

From Research Outline to Grant Proposal



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Preliminary Questions

- What is the specific question?
- Is the idea novel?
 - Do a thorough literature search
- Is the answer of sufficient importance?
- Do your resources (i.e. facilities, equipment personnel, patient population, time, motivation) make this a realistic project for your centre at this time?
- Does my faculty mentor have funding or should I consider a grant application?

Remember

Win - Win

- **When you approach prospective collaborators remember that their enthusiasm will be proportional to their anticipated gain (mentorship, authorship, equipment, resources)**

The Mentor

Role

- **Role Model**
- **Support and Encouragement**
 - moral
 - financial
 - resources

Your Mentor's Rewards

- **Your successes**
- **Your efforts lead to presentation or publication (co- authorship)**



Collaborators

Roles

- Share work
- Provide essential
 - Knowledge
 - Skills
 - Resources



Collaborators' Rewards

- Funding or equipment
- Co-authorship

Getting Started

- Visit “Research Roadmap”
- http://meds.queensu.ca/medicine/obgyn/links/roadmap_apog.htm
- Enlist support of Supervisor / Mentor and Collaborators
- Write down the agreed upon “Research Question” and “Objectives”
- Meet to devise a research protocol – the two page “Outline”

The Research Question

Components of a good research question:

An intervention

A population

An effect or outcome

Eg: In women with polycystic ovary syndrome and obesity does exercise restore ovulation?

From Research Outline to Grant Application

Who are the reviewers for your grant application?

- 1) Relaxed knowledgeable government employees**
- 2) Professional grant reviewers hired by CIHR or other granting agencies**
- 3) Busy clinicians who have just finished a long day at the office**

**You must convince the reviewers that
your research is important!**



**On second thought, I will approve your application
for funding of the optical heat-ray research**

The Title

➤ Make it specific and captivating

“An alternative means to detect osteoporosis”

VS.

“Osteoporosis : A rapid inexpensive office screening test for early detection ”

Hypothesis

- **Your hypothesis is what has lead to the Research question.**
- **Hypothesis should be clearly stated in one or two sentences.**
- **Do not make reviewers look for it!**

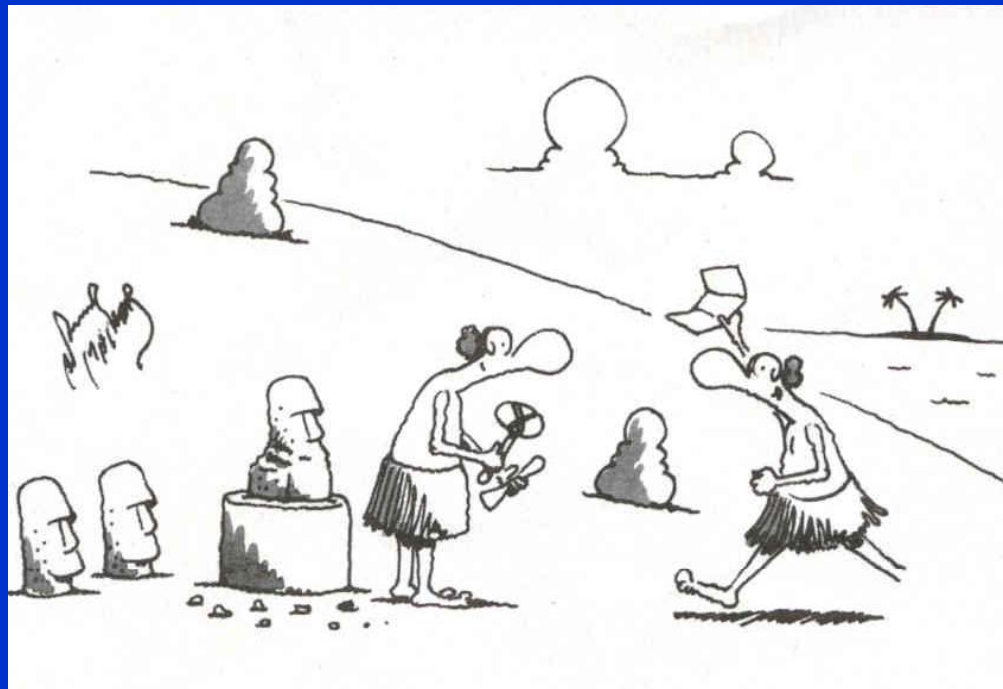
Objectives

- **Define one or two specific objectives**
- **Do not try to answer too many questions**
 - **(most important problems are answered one question at a time)**

Background

- **Your opportunity to convince the reviewers that you are up-to-date and conversant in your field of enquiry**
- **Concise, thorough, well referenced review**
- **Preliminary data may strengthen your proposal**
- **Should lead to the logical conclusion that your proposed question needs to be answered !!!**

Preliminary Data Are Helpful



Good news!

The tourist board approved our funding

References

- **Include full reference**
 - **Author, title, vol., pages, year**
- **Reviewers have been chosen for their critical thinking ability and will seldom accept a statement contrary to their own perception without determining your source of information**

Research Design

Describe

- **Facilities and resources**
- **Study population**
- **Methodology**
- **Sample size determination**
- **Data management**
- **Statistical analysis**

Budget

- **Must be reasonable, itemized, justified**
- **Document expenses with copies of proposed charges, maintenance contracts, etc.**
- **Give degree of overlap with other grants (either submitted or funded)**



**For any aspect of the proposal that
you cannot accomplish by yourself
you must establish the fact that
you have the necessary
collaborations to succeed**

- **Establish collaborators' experience and credibility with letters of support and CVs**

Your Curriculum Vitae (CV)

- **Should emphasize the training and experience of investigators**
- **Should not be embellished (peer reviewed publications important)**
- **When you first create a CV have another researcher critically review it**

Ethics Review and Consent

Needed for human clinical research

OR

Research employing human tissues

“The institution within which the researcher works has the major responsibility to ensure that the research meets the ethical standards of society”

CIHR Guidelines on REBs

REB Structure and Composition

Eg.

Lay Member

Epidemiologists

Ethicist

Statisticians

Theologians

Medical staff members

Sociologists

**Applied health
professionals**

Consensus development (minority opinions)

**Report to Senior Administration of Hospital /
University**

Factors In Ethics Review

- **Scientific and ethical review should be married**
- **Subject recruitment must not interfere with other doctor -patient relationships**
- **Sample size is critical for statistical validity**
- **Informed choice**
- **Compensation vs. coercion**

Consent Form I

- Lay language
- Reason for the study
- What specifically is being tested
- Why was the subject selected
- What exactly is required of participants

Consent Form II

- **Potential risks / potential benefits**
- **Anonymity**
- **Right to decline or withdraw**
- **Who to contact if concerns**
- **Copy for patient**

Special Ethical Concerns

- **Pediatric / Incompetent patient**
- **Epidemiological studies (data bank origin)**
- **Proxy consents (i.e. confused AIDS patient)**
- **Studies in pregnant women**
- **Fetal tissue use**
- **Multi – centre drug trials**

Summary Page :

sets the stage for a positive review

- **Summarize** hypothesis, objectives, methodology and data analysis concisely on one page – Most reviewers begin with such a capsule summary
- Tell them the **impact / significance** of your proposal as they are usually asked to evaluate this

*Proof read carefully to
see if you any words out*

Anonymous