this way also allowed us to resolve any ambiguities or misunderstandings publicly and to the benefit of everyone.

Application

Previous EBNNet calls used a single form to gather information, supplemented with a Letter of Support

if necessary. This failed to separate out identifiers from the core research proposal. The form was therefore split into two parts: Part A with all identifiers and processing information; Part B with all project and finance information. The Call Guidance was updated to reflect the change.

It was specified that the Network Managers (NMs) would, at their discretion, correct or remove any identifiers which were found within bids after the call closing date. It was also stated that we would welcome early enquiries from potential applicants and would be available to field questions on the remit and process in advance of the call deadline.

In practice, most bids contained a wide variety of small errors which were caught by thorough reading and spellcheck. Where the issue was readily correctable, NMs made small changes without consultation, e.g., “*she* did x” to “x was done”, or a simple footer change. One challenge was self-referencing either in the text - “my paper demonstrated x”, or in the reference list - multiple papers by x. Likewise, text references to unique facilities available on site had the potential to reveal location. If submitted in advance, these were pointed out to the applicant for self-correction. If not, where absolutely necessary, such errors were simply redacted.

NM-corrected copies were prepared for all Part Bs and were used throughout the remaining process.

Sift

The sift stage is where bids are eliminated without further review, if considered out of remit or in breach of the guidance. NMs initially identify potentially problematic bids and forwarded these to the EBNet Executive Group (EG) to decide, by majority vote, whether the concern was serious enough to warrant removal at this stage. Grounds for removal might be out of remit (e.g. a bid focussed on macrophytes rather than microbial systems) or a mistaken application (e.g. stating a very high Technology Readiness Level (TRL) or asking for more than the maximum funding level).

At this stage the NMs, by necessity, have access to all information. The EG, however, only accessed 'blinded' copies.

Where a member of the EG was known to be conflicted (through submitting their own bid, via a connection noted on the proposal form, or with a bid e.g. from their own research group), it was still necessary to maintain confidentiality. NMs emailed, in advance, any member with a conflict to request they withdraw from the relevant portion of the Sift discussion/vote.

Review

In the review stage, 3 reviews are sought from relevant experts for each bid. Only 'blinded' copies were sent out. A restrictive practice from prior calls was to avoid seeking reviews from any University with a bid in the call, regardless of Faculty or department. This eliminated many centres of expertise – particularly in hot-topic areas with numerous bids – which risked negatively impacting the overall quality of information available to the panel. The move to a blinded system widened our pool of potential reviewers, as experts within unassociated Faculties and departments could be sought from a University that had an unrelated bid in the call.

Assessment Panel

The Assessment Panel worked with blinded copies. The first stage of the assessment examined and ranked the bids/reviews. This ranking was then revisited with a view to forming a funding list.

Once again, any conflicted members were requested to withdraw from that specific portion of the panel assessment.

Unblinding occurred towards the end of the panel meeting after the elimination stage when the final, shortened list of bids in contention for funding was revealed.

Negatives associated with the double-blind change

There was a slightly lower number of applications to the current call (20 rather than 25 and 33 in previous calls) but given the timing (Covid-19 era) this cannot be attributed to the new system. The overall amount of funding requested was of a similar level to prior calls.

There is an increased workload for NMs before and after the call deadline, as bids need to be checked for blinding. This workload, whilst tedious, was perfectly manageable. In an unblinded call, all bids are already scrutinised as part of the sift process, and this change merely increases the number of parameters to check.

Proposals are limited to a maximum of 5 references, so listing of multiple self-authored papers provides a strong indication of identity. Redacting these after the fact is one option but may also disadvantage a bid whose case is built closely around them. This issue could be partially mitigated by stating a maximum number of self-referring papers, say 2/5, in future calls.

Blinding has the potential to remove pertinent information. Where a technically complex piece of work is proposed, it is useful to reviewers and panel alike to know that the team involved has the skills and experience adequately to execute the work programme. This issue was raised during discussion of the process but is countered by the fact of unblinding at the end of the assessment panel. In practice, should a blinded bid reach that point, it would still be possible to raise objections at the decision-making stage.

Management of Sift and Assessment Panel conflicts of interest became more complex. Normally, where a conflict exists, the individual concerned withdraws from that part of the discussion. In this system, the fact that a person cannot contribute is itself a potential identifier: for example, if one panel member seeks information and others known to have expertise in the area are unable to assist, it becomes impossible to avoid the inference of involvement. Whilst not a particular issue during the sift process, this has the potential to impact discussion at the assessment stage.

In practice, our procedure requires a certain quorum to hold the assessment panel, including significant representation from industry. Having multiple individuals from a variety of backgrounds helps to maintain panel objectivity even when a particular member is unable to contribute. Smaller numbers or less wide-ranging representation could make this more problematic. For example, if one individual has taken the role of advocate for a particular topic, and then must recuse from one or more bids in this area, this deprives the panel of useful information that could affect the result. One option would be, once the list of bids is available and NMs are aware of possible gaps due to conflict, to invite additional unconflicted people with relevant expertise to join or at least advise the panel.

Management of conflict was seen the least tractable issue raised by the double-blind system. Our recommendations based on this initial experience were: convene a large, diverse panel; where feasible, ensure the absence of conflicted individuals; where conflict exists, be open in acknowledging it and. A panel is a place of open informed discussion between peers, so we do ultimately rely upon academic integrity within group settings.

Positives associated with the double-blind change

Identifier removal aims to make the research the sole focus of attention at each stage of the process. It decouples consideration of the proposal from consideration of the applicants. With applicant

information only becoming available at the final point of the assessment panel, its relevance is subject to scrutiny by an overt group effort. Preconceived personal biases are less likely to infiltrate the process and consideration of whether the applicants can complete the project is the only parameter under consideration.

The move to double-blind is intended to reassure applicants that funding decisions are fair: but an important secondary benefit of highlighting the issue to those people involved in the assessment process is that this awareness, by itself, promotes conscious avoidance of bias.

Introduction of the process also made us more aware of issues that also arise with unblinded calls, such as the inevitable limitations of any formal definition of conflict, or the risk of disproportionate impact on certain bids or topic areas when key individuals must withdraw. The experience made us interested in investigating other approaches based on different ways of achieving transparency and fairness. Nonetheless, some procedure is essential to avoid any concerns of undue influence.

Overall conclusions

No statistical analysis of the impact on outcomes is possible from such a small sample size. The following conclusions should therefore be considered as anecdotal.

In practical terms, the double-blind system was slightly more complex to administer, with a higher workload at submission which is offset by an easier burden at review stage.

Applicants were not approached for feedback on the change to the application process; but in informal communications no issues were raised about the change. Likewise, no impact on the willingness or responses of reviewers was reported, although instances of bids being rejected for potential conflict – always low – became a non-issue.

In initial discussions, the EG noted that it may still be possible to identify applicants simply from their proposed research areas. Nevertheless, at the award stage, the attribution of several bids came as a surprise to panel members, indicating that the blinding process was effective although it evidently did not prevent people making assumptions. While it may be impossible to eliminate this completely, the double-blind process made assessors more aware that they should be striving against any inadvertent bias, making the process worthwhile for future calls.

Managing conflict of interest at panel remains a challenge, as it is at this point that some indication of potential identifiers becomes apparent. It is impossible to run a double-blind system while simultaneously consulting with panel members on whether they are conflicted with a list of applicants. Issues can be minimised by NMs communicating with individuals privately to ensure any overt conflicts are managed appropriately. Where the existence of a conflict becomes known during discussion, the capacity for bias was felt to be relatively small. Firstly, the precise nature of the conflict is not known to other panel members. Secondly, the fact that is late stage means it cannot retrospectively affect the prior review stage. This issue can best be managed by ensuring a sufficiently large and diverse panel.

Looking forward, the EBNet Executive Group is happy with the change to a double-blind system and will continue with it in future calls.