

The Ian Potter Foundation

Grantee Key Learnings

Medical Research

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Key learnings from previous Medical Research grant recipients

Introduction

This document is intended for future applicants and grantees. It contains the collective lessons reported by grantees in the past five years of final reports submitted to The Ian Potter Foundation. The document is arranged thematically and provides examples of learnings sourced from grantees final reports.

Views expressed here do not necessarily represent the views of The Ian Potter Foundation.

Section 1 – Planning

Planning includes all aspects of a project or program. In this section, we'll break the planning process down to include research (including preparation and regulatory issues), budget, capacity/staffing, scheduling, sustainability, capital works, equipment, technology, and managing risk. Each of these aspects is critical to ensuring a targeted, successful project.

Research/Preparation/Regulatory

Without an understanding of the context or environment you are operating in, you will not have a successful outcome. The context of a project is multifaceted, including such things as the type of participants/clients, stakeholder expectations/needs, and regulatory requirements. Following are just some of the learnings our grantees have reported back to us.

Gather information from stakeholders to find out what is wanted prior to implementing a program (see Relationships, Stakeholders above).

For certain projects/programs, there may be external regulations or standards that need to be adhered to. Be careful to consider federal regulations. For instance, one grantee experienced delays in purchasing an irradiator as a result of a new process implemented by the Department of Human Services and the federal regulator for radiation safety. Make sure you obtain pre-approvals for the instrument space and technical support so that you're able to progress as soon as funding is received. Remember that the location (and its architecture) can impact a research project.

You may need to factor in ethics requirements. Know ethics deadlines. One grantee did not have an ethical application approved, which caused delays.

In general, plan as much as you can on paper before starting any activity.

Finally, when writing a grant application, emphasise the parts of the project that you are passionate about, and those that have the greatest capacity to create positive change. View the application forms as an invitation to discuss what is most important and interesting about the project, not as a rigid questionnaire.

Budget

An essential part of any plan is the budget. How much money have you got and how much do you need to spend to achieve your goals? There are many aspects to budgeting financials, and below are just some of the useful tips our grantees have passed on from their experiences.

Salaries, staff expenses & training

Ensure salary levels are appropriate.

Include overtime rates in your budget. One grantee's lab ran from 8 am–10 pm each day but found it difficult to run on a skeleton staff, particularly in the evening.

Incorporate training costs into your budget. One grantee's staff did not know how to use the new software, which in turn stalled the project.

Capital costs

Capital expenditures can improve throughout, and property ownership is preferable to rental.

Contingency & accuracy

Have contingency funds for unexpected costs, for instance, in the event of equipment breaking down or accidents involving equipment. One grantee researcher's PhD student accidentally overheated one of the elements, melting the equipment.

In the case of a research project, it might be necessary to budget for research funds in addition to the fellowship. For one grantee, this was critical in ensuring that research – in this case, the molecular work – could commence.

Underfunding

Having calculated a project budget, don't assume one funder will fund the entire cost of a project or piece of equipment. Many funders have a policy of contributing funding but expect a grantseeker to have other sources of funding.

Past grantees have felt the impact of underfunding. One grantee was not able to test the efficacy of an intervention in humans where translation of the research was a key component of the project. Similarly, projects have been delayed as investigators had to rely on PhD students to undertake research instead of hiring researchers for this purpose. Another grantee experienced a six-month delay in purchasing the required equipment because the grant they received did not cover the full cost of the equipment.

When applying for funding approach multiple funders or be prepared to leverage one grant to gain additional funds.

Leverage and future

Receiving funding from one source can provide you with leverage to obtain further grants from different sectors. For instance, receiving a grant from a philanthropic body may make it easier for your organisation to secure government funding (see also [Relationships, Funders](#)).

Think ahead and plan to fund for the future. Consider the cost of sustaining the project beyond the employment of a particular staff member or the duration of a pilot phase.

Capacity/staffing

Any project plan needs to consider capacity in terms of staffing as well as other resources.

Recruiting

Recruit wisely. Delaying projects to attract the right personnel prove highly beneficial in the long run. Otherwise, you may experience unplanned delays as a result of engaging the wrong personnel at the outset to manage the project. Identify a project manager and make sure that the person/s has the support to see the project through.

The appointment of appropriate personnel to oversee the running of equipment and management of the facility is essential according to one grantee.

Another grantee realised they lacked expertise in extracting and managing data. In future, they will look to recruit volunteers/staff members with specific database skill or invest in staff professional development.

Plan timelines for recruiting. Depending on your sector, recruitment may need to occur at a particular time. For one grantee, recruitment was delayed until the start of the academic year in February. A new staff member was recruited and trained; however, the overall result was that the project ran several months behind.

Another key learning from a grantee:

'if you have the best equipment in the world, you also need the best people to maximise the use of this equipment. With any big project, a lot of effort needs to be put into the project teams that are going to be using the relevant equipment. While equipment can be acquired, you need to ensure you can acquire and retain the right staff to maximise the equipment. Overcoming this obstacle does include the ability to attract funding, including funding for salaries, to undertake research studies.'

Training & development

Disseminate training among staff to ensure knowledge and skills are retained by the organisation. One grantee organisation sent a staff member that had primary responsibility for operating the system to Canada to undertake specific training to enable them to train other staff. Unfortunately, the relevant staff member left. Implementing staff-wide training immediately after this staff member's return from Canada would have ensured dissemination of this specialised knowledge. It may be best to train at least two staff members in the use of new technology.

Another grantee learned that a particular process was technically very challenging and required significant patience and dexterity. This reinforced the need for extensive training on the use of the equipment, particularly before application on valuable biological material. In future, it may be better to have trained specialists dedicated to the operation of this equipment to optimise the success of each process, and therefore to ensure the maximum benefit from the equipment.

Similarly, another grantee found that users needed ongoing training to use the equipment skilfully. All users are now required to do web training every two months and to obtain a pass mark. This has been effective, and users have said they are more confident in using the equipment correctly.

Plan cross-disciplinary work carefully. One grantee found a challenge in linking bioengineers with basic biologists due to different educational backgrounds and differences in technical language.

Maintaining staff

Consider staff burden, particularly for part-time staff. A project's expectation of fortnightly meetings may be too demanding for part-time staff.

Scheduling

Timing is everything. A fundamental aspect of any plan is working out the schedule or timelines for activities to occur.

Throughout your project/program you need to allow time for stakeholder engagement. Be aware that consultations with stakeholders can take a longer amount of time than anticipated. For example, as one grantee's project progressed, several new stakeholders were identified, and subsequent consultations had to be arranged (see [Relationships, Stakeholders](#) above).

One grantee found that delays in a building project also disrupted individual research teams due to confusion around facility availability. For all future building upgrades to research space, they will assign an internal person to work alongside the Facility Manager to ensure a smoother transition for the research groups involved.

Another grantee found that delays in installing new equipment had a flow-on effect on training and workshops scheduled for staff.

Pro bono workers may require an extended timeline. For instance, one grantee reported a delay to their project caused by their reliance on pro bono help from a local building company, which had to juggle their commitment to the project with paid work.

When using technology or carrying out an experimental project, it may pay to be more conservative when setting goals and predicting the output.

In a research setting, you may need to factor in meeting ethics requirements. One grantee found that the time necessary to secure regulatory and ethics approvals for the medications as well as the clinical trial was longer than anticipated, leading to an initial delay in commencing patient entry to the trial. Another grantee working on a collaborative project found they needed to allow other institutions to have varying requirements/timelines regarding ethics clearances.

It's important to communicate a clear schedule of deadlines for suppliers/distributors, so your program is not held up by late delivery (see [further advice re managing suppliers](#) below).

As with the budget, you should plan for contingencies at each stage, considering factors such as delays in equipment delivery, facilities availability, training completion, integration with other IT systems.

For example, a grantee found the time taken up by users gaining experience with and troubleshooting new equipment.

One grantee reported that the most significant delays occurred due to identifying a new location for existing equipment in their medical facility as well as time delays in the manufacture and delivery of the new equipment.

Another grantee experienced some IT issues integrating the new computer with the university network.

Sustainability

Where possible, you need to plan for sustainability. This could involve developing easy-to-use processes, reporting or information-gathering right through to thinking about what equipment you already have that you can use.

Our grantees report that streamlining by using daily reports via cloud technology is worthwhile. Involve your key stakeholders/next funders from day one. If you are not sure who they are, approach the government/organisation and arrange a face-to-face meeting to find out.

Capital works

When managing capital works projects, there are many things to incorporate in your planning. Here are suggestions from our grantees.

Be aware of permits required. Building permits are not always one-offs as there may also be disability requirements, and unanticipated needs, for example, widening of an existing doorway, that emerge during a project.

It is essential to manage building projects tightly. This is especially critical to multi-million-dollar capital works projects as building costs can increase dramatically.

For capital works keep visual and written records of projects – these may prove to be very useful in the future in the event of further approvals being required or when justifying variations. You will need to scope facility requirements to meet regulatory compliance. Consider novating the consultant contracts to the builder to transfer risk from the client-side.

Plan for all stages of the building process before beginning a building project. The planning stage is critical. Delays experienced by grantees in getting projects started resulted from difficulties in:

- Acquiring appropriate land and permits from the council (generally six months)
- Time taken to subdivide the land
- Time taken for the new Federal Government to settle into office and to sign an MOU
- Council approval for the project changes.

Equipment

When planning to purchase equipment, consider future supply and demand. For example, one grantee found an expensive microscope was under-used due to staff changeover; and another found that the demand in Australia for their purchased equipment was lower than anticipated as three other universities purchased a similar piece of equipment.

Conversely, you may need to account for device undersupply. One grantee found the biggest hurdle was the delivery of the Bose 5500 instrument as there was a shortage of these devices. It took four months from the order until delivery.

Make sure you test the equipment prior to purchase to see if it meets your needs. After testing three real-time machines and their analysis software, a grantee decided to change their purchase from the model that was initially identified in their proposal.

Consider economies of scale. 'Trendy' is not always the most efficient. One grantee found the bespoke nature of the technical specifications for mobility devices resulted in little economy of scale of 3D printing.

Technology

When purchasing technology try to find a local supplier. It is easier to problem-solve issues when dealing with suppliers face-to-face or in local time.

Make sure you strike a balance between sophisticated functionality and complexity. You may want to consider if tablet devices would work in place of laptops.

Depending on the complexity of your technology requirements, it may be worthwhile to consider using specialist consultants to advise on IT selection.

One grantee found that large-scale analysis was constrained by the input/output performance of the computer disk drives. The system accounted for this by including a very large hard disk array with intelligent caching of data between (cheaper) slow spinning drives, and (more expensive) fast solid-state drives (SSD). However, this ratio was selected to fit within the budget. With hindsight, the grantee would alter the allocation of funds between these three different types of disk, to enable more space to be available.

Another grantee advises to consider the size of your data needs. They found the speed of computation needed to be further increased due to the size of the data sets generated. As with most cutting-edge technologies, this took considerable time due to the need to optimise the system, not only with various computer components needing to be shipped from the manufacturer on multiple occasions but also with system and software optimisation for the newly constructed technology. This has delayed the commencement of some projects.

Location

For research-based projects, some grantees find that co-location is a significant contributor to success, so try to ensure that the researchers are based in the same space with purpose-built facilities.

Section 2 – Importance of managing relationships

Any project will involve different people or groups of people to execute it. Managing people and relationships is vital to the success of any project or program.

Funders

Many funders are not willing to fund the entire cost of a project or program but are looking for projects that have already received some funding and are looking for funding partners.

You can also often go back to previous funders for further grants, so it is a good idea to complete all the necessary reporting obligations so that your subsequent grant applications are viewed in a positive light.

Non-funding partners/collaborators

By collaborating, a research institute found that applying for the development of a device manufacturing hub that had multiple applications, instead, was of greater interest to potential donors than just a piece of equipment on its own.

In one example, a grantee changed the company used to run its stable isotope analyses from a commercial company to a university. This change had the benefit of significantly reducing the cost per sample, as well as opening up many new collaborative research opportunities.

Working collaboratively with other organisations can also result in cost savings.

One grantee found other organisations are not always upfront with their plans, which in turn can affect a project you are working on together.

Grantees have found that even though a good professional network had been established, a lot more preparatory work was required than the grantee initially thought when working on a collaborative project across institutions.

You will need to develop patience if you are waiting for offers of pro bono support to be realised. Pro bono work often has to be fitted around a contractor or organisation's paid work.

Stakeholders/networks

Be aware that consultations with stakeholders can take a longer amount of time than anticipated. For one grantee, as the project progressed, several new stakeholders were identified, and so subsequent consultations needed to be arranged. The formal reference group model can be useful

You should gather information from stakeholders to find out what is wanted prior to implementing a program. Provide systematic opportunities for different stakeholders to engage and have a stake in the evaluation of programs/projects.

One grantee found that by bringing together research teams to review and explore equipment requests and needs across the whole of the life sciences discipline, they were more informed as to their individual needs and equipment requirements of research teams. Through this process, they learnt that the model we were seeking was not fit for requirements and delayed purchasing a machine. They concluded that:

'we do believe we have purchased the right machine for us; a much more capable item that supports researchers now and into the future. This internal process of review was critical to making sure funds were spent where they would have the greatest impact.'

When dealing with multi-institutional collaborative projects, it can take longer to deal with administration. For instance, one grantee reported delays involving the development and movement of legal documents and agreements between each organisation. Their advice to other grantees involved in multi-organisation collaborations would be to consult with every organisation's legal office to establish the timelines for each process. Project timelines and goals should include bureaucratic requirements.

Suppliers/Distributors

Relationships with suppliers and distributors can be equally as valuable in terms of saving time and money.

Don't be afraid to negotiate with a supplier/distributor. One grantee was able to negotiate the price of robotic liquid handling workstation down from \$289,538 to \$164,000 – a significant saving.

Ask the distributor if there are any deals available. For example, purchasing an ex-demonstration model allowed a grantee to acquire equipment with significant advantages over the equipment they had initially anticipated acquiring; another grantee received free training from their distributor.

One grantee realised they could procure a customer made cabinet locally instead of having to negotiate with an overseas supplier. They reported:

'With regards to the custom-made cabinet, initial discussions and negotiation with an overseas preferred supplier were lengthy and unsatisfactory, and the price increased without clear justification from \$80k to \$138k.'

'The Institute has since found an Australian manufacturer with high technical competencies, a track record in building similar cabinets and an excellent understanding of the project's needs, and we accepted a quote of \$72,223.'

It is essential to clearly communicate expectations to external suppliers during negotiations. One grantee reported that the main factor that caused delays in the equipment selection process was timeliness of responses from equipment suppliers. In future projects, this grantee plans to improve the process by communicating a schedule of deadlines for suppliers. They added:

'Communicating well within the organisation greatly helped success by ensuring that equipment deliveries were coordinated with Operations staff and that laboratory building work was completed in time for equipment installation.'

Another grantee reported that time differences were a major challenge when dealing with an overseas supplier. Similarly, another grantee reported that:

'The process of equipment acquisition, installation, and validation can be complex, and timeframes are difficult to predict. One challenge has been an unexpected lack of local technical support and difficulty communicating with a U.S. based technical expert.'

You can lean on manufacturers/distributors for training if you are deciding between their equipment and another supplier's. One grantee was able to arrange an intensive training session with the technologies manufacturer to train their physical therapists.

Similarly, another grantee found that their equipment supplier was able to provide specific technical assistance to ensure the best results:

'When initial work on a piece of medical research equipment led to poor [research] results, we contacted the manufacturer's technical team at Seahorse, who provided one on one guidance, as well as helpful technical analysis of the data. After a period of intense optimisation, and problem-solving, the supplier was able to identify particular areas that researchers need to be mindful of and optimise. This also allowed the institute to be able to share their experience with other users so that their experiments will not be compromised.'

This grantee subsequently established a User's Group for this particular equipment, to be able to share protocols, troubleshooting advice, and technical considerations through a web-based forum, and through periodic technical seminars.

Staff

Recruiting, managing and training staff is central to many projects or programs. Without skilled, committed people to run them, programs don't happen.

Many small administrative improvements can be made throughout a project due to staff feedback. These may include reducing the amount of team/office meetings, streamlining and clarifying decision making processes and creating OH&S protocol documents.

Experts/advisors

Recruiting a steering committee can give you an edge.

Remember to consult with your experts when making decisions or changes. One grantee changed their target patient group after input from an eye disease specialist indicated that blind patients suffering from *Retinitis Pigmentosa* would be a more appropriate group.

In health-related projects, it may be wise to engage GPs and health workers in local clinics as primary contact points.

You can also use technology to bring in experts. Where possible work with local partners, but you can also use Skype for presentations from experts/advisors based in other locations.

Section 3 – Evaluation

With each project or program, it is essential to verify that your original aims were met. The only way to do this is to set objectives at the start that can be measured in some way. Keep a professional and comprehensive track record of all Key Performance Indicators and how these have been achieved to clearly illustrate the success of the project.

Professional evaluators

Choose your evaluator wisely. One grantee found that a KPMG evaluation helped secure government funding.

Consider contacting evaluators on The Ian Potter Evaluation Pool:

<https://www.ianpotter.org.au/knowledge-centre/the-ian-potter-foundation-evaluation-pool/>

Benchmark

Benchmark outcomes against federal standards can add credibility when communicating impact.

Again, after a program/project has been completed, you can benchmark your results against what has been done internationally

Adapt

Accept that it is common to re-work policy-focused research in response to early findings or changes in the research landscape. This is particularly the case in scientific and medical research projects.

Innovate

Don't be afraid to innovate. For example, the first bionic eye failed to meet the surgical and patient requirements, so the grantee developed its own bionic eye components to fulfil the anatomical, surgical, patient and safety needs.