

Writing a Successful NIH R01 Grant

Tips Sheet

1. Pick a Project

- Compelling topic with connection to patients and/or public health impact
- New idea that follows from published work and/or preliminary data
- Concise overarching hypothesis and/or goal
- Identify if project is innovative
 - Think through 2-3 aspects of proposal that would be new to the field – this can be a used method or an aspect of the intervention
- Feasibility of approach is established
- Something that you are passionate about and that you would enjoy doing!

2. Select Scientific Advisors

- Select at least two scientific advisors using the criteria below:
 - One advisor should know the research area well and be able to speak to the importance of the project and the planned approach
 - One advisor should know the general area of your proposed research, but not the details, representative of the range of likely NIH reviewers in study sections
 - Try to select at least one advisor with NIH study section experience
 - Bring your advisors into the R01 development early - *before you are overly invested in your idea!*

3. Write a Specific Aims Page for the Project

- Introductory paragraph
 - State the problem to be addressed
 - State the potential impact of the proposed research
- Specific Aims
 - Concise
 - Tied to a hypothesis (when possible)
 - Indicate, at a high level, how the proposed research will address the aim
 - No more than 3 aims (if possible)
 - The first two aims should appear achievable
 - Avoid aims that depend critically upon the success of another aim
 - Last sentence should be short and mention the positive impact of a successful project
 - Do not exceed 1 page

4. Identify Administrative Resources

- Department Business Administrator (BA)
- Department Grants Management Team
- Budget Specialist – will help with the budget
- PennERA and NIH Submission Expert – including grant components
- Identify administrative support (if available)

Note: These resources depend upon your department – reach out to your BA

5. Timeline - Start early!

- Determine the internal deadline with assistance from your BA or grants manager
- 6 months ahead of deadline
 - Specific Aims – Drafted

- Ask advisors and mentors to review and proofread

- ☐ 3 months ahead of deadline
 - Specific Aims - “Locked”
- ☐ 1 month ahead of deadline (at least), preferably earlier
 - Research Project – Drafted
 - Ask advisors and mentors to review and proofread
- ☐ 3 weeks ahead of deadline
 - Start submission
 - Routing items:
 - Budget and Justification
 - Biosketches
 - Required regulatory components (if applicable)
- ☐ 1-2 weeks ahead of deadline
 - Between initial routing and required submission to NIH:
 - Finalize research project
 - Ask advisors and mentors to review and proofread
 - Avoid major changes in research plan during this final phase
 - Choose a preferred study section for your submission

6. Research Plan Section - Specific Tips

- ☐ Background/Significance
 - Overview of what you plan to do
 - At the end of the first paragraph, identify how the project will address a clinical/biologic issue
 - Don’t make your reader read the whole section to find out what you are doing
- ☐ Preliminary Data
 - State how each result impacts your proposed approach and/or overall project
- ☐ Approach
 - Clearly state how you will analyze your data to address specific aims and test your hypothesis.
 - A stats section can be important even if you think the analysis is easy
 - Pitfalls/alternatives sections are strongly encouraged!
- ☐ Other
 - Scientific rigor
 - Key resources/Reagents
 - Human Subjects and Vertebrate Animals
 - These are all key sections that can hurt you if they are not done well
 - Mention critical results, concepts, and considerations more than once in the research plan
 - Reviewers may miss a single instance of a critical component
 - For amended (re-submitted) grants, include an introduction (1 page)
 - Collate common reviewer concerns
 - Include some concrete change
 - Address common concerns
 - Address the concerns in the “Summary of Discussion” paragraph

7. Additional Resources

- ☐ Junior faculty in your area of research who have received their first R01 recently
- ☐ Examples of successful grants, including amended application for resubmission
- ☐ Departmental mentor review/comments
- ☐ Faculty who have been part of a NIH study section
- ☐ See additional symposium document: “Grant Writing Resources” - workshops, courses, review groups