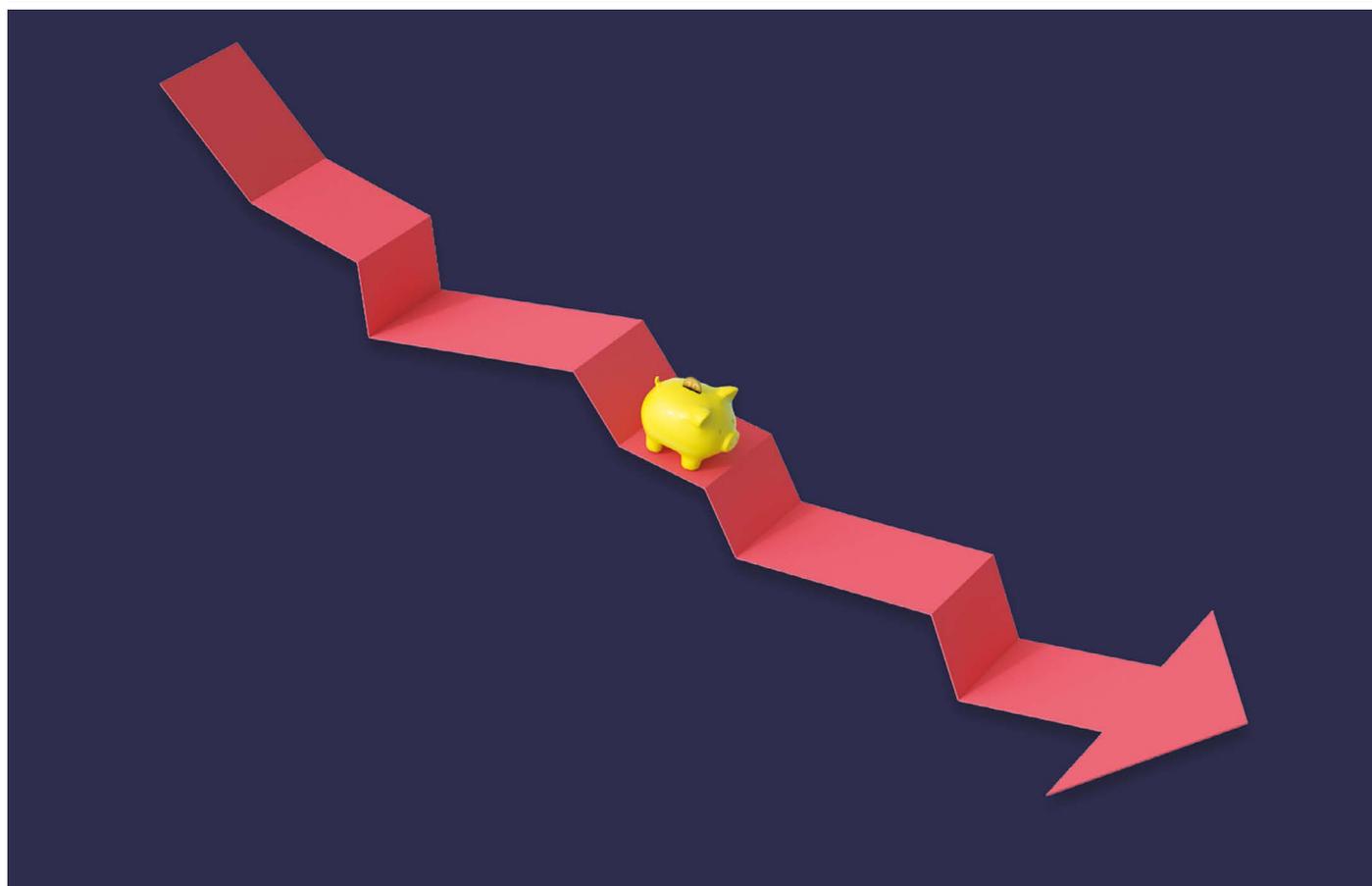




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AFTER THE FALL: WHAT TO DO WHEN YOUR GRANT IS REJECTED

Failed funding applications are inevitable, but perseverance can pay dividends. **By James Mitchell Crow**

The day after she submitted a grant proposal last November, Sarah McNaughton listed all the tactics she could think of to boost her chances of success next time. “I expect to be rejected,” says McNaughton. “It is the exception to get funded, not the rule.” Publishing key papers and forging new collaborations were on her list, as was collecting preliminary data.

McNaughton, a nutrition researcher at Deakin University in Melbourne, Australia, studies dietary patterns to find ways to improve public health. For the next phase of her work, she wants volunteers to use wearable cameras to capture what influences their

food choices in real life, so she can determine how those vary depending on a person’s nutrition knowledge and cooking skills.

After McNaughton had sent off her grant application to Australia’s National Health and Medical Research Council (NHMRC), top of her to-do list was launching a pilot study. “If we can show that people will wear the cameras, and they capture the data we need, that would really strengthen the application,” she says.

A good idea is no guarantee of grant success. At the US National Science Foundation (NSF) in 2017 – the most recent year for which data are available – proposals worth

a total of almost US\$4 billion were rejected simply because they were beyond the organization’s budget, even though reviewers had rated them as very good or excellent. At the US National Institutes of Health, the aggregate success rate for research grants was 20.5% in 2017 (the most recent data available). At the biomedical-research funder Wellcome in London, roughly 50% of applications make it through the preliminary stage. Of those, around 20% were funded in 2017–18. And the NHMRC Investigator Grant category that McNaughton applied for had a success rate of just 7% in the previous round in 2019.

“Given the low success rates of funding

More on rejection recovery

It's painful when your grant application is rejected, but here are some further thoughts on helping you to work productively after you've recovered from your disappointment.

- You're not alone. Average success rates are around 20% among large funders, so grant rejection is common. "Don't lose heart," says Shahid Jameel, chief executive of IndiaAlliance, a biomedical-research funder in New Delhi and Hyderabad. Rejection doesn't mean that your work is flawed.
- Give yourself time. Allow a week or so to recover, says Candace Hassall, head of researcher affairs at the biomedical funder Wellcome in London. "When people are turned down, they are angry and upset. Let that play out," she says. Put the application to one side for a few days before you consider your next steps.
- Share your setback. Discussing the grant rejection with colleagues, mentors and others can provide emotional support in the short term, and give you constructive feedback to help you to reapply for the grant when you are ready. "People whose grants have been rejected might not want to tell anybody, but getting advice and input can really help," says Karen Noble, head of research careers at Cancer Research UK, which funds scientists and health-care professionals working on cancer treatments.
- Look for ways to improve. Tackling the concerns of the reviewers who rejected your grant is important. "But don't assume that just by addressing the issues outlined, you will necessarily be successful next time," says Noble. It is unlikely that the same reviewers will see your application again, so look at it holistically and strengthen it for the next round. This might involve incorporating key new data, learning a crucial technique or forming a fresh collaboration.
- Get feedback. Your revision needs review by a broad, diverse group of people, including colleagues, mentors and members of your network. You should also circulate the revision to scientists who don't specialize in your field.

around the world, the odds are stacked against you in winning that one proposal," says Drew Evans, an energy researcher at the University of South Australia in Adelaide, and former deputy chair of the Australian Early- and Mid-Career Researcher Forum. "Work towards a portfolio of activities," he says. Aiming for different strands of funding to cover various aspects of a researcher's work is a safer bet than seeking one major grant, he adds.

McNaughton applies the same strategy to any research for which she is seeking funding. "I think about how I can split it up and target it to other organizations," she says. It's the first step towards applying to different funders without having to start from scratch each time – and you can work on it while waiting for the outcome of one application. "Rather than writing eight different grants, you are building an area – calling on the same literature and on your same publications," McNaughton says.

Planning for rejection is a crucial part of the granting process, say those who have been through the wringer (see 'More on rejection recovery'). The limited pot of research funds worldwide means that competition is fierce. "We receive many more proposals – many more very good proposals – than we can possibly fund," says Dawn Tilbury, a mechanical engineer at the University of Michigan in Ann Arbor who is head of the NSF Engineering Directorate, which funds basic research in science and engineering.

Rejection hurts

Rejection can be a bruising experience, say veteran grant-writers, and applicants need to give themselves at least a week to get through the initial pain. "Take a deep breath, close your computer, go home. Talk to your partner, or pet your cat," says Tilbury. It's a rollercoaster that Evans has ridden plenty of times. "You go through the various stages of emotions – anger, disappointment, despair, grieving almost," he says. "Having time to digest, to get upset and angry – you need to go through that process, because you need a clear mind to come back to it constructively."

But grant-seekers can develop tricks to handle rejection better, says McNaughton. "Part of the reason I make a to-do list is to pull back my expectations," she says. "Once it might have taken me a week or two to bounce back. Now, it's 24 hours."

During the emotional recalibration process, researchers should share the setback with others, including colleagues and other professional contacts, says Evans. "It is your network that is going to give you the support and encouragement to keep going," he says. Peers and mentors can help to put the rejection into context. They might also know of other funding opportunities that can help to bridge an immediate financial shortfall, or

of potential collaborators who might be able to bring a researcher into a larger funding opportunity.

Ask the funder

After working through the emotional component, applicants should next seek feedback from the granting organization. The level of feedback sent out with rejection letters varies drastically, depending on the organization, the scheme applied for and the stage the application reached before rejection.

For smaller funders, feedback might not be provided as a matter of course. "That takes a bit of effort to put together," says Kristina Elvidge, research manager at the Sanfilippo Children's Foundation in Australia. The charity, based near Sydney, funds up to Aus\$700,000 (around US\$472,000) annually on research into treatments for the rare genetic disorder Sanfilippo syndrome, which causes fatal brain damage.

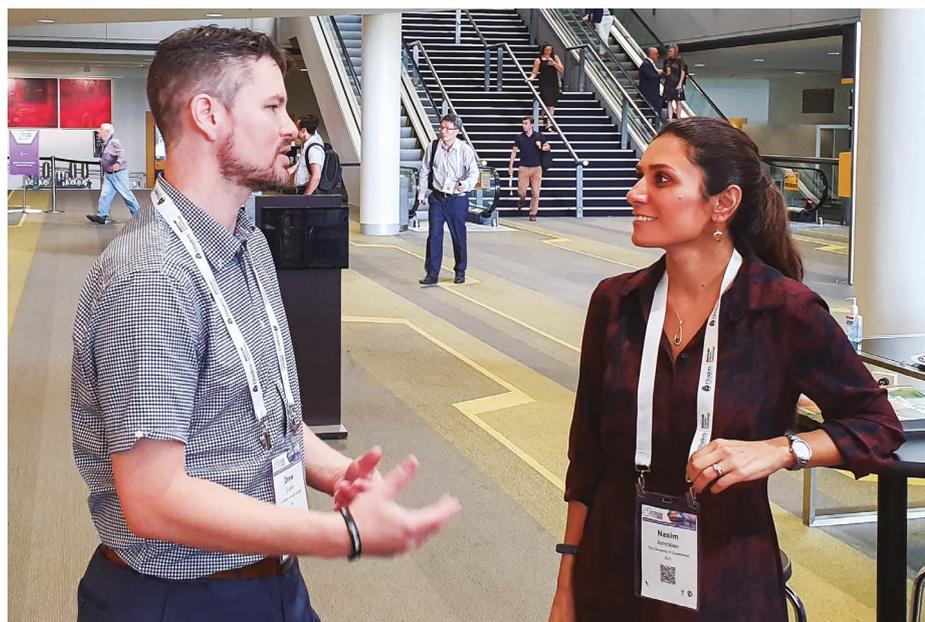
"I always give feedback to rejected applicants if they ask – but they very rarely do," Elvidge says. For researchers whose work might align closely with the mission of a small foundation, seeking feedback can be the first step in starting a dialogue and building a relationship with a potential long-term funder. Megan Donnell, the foundation's executive director and founder, says that the organization welcomes such efforts.

For applicants to a larger organization or agency, such as the NSF, a rejection typically comes with some feedback – but that doesn't mean the researcher can't seek more, Tilbury says. "The programme director might be able to fill in some of the blanks," she says. The feedback can contain many comments, criticisms and suggestions, and often the grant reviewers do not agree with each other. The programme director can help the applicant to peel away superficial concerns and make sure that she or he understands the proposal's underlying weaknesses so as to address them in a potential revision, Tilbury says. "It's one of the things programme directors enjoy doing – mentoring junior faculty members and trying to help them in their grant writing."

Some funders will not have the resources to provide feedback. But researchers should not fear tainting their reputation if they ask, says Candace Hassall, head of researcher affairs at Wellcome. "A funding agency won't think badly of anyone contacting them for advice, even if we can't give it."

Get feedback on the feedback

Once a researcher has gathered constructive criticism, he or she should candidly appraise the strengths and weaknesses of their application. It is important to avoid taking feedback personally, says Shahid Jameel, chief executive of IndiaAlliance, a large research funder in New Delhi and Hyderabad. It supports



Discussing grant rejections with peers can help to put them into context, advises Drew Evans (left), shown talking to early-career researcher Nasim Amiralian.

biomedical and health research in India, and is itself funded by Wellcome and the Indian government's Department of Biotechnology. "You have to get out of this mindset that there is either something wrong with you, or that people are against you," Jameel says. "Reviewers really want you to do well – that is why they are spending their time reviewing your grant and providing feedback."

Reviewer feedback often seems less negative over time, McNaughton says. "I often colour code my reviewers' comments – green for good and red for bad – and then realize that actually, there are a lot of good things in there as well," she says. "These little things can make the process a bit easier." And getting reviewer feedback is certainly preferable to not getting any, she adds. For her most recent rejection, she received only numerical scores on various components of her grant. "Then it is very difficult to know how to improve the application," she says.

Unsuccessful applicants should also seek input from colleagues and others whose opinions they value. "Talk to your peer group and your mentors – they will have been through the process and they can help you interpret the letter," says Karen Noble, head of research careers at Cancer Research UK in London, which funds work on cancer treatments. Researchers can ask colleagues whether they agree with the feedback, whether they think that the reviewers missed an important point because it was not fully explained in the proposal, or whether they consider the proposal's argument to be flawed.

Researchers also need to determine whether they should reapply to the same funding scheme or seek alternatives. If an application fell at the first round of screening – in which

reviewers assess the overall suitability of an applicant and proposal for that particular scheme – an alternative funder could be a better fit. For example, some government-supported agencies, such as the NSF, give grants for only basic research, whereas others, such as the US Department of Energy, are mission-focused and fund more-applied projects. "It is also important to consider funders that are not in one's own nation," says Jameel.

"Industry partnerships are now one of the hot topics around the water cooler."

Grant-writers should keep industrial funders in mind, Evans says. He notes that applicants might be able to reshape a proposal to show its value to a particular business, adding that scientists who engage with businesses can diversify their grant portfolio and boost the resilience of their research income stream. Exploring potential applications of one's work to industry could keep a researcher going until the next round of funding agency grants. "Industry partnerships are now one of the hot topics around the water cooler," he says.

Nailing the details

Rejection also lurks after the preliminary screening stage when a grant application enters peer review. "If there's a particular approach the reviewers don't like, sometimes you may just need to explain it better – but sometimes there's a mismatch," Tilbury says. She adds that many early-career scientists seek to apply a technique or expertise they honed during a postdoc to a new area of research.

If the reviewers weren't sold on the idea, the grant-writer needs to think carefully about the proposal, Tilbury says. "Are the reviewers right? Am I using the wrong hammer to pound this nail?"

If a grant-seeker is certain that their proposal – and their expertise – do fit the grant scheme, they need to make that clear to reviewers. "A common reason for rejection is that the applicant has made assumptions about what the reviewers know about them," Hassall says. "If a technique or method is critical to what you are proposing, you have to include it. Make it easy for people to get the information that they need."

Similarly, if referees rejected a grant because the applicant had no experience in a particular technique, it pays to get it and include that information in the next round. Before reapplying, researchers should seek collaborators who are experts in that area or technique, or spend a week working in the collaborator's lab to gain experience.

It is the applications that just miss out on funding that can be the hardest to revise, Noble says. "Sometimes there wasn't anything inherently wrong with somebody's application. It just didn't make it to the top of the list. Those can be the harder ones to try to repack and put in again."

Yet perseverance is key, says Mariane Krause, a psychologist at the Pontifical Catholic University of Chile, and president of the National Commission for Scientific and Technological Research (CONICYT) in Chile, which funds research in the country. She encourages researchers to refine their applications and continue to apply. "I have many young researchers who get a grant the third time," she says.

Reapplying to the same organization for funding can work if the funder allows it. "The success rate of reapplications is significantly higher than for first-time applications," says Alex Martin Hobdley, head of the unit at the European Research Council (ERC) that coordinates project calls and follow-ups. For example, new applicants to ERC grants have a 9–10% success rate. "For people reapplying, the success rate goes up to 14 to 15%. We have people who got their first grant on their seventh application," he adds (see go.nature.com/2vrfugk).

Some schemes impose a specific hiatus period before accepting reapplications, or have an annual or biannual application deadline. Others, including Cancer Research UK, don't impose specific limits. But programme officers recommend resisting the temptation to rush in a revised application as quickly as possible. "Take time – don't knee-jerk," Noble says. "Will you really be in a better position to reapply in a month?"

James Mitchell Crow is a freelance writer in Melbourne, Australia.