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## Scientific Editing and Research Communication Core

### Strategies for writing the Approach section of an NIH proposal

#### The goal of the Approach section

The overall goal of the Approach section is to convince reviewers that you are able to address the problem that is spelled out in the Significance section. For both new (A0) and renewal (A1) applications, the score for the Approach section usually correlates with the overall impact score<sup>1,2</sup>. Therefore, it is critical that this section clearly relays the methodology, strategy, and analyses that will be used to accomplish the objective of the proposed research. Below, we provide an overview of what is needed in this section. Additional details can be found in our [template](#).

#### What reviewers are looking for

Reviewers will assess the proposed approach for its likelihood to achieve the aims of the proposal (see specific review criteria for an R01 proposal [here](#)). They might also consider your track record and environment. In general they want to know the following:

- What will be done and why.
- What are the expected outcomes and why are they important.
- What might go wrong and what alternative strategies can be used.
- Is it feasible within the timeframe of the grant and with the resources available.

#### Strategy for writing the Approach section

The overall structure of the Approach section may differ depending on the proposal and what needs to be conveyed to reviewers. Here is a simple outline for an aim in a basic research proposal (see our grant-writing templates for more detail):

##### Title of the Specific Aim

Rationale

Specific activities (with informative subheadings for each)

Expected outcomes

Potential problems and alternative approaches

- Clinical trials and other types of proposals might require a different structure (see Option B in our template for R applications).
- Preliminary data can be presented as its own subsection at the beginning of the Approach section or incorporated throughout (e.g., near the rationale of each aim, or within a description of the experimental methods to show feasibility). The structure you choose may depend in part on how the preliminary data relate to the individual specific aims.

#### Rigor and reproducibility

Be sure to describe the following:

- How you will address weaknesses in the rigor of the prior research (these should be identified in the Significance section), including any related to considerations of biological variables.
- How you will ensure rigor and reproducibility in the proposed studies. This can be done in a single subsection at the beginning of the Approach section, or within each aim, and can include:
  - power analyses to justify sample size
  - statistical analyses to be used
  - considerations of biological variables
  - blinding and other methods to minimize bias

Regardless of where the information on rigor and reproducibility is placed, make sure it is labeled (e.g., italics and underlined) so that it is easier for reviewers to identify.

#### Figures and tables

- Use figures to show preliminary data, outline hypotheses, and/or explain a technique.
- Keep figures simple.
- Aim for one figure or table per page to help break up the text without making it crowded.
- Ensure that text in the figures, figure legends, and tables is large enough to read without magnification (9 point font or greater).

#### General tips

- For most proposals, the Approach section is the longest.
- If you are relatively junior or working in a new area in which you have few publications, you may need to provide more detail and preliminary data to demonstrate feasibility.
- Cite your own work and call it out in the text (e.g., "As we have done previously...", or bold your references).

### Upcoming Opportunities

#### Have a question about writing grants or research articles?

[Email us](#) your question and we will answer it in a future newsletter.

#### NSF Virtual Grants Conference

June 6–10, 2022

Just like the in-person grants conferences, the NSF Virtual Grants Conference is a must, especially for new faculty, researchers, and administrators.

[More information](#)

#### UI College of Education workshops in the Statistics and Assessment Institute

*Sponsored by the Centers for Advanced Studies in Measurement and Assessment (CASMA) and Iowa Center for School Mental Health (ICSMH)*

May 31-June 3 | 9:00am-12:00pm

June 6-June 8 | 9:00am-5:00pm

Faculty and students can participate in workshops catering to audiences spanning a wide range of constituencies, including educational and health policy makers, assessment practitioners in K-12 schools and their school mental health colleagues, social science and education researchers, and assessment industry specialists.

[More information](#)

#### Writing Winning Grant Proposals

*Sponsored by the Office of the Vice President for Research (OVPR)*

Phase I: Oct 6, 2022

Phase II: Jan 12 and 13, 2023

Dr. John Robertson from Grant Writers' Seminars and Workshops (GWSW) will present a Phase 1 seminar and a Phase II workshop. In person and virtual options are available.

[More information and to register](#)

#### Hardin Open Workshops: Finding the Right Journal for your Manuscript

June 2 | 1pm-2pm

This Zoom session will provide a demonstration of tools to use to create a list of appropriate journals to consider and will review resources to help you evaluate the quality of health sciences journals.

[For more information and to register](#)

#### Hardin Open Workshops: EndNote Desktop

June 7 | 10am-11am

This session will walk you through the basics of using EndNote to collect and format your citations. Advance registration is required.

[For more information and to register](#)

#### Maximizing Pivot to Find Funding and Collaborators

*Hosted by the OVPR*

June 28 | 12pm-1pm

Join this one hour Zoom session to learn how Pivot can save you time and effort in identifying the right funding opportunities for your research, as well as finding potential collaborators with the relevant expertise.

[Register](#)

- Unless specifically allowed by the FOA, do not include URLs or any annotations in the margins.
- Solicit feedback from colleagues outside of your subspecialty to gauge whether the level of experimental detail provided is sufficient.

**Additional resources**

- Eblen MK., Wagner RM, Chowdhury DR, Patel KC, Pearson D. [How Criterion Scores Predict the Overall Impact Score and Funding Outcomes for National Institutes of Health Peer-Reviewed Applications](#). Plos One. 2016 June 1; 11(6): e0155060.
- Lauer, Mike. [Characteristics and Outcomes of R01 Competing Renewal Applications \("Type 2s"\)](#). National Institutes of Health Office of Extramural Research: extramural nexus.
- Robertson J, Russell S, Morrison D. [The Grant Application Writers' Workbook, NIH version](#), 2021.
- AtKisson MS. [Handbook for Planning and Writing Successful Grant Proposals: Approach/Research Plan](#), 2021
- Frank D. and Holden S. [Writing the Approach section of an NIH grant](#): handout and slides from a Scientific Editors Network (ScENe) Conference Call.
- [NIH Rigor and Reproducibility](#)

**New NIH Scientific Data Sharing Website**

Whether you are involved in an NIH-funded project and want to understand which sharing policies apply to your research and how to comply, or you are a researcher looking to access scientific data from NIH-affiliated repositories, this site is for you.

[Visit the website](#)

**OVPR Resource Library: Learn from Successful Proposal Examples**

Are you curious about how to structure your proposal to a certain funding agency? Check out the Resource Library, compiled by the Office of the Vice President for Research (OVPR), to see examples of successful proposals to various funding agencies.

[Access the OVPR Resource Library](#) (HawkID authentication required)

[Unsubscribe](#)