

Suggested template for organizing CIHR operating grant

1. SIGNIFICANCE AND OVERALL HYPOTHESIS

One page. Provide a brief background, setting out the problem and its relevance or significance clinically and/or to healthcare. Then explain how the problem can be solved or ameliorated by research, including the ultimate goal or purpose of the research. A real world problem exists for which research can propose a solution.

Your hypothesis is the foundation or the basis of your application. *Examples: Analogs to chemokine receptors can inhibit HIV infection. Nicotine and opiates work through similar neuronal substrates to provide their motivational effects.*

2. OBJECTIVES

Half page. Provide the objectives of the proposal, that is, the measurable specific results that you propose to achieve. Objectives should be SMART—specific, measurable, achievable, realistic, time-bound.

3. BACKGROUND

Two pages. Provide background, literature summary, generalities of previous work, including your own, as it relates to this project, and explain specific terms.

4. PROGRESS AND EXPERIMENTAL PLANS

One page. Provide specific details of progress and plans.

5. SPECIFIC AIMS

Half page. Define Aim 1 – Aim 2 – Aim 3 –. Your specific aims are the individual objectives of your project, what you want to accomplish step-by-step.

6. RESEARCH DESIGN AND METHODS

Six pages. Provide brief summary of research design and methods. Aim-by-aim, give details about progress and experimental plans. Use sub-headings for each specific area of research. With each aim, provide expected results and significance. Always provide alternatives in case research takes an unexpected turn.

7. TIME CONSIDERATIONS, EXPECTED RESULTS AND FUTURE DIRECTIONS

Third of a page. Provide some details.

8. SUMMARY AND CONCLUDING REMARKS

Third of a page. Explain significance and impact of the research.

REFERENCES:

1. INTRODUCTION AND SIGNIFICANCE (about 1 page)

Begin by introducing the problem. Provide a compelling rationale for why the research needs to be done, that is, needs to get funded. The impact, significance or value of your research depends in part on the difficulty of the situation or problem you seek to solve or contribute to solving. Construct the problem as increasingly complex or difficult by building multiple levels of the problem. A multi-level problem gives the sense of increasing urgency, becoming more critical.

For example, “An estimated 750,000 Canadians currently suffer from some form of dementia (*level 1 problem*). Dementia is the most significant cause of disability for those over the age of 65 and already costs Canadian society several billions of dollars per year (*levels 2 & 3*). With our aging population, dementia-related costs are predicted to increase and exceed \$290Bil over the next 30 years (*level 4*). Although considerable research has improved our understanding of this disease, a cure remains elusive (*level 5*).” How many people are affected? What is the cost to society and healthcare? What is known/not known? Build levels with words like “yet, however, but, nonetheless, although”.

Then state your goals, how you will undertake them, and how your research will solve the problem. End this section by summarizing expected outcomes and include the impact the results of your research will have. “This work is essential to improve the quality of life of those who suffer from this disease.” Indicate how your research will improve healthcare, healthcare costs in Canada, and the lives of Canadians.

2. OBJECTIVES AND HYPOTHESES (about 1 page)

Provide a clear statement of your hypothesis. “We hypothesize that 1)...; 2)...; and 3)....” Then follow with your Specific Aims. “To investigate, we will pursue the following Specific Aims.”

SPECIFIC AIM 1: Explore...

SPECIFIC AIM 2: Investigate...

SPECIFIC AIM 3: Develop...

3. BACKGROUND (about 2 pages)

Provide information on your and other researchers’ previous research. Use subheadings to delineate different areas of study. Explain how your research is novel yet a continuity from previous research. Incorporate some white space throughout the proposal – lists are a good way to add white space or paragraphs that have a word or two dangling in the last sentence (“Canadians” in paragraph 3 above).

4. RESEARCH METHODS AND PRELIMINARY DATA (about 6 pages)

Aim 1: Describe overall strategy, methods and analyses. Include how data will be collected, analyzed and interpreted. Discuss feasibility if appropriate. List subsections for each Aim if needed but try to keep the overall length of each Aim about the same length.

Aim 1.1:

Aim 1.2:

Potential Pitfalls: Discuss potential problems, alternative strategies, and high-risk aspects of the proposed research. Your reviewers will think of them, so it is important you provide alternatives.

Aim 2: same as Aim 1.

Aim 2.1:

Aim 2.2:

Potential Pitfalls:

Aim 3: same as Aim 1.

Potential Pitfalls:

5. SUMMARY (about 1 page)

Briefly explain how your research will impact the problem you delineated in the first section. Add that you will provide a timeline of experiments for the research described in this proposal in Appendix.