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How to submit a successful funding application

Doing science

"You never get a second chance to make a first impression…"

Harlan Hogan

Historically, there has always been a magic wind selectively pushing funding application packs to land on young fellows' desks. Following the first wave of enthusiasm, this has almost always come with a complimentary package of anxiety and sleepless nights about how to fill in the application and trying to find out what needs to be done.

Here, we try to offer some recommendations on how to deal with funding applications and increase the chances of them being successful.

Before submitting your application

Identify the funding opportunity

To identify the right funding bodies or calls for application you first need to be aware that they exist! A practical way to get this information is to subscribe to email updates from several funding bodies or the relevant department of your institution that disseminates these updates. This will make you aware of when calls for applications are due to start. This will increase the size of your inbox; however, it will provide you with valuable information that will help you plan ahead. Once you've identified a call for application or a funding body, read the guidance notes very carefully and make sure the call applies to you or your research interest. If you are in doubt, contact the project officer or funding body for clarification. It could be worth contacting them with a brief summary of your project/idea and asking whether this suits the purpose of the call, as this gives you an *a priori* confirmation as to whether or not your project is relevant.

Discuss with your boss and colleagues

After you've found an opportunity that you think is applicable to your research and you've got a good idea of what is expected of the application, discuss it with your line manager or colleagues with whom you would like to submit the application. Do you think it is feasible to submit the application in the allocated time? Why do you really think this is the right funding opportunity for you? Your supervisor and other colleagues can help you in answering these questions, and as you get more senior you will be better able to answer these questions independently.

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Discuss with your research and development office

Contact your institution's research and development (R&D) office. They provide valuable support to funding applications and they can guide you throughout the process. Some institutions will even have allocated people who will go through your application before submission and will provide valuable feedback. They will be able to help you in obtaining ethical approval for your study and estimating the costs of the project. Some institutions have access to clinical trial units, and in this case should you decide to carry out your trial under them, you would benefit from a lot of support and expertise.

Networking

Speak with more senior colleagues in your group and at conferences. Most senior researchers will have invaluable experience in submitting funding applications, will know of smaller funding bodies or will be able to direct you to poorly advertised calls. Senior researchers will also be able to help you in submitting the application and can give you tips and pointers, which are not advertised or widely known. Speaking to senior researchers about your research, even when you are not in the process of submitting an application, might result in joint projects or they might invite you to participate in a project they have already planned.

Develop relationships with key people when possible. Communicate with them about your work periodically, even when you are not in the process of submitting an application. This may help you create new collaborations and learn about future funding prospects, as well as increase your chances for a successful proposal. If you feel this is beyond your reach, ask your boss or a relevant person from the R&D office to use their contacts for this.

Multidisciplinarity: the more the merrier

Break your project down into smaller parts and try to identify experts in the field for each bit and approach them to collaborate with you. Funding bodies would like to see a collaboration of people that have specific expertise and "know what they are doing". Some people fear that including more people in the funding application might dilute their idea and result in them losing credit. Our answer is "the more the merrier" as long as you select your collaborators appropriately and you clarify the conditions of the collaboration so that everyone gets appropriate credit for their work. The "solo flyer" approach is not an option if you want to submit a successful funding application. Regardless of how good you may be, you cannot claim expertise for all aspects of the research that is included in your funding application. As stated above it is really important to set up collaborations with experts from each field and bring everyone together to increase the chances of a successful outcome.

Organising your writing approach

Your writing approach should be aim to address the three "P"s: Persuade, Promise, Plan.

Read the funder's guidelines

Once you have decided that a particular call is appropriate for your project then you need to roll-up your sleeves and get going. Study the funder's guidelines carefully and in depth, note their priorities, eligibility requirements, formatting details, deadlines and review criteria. Follow the guidelines explicitly both in content and format. If possible, get hold of previous successful applications to the same funding body and review them, but do not duplicate them.

Writing the abstract

Every proposal should have an abstract. This forms the initial impression of the work and plays a big role in whether the application is funded. This is the first part of your work with which to persuade the reviewers. Some reviewers will rely heavily on the abstract to influence their "bird's eye view" and it is therefore considered one of the most important elements of a grant application. To present an overview of the project, the abstract should summarise the importance of the work, the hypothesis and major aims/objectives of the proposal, the methods to be followed to achieve these objectives and the potential impact of the work. You should aim to write the abstract last even though it generally appears first in the application. Its length will depend on the funder's guidelines. Pay extra attention to the layperson's abstract if one is included in the application as the lay members of the funding committee will base their decision on it. Request feedback from patients and members of public that sit on the patient advisory committee of your institution or from lay friends and if they understand then you know that your lay summary is successful. Sometimes the layperson's summary can be more challenging than the scientific one, as the importance of the project needs to be explained in simple lay language.

Writing the research proposal

This section includes a comprehensive explanation of the proposed research and is addressed to other specialists in your field. It is the heart of the proposal and the main focus of attention for the technical reviewers. It needs to be a balanced

combination of promise and plan. When writing the scientific proposal, it is helpful to have a checklist for the summary, introduction, problem statement, objectives, methods evaluation and budget. In this way, you can be confident you have not omitted anything and that everything has been presented in a systematic way.

Be explicit about the hypothesis the research method rests upon and be as detailed as possible about the schedule of the proposed work. A timeline detailing the projected sequence of major tasks gives the funder assurance that the investigator is capable of careful planning and that the work will be accomplished in an efficient and feasible manner. If you are applying for clinical research it is always useful to include the patient's pathway.

Be specific about the means of evaluating the data, conducting the analysis and determining the conclusions as well as the anticipated impact of your work and the difference it will make to current practice. Statistics can be really challenging and it would be helpful to include a statistician on the team to offer their expertise. Although this is a moment to shine, always remember not to promise what you cannot deliver but to deliver more than you promised.

Demonstrate how patients and members of public have been involved in the development of the funding application as this will add great value to your work and will be appreciated by both the lay and scientific members of the panel .

Try to imagine the questions or objections of a "hostile reviewer" and show that the research plan anticipates them. Throughout the application write clearly, succinctly, follow an outline and support your assertions with references or data. If you have preliminary data available, then this is the time to include them in your funding application. This will add great value to your application as it strengthens your hypothesis and the feasibility of the proposed project. Last, but not least, be clear about the ways your results will be disseminated.

Finance

In most grant applications the budget section stands alone, separate from the rest of the application. Check carefully whether the specific funding call supports certain items (*e.g.* secretarial assistance or travel expenses). Do not request items that are not allowed and provide sufficient details for each requested item to make it difficult for the reviewers to arbitrarily suggest major cuts. Remember that funding bodies are looking for projects that offer the very best value for money. Cost estimates need to be as accurate as possible to cover the expenses proposed in the project. Try not to over- or under-estimate costs. The budget should be developed with your departmental research administrator. This person is key to a successful application as he or she will

oversee the finance section of your application, and for many funding calls, will have to authorise your application prior to its consideration by the funding body. The research administrator may also refer you to others who may assist on issues such as the use of animals, potential conflicts of interest, proprietary material, biological hazards and research ethics. Funding bodies usually prescribe the budget format that should accompany the grant proposal, including the specific cost categories that should be identified. Typically a project's budget is divided into:

- Personnel salaries and wages (this should include academic, technical and administrative support staff as well as external contributors, *e.g.* statisticians)
- Equipment (*e.g.* laboratory/office equipment with a justification for their use)
- Consumables (*e.g.* laboratory supplies, animals, glassware, chemicals and office supplies)
- Travel (*e.g.* conference fees and subsistence)
- Services (*e.g.* publication costs, computer use/data storage, data analysis and service contracts)
- Other (*e.g.* tuition fees, patient/participant reimbursement and indirect costs associated with university operations, if applicable)

Before submission

Proofread and make it shine

Once all the information has been entered onto the application form then it is the time to make it shine. Review your proposal carefully. Check the requirements again and confirm that the proposal meets all of them. Always ensure that, for instance, you are using the required terminology (*e.g.* activities, tasks or milestones). Moreover, confirm that the proposal sections don't exceed the maximum allowed number of characters – modern electronic submission systems are very rigid and don't allow exceptions. Remember to verify the references you have cited and make sure they are properly mentioned in the main text and adequately described in the appropriate section. Proofread the proposal, as nothing looks worse than a proposal full of typos!

Reality check

Two important sections to verify in detail are the budget and the timeline. Does your budget have all the expenses accounted for? Don't forget to apply using the format required by the funder, including overheads, travel expenses and acquisition of material. Does the timeline match up with the planned research protocol and the funder's rules? Are all the activities described, including centres and responsible individuals? This is very important, as an unrealistic or inadequate budget or timeline is a major cause for funding refusals.

If you are submitting figures, flowcharts or visual descriptions of the proposed activities or tasks as appendices to the proposal, always double check their readability. Ensure they are practical and easy to understand, try to use the same visual patterns and colour codes, and ensure they have proper legends. Remember that the figure may be very clear to you, but you need to make sure that the reviewer or the evaluator of the proposal also understands it, and don't forget to mention the figures in the main text of the proposal.

The best way to ensure that the proposal is well understood by the reviewers is to distribute it to other members of the team and also to colleagues who haven't participated in the work or who work in a different department, discipline or field of research. Ask them read and provide feedback on the proposal. Then, ask them questions to see if they fully understood your objectives and research plan. Try to have them explain back to you what you are trying to accomplish – if they can't do it, are you sure the reviewers will? They will not fund a proposal that they cannot comprehend.

Knowledge exchange, dissemination and impact

In the proposal, you typically have a section where you have to describe how you will disseminate the scientific outcomes of the project, in a manner appropriate for the type of grant you are aiming to achieve. Try to be realistic, and check that all the outcomes are accounted for. Consider the number of manuscripts you are planning to produce, as well as conference papers. Are you going to disseminate the results to the general public? If so, don't forget to mention how you plan to accomplish this.

Submitting your proposal

Don't leave submission until the last day. There is a variation of Murphy's Law in play here: the less days remaining to finish the submission, the higher the probability that errors will occur. Plan to submit with time to spare to account for problems with your computer, the internet connection, with corrupt files or with the submission system. All of these issues can really happen (and have happened before), so be sure to plan ahead and allow time for submission.

Table 1 offers a brief overview of basic advice to consider when submitting funding applications.

After submission: now what?

Initially, there is the relief that you have managed to submit on time! Some funding applications have two rounds of submission. During the first round there are submissions from everyone that meets the eligibility criteria; however, only the ones that score highest will be able to make it into the second round of submission. At this particular point in time and while everything is still fresh in your memory, we would recommend that you note any particular points that you feel would benefit from more clarity and link them to potential references and comments. This is easier while things are still fresh, therefore, creating this list may save you from additional trouble when the reviewers' comments come back in a few months.

Proposal accepted or invited for resubmission?

Well done and let the games begin!

An invited resubmission is very encouraging and of course allows time to reflect on the reviewers' comments and address them carefully. Read each one of the comments several times to ensure you understand the reviewers' perspective and go through them all in detail. Start by answering the questions in a very explicit way and base the answers on evidence. The notes that you might have kept after the first submission may be useful at this point if they coincide with the reviewers' comments. Disseminate the comments to the rest of the team and request their feedback. A brief face-to-face meeting, where possible, is useful as

Table 1 *Summary of basic things to do and not do when writing a funding application*

Do	Don't
Read the funder's submission guidance and eligibility criteria carefully	Use unexplained jargon
Use a writing approach that addresses the three "P"s: Plan, Persuade, Promise	"Wrap up" mentality
Work as a multidisciplinary team	"Solo flyer" approach
Involve patients and members of public	Ignore reviewers'/colleagues' feedback
Get other people to read your proposal	
Network effectively	
Leave plenty of time to prepare	

it will shed light to most of the answers and will help you formulate a response. Before resubmitting the response make sure you get final sign-off from the other team members as it is important to include everyone's thoughts and expertise.

Rejection: life is not always bright

If your proposal was rejected you should consider this as an opportunity to reflect on the reviewers' comments, learn from them and use them for the benefit of improving your proposal.

Go through your proposal and try to address the comments one by one and interpret them carefully. On some occasions this may mean that you need to fundamentally restructure your proposal, should this be the case, just be brave and go ahead. It is always helpful to have a team meeting and go through the comments one-by-one to ensure that everyone has a good understanding and can provide their feedback.

Resubmission

Resubmission can be really challenging for a proposal that has already been rejected once. In this case you could resubmit to a different funding body, unless of course the initial funding body has suggested that you resubmit to them after making major structural changes to your first submission. Regardless of whether the first or the second case applies, resubmission needs to be even better thought-out and well-structured than it was the first time round. It is very possible that your submission will be reviewed by more or less the same panel of experts regardless of whether you are submitting to another funding body or not.

Therefore, this is not a case where you could quickly without much effort to see the bigger picture and address all issues "wrap up" your old submission and resubmit it, as the reviewers would spot this straight away and your chances of success will be minimised. By contrast, if you engage all members of the team in the resubmission after digesting and addressing all comments from the previous round, then your chances increase significantly and your new proposal will express your professionalism and integrity in this process.

Even though securing funding through a grant proposal can be a long and difficult process, this should not put you off and you can minimise this by using a systematic approach. As you can see, there are no magic wands in this process but there is a lot of hard work!

We would suggest that you never get down to your last funding application. If you have more than one idea, do not hesitate; write them up and follow the same process to submit them for funding. Given that rejection rates can be high, it would be best to try out a whole set of ideas. In this way, even if you get rejected by one funding body you can still anticipate responses from others!

Conflict of interest

None declared.

Suggested reading

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