

Tips on Writing a Competitive NIH Grant Proposal

Friday, October 6, 2010



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Changes to grant applications (R01s)



- Resubmission = 1 page (down from 3)
- Specific Aim = 1 page (same)
- Research Strategy = 12 pages (down from 24) and is now in three categories (no more Significance, Previous Work, and Research Plan):
 - Significance
 - Innovation
 - Approach

New review system



- **Nine point “Overall impact”**
 - “High” (1 = Exceptional, 2 = Outstanding, 3 = Excellent)
 - “Medium” (4 = Very good, 5 = Good, 6 = Satisfactory)
 - “Low” (7 = Fair, 8 = Marginal, 9 = Poor)

New review system (cont.)



- Overall impact = How funding is determined.
- Separate scores for:
 - Significance
 - Investigators
 - Innovation
 - Approach (the most important criteria)
 - Environment

Overall impact does not need to be the average of the five subcriteria.

Changes to review process



- Abbreviated application and abbreviated review.
- Almost all discussed applications are resubmissions (remember, we now only get one resubmission).
- We were specifically and repeatedly told that the criticism of “more information is needed” is NOT a valid criticism.

Reviews



- New reviews have separate scores for each area.
- Strengths and weaknesses are listed for the overall impact as well as each of the criteria.
- Strengths and weaknesses are listed in bullet format – a great format if you have an excellent reviewer and a horrible format if you don't.
- We are reviewing more grant applications (e.g. 10-12) and reviewing many proposals out of our research areas.

Other criteria that aren't part of the overall impact (with one exception)



- Protections for human subjects* Human subjects now **can** impact the overall impact score.
- Inclusion of women, minorities, and children*
- Vertebrate Animals*
- Biohazards*
- Resubmission
- Renewal
- Revision

*Required in all applications and not part of the 13 page application

Additional Review Considerations



- Budget and Period of Support
- Select Agents
- Applications from Foreign Organizations
- Resource Sharing Plan

(Not part of the 13 page application)

Components of good applications



- Liberal use of margins
- You can't "cheat" and start the research strategy on the Specific Aims page
- Many good applications use the Specific Aims page to include the literature review
- Specific aims must include public impact statement.
- Most good applications make it easy for the reviewers to fill the template in ("The Significance of this application...", "The innovativeness of this application...", etc.)

Components of good applications



- Put what you use to put in the Significance in the Specific Aims
- Get RID of Previous Work for the most part. That is what the new Bio Sketch is for.
- New Bio Sketches are very important, no longer just pages to show qualifications. It establishes previous work in support of *this particular study*.
- Only include previous work if the data are truly preliminary work for the application.

Sections



- Specific Aims (has to be 1 page, put a lot of significance here)
- Significance – Keep it short as possible.
- Innovation – Keep it to one paragraph
- Approach – This is where the “meat” of the application is.

Approach



- Have half the space that we've previously had.
- Note there no longer IS a previous work section (but if you have data, you put it in this section).
- All other sections that we had in the previous Research Strategy section are present in the Approach section.

Sections you do NOT truncate



- Design
- Justification of Design
- Clear statement of independent and dependent variables
- Procedure (including a description of the facility, participants, measures, interventions). In short, include everything they need to evaluate the current application.

Sections you should truncate



- Data management (some place it in Human Subjects or use Appendices)
- Quality control/quality assurance (Human Subjects/Appendices)
- DSMP/DSMB (Move to Human Subjects)
- Time Line
- Statistical Power/Statistical Analysis (although this is still critical). Note: Chances are VERY high that a statistician will NOT review your grant.

Other issues



- Liberal use of figures, tables, etc.
- Do not spend a lot of space on measures, except for your primary outcome. Some applicants just had a table of measures.
- Gone are the days that we cut and paste lots of text from previous grant applications.
- Observation from study section: Avoid R21s (6 pgs.).
- Write it clearly and easy to understand. The quote from a NCI Program is more important than ever: “Assume all reviewers are idiots.”

Summary



- At the end of a five page letter, Mark Twain once said:

“I’m sorry I wrote such a long letter but I didn’t have time to write a short one.”