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

<table>
<thead>
<tr>
<th>Overall Impact or Criterion Strength</th>
<th>Score</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Exceptional</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
</tr>
<tr>
<td>Medium</td>
<td>4</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Good</td>
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<tr>
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<td>8</td>
<td>Marginal</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Poor</td>
</tr>
</tbody>
</table>
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
Manuscript Resubmission

• 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
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