

Introduction to Research

MODULE TWO



SAHMRI
South Australian Health &
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Slide 1 – Module Two: Developing an Application for Grant Funding

Applying for funding to undertake research is often a complex and time consuming process. This module provides a brief and basic overview of how to find and apply for grant funding. However, there may not necessarily be a need to undertake your own research if others have already completed the work for you. This module starts by focusing on conducting a targeted literature search.

Module Two

Developing an Application for Grant Funding

Study Guide: Chapter Four

Slide 2 – Starting with what we know...

Once the aim of the research as well as the specific questions or hypotheses have been clearly defined, the next step is to see if an answer already exists. There may not necessarily be a need to undertake additional research as others may have already completed the work for you. Even if your question has not been addressed, there are a number of reasons to start your grant application with a review of the literature including:

- Finding examples of how other people have approached similar questions
- Identifying gaps in our current knowledge that will demonstrate the importance of a new study

Starting with what we know....

- Has the question already been answered?
- How have others approached similar questions?
- What would a new study contribute?



Slide 3 – Types of literature

You don't have to only rely on journal articles to inform your question. There are many different types of literature which could potentially contribute to answering your question or testing your hypothesis including:

- Research reports
- Issue papers
- Conference proceedings
- Theses and dissertations
- Working papers
- Fact sheets
- Briefing papers
- Webpages

Types of literature

Journal Articles,
Research Reports,
Issue Papers, Conference
Proceedings, Theses and
Dissertations, Working
Papers, Fact Sheets,
Briefing Papers,
Webpages etc

Slide 4 – Free Publication Databases

Publication databases and search engines are a great tool for finding peer reviewed and in some cases grey literature. They are helpful because they allow you to search and download articles from a number of journals at the same time.

While databases and search engines are particularly helpful as an online tool for identifying literature that may be useful, there are some downsides.

- First, there are many different types of databases and it is sometimes difficult to work out which one you should use.
- Second, in many cases you need to pay a subscription fee to use a database and even some search engines.

However, if you haven't subscribed to a database and don't have easy access to a research librarian, we suggest you may like to try some of the database which don't require a subscription for a basic level of use.

Unfortunately, just because you can access these databases and search their content doesn't necessarily mean you will be able to see the full-text of every article, report and/or other types of literature for free. In some cases you may only be able to see the title, authors and a short abstract or summary of the article before being directed to a fee for service webpage. However, a number of articles are provided free of charge and in other cases short summaries or abstracts of the article can be helpful. If you are really interested in reading the full text and it is not available, try emailing one of the authors as they will generally be happy to send out a full-text of the article upon request.

Free Publication Databases	Details	Link
PubMed	Over 22 million primarily peer-reviewed biomedical citations. Some with links to free full-text.	http://www.ncbi.nlm.nih.gov/pubmed
Cochrane Database of Systematic Reviews	Peer-reviewed free full-text systematic reviews that have been prepared and supervised by a Cochrane Review Group.	http://onlinelibrary.wiley.com/cochranelibrary/search/
Google Scholar	Peer-reviewed and grey literature including journal articles, reports, theses and opinion papers. Some include links to free full-text.	http://scholar.google.com.au/
MedNar	Primarily used to search for grey literature including commercial databases, medical societies, National Institute of Health and government resources and patents.	http://mednar.com/mednar/search.html?ssid=5eeb6c1f63a1405c766a66%3a-7bec
World Health Organisation	Contains links to World Health Organization projects, initiatives, activities, information, and contacts organised by health and development topics.	http://www.who.int/topics/en/

Slide 5 – Building a search

Rather than not finding enough literature, you may be faced with too much. The way to manage the billions of articles which could pertain to your question or hypothesis is to develop a search strategy which focuses what your search looks for. To do this you need to:

Step One: Identify the key concepts in your question or hypothesis.

Step Two: Identify any alternative terms which could exist for these concepts.

Step Three: Decide whether you want to restrict your search in any way. For example, you could restrict your search to:

- a certain population or group,
- a specific age group; and/or
- a particular type of literature (e.g. journal article or book).

You may find it helps to clarify your thinking if you use a **logic grid**, in which you group related concepts or synonyms.

Building a search

Step One: Identify key concepts in your question

Step Two: Identify alternative terms

Step Three: Decide whether you want to restrict your search in any way. For example:

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Slide 6 – Are Aboriginal and Torres Strait Islander peoples who live in urban locations less likely to have an adult health check than those in rural or remote areas?

You may find it helps to clarify your thinking if you use a **logic grid**, in which you group related concepts or synonyms.

As there are three distinct concepts involved in this search (underlined above) we will use three columns.

Label each column with the concept and then list all of the terms which are could be used to describe the concept.

For the “Are Aboriginal and Torres Strait Islander peoples who live in urban locations less likely to have an adult health check than those in rural or remote areas?”, the logic grid may look something like this.

Are **Aboriginal and Torres Strait Islander peoples** who live in **urban locations** less likely to have an **adult health check** than those in **rural or remote areas**?

1. Population	2. Location	3. Intervention
Aboriginal	Rural	adult health check
Torres Strait Islander	remote	adult health screen
Indigenous Australian	urban metropolitan	MBS Item number

Slide 7 – How acceptable is the concept of outreach visits to Aboriginal and Torres Strait Islander peoples living with chronic disease?

The same process could be used for this question.

As there are three distinct concepts involved in this search (underlined above) we will use three columns. Label each column with the concept and then list all of the terms which could be used to describe the concept.

How acceptable is the concept of outreach visits to Aboriginal and Torres Strait Islander peoples living with chronic disease?

Phenomena of Interest	Population of Interest	Condition
Out-reach	Aboriginal	Chronic disease
Outreach	Torres Strait Islander	Cardiovascular disease
Home visits	Indigenous Australian	Diabetes Respiratory disease Depression

Slide 8 – Can I trust the literature?

However, not all of these types of literature are considered to be of equal quality. Instead there is a hierarchy of evidence.

- **Primary Sources:** Journal Articles, Research Reports, Issue Papers, Conference Proceedings, Theses and Dissertations, Working Papers, Fact Sheets, Briefing Papers, Webpages etc. Peer reviewed literature involves a review by the researcher's peers prior to publishing. Be careful. Just because literature is published in a journal does not mean it is peer reviewed. Grey literature, on the other hand, has not been peer reviewed and is often published on websites, in newsletters and/or as a study report.
- **Secondary Sources:** Literature reviews, synthesis of findings etc.
- **Anecdotal Pieces:** Views and opinions of others

Can I trust the literature?

Just because something is published doesn't necessarily mean that the information it contains is always reliable or trustworthy. It is therefore important to consider the quality of the literature prior to relying on the evidence presented.

Slide 9 – Where will I find the funds?

A number of different types of organisations fund health research. These can include commonwealth, state and even local government bodies, universities as well as philanthropic, professional, public and private for profit and not for profit organisations. Most university websites list and some provide alerts to the currently available grant funding with links to the funding bodies' guidelines and application forms. Links to free databases which provide information about potential grant funding can be found in your study guide.

The most important thing to remember when looking for funding is to ensure that your study fits into the funder's priorities. Check their websites and annual reports to get a feel for what they like to fund. Call up and speak to them about where your project might fit. Make sure that:

- You're actually eligible to apply
- You know what criteria to address in your application
- You know when you have to submit the application

Where will I find the funds?

Because every grant is different, each grant you apply for will have different requirements. It is essential that you **obtain and carefully read** the grant guidelines.

Slide 10 – Are you ready to start the application?

While each organisation will have their own process and timelines for applying for grant funding, many require the following basic information. As a basic guide you will need to be able to clearly answer the following questions:

- Who are you?
- What do you want to do?
- How will you do this?
- What do you expect to achieve?
- How much will it cost?

Are you ready to start the application?

At a minimum you will need to be able to answer the following questions:

- Who are you?
- What do you want to do?
- How will you do this?
- What do you expect to achieve?
- How much will it cost?

Slide 11 – Who are you?

You will need to be able to establish your organisation's credibility and qualifications for funding. In particular include short, relevant descriptions of the qualifications and experience that key staff that will be involved in the study.

In addition, grant funders may also ask about your organisation's ability to govern the study and administer the funds provided. This includes not only describing how you will ensure that any proposed objectives and outcomes are achieved but also how any funds will be administered. Your organisation may also be asked to provide an audited set of accounts related to the project either during and/or at the end of the funding period.



Slide 12 – What do you want to do?

It's vital to clearly articulate the specific issue or problem that the study will address. As well as demonstrating that this issue or problem has not previously been addressed, undertaking a literature review will help you to frame the problem or issue. Providing a clear summary of what is already known will help to demonstrate that the problem or issue you are trying to address is unique and fills a particular gap in knowledge. These gaps do not need to be world shattering. They can include, for example:

- Identifying whether a successful intervention would work for another context or another demographic group
- Identifying how people feel about an intervention that has already been implemented

Do not assume that the person is familiar with the topic. Be careful to explain all of the terms that are not commonly used in lay terms.

What do you want to do?

- Produce evidence
- Tell the story
- Demonstrate community support



Slide 13 – Why is this important?

It is also important to prove why this issue or problem is important, including what benefits will be realised and for whom.

Why is this an important area to study? The significance of the study needs to be stated and comments on the practical and/or theoretical value of the research included.

- Include any underlying assumptions.
- Provide definitions of key terms or concepts used.
- Point out the limitations imposed (the boundaries set).

Again, do not assume knowledge. Explain your reasoning clearly as if the person who is reading the application has no background knowledge about the issue or problem.

Why is this important?

- How did the problem or issue arise?
- Why is this an important area to study?
- Include any underlying assumptions.
- Provide definitions of key terms or concepts used.
- Point out the limitations imposed (the boundaries set).

Slide 14 – How will you do this?

Before any study begins, detailed plans are essential. Sometimes referred to as a study protocol, they must:

- be feasible given the time allocated,
- fit resource constraints including available resources,
- be within your competency,
- be manageable; and
- be able to meet all ethical, legal and risk assessment requirements.

Some people leave the planning until after they have received the grant. We strongly suggest that plans are developed before funding is requested. That way you will have a clear idea about what is needed both in terms of money and resources to complete the study.

How will you do this?

- What research method should be used?
- Who are your participants?
- What data do you need to collect?
- How will you collect the data?
- How will you manage the collected data?
- How will you analyse the data?
- How will you report findings?
- **How will you translate the findings?**

Slide 15 – Quantitative and Qualitative Research

Your research plan will depend to some extent on what research method best addresses the problem or issue you are trying to address.

Broadly speaking there are two types of research methods - quantitative and qualitative. Both have their own specific purpose, assumptions and processes.

Quantitative methods

- Quantitative methods are primarily used to establish or answer questions that relate to “when”, “where”, “how many”, “how often” and “how much”.
 - e.g. How many people in my healthcare service have been diagnosed with hypertension?
 - e.g. Does the new transport service improve the number of people who attend appointments at our healthcare service? - Aboriginal and Torres Strait Islander people over the age of 30 are less likely to have completed an Adult Health Check in the last 12 months
- Quantitative methods aim to gather data that are usually numerical or statistical, and that can be counted in order to generalise findings across a group or groups of people represented by a sample of the population.

Qualitative methods

- Qualitative methods are used to answer research questions that pertain to understanding people, their experiences, and the contexts in which experiences occur.
 - e.g. How can we improve the care provided to Aboriginal and Torres Strait Islander people in my community?
- Qualitative research methods aim to gather data that are non-numerical and embedded in their context. This type of research is usually less structured and may not be linear. While defined aim or broad question should be identified at the start of the study, qualitative researchers will often use the findings from the initial data collection to guide the specific direction of the questions they ask later in the data collection.

Detailed information about how to collect and analyse data using quantitative and qualitative methods can be found in your study guide.

	Quantitative Research	Qualitative Research
Purpose	To measure a phenomena of interest or to identify cause and effect relationship	Describes and/or deepens the understanding a phenomena.
The question or hypothesis	Clear question or hypothesis specified prior to starting.	Broad questions are identified but the direction can change as the study develops.
Ways in which participants are chosen	A sample of participants chosen to represent a larger population.	Individuals and groups may shed light on other groups but findings are not necessarily generalizable.
Types of data	Objective measures which are quantifiable.	Subjective assessments.
Data Collection	Collecting biological samples, surveys, medical records.	Interviews, focus groups and observations.
Definition of quality	Statistical tests for reliability and validity.	Established by using multiple sources of evidence, referred to as triangulation.

Slide 16 – What do you expect to achieve?

Grant funders will always want to know that the grant they have provided is making a long-term difference to the lives of the people. They also need to be sure that the money they are giving is being spent wisely. When approaching the subject of how your study will make a difference, think laterally. Take a step back from what you think your study is actually doing and look at what impact it might have on the community.

For example, a study which asks people whether they value the new transport system is not simply about gathering thoughts but instead could potentially be about improving access to primary healthcare services which in turn may improve health outcomes.

What do you expect to achieve?

- What are the expected short and long-term benefits?
- Who is expected to benefit?
- How will you demonstrate that the benefits have been realised?

Slide 17 – How much will it cost?

The budget can vary from a simple one-page statement of income and expenses to a more complex set of budget papers including explanatory notes. Be honest, open and realistic. In particular ensure that:

- Your budget is accurate and realistic - the funding organisation will spot the inconsistencies and this will reflect badly on your application
- Don't cut corners to be more competitive
- Find out appropriate rates of pay
- Don't forget overheads you might need including payroll tax, workcover, office supplies and equipment
- Relate any necessary equipment purchases to the aims of the study

In-kind contributions:

Many grant funders allow not-for-profit organisations to claim the value of volunteer labour and other no-cost input as part of their contribution to the project, most often described as an “in-kind contribution”. Your in-kind contribution might include volunteer labour, administrative support, rent-free accommodation or donations/discounts of materials, or equipment. These contributions should be given a dollar value and included in your budget as part of your contribution to the project.

How much will it cost?

The types of expenses you may incur include:

- Staffing
- Equipment
- Travel
- Consumables
- Other resources

Slide 18 – Why do grant applications fail?

It is often the case that many funding providers do not have sufficient budgets to meet all requests for funding. In 2014 only 8% of NHMRC Grants relating to health service and 14% of overall NHMRC project grants were funded. To increase the likelihood of funding it is a good idea to be familiar with the common reasons why funding bodies reject applications, in order to ensure that your study is more likely to be funded.

Why do grant applications fail?

- Don't clearly illustrate why the study is needed
- Don't make the study plans explicit
- Don't indicate how funds will be spent
- Don't meet the funder's guidelines
- Don't demonstrate that the organisation is well managed and is capable of successfully running the study

Slide 19 – Key Messages

Key Messages

- Check the literature before you start.
- There are many types of organisations that fund research.
- Each funding body will have their own guidelines.
- You must carefully read and follow these guidelines.
- In writing your study plan remember there are two main research methods:
 - Quantitative research methods
 - Qualitative research methods