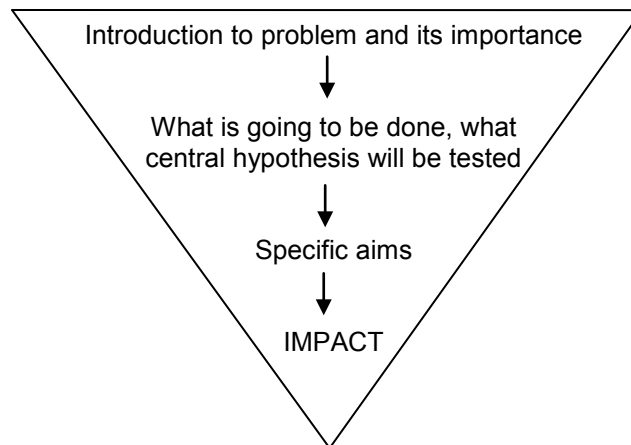


SPECIFIC AIMS PAGE

I. Basic Structure:



II. What this page must accomplish: (adapted from *Writing the NIH Grant Proposal*. W Gerin, 2006)

- A. Get across the MAIN THRUST of what your proposal is about; provide a clear statement of the specific problem your research will address.
- B. Provide background material that gives a context for the research question(s) you are asking and explains WHY REVIEWERS SHOULD CARE ABOUT YOUR QUESTION(S).
- C. Explain why your study is innovative and NECESSARY TO MOVE THE FIELD FORWARD; note the public health concerns that are driving your research.
- D. Provide a brief summary of the STRATEGY you plan to use to conduct the research.
- E. Provide a statement of your SPECIFIC AIMS AND HYPOTHESIS.

III. Components: (adapted from *The Grant Application Writer's Workbook*. SW Russell & DC Morrison, 2010)

- A. First Paragraph: Introduction to problem and its importance
 1. **Opening sentence.** Catch the attention of the reviewer. You want to convey that, by supporting your proposal, the reviewers are contributing to the goals of NIH-sponsored research.
 2. **Current knowledge.** Distill the most important knowns of your field into a few sentences to establish the current state of knowledge for readers. Very few reviewers will be true experts in your specific field. Set the stage for reviewers to know what needs to be done next.
 3. **Gap in knowledge to be addressed.** This sentence is critical to the entire application. Make it simple and direct, outlining the essential information that is missing and needed to move the field forward.
 4. **Framing the gap as a problem.** How does the gap prevent the field from moving forward? What will become possible after this gap is filled (or this opportunity is taken) that is not possible now? "Little is known about" is NOT a sufficient justification for your research!

At the conclusion of the first paragraph, the reviewer should know that the research area is medically relevant, be up to speed with respect to current knowledge in the field, and be able to understand that there is a gap in the knowledge base that constitutes an important problem.

B. Second paragraph: What is going to be done, what central hypothesis will be tested

1. **Define the long-term goals of your research** – the line of research on which you will focus and the area of research in which you either are, or are becoming, a recognized expert. The time required to attain your long-term goals should span at least several grant applications or even your career. You should focus on one long-term goal as a young/new investigator to be realistic.
2. **Define the overall objective of this proposal** – what you expect to accomplish with this proposal (not your life's career). Your objective should be to “fill the gap” that you identified in the first paragraph, and this must also be linked to your long-term goals. *Your objective should be one step in achieving your long-term goals.*
3. **Articulate a “central” hypothesis** – one that logically flows from the objective of the application. This is the component that gives focus to your application and shows that you are not just “fishing” for something. *The hypothesis must be objectively testable, not something that is designed to prove a predetermined conclusion.* You will test this with your specific aims, and so they must be closely linked to the hypothesis. Use the hypothesis to lead into the specific aims A, B, C, or 1, 2, 3. You must also describe how you formulated the hypothesis: Why did you choose this starting point and not other starting points (your 'best bet'). The hypothesis is usually based on preliminary data.
4. **Describe your preparedness to complete the project.** Emphasize why you and your colleagues are well positioned to carry out the proposed research. What is your competitive edge for this work? What distinguishes you (and your environment) from others?

C. Specific Aims: The knowledge you will acquire to test your hypothesis

1. **Construct the aims so that they predominantly express “why” you want to do what you are proposing (make them focused on the knowledge you want to acquire) rather than “what” you propose to do (don’t make them a laundry list of experiments or analyses).** However, you can (and should!) include a few key details about your research methods for your achieving your aims. You can mention your core strategies before or after each aim or set of aims.

Example:

WHAT: (problematic, aims are written as a list of experiments or analyses to be conducted)

Aim 1. Determine allele frequency of FGFR2 in DM2 nephropathy, unselected.

Aim 2. Determine allele frequency of FGFR2 in DM2 nephropathy, BP controlled.

Aim 3. Determine allele frequency of FGFR2 in DM2 nephropathy, smoking controlled.

WHY: (better, focused on the core knowledge to be gained)

Aim 1. Identify candidate susceptibility alleles in DM2 nephropathy.

Aim 2. Establish which candidate alleles are responsible for susceptibility to DM2 nephropathy.

2. **Describe your expected outcomes for each aim or the project as a whole.** This may be in the final paragraph (see D, below) or included as part of your aims. Link these to your hypothesis and back to the gap in knowledge that you are addressing. The outcomes should validate your central hypothesis.

D. Final “Payoff” Paragraph: The anticipated impact of your work

1. **Define your expected outcomes for each aim or the project as a whole.** What will we know that we didn't know before?
2. **Articulate the positive impact(s) of achieving your aims.** What comes next? How might this new knowledge be applied (in future research, practice, etc.)? This critical paragraph should be a bridge or transition to the Significance section. The impact of your work should, in part, be a solution to the medically important problem that you identified in paragraph 1.