Applying for a K08
Strategies for Success

SITC Early Career Scientist
Professional Development Session
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Disclosures

- No financial conflicts of interest to disclose

- Also, I am not a K08 Study Section Reviewer
- But I did successfully apply for a K08

Learning Objectives

- Demystify the K08 grant application process
- Identify the critical components of a successful application
- Develop a strategy for a successful application
- Identify common shortcomings of applications
- Respond to feedback if not initially funded

I. Demystifying the K08

http://grants.nih.gov/training/careerdevelopmentawards.htm

What is a K08, who is it for?

- Objective: To provide salary and research support for a sustained period of "protected time" (3-5 years) to support didactic study and/or mentored research for individuals with clinical doctoral degrees (e.g., M.D., D.D.S., D.M.D., D.O., D.C., O.D., N.D., D.V.M., Pharm.D., or Ph.D. in clinical disciplines).
- Provides support for an intensive, mentored research career development experience in biomedical or behavioral research, including translational research leading to research independence.
- Translational research is defined as application of basic research discoveries toward the diagnosis, management, and prevention of human disease.

http://grants1.nih.gov/grants/guide/pa-files/PA-11-193.html

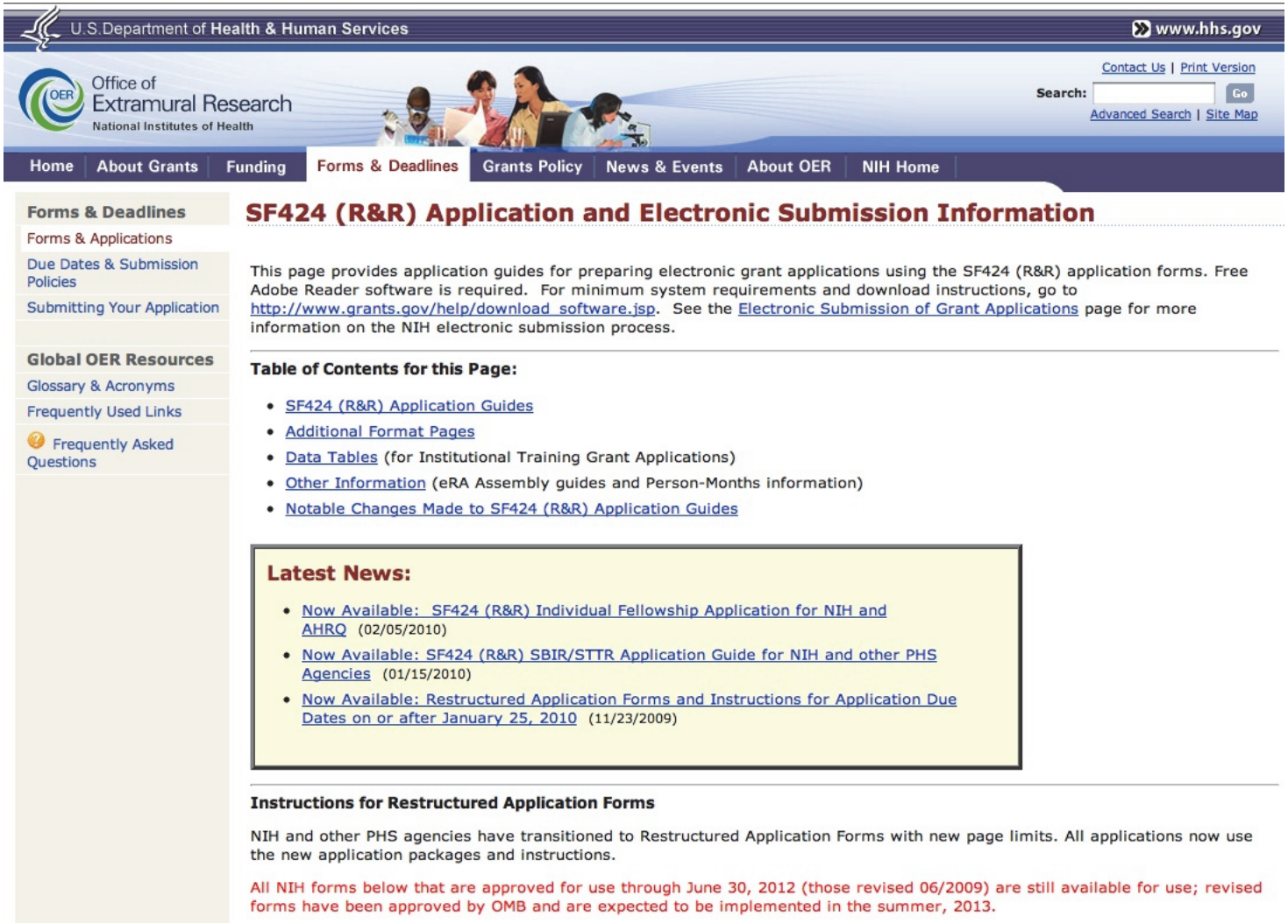
What is a K08, who is it for?

- Candidates for this award must have a **clinical doctoral degree**. Individuals holding the Ph.D. in a non-clinical discipline who are certified to perform clinical duties should contact the appropriate Institute concerning their eligibility for a K08 award.
- **Former PD/PIs** on NIH research project (R01), program project (P01), center grants, FIRST Awards (R29), sub-projects of program project (P01) or center grants, other career development awards (K–awards), or the equivalent are **not eligible**.
- Open to U.S. citizens, non-citizen nationals, and permanent residents.

http://grants1.nih.gov/grants/guide/pa-files/PA-11-193.html

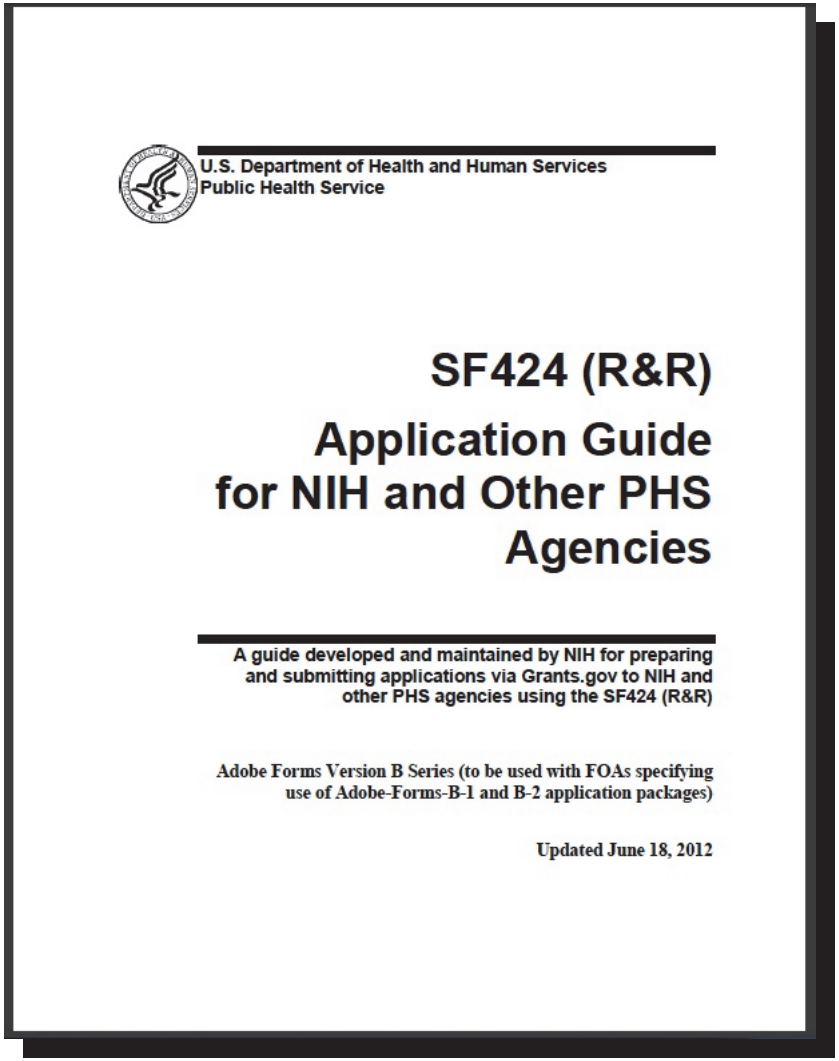
II. Identify the critical components of a successful application

Download and Read the Instructions!



http://grants.nih.gov/grants/funding/424/index.htm

Download and Read the Instructions!



U.S. Department of Health and Human Services
Public Health Service

SF424 (R&R)

Application Guide for NIH and Other PHS Agencies

A guide developed and maintained by NIH for preparing and submitting applications via Grants.gov to NIH and other PHS agencies using the SF424 (R&R)

Adobe Forms Version B Series (to be used with FOAs specifying use of Adobe-Forms-B-1 and B-2 application packages)

Updated June 18, 2012

http://grants.nih.gov/grants/funding/424/index.htm

Critical components of K08

- Candidate
- Career Development Plan
- Mentor(s)
- Research Plan

Brock, M. V., & Bouvet, M. (2010). *Annals of Surgery*, 251(6), 1013–1017.

The Candidate

- Who are you?
  - How have you been trained to date?
  - What are your short and long-term career goals?
  - Explicitly state that you aim to become an independent researcher.
  - Emphasize any accomplishments (papers) to date.
  - Don’t mistakenly put abstracts or review articles in the biosketch under peer reviewed articles.

The Candidate

- What is the justification for needing additional training?
  - Remember, the primary purpose of a K08 is not to fund your research project but instead to **fund your training**. (If you don't need training, apply for an R award!)
  - Briefly state how your Career Development Plan and Mentor(s) will help you achieve your stated goals.
  - State how your research goals are distinct from those of your mentor(s).

The Career Development Plan

- The **most important part** of the grant.
- Briefly restate your goal to progress to an independent researcher.
- Lay out short, medium, long-term career goals.
- Take stock of deficiencies in your training and lay out your plan to correct them.
  - Limited number of publications: take courses in manuscript and grant writing, propose schedule for for anticipated publication of with target journals.
  - Limited experience in _____: collaborating with world expert in _____, taking graduate courses in statistics to permit analysis of _____.

The Career Development Plan

- Include an appropriate didactic plan.
  - Courses, schedules, timetable to complete.
- Consider obtaining additional degree (e.g. MPH, PhD, Masters in Clinical Investigation).
- Explicitly state how clinical responsibilities will be integrated with coursework and research.
- Carefully review plan with mentor(s) to ensure consistency between your proposal and their support letters.

The Mentor(s)

- Choose a mentor who is an expert in your proposed field of study.
  - In addition to reputation, accessibility is a critical attribute of a good mentor.
  - A strong history of prior mentoring is looked upon very favorably.
- A co-mentor may be appropriate if part of your project lies outside of the expertise of your primary mentor.
  - For example, your mentor and research are in immunology but your Research Plan includes deep sequencing of cancer tumor antigens—a co-mentor with a track record in high-throughput sequencing would be appropriate.

The Mentor(s)

- Include an explicit schedule of the frequency of meeting with the primary mentor and any co-mentors (e.g. weekly lab meeting).
- State what will be discussed at the meeting (e.g. new data, goals needed to complete a manuscript, review of posters for scientific meetings).
- If co-mentors are not at a candidates institution, state how communication will be accomplished (e.g. web conference twice a month) .
- Mentor(s) must read and critique **all aspects** of the grant before submission.

The Mentor Letter

- Don’t let a weak letter doom the application.
- Must be consistent with applicant’s career development plan and research proposal.
- Should list results of prior mentoring.
- Highlight why mentoring team is appropriate and how it will supervise candidate.
- Helpful to include milestones to measure progress and anticipated timeline.
- During a resubmission, letter must be updated to reflect recent accomplishments by applicant.

The Research Plan

- Written with input/review from the mentor(s).
- Be sure to cite relevant literature (or risk angering your study section by omitting their work).
- Novelty, even in a K award, is always favorable.
- Don’t include an overly ambitious number or extent of aims/sub-aims (typically 2-4 is plenty).
- Aims should stand independent of each other’s success.

The Research Plan

- Acknowledge if others generated preliminary data you include (if you already have advanced technical/lab skills why get more training).
- State anticipated results and next steps.
- Provide a timeline to accomplish the experiments.
- Avoid jargon, and layout a clear narrative how the background, preliminary data, and anticipated results support your hypotheses.

The Research Plan

- List limitations/pitfalls and alternative outcomes/experiments; what is your response to these data?
- Emphasize that the necessary institutional resources are available to perform the proposed research.
- Discuss statistical analysis of data (extremely important for clinical trials).

III. Develop a strategy for a successful application

Preparing your application

- Start early!
- Seek feedback from mentors, colleagues, and others in your institution who have had success applying.
- Don't forget other requirements.
  - Course in Research Ethics.
  - Animal protocols.
  - Protection of human research subjects.
  - Getting PMCIDs for any prior published research.
  - Letter of institutional commitment (often department chair).
- Work with your institutional office of research administration.
  - They often want the whole grant 1-2 weeks in advance of due date to look for clerical deficiencies.

Submitting your application

- Explore if different NIH branches would consider your application.
  - For example, immunology may fall under NHLBI, NCI, NIAID; **salary support and paylines differ**.
  - Contact institute program director to discuss if applying to that institute is appropriate. (http://grants1.nih.gov/grants/guide/contacts/parent_K08.html)
- Solicit letters of reference early.
  - Late submissions will result in grant not being reviewed.
  - Follow up with referees that letters are in on time.

IV. Identify common shortcomings of applications

Problems with the Candidate

- Too few publications.
  - Include an anticipated schedule for completing experiments and publishing results.
  - Include a course in manuscript/grant writing in Career Development Plan.
  - In the meantime, write review articles/chapters with the mentor to expand expertise in the field.
- Unexplained gap in training.
  - Explain any interruptions (health, pregnancy, etc.), it won't count against you.
- Poorly articulated or incongruous career goals.
  - The training plan must be one to direct you towards a defined set of clinical and research goals.

Problems with Career Development Plan

- No documented need for further training.
  - You applied for wrong class of grant, get an R01!
- Poorly structured mentoring plan, inaccessible mentor
  - Articulate the frequency and type of meetings, what will be discussed, milestones of achievement.
  - Make sure there are no inconsistencies between mentor letter and proposed training plan (and don't just have mentor talk about the great science you will do).
- Insufficient or too much didactic work to gain the expertise proposed.
  - Courses should be explicitly listed and timetable for taking them provided.
  - Courses should be finished earlier in the training.
  - But, if credits are sufficient for an advanced degree then get it.

Problems with Career Development Plan

- Poorly documented support for protected time or too much clinical responsibility.
  - Must be negotiated with department and articulated in letter of support.
- Too much overlap in goals with primary mentor.
  - Must articulate a plan for independence.
  - Helpful to have institution document criteria for promotion if you plan to stay.

Problems with Research Plan

- Poorly articulated “big picture” of importance and novelty of work.
- Too many aims or sub-aims to accomplish in proposed time.
- Insufficient articulation of limitations, pitfalls, or alternative outcomes.
- Aims dependent on each other’s results.
- Unrealistic expectations about clinical trial accrual/insufficient explanation of statistics.

V. Responding to feedback and resubmitting

Resubmission

- Respond to all of the reviewers' comments.
- Highlight changes made in the grant so they are easy to identify.
- **Publish!!!** Demonstrate a productive research relationship with your mentor.
- If the mentoring relationship was considered a weakness, add additional expertise with a co-mentor or mentoring committee.

Good luck!

References

Grants.gov http://grants.nih.gov/training/careerdevelopmentawards.htm

Brock, M. V., & Bouvet, M. Writing a successful NIH Mentored Career Development Grant (K award): hints for the junior faculty surgeon. (2010). *Annals of Surgery*, 251(6), 1013–1017.