

On Grant-Writing: Just What Are Your Project's 'Specific Aims'?

What to include on the most high-profile page of your research-grant application.

By [Jude P. Mikal](#)

APRIL 12, 2021

If you're an academic seeking an applied-research grant, the most-read element of your application will be the "specific aims" page. It serves as the face of your research proposal, and is often the *only* document read by the key panelists who help determine whether your project gets grant money.

This is the page you send out when you're seeking feedback on your project from peers, mentors, and program officers. It's also the document that grant agencies use to recruit the expertise necessary to review your grant application. So it's critical, given its importance to the success of your application, for your specific-aims page to be written in accordance with certain conventions.

Unfortunately, those conventions are rarely spelled out clearly for applicants.

I'm aiming to do that here, based on my 15 years of experience in research development and grant writing. My particular expertise is with applications for National Institutes of Health grants. But the conventions I describe below are true of most every agency that funds applied research. Both the NIH and AHRQ (the federal Agency for Healthcare Research and Quality) have a standard format for the specific-aims page of grant applications. And most private foundations that support social and economic research expect to see the same structure.

What follows is a section-by-section look at the key structural and content features of a specific-aims page, with tips that I hope will improve the success of your grant application.

Paragraph 1: Establish background, fit, and urgency. One of the most common reasons that proposals are rejected is a poor fit between the agency's areas of interest and the proposed research. The first paragraph of your specific-aims page has the colossal task of providing a quick and engaging background that gets readers up to speed — while also communicating a clear alignment between your proposed study objective and the agency's mission statement.

To do that, I recommend beginning with a hook: a single sentence that provides new, compelling, and concise information to demonstrate the gravity of the agency-relevant problem you intend to study. In your next two sentences, establish the urgency of your research by providing clear, demonstrable evidence of trends showing that, left unchecked, the problem you introduced in your first sentence will worsen or have a profound impact.

A common mistake made by proposal writers in this first paragraph is to assume that readers — and grant-proposal reviewers, in particular — have more knowledge on your research topic than they actually do. The result: You make the mistake of omitting or skipping over key information, or you start with a description of niche problems that are of limited significance outside a very restricted group.

Because review panels are generally made up of reviewers from multiple disciplines, your grant proposal will very likely be read by scholars from both within and outside your field of expertise. The background, fit, and urgency of your project has to be clear to all of those varied readers.

Paragraph 2: Make the case for why the previous research on your topic is not enough. Your second paragraph can focus on carving out a gap in the research literature. Do this by providing a broad-level synthesis or critique of the current state of research on your research question. For example:

- Begin this paragraph with a statement like “Previous research on this problem has been characterized by ...”
- Next, clearly state how the status quo has produced suboptimal outcomes, exacerbated the problem it was designed to address, or created new problems.
- End this section with a clear statement of the lingering barrier to moving forward on your topic. Has research been stuck in the status quo for want of new perspectives, new data, or new technologies?

It can be tempting here to provide too much detail, or to be too critical of past work. However, the aims page is a broad, bird’s-eye view of your project. It is not designed to be comprehensive; it’s designed to be a quick and accessible read. So save additional nuance for the significance and innovation sections of your main research proposal.

Paragraph 3: Provide a vision of the future and a road map. So far, you have established a common ground with your reader, demonstrated a clear gap in the research literature, and highlighted barriers to progress. Paragraph 3 is where your specific-aims page starts to become even more formulaic.

Start with a sentence that introduces promising new evidence that suggests the barriers you introduced in Paragraph 2 can, in fact, be overcome. That evidence might be from your own pilot data, from novel empirical work in your field, or even from new approaches in other fields that can be adopted by or adapted to your project. You might cite novel theories, recent sets of data, or even new technological advances.

Proof-of-concept evidence is generally followed by two sentences:

- First, introduce your long-term research objective, or your vision for the future of this line of research. Ask yourself where you think your research will be in five to 10 years. “The long-term goal of this research is ...”
- Next, introduce your “local” or short-term research objective. Where do you want to be by the end of this specific project? “The short-term goal of this project is ...”

Paragraph 4: Your plan. Now it’s time to introduce your specific research plan — i.e., your specific aims. Usually this is a series of two to four milestones you anticipate on the road to achieving your main research objective. This section is guided by both formatting and content conventions:

- **Format:** Put your aims in an indented, bulleted list of single sentences in bold type. Use declarative language, and focus on deliverable goals with words like produce, evaluate, measure, or identify. Each aim may be followed by some additional methodological detail.
- **Content:** Make your case cumulatively. Begin with the most simple of your research milestones, and build toward more-complex questions. Each aim should be fundamentally independent (with its own research objective) yet interrelated with the others (working toward the same larger goals).

A common mistake in the aims paragraph is to have interdependent aims — meaning you identify a problem in Aim 1, and then propose to deal with it in Aim 2. That is generally a death knell for your grant proposal, because if the first aim fails to establish the problem, then there is no rationale for the work proposed in Aim 2. Avoid writing any aim that can be answered with a yes or a no.

Paragraph 5: Describe the impact. This tends to be the shortest paragraph of your aims page. It’s where you identify the potential outcomes of your study or, conversely, the costs of not completing it. In general, I recommend returning to the problem statement in your first paragraph — especially any trends or possible outcomes you introduced early on.

What will be the sustained impact, should your work prove successful? Be realistic. For example, few projects can promise to cure cancer, but your work might have an

authentic impact on cancer treatment or the quality of life for cancer patients and cancer survivors.

Consider, too, the impact that your work can have on science. How will the approaches developed in this project help in other areas of research?

Many researchers here make the mistake of using what I call placeholder language. In other words, rather than state any specific outcomes, they simply write, “My work will inform research and policy moving forward.” It may be true, but that’s not unique to your project. To help your readers identify the specific pathway between your work and its impact, paint a clear picture of how your research can move the field to new horizons.

A few final tips. My goal here is not to encourage cookie-cutter specific-aims pages. But following certain conventions in drafting your specific-aims page can give investigators an advantage. Here are a few additional guidelines I’ve found useful in garnering a positive reception from reviewers and program officers:

- Paradoxically, limit specifics. A specific-aims page is like Cliff’s Notes. Keep it general, and simply provide an outline that hits key points.
- Avoid jargon. Make sure this page of your grant proposal stays accessible to a broad research audience. (A [recent study of 21,000 scientific papers](#) found that those with a lot of jargon in their titles and abstracts were less likely to be cited.)
- Include white space. Make your page representative rather than comprehensive. You want only to pique the interest of your reader.
- Focus on a single problem. Your work may contribute to a broad array of issues, but focusing on a specific issue will help reduce the burden on readers.
- Avoid negativity. It is possible to critique previous research without being overly harsh. Acknowledge progress in your field, and promise to build on that progress.

Following these guidelines can clearly communicate your proficiency in grant writing, and ensure that all necessary information is conveyed in the order in which grant reviewers expect it. Make it easier for reviewers to understand your project, and you make it easier for them to recommend it.

We welcome your thoughts and questions about this article. Please [email the editors](#) or [submit a letter](#) for publication.

[Jude P. Mikal](#)

Jude P. Mikal is a research scientist and research-development consultant at the University of Minnesota’s Minnesota Population Center. He works with faculty members on their external grant proposals.