

Everything (Almost) You Wanted to
Know About Grant Submission and
Review,
But Were Afraid to Ask

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Grant Preparation

- Decide which funding agency is best suited for you
 - NIH may be the largest provider of grant funds but they are by no means the **only** grant funding agency. Check out the DOD or the VA grant programs for example!
- Get the program announcement (request for proposal)
- Look at the technical information
- **Contact the program officer or equivalent**
- Look at list of review committee members
 - Did you know you can see the rosters for current Center for Scientific Review (CSR) Integrated Review Groups (IRG)? Check out the link here:
<https://public.csr.nih.gov/StudySections/Pages/default.aspx>

Grant Preparation

- Stick to the guidelines
- Tailor grant structure and content to the review criteria.
 - Many grant mechanisms have reviewer “Guidelines, Critique Templates & Review Criteria” which can be found: https://grants.nih.gov/grants/policy/review_templates.htm
- Get counsel, engage senior colleagues and mentors
- Plan for double the time than you think it will take
- Better to skip one cycle than putting in a subpar grant

Grant Planning

- Be up-to-date on FOA announcements
- Learn about non-NH funding agencies
- **Contact the program officer early**
- Contact a statistician soon, as soon as you are considering design alternatives
- Read and carefully study examples of good grants
- Learn from mistakes (your own and by others)
- Ask to see successful grants/use them as a template
- PubMed, Google, Clinicaltrials.gov early in the process

Grant Planning

- Spend as much time on the administrative aspects as the scientific aspects of the grant
- **Develop a timeline with milestones**
- Start requesting letters of support, biosketches, and other support pages soon after writing specific aims and abstracts
- Begin to sketch the budget out as soon as possible
- Understand how much space is needed for each section of the narrative and write a detailed outline
- Look at how sections of the grant application are weighted
- Plan to submit one week prior to the last day (electronic submissions get kicked back with errors)

NIH 9 Point Score System

Overall Impact or Criterion Strength	Score	Descriptor
High	1	Exceptional
	2	Outstanding
	3	Excellent
Medium	4	Very Good
	5	Good
	6	Satisfactory
Low	7	Fair
	8	Marginal
	9	Poor

Strengths

- A topic of high importance and impact
- Relevant degree of innovation/incremental gain
- Feasibility data
- Pilot data
- Scalability
- Publications
- The right environment, team and collaborators
- Good mentors
- Succinct and structured writing
- Experience
- Prior success

How to Write to Win Peer Review Points

- Follow the program announcement (PA, RFA, RFP)
- Documents are well organized and easy to read
- Leave some white space!!
- Use headers in sections or paragraphs
- Communicate enthusiasm and commitment
- Letters of support should be individually written, not all the same template
- Don't forget to cite relevant literature from those who are ON the review committee!

Weaknesses

- Overly Ambitious
- Too many aims and hypotheses
- Sloppy cut-n-paste errors
- Font and margins too small (*they aren't kidding!*)
- Obvious that mentor or expert did not read or edit it
- Feasibility issues are not addressed
- Outcomes are ill defined
- No alternative plan for recruitment (if lagging)
- Human subjects protections inadequate
- “Who cares?” factor
- “So what?” factor

Statistics Matter

- Statistical approach must match the hypothesized outcomes (do not use a categorical analytic plan for a continuous measure)
- Power analysis must match the hypothesis and statistical plan (i.e. categorical vs. continuous)
- Do not rely on pilot data to predict power
- Show a table for sample size, power, and assumptions
- Discuss how you will handle missing data
- Discuss how you will handle multiplicity

If you fail, Try, try again

- Although demoralizing, do not take it personally
- Rejection is common, but failure is rare!
- Revise and Resubmit!!!! It does work
- Start immediately to repair (even before you get the reviews back)
- Include others in the post-mortem

Resubmission Guidelines

- Point-by-point response is essential!
- Be courteous to reviewers; they (often) spend a lot of time, are considered experts and generally enhance your work
- Make it as simple as possible for reviewers
 - Cut and paste the review into a word file
 - Number comments for each reviewer +/- editor
 - Respond in a concise way to each remark that criticizes, asks for clarifications, requests changes
 - Paste in quotation marks your modification
 - If you do not follow a suggestion, make sure that your arguments are waterproof and that you weighed pros and cons before you decided not to follow a suggestion

Resubmission

- Start early with administrative documents
- Read the literature updates
- Perhaps skip a cycle to gather more information, pilot data, consultation, and collaboration

When you get funded

- Savor the moment
- Celebrate
- Just-In-Time Process
- Prepare all operations prior to the launch
- Have an exceptional data management plan, with close scrutiny and checks-and-balances
- Publish your background section from the grant eluding to the need for such a study (you will be considered a visionary)

Manuscript Submission

- Review papers for journals, to become a better writer
- Be inclusive when selecting co-authors
- PubMed listed and has a reasonable Impact Factor (although important to get to press, any press!!)
- Look for Journal for good turn-around time
- Stick to the journal guidelines (follow the recipe)
- Concise cover letter, highlighting the relevant finding(s) and why your work is worth publishing

Manuscript Review

- 1st level: editorial review (go/no go)
- 2nd level: quality/formal review by editorial staff
- 3rd level: Peer review
- 4th level: Decision: reject, reject but possibility to resubmit/revise and resubmit, accepted with minor modifications (no re-review)
- Quality of the reviews can be quite mixed
- If you get to revise and resubmit, chances are very high that your paper will be accepted, unless there are fatal flaws that you cannot address.
- Point-by-point response is essential

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