

# Crafting a research proposal: why we do it and what are some of the main components to consider?

The Health Intervention and Technology Assessment Program (HITAP), Thailand, has prepared this guideline to help Health Technology Assessment (HTA) researchers prepare proposals to conduct economic evaluations, quantitative, and qualitative studies.

*Authors: Aparna Anathakrishnan and Madison Sizle*

## INTRODUCTION

### What is a research proposal?

A research proposal or protocol is a document that brings your research initiative to life. It provides clarity on the specific research question being pursued by the study and offers an outline of the rationale for your research as well as details the methods, concepts, and frameworks applicable to the study. It is also good example of demonstrating your expertise in the field as well as offering a clean blueprint for your intended study, which can serve as guidance throughout.

### What is the purpose of writing a research proposal?

- To apply for funding support, through individual research grants or a studentship in education institution and any other means.
- To provide a thorough introduction to your research to stakeholders who might be involved in your study.
- To receive feedback on the methodological details of your study from mentors, advisors, and other experts, as well as ensuring the feasibility of the research within the timelines and available resources.
- To demonstrate your skills in the field of study and highlight the knowledge gap that your research will help contribute towards.

You may also consider submitting your research proposal for publication which can be a means of receiving feedback on the study methods and also serve as a reference at a later stage.

## WRITING A RESEARCH PROPOSAL

Writing a research proposal engages some key skills, those related to the subject of study, the methodological rigour based on the research question (for example: qualitative, quantitative, mixed method, economic evaluation), critical thinking and appraisal skills as well as those related to communication and writing.

Although there can be variations based on the field of research and related requirements, including the audience of the proposal, some components are central to a good proposal. These are often universal across research specialisations.

### WHAT ARE THE COMPONENTS OF A RESEARCH PROPOSAL?

Provided below is a sample template outlining some of the most used components in research proposal, organised in sequential order, with an emphasis on methodological distinctions among three different study designs.

## 1. Introduction

### 1.1 *Background and rationale*

In this section, you will introduce and emphasise the significance of your research topic. This could be done by conducting a literature review. For instance, some of the questions you might like to answer is why this topic should be one of focus? What is the evidence on this topic till date from other scholars? What is the evidence gap your study would be addressing? What is the policy relevance of your study?

### 1.2 *Research question*

In this section, focus on the gaps in existing knowledge and what specific question your study will aim to answer. Be sure to make your research question precise, clear, and researchable. Include your hypothesis here as well.

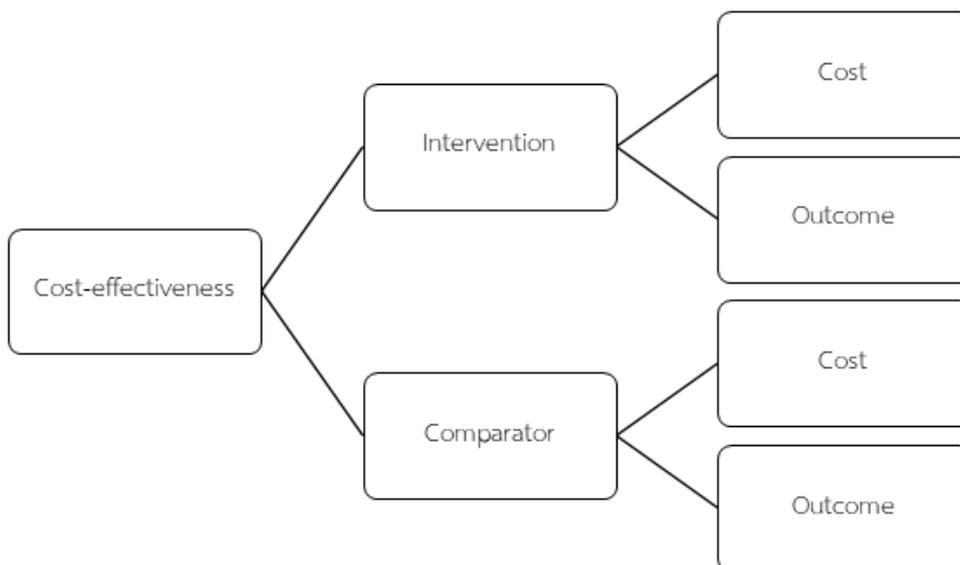
## 2. Objectives

In this section you will outline what you are planning to achieve with this study. Describe how your findings can be used or contribute to further research questions.

## 3. Conceptual framework (if any)

A conceptual framework is a guiding theory for your research, that models expected relationships between variables. The conceptual framework should be informed by existing research and help the reader understand the basis of your project. It is recommended to illustrate your framework with a visual representation, although it can also be described in narrative form.

For example, here is a visual conceptual framework for assessing value of an intervention:



#### 4. Methodology

In this section you will outline previously established methods and frameworks which will serve as a lens to collect and analyse data. You will want to answer questions that include what kind of data sources you would like to include, how you will collect, store, and manage the data? What platforms, software will be used to analyse the collected data? Based on your study type (qualitative, quantitative, or an economic evaluation), the table suggests the details that will have to be considered as per your research question and suitable conceptual framework.

Items	Qualitative study	Quantitative study	Economic Evaluation
Study design	✓	✓	✓
Study population	✓	✓	✓
Study samples -inclusion criteria -exclusion criteria	✓ ✓	✓ ✓	✓ ✓
Sample size		✓	
Comparator		+/-	✓
Perspective		✓	✓
Time horizon		✓	✓
Discounting		✓	✓
Model structure		✓	✓
Parameters used		✓	✓
Data collection (e.g., data collection tools, study sites and data collection method)	✓	✓	✓
Ethical considerations	✓	✓	+/-
Data analysis	✓	✓	✓
Uncertainty analysis		✓	✓

##### 4.1 Ethical Considerations

If you plan to collect data from participants, outline how you will protect participant's rights, obtain consent, protect data, and any other activities to ensure ethical standards are met. If you need to seek ethical approval for your study, include details about how you will apply for approval.

#### 4.2 Risks and Mitigation Plan

You may also want to include a section outlining what risks may be associated with this study and how you plan to address these risks. For example, if there is a risk of breach of data confidentiality, explain what steps you will take to ensure this does not happen.

#### 5. Expected outcomes

In this section you will outline what conclusions you expect to reach and what broader impact this might have. Focus on how this research can contribute to the field of knowledge and guide future research questions.

#### 6. Study timeframe

In this section you will create a timeline, with an expected date of completion for each step of the project. Be sure to include the study timeline the very start to completion, and update the timeline as needed. You may also include activities such as presentations or publications in your timeline.

Here is an example study timeframe:

Task	2022											
	J	F	M	A	M	J	J	A	S	O	N	D
Planning of research - Literature search												
Ethics review - Study protocol - Ethics committee review and approval												
Development of study tools - Questionnaire - Consent form												
Pilot and revise												
Recruit participants (n=100)												
Data collection												

Data analysis												
Research dissemination												
- Manuscript writing												
- Appraisal of results												
- Final revisions												
- Conference, presentation												

7. Budget (if needed)

In this section, you will be determining time and resources needed to achieve your expected outcomes. Make sure to factor in all costs of your research, based on the study design, such as staffing costs, data collection and analysis costs including any software of fixed costs such as computers or tablets as well as research dissemination costs such as communications for any knowledge products, conference attendance, meetings, and workshops as well as stationary and other miscellaneous costs. Be as thorough as you can in listing out your budget components. You may also need to check guidance from the funder, if applicable, on which types of costs are eligible and if there are any other specifications.

Here is an example of a budget estimate:

Components	In USD (or other currency)
<b>PERSONNEL</b>	
Staff (Senior Researcher, Researcher, etc)	
External reviewers	
Other partners	
Communications support	
<b>TOTAL PERSONNEL BUDGET</b>	
<b>OPERATIONS</b>	
<b>Data collection and analysis</b>	
Purchase of software, periodical subscriptions, and other fixed office equipment (Covidence, fees)	
Survey travel (Flights) (if any for policy survey)	
Accommodation	
Food	
Local transport	
Other misc. costs	
<b>Dissemination of results</b>	
Publication costs	
Conference registration costs (1 conference, 2 attendees)	
Conference Travel costs (1 conference, 2 attendees)	
Stakeholder consultation meeting (if any)	
Reports/ Posters/ Other communications outputs and material	
<b>Other material and supplies</b>	

Components	In USD (or other currency)
Stationary and other office supplies	
Photocopying/ Printing costs	
<b>TOTAL OPERATIONS BUDGET</b>	
<b>TOTAL DIRECT COSTS</b>	
<b>INDIRECT COSTS (% of Direct Costs)</b>	
<b>TOTAL BUDGET</b>	

#### 8. Research Team

In this section, provide information on team members and offer details on any organisations, persons who might be involved in or be able to support your research, the human resources or staff who will be assisting on your study. You may want to include an organisational structure if there is a large research team and multiple working groups.

#### 9. Research dissemination plan

In deciding your research dissemination plan, focus on all the avenues that would be useful to your expected outcomes and research question, including possibly developing policy briefs, conducting stakeholder consultations on the findings, publications in peer-reviewed journals, or conference presentations. Provide a description of these activities and be sure to factor in these costs into the budget as well.

#### 10. Conflict of interest

In this section, state any potential conflicts of interest associated with this study. For example, if a researcher has financial interest in product being evaluated in the study, this should be explicitly stated here.

#### 11. References

In this section provide a list of sources that you discussed or referred to in your research proposal.

### SOURCES:

- Protocol Template. Health Technology Assessment Process Guidelines. Health Intervention and Technology Assessment Program (HITAP). March 2012.
- Writing a Research Proposal. Monash University. 2022, <https://www.monash.edu/learnhq/write-like-a-pro/how-to-write.../research-proposal>
- Sudheesh K, Duggappa DR, Nethra SS. How to write a research proposal?. *Indian J Anaesth.* 2016;60(9):631-634. doi:10.4103/0019-5049.190617, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5037942/>

- How to write your research proposal. University of Westminster. 2022, <https://www.westminster.ac.uk/study/postgraduate/research-degrees/entry-requirements/how-to-write-your-research-proposal>