NIH Grant-Writing Workshop

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(somewhat rearranged from the Jan 10 version)

Develop a sense of entrepreneurship and agency

- No matter what you will do for a living, you will always have more control and more value if you bring in money rather than rely on someone else.

- The goal of this workshop is to encourage you to apply for an NIH fellowship (or other grant) by taking some of the obscurity and mystery out of it.

Workshop Outline

❑ Choosing the appropriate grant, contacting the Program Officer, and introduction to the official NIH application packet, known as the SF 424 (R&R), developing the Specific Aims

❑ Writing the Research Strategy, Bibliography

❑ Human Subjects and Responsible Conduct of Research

❑ Budgets and key personnel, the Biosketch, Letters of cooperation

❑ Other Documents:
- Project Abstract/Summary
- Project Narrative
- Resource sharing
- Facilities and Resources
- Special look at Career development awards (F, K)

Introduction to Grants

❑ NIH Grant applications are complex because they receive many thousands of them and need to be able to easily compare and evaluate them by having them fit the same format.

❑ But all grant proposals have the same components:

- What I want to do
- Why it's important (new, can make a difference)
- How I will do it and why
- How long it will take
- How much it will cost
- Why I am (and my collaborators) are qualified
- Why I'm in the right place (resources) to do it.

Which One?

❑ Where are you at in your career?

- Graduate Student – beginning or advanced
- Postdoc?
- Assistant professor
- Tenured professor or other senior researcher

❑ How big or complex is the research project?

❑ Which NIH Institute or Center (IC) (or other funder) supports your area of research?

❑ Which program official within that IC manages research most closely aligned with your interests?

Examples of ICs

- ❑ NICHD
  - ▪ Extramural Research areas:
    https://www.nichd.nih.gov/about/org/der/branches
  - ▪ Population Dynamics Branch:
    https://www.nichd.nih.gov/about/org/der/branches/pdb
- ❑ NIA: https://www.nia.nih.gov/research/research-divisions-contacts
  Division of Behavioral and Social Research:
  https://www.nia.nih.gov/research/dbsr

- ❑ NIMH: https://www.nimh.nih.gov/research/research-funded-by-nimh/research-areas/index.shtml

NIH Grant Background

- Several kinds of grant programs
- Each has 'parent awards' as well as 'set asides' and 'special interest' RFPs.
- Research: R01 (5 years, $500k/annual); R21 (2 yrs, $275k; <$200k in any year); R03 (2 years, $100k; <$50k in any year).
- **Career: e.g. K01, K99. For developing a research career. Requires commitment of full-time employment from an institution. Can be used for new assistant professors. Rules vary by IC**
- **Fellowship: F31 (dissertation) and F32 (postdoctoral). Pays according to NIH salary and stipends amounts.**
- **Administrative supplements – reentry, diversity, unspecified**
- Center development and programs: R24, P30, P01. For collaborative research programs.
- Training: T32, usually for graduate students and postdocs, not individual applicant.
- Programs: R25, P30, T32, etc.

Apply as a supporting researcher

- Even though NIH funding lines are getting tougher every day, there are some much more likely approaches for funding for junior and not-so-junior researchers.
  - An administrative supplement to an existing R01 (see Additional Material, at the end)
  - Find out if someone writing a grant needs a data analyst or could fund a postdoc or researcher.
  - Write yourself into a PI's project.
  - Write a center or training program grant (R24, R15, R25), if you have organizational skills.

Read the Manuals

- Throughout, I will be referring to "The Book" which is: Grant Writers Central (http://www.grantcentral.com/workbooks/national-institutes-of-health/), the NIH version.

- I will also be referring to the NIH manuals such as…

- https://grants.nih.gov/grants/how-to-apply-application-guide.html#form

The Overall Process - Overview

- Identify your research project – topic, scope (long/short, rough budget), career goals

- Find a funding source

- Contact the program official. Send Specific Aims and other details

- These things take time: 6 months to a year.

- Get an example to model yours on

- Get reviewers – colleagues, advisors, friends

- Get institutional support. You may be the PI but the applicant is your institution.

The Overall Process - Steps

❑ You will need no less than 2 months to develop a grant (I've never seen a hastily put together grant be successful), but really you should think about 6-12 months

- ▪ Keep in mind the turnaround for decisions is another 4 months till you get reviewed, and if a good score, then 2 more months till you get funding approved, and then another 2-6 months till you see money (although there may be pre-award costs allowed)

❑ Search for funders (for NIH, do a grants search, sign up for announcements, and for unsolicited)

❑ Read the FOA (funding opportunity announcement) *REALLY CAREFULLY SEVERAL TIMES IN THE PROCESS*

❑ *Get a copy of someone else's somewhat similar application (see Project Reporter)*

❑ Prepare a draft Specific Aims

❑ Contact the program officer(s) to see if it makes sense.

❑ Develop draft budget with collaborators identified, and need for any subawards

❑ Work with Shared Services, the earlier in the process the better.

❑ Incorporate feedback in grant design

❑ Write strategy draft. Get internal reviews. Rewrite. Get another review. Edit.

❑ Write other documents

❑ Get draft docs to Shared Services 2-7 days before SPO's deadline

❑ Shared Services delivers to SPO 5 business days before due date to NIH

Using Project Reporter

❑ It is an online directory of all NIH grants, active and inactive.

❑ https://projectreporter.nih.gov/

❑ Enter in the most limiting, yet general search item (e.g., a person, your institution or city)

❑ Additional criteria might be the 'Activity Code' (e.g., R01, F32) and Agency/Institute/Center (e.g., NIA, NICHD).

❑ Use this to identify similar projects to see what is being funded, or how to write a Summary/Abstract

❑ Use this to identify a project and ask the PI for the application - someone you know or your advisor/colleague knows

Writing to the Program Officer

❑ Identify the officer either through the FOA's scientific contact person specified, or from looking at the IC's (institute or center) website.

❑ You may cc more than one officer if you think it has multiple audiences. The goal is to see if they think it's worthwhile for them, to get feedback, or redirection to a more appropriate agency.

❑ Keep email to one screen. They get a lot of emails.

❑ Send the Specific Aims document.

❑ If not in the Aims, include:

- Research question/topic
- Hypotheses
- Data and method
- Budget and time frame
- FOA number and name
- Why you think the topic is relevant to the IC
- Collaborators

The NIH Application Form: SF424(R&R)

❑ There is a link to the Application from the FOA (funding opportunity announcement).

❑ Let's learn how to read these FOA's first, before we look at the application itself. [Hint: Print to .pdf and then print out.]. Note that they know have FOA's just for clinical research, experimental research, and basic research.

- Parent F32: https://grants.nih.gov/grants/guide/pa-files/PA-20-242.html

- Parent R01: https://grants.nih.gov/grants/guide/pa-files/PA-20-185.html

- Once you know (or think) which grant mechanism is appropriate, which might be a parent announcement, or a specific request for applications (RFA) or Program announcement reviewed in the IC (PAR), then you will download the application. Acronyms making your head spin? Keep the Glossary handy: http://grants.nih.gov/grants/glossary.htm.

❑ The application for an NIH grant is not for faint of heart and that's why you're taking this workshop.

Documents Required for Most* NIH Applications

- ❑ Biosketches of all key personnel
- ❑ Letters of support
- ❑ A budget
  - ▪ Budget justification
  - ▪ Sub-award, justification, institution letter
- ❑ Specific Aims
- ❑ Strategy (the proposal itself)
- ❑ References/Bibliography
- ❑ Appendices (e.g., survey instrument)
- ❑ Project Summary/Abstract
- ❑ Project Narrative
- ❑ **Human Subjects | Targeted Planned Enrollment
- ❑ Facilities and Resources
- ❑ Resource Sharing
- ❑ Cover Letter

* Career grants (Fs and Ks) have additional required documents.

**Human Subjects documentation includes a separate section in the online application, a class in and of itself. I have step-by-step documentation

Specific Aims

❑ One of the most important documents you write.

❑ One page only.

❑ Must introduce research question, justify it, state what the proposed research project will do, define specific outcomes (aims) of study, and specify its innovation and contribution to the IC's mission.

❑ Use this document:

- To send to program official for feedback on research idea.
- As an outline for your research strategy (the actual proposal).

Specific Aims Outline

SPECIFIC AIMS/OBJECTIVES

- Insert preamble that describes the unmet need and/or gaps in our knowledge and why this is an important topic of study.

- Our long-term goal is to understand _____. The specific objective of this proposal is to _____. The central hypothesis is that _____. We formulated this hypothesis, in part, based upon our strong preliminary data, which shows that _____. We will use <this> data and <this> methodology. The rationale for the proposed research is that once it is known how _____. We will pursue these studies in (2-4) Specific Aims:

- *Aim 1 INSERT TEXT.*
  - Our *working hypothesis* for this Aim is that _____.

- *Aim 2 INSERT TEXT.*
  - We will test the *hypothesis* _____.

- *Aim 3 INSERT TEXT.*

- In these studies, we will examine _____. The proposed work is innovative because it _____. At the completion of this project, we expect that the combined work proposed in Aims 1 and 2 will _____. We also expect that Aim 3 will establish _____. And it fits with IC Mission because _____.

Project Summary/Abstract

❑ This document is very important because it's viewed by reviewers who vote, but who don't necessarily read the entire proposal.

❑ They may read only this and the Specific Aims, which means those two documents should be complementary and not redundant.

❑ It's limited to 30 lines.

❑ It is the abstract of the study, whereas the Specific Aims is the proposal in one page. So it says what you are going investigate (topic and population), why (importance and significance) and how (data used).

❑ It is the public-facing document that you see on Project Reporter (in Description), so

- You have thousands of examples at your fingertips.
- It must be written in everyday academic language, without jargon.
- Do not include references

7. Project Summary/Abstract

The Project Summary must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained description of the project and should contain a statement of objectives and methods to be employed. It should be informative to other persons working in the same or related fields and insofar as possible understandable to a scientifically or technically literate lay reader. This Summary must not include any proprietary/confidential information. Please click the **Add Attachment** button to the right of this field to complete this entry.

The **Project Summary** is meant to serve as a succinct and accurate description of the proposed work when separated from the application. State the application's broad, long-term objectives and specific aims, making reference to the health relatedness of the project (i.e., relevance to the **mission of the agency**). Describe concisely the research design and methods for achieving the stated goals. This section should be informative to other persons working in the same or related fields and insofar as possible understandable to a scientifically or technically literate reader. Avoid describing past accomplishments and the use of the first person. Finally, please make every effort to be succinct. This section must be no longer than 30 lines of text, and follow the required font and margin specifications. An abstract which exceeds this allowable length may be flagged as an error by the agency upon submission. This would require a corrective action before the application will be accepted.

Check The Book, too.

Project Narrative

- ❑ Just 2-3 sentences (not lines) long.
- ❑ It is also public-facing (in Project Reporter, in Description).
- ❑ It states the public health benefit and why it fits with the mission of the IC.

8. Project Narrative
Provide Project Narrative in accordance with the announcement and/or agency-specific instructions.

For NIH and other PHS agencies applications, using no more than two or three sentences, **describe the relevance of this research to public health.** *(emphasis added)*
In this section, be succinct and use plain language that can be understood by a general, lay audience.

Check The Book, too.

Project Narrative

- **Example 1 (F31 – Sabrina Boyce, UCB):** This study will be the first to directly assess men's perpetration of reproductive coercion (RC), as well as the reliability and validity of this measure. Identification of social network-based risk factors will extend understanding of how RC may be socially supported across men's closest peers and family and inform strategies for addressing RC perpetration among men via their social networks, a novel and promising approach to improving the reproductive health of married adolescent girls in West Africa. This will be the first empirical evidence to inform primary prevention efforts around reproductive coercion in West Africa, a key step toward reducing adolescent and unintended pregnancy, high fertility, and related maternal mortality.

- **Example 2 (R01 – Will Dow, UCB):** "Dementia Determinants in Caribbean and U.S. Hispanics" will add data from non-metro populations to previously collected surveys of the 65+ capital city metro populations in the Hispanic Caribbean island/countries of Puerto Rico and Dominican Republic. These data will enable comprehensive analysis of the relationship of dementia with lifecourse socioeconomic determinants and consequences across highly varied contexts. The study will compare findings to representative data for U.S. populations of Hispanic Caribbean origin to understand the key drivers of dementia as well as the resulting formal and informal care costs, then simulate how prevalence and costs could be different under altered social arrangements.

Research Strategy

- ❑ Significance
- ❑ Rigor and reproducibility
- ❑ Innovation
- ❑ Using the Specific Aims as an organizing tool.
- ❑ Approach for each Aim
- ❑ How will your method reach your Aim?
- ❑ Collaborator contributions?
- ❑ Preliminary results (req'd in R01s, rec'md in R21s)
- ❑ Possible pitfalls.
- ❑ Expected outcomes
- ❑ Timeline

Research strategy: Significance

Significance

❑ Have separate sections for Significance and Innovation. The Book says about ½ to ¾ of a page.

❑ Significance addresses 3 issues:

❑ From the literature review, what gaps are there that beckon resolution?

❑ Why is filling this gap important in terms of advancing the field?

❑ What contributions does this advance make to NIH's mission?

❑ Your Specific Aims are building blocks to the Significance in your contribution.

❑ There is now a need to specify *Premise*, that is, how did the previous literature get you to this project, and what weaknesses in said literature will your project address.

Research strategy: Innovation

Innovation

❑ Also needs to be addressed in three ways, and it's complementary to the Significance

- From the literature, what has hampered filling in the gap you discussed in the Significance?

- Explain how your research is in fact innovative.

- Then explain how this innovation is critical for other benefits to public health or scientific inquiry.

❑ Rigor and reproducibility is a new scoring criterion. You need to show how your work has evolved from the scientific process, and what yours will contribute that others have not been able to do. Make sure you address gender and age.

❑ Indicate how your Specific Aims are building blocks to the innovation.

❑ Here's where using underlines work. Some say italics or bold. Which do you think is more readable, not just noticeable?

❑ Make it about ½ - 3/4 page, too.

Research strategy: Approach

- ❏ Needs an intro paragraph to say where you're going.
- ❏ Each Aim is an essay within an essay, a proposal within a proposal.
- ❏ Unlike a published article, a proposal has to show that you have thought out every step of your data collection and research process. You don't want to sound like you're saying "We'll figure it out when we get the money."
- ❏ Data collection has to have method, sample size, interviewers, equipment, instruments…
- ❏ Analysis has to have dependent variables, models, controls, perhaps equations, and explanatory variables. The analyses must show how you will test your hypotheses you specified in the Specific Aims.
- ❏ Despite the fact you have to demonstrate you have thought through details, in fact you don't have room for everything little thing. This is hard to juggle.
- ❏ You want to be able to say that once you complete this data collection and analysis that you will know something and that something will enable you to do something else (expected outcomes).

Research strategy: Other elements

❑ The timeline is at the end of the approach section, after each Aim has been addressed. A full timeline now goes in the Human Subjects section in **ASSIST** only.

❑ But life's roses have thorns: what are your expected pitfalls and problems, and what will you do if they happen?

❑ Preliminary studies: Nothing says feasibility like preliminary results. These can result from a pilot study, from earlier work you've done, or an analysis you recently accomplished. The reviewers are instructed to place less emphasis on Early Stage researchers than senior Pis. [For dissertation grants, obviously this isn't relevant, but in another part of your application you indicate why your training has made the research feasible for you.]

❑ The articles, books etc. you cite are listed in a separate document (attachment), References/Bibliography.

❑ Read the hints in The Book. Read the FOA again. Read the relevant PHS and SF424(R&R) instructions, too.

Biographical Sketch (Biosketch)

❑ A biosketch is not a reformatting of your CV. Rather, it's a marketing piece about you as a researcher. It contains:

❑ A brief statement of your accomplishments and capabilities relevant to the proposed project.

- Personal statement about why you are qualified for this research and how it makes sense for your career. Can be quite long actually, but be concise. It is very important. Can/should include publications.

- All relevant academic positions and accomplishments: reviewers, session organizer, awards, fellowships, prizes. Present almost any kind of role, honor and award

- "Contributions to Science" – this feature summarizes your areas of research, and includes relevant, primary citations. Use publications, software, videos, whatever, to make your case.

- Any grants current or completed (last 3 years). Summer fellowships or 2 week programs are grants.

- In addition to listing publications and other productivity in your Personal Statement and Contributions to Science, you can provide a link to a .gov website with your bibliography. Include PMCIDs (not PMIDs) where relevant.

  - An example biosketch: (http://grants.nih.gov/grants/forms/biosketch-sample.docx

- Personally, I think it would help, in a dissertation award only, to show recent presentations at major meetings.

- Grants – do you have a track record of bringing in work? (Obviously not as relevant for dissertation grants).

- There is a different biosketch format for F applicants than for other grants.

Budget Planning

❑ Campus grants analysts will finalize budgets but they need to have these components delineated by the PI:

- Salaries & benefits for everyone involved
- Fee remissions for graduate students
- Travel to do field work, attend conferences, fly in collaborators, etc.
- Data collection costs, including incentives
- Purchase of data, software licenses, hardware, supplies, postage, printing where part of the research (e.g., recruitment letters)
- Budget justification statement

Resource Sharing

❑ It's good to share your results, data, and anything else you've learned.

❑ Now (since FY 2019) research projects tend to have a default requirement for <u>data sharing.</u>

❑ Some projects have specific requirements, e.g. GWAS, budgets with direct costs of $500k or more in any year.

❑ Say how you plan to do so:

- Publications, e.g., in peer-reviewed journals, monographs, and/or layperson reports for policy makers.
- Presentations at conferences.
- On a website, or build a new one for the project
- Engaging with community leaders.
- Putting data up on a website, yours, ICPSR, or wherever.
- Teach workshops to a specified audience.
- ??? 29

Human Subjects

❑ This document indicates that you have a full understanding of human subjects issues in your research project. If considered insufficient your proposal will not be reviewed.

❑ Consider discussing this with your IRB for any red flags

❑ Get an example or use the NIH official guidelines document: G.500 - PHS Human Subjects and Clinical Trials Information https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.500-phs-human-subjects-and-clinical-trials-information.htm

❑ It is not highly intuitive, so use the example, which must have these sections:

▪ Characteristics of the study population (from strategy, targeted/planned enrollment)

▪ Sources of materials (format of collected and stored data).

▪ Recruitment and consent procedures (how reached, at what point do people give consent and how do they do so?)

▪ Potential risks (privacy, health)

▪ Adequacy of Procedures for Protecting against Risks (data security)

▪ Potential Benefits of the Proposed Research to the Subjects and Others (a cure, better health, or most likely, other than the incentive, just being a better person for participating).

▪ Importance of the Knowledge to be Gained (why it's worth while to subject humans to my research)

Documents Regarding Study Population

- Over the years, NIH has standardized (read: made more complicated) the information they collect about human subjects. Now researchers use a section of ASSIST to enter in this information.

- Documents about children, women and minorities in the study population (goes into Human Subjects section)

- Not so long ago clinical trials tested medicines and treatments on white males only. This led to overdoses, unanticipated side effects, and even catastrophic effects.

- So now research must include children, women and minorities unless there is a scientific reason not to do so.

- When you are collecting your own data and have human subjects issues, then you must include these documents.

- Targeted Enrollment Plan: Now an online form in Human Subjects section.

Study Groups: Instructions for UC Berkeley users

Section 1: The title is the title of your pilot grant.

1.2 No -> 1.3 NA

1.4a = yes; b-c: if all are yes it's clinical research which is an entirely different situation.

1.5 NA

2.1 These are the MESH: https://meshb.nlm.nih.gov/search.

2.2 Section 5a from protocol

2.3 Section 5a

2.3.a See https://grants.nih.gov/policy/inclusion/lifespan.htm. A new document, similar to the Women, Children, Minorities document in NIH applications. A short paragraph describing justification for age range, particular exclusions.

2.4   Women & Minorities document in NIH applications.

2.5 Sections 6a, 6b, 7a, 7b

2.6 (not yet recruiting, actively recruiting, active data collection, completed, suspended, terminated)

2.7 include some kind of timeline information - could be table, chart, or just bullets

2.8 Date of enrollment of first participant

2.9 The enrollment/inclusion table. [Tip: use an excel file formatted with all the categories to make it easier]

3.1 The human subjects document in NIH applications, with paragraphs on
   a. Characteristics of the Study Population.
   b. Sources of Material.
   c. Recruitment and Consent Procedures.
   d. Potential Risks.
   e. Adequacy of Procedures for Protecting against Risks.
   f. Potential Benefits of the Proposed Research to the Subjects and Others.
   g. Importance of the Knowledge to be Gained.

3.2 self-explanatory (!)

3.3 Another document. Section 13 a-g.

3.4 No

3.5 optional

4.1a, b NA - for non-clinical research

4.2 Don't fill out the rest - it's for clinical research only <u>except</u>

6.3 date of enrollment of first subject

Children -> Inclusion across the life course

❑ The policy expands the Inclusion of Children in Clinical Research Policy to include individuals of all ages, including children and older adults. The policy also requires that the age of enrollment of each participant be collected in progress reports.

❑ **For the purpose of implementing these guidelines, a https://grants.nih.gov/policy/inclusion/lifespan.htm *child* is defined as an individual under the age of 18 years** (used to be 21!)

❑ If the project involves human subjects and/or NIH-defined clinical research, are the plans to address 1) the protection of human subjects from research risks, and 2) inclusion (or exclusion) of individuals on the basis of sex/gender, race, and ethnicity, as well as the inclusion or exclusion of children, justified in terms of the scientific goals and research strategy proposed?

❑ Provide either a description of the plans to include children, including the particular age ranges to be included, or, if children (or a subset) will be excluded from the proposed research, present an acceptable justification for the exclusion (see below).

❑ If children are included, the description of the plan should include a rationale for selecting a specific age range of children. The plan also must include a description of the expertise of the investigative team for working with children at the ages included, of the appropriateness of the available facilities to accommodate the children, and the inclusion of a sufficient number of children to contribute to a meaningful analysis relative to the purpose of the study.

Women and Minorities

❑ https://grants.nih.gov/policy/inclusion/women-and-minorities.htm

❑ Included if Human Subjects mentioned.

❑ Describe study population, why including/excluding by gender is appropriate (e.g., prostate studies don't need women). Same for minorities (e.g., immigrant studies may not need immigrants from, say, Africa, because of the sample frame).

Targeted Planned Enrollment

❏ This is now part of the ASSIST document.

❏ You may need to calculate these numbers from census documentation for representative samples.

❏ http://grants.nih.gov/grants/funding/phs398/PlannedEnrollmentReport.docx.

❏ Not here, but in your research strategy, you will need to justify your sample population as being appropriate for testing your hypotheses.

Targeted Planned Enrollment

Racial Categories	Non-Hispanic			Hispanic			Other			TOTAL
	Female	Male	Unknown	female	Male	Unknown	Female	Male	Unknown	
American Indian/Alaska Native										0
Asian	0	6	0	0	0	0	0	0	0	6
Native Hawaiian or Other Pacific Islander										0
Black or African American	8	8	1	1	0	0				18
White	86	165	5	2	8					266
More than One Race	4	5		0	3	1				13
Unknown	6	3		3	1	1				14
Total	104	187	6	6	12	2	0	0	0	317

Animals | Equipment

❑ Animals probably don't arise in behavioral and social science research all that often but there are rules. Please check the Instructions.

❑ Equipment is for a <u>single piece</u> of equipment that costs at least $5,000, e.g., lab equipment.

Facilities and Resources

❑ Must include all project sites. If including locations other than your institution, must have letter.

❑ Even if the resource is at your institution, it may still be beneficial to have a letter.

❑ Describes: Computing, data, office space, administrative support, libraries, conference space, data collection equipment and services, data analysis capabilities, bio-specimen storage, etc.

❑ Course releases require a letter from the Dean or Provost. Any additional financial support offered must have a letter. I've concluded that when in doubt, provide a letter.

❑ Often considered unnoticed (and often isn't) but should support overall application. In some grants the F&R is copied into the main proposal.

Letters of Support

❑ Letters back up your statements that people will work with you the way you are saying they will.

❑ Every person and organization mentioned outside of your institution absolutely must have a letter attached.

❑ At your own institution, many advise including letters for key personnel when:

❑ You are enlisting support of institutional resources that don't have to support your program or department.

❑ You claimed something that Deans or other administrators can back up, e.g., regarding course buy-outs, recruits.

❑ You have Sponsors/mentors

❑ See guidelines: https://nexus.od.nih.gov/all/2019/09/11/reference-letters-vs-letters-of-support-whats-the-difference.

Letters of Support

- ❑ Written on letterhead, signed, scanned into pdf.
- ❑ Should be specific about project.
- ❑ Provide people with some text that they can edit.
- ❑ Example text:

Dear Prof. PI:

I am pleased to join your project, 'Investigating implications of low fertility for later life social systems' that you are submitted to NICHD as an R01. I will be actively part of the project during years 2 and 3 (2018-2020), where I will contribute to the analysis using fixed effects methods models. I also add substantively to the interpretation of these data. This is an exciting and important project and look forward to being involved.

Sincerely,

Moi

Appendices

❑ Acceptable appendix material is very limited

❑ APPLICATIONS THAT VIOLATE THIS WILL BE REJECTED WITHOUT REVIEW

https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-098.html.

Allowable appendix materials

Beginning with applications submitted to the NIH, AHRQ, or NIOSH for due dates on or after January 25, 2018, the only allowable Appendix materials are:

Blank data collection forms, blank survey forms and blank questionnaire forms -- or screenshots thereof.

Simple lists of interview questions.

For clarification, these blank forms and lists are not and do not include items such as: data, data compilations, lists of variables or acronyms, data analyses, publications, manuals, instructions, descriptions or drawings/figures/diagrams of data collection methods or machines/devices.

Blank informed consent/assent forms

Other items only if they are specified in the FOA as allowable Appendix materials

Some FOAs further restrict allowable appendix materials and/or may specify that some materials listed above must be provided in another part of the application. Applications submitted to those FOAs must follow instructions in the FOA and must not put those items in the Appendix.

Additional Material

❑Administrative Supplements

❑Career Development and Individual Training Awards (F, K)

❑Using Project Reporter

NIH Administrative Supplements

❑ Approach the PI, the PI can then approach the Program Officer and find out the process. I've seen an email. But there is also the big SF424(R&R) application.

- All existing grants are possible, but the supplemental project must be completed within the project period of the parent award, which is why an R01 (5 years) or P-award (5 years) are more likely targets.

- Formal announcement: An example is: https://grants.nih.gov/grants/guide/pa-files/PA-21-071.html. "Research Supplements to Promote Diversity in Health-Related Research (Admin Supp)" in order to: "improve the diversity of the research workforce by supporting and recruiting students, postdocs, and eligible investigators from groups that have been shown to be underrepresented in health-related research. This supplement opportunity is also available to PD(s)/PI(s) of research grants who become disabled and need additional support to accommodate their disability in order to continue to work on the research project. Administrative supplements must support work within the scope of the original project."

- Search http://projectreporter.nih.gov/reporter.cfm to see if an appropriate scholar (you know or know of) has an R01.

Career Development and Individual Training Awards

❑ Some (but not all) Types

- ▪ F31 predoctoral

- ▪ F32 postdoctoral

- ▪ K01 mentored independent research

- ▪ K99/R00 mentored into independent:

- ▪ https://researchtraining.nih.gov/programs/fellowships/F99-K00 and https://grants.nih.gov/grants/guide/rfa-files/RFA-AG-21-022.html.

❑ These are training and career development awards. That means:

- ▪ The priority is in your training and development

- ▪ The research project is the case study you use to acquire this development.

Career Development and Individual Training Awards

❑ F33 are for senior fellows, so I will concentrate on F31's and F32's.

❑ There are several "FOA's" that is, Funding Opportunity Announcements. Go to http://grants.nih.gov to search.

- Post-doctoral: Up to 3 years. Can submit while finishing dissertation. $40k-$50k per year stipend. F32 NRSA Postdoctoral fellowship (any IC or agency)
- Parent: https://grants.nih.gov/grants/guide/pa-files/PA-20-242.html
- Diversity: https://grants.nih.gov/grants/guide/pa-files/PA-21-071.html
- Pre-doctoral: https://grants.nih.gov/grants/guide/pa-files/PA-21-051.html
- (Parent) & https://grants.nih.gov/grants/guide/pa-files/PA-21-052.html (for underrepresented scholars). Typically 2-3 years. Stipend is $22k, 60% or $16k of tuition/fees. Can be in addition to T32 funding.

❑ Both F31 and F32's can be submitted as an administrative supplement to an existing R01. If there is a professor who you would like to work with, check NIH Reporter to see if s/he holds a grant: http://projectreport.nih.gov/reporter.cfm

Career Development and Individual Training Awards

❑ <u>Key Elements</u>

❑ Respective Contributions: How did you come to this point to develop your independent but mentored project?

❑ Selection of Sponsor/Institution: Justify the strengths, support, background, resources, etc. in terms of the intellectual environment (not its libraries, etc.)

❑ Responsible conduct of research. This is important. Make sure you have a good model to describe the appropriate number of hours. Online and face-to-face formats are required.

❑ Goals. This like a 'specific aims' for your training and mentoring, comparable to the one for your research project. Skills, Substantive field, research results.

❑ Activities planned: like the training plan, but this time emphasizes not just the content, but the logical flow and progression.

❑ Research Experience: graduate and undergraduate.

Career Development and Individual Training Awards

❑ Letters of Reference – can be professors or employers

❑ Sponsor and Co-Sponsor Information. You write this but it's in the third person describing the Sponsor, who then edits and revises.

- Brief explanation of why this Sponsor
- Research support available, that is, show that the applicant is not double-dipping and already engaged in a current research project. Rather, the proposed work is an independent but mentored work.
- Sponsor has previous mentoring experience

❑ Training Plan: What you are doing in terms of

- Dissertation progress, coursework, RCR, teaching experience, conferences, publication plans, and 'translational work' (what is it good for and are you talking to others outside your field?)
- Provide table, then detail.

Career Development and Individual Training Awards

❑ Sponsor (mentor) Strengths:
- Has been NIH PI
- Well established in field (e.g. strong publication record, external funding)
- Excellent training record. Has mentored people at same level as applicant
- Good match of trainee and sponsor interests
- Complementary strengths if > 1 sponsor

❑ Consider…
- You can get more than one sponsor who doesn't have the capacities of the primary sponsor (e.g., assistant professor who has never been an NIH PI but who does have expertise in a methodological or substantive area).

Career Development and Individual Training Awards

❑ Training plan strengths
- Clearly articulated, well integrated with overall aims and research plan
- Coherent, well-developed plan
- Multi-disciplinary approaches
- Specific and ongoing training in responsible conduct of research

❑ Training plan weaknesses
- Vague, insufficiently focused
- Insufficient training in substantive area(s)
- Details about progression through doctoral program lacking
- Lack of integration with aims and/or research
- Inadequate mentoring process

ORCID iD

❑ If you are planning to apply for a fellowship or career development award, an ORCID iD.will be required.

❑ NIH wants everybody from graduate students to senior scientists to register for an ORCID account and link it to their eRA Commons personal profile (see this eRA video for a quick step-by-step). But for some grant applicants, it's an absolute *must*.

❑ **ORCID iDs are *required* for PD/PIs on individual fellowship and career development applications submitted for due dates on or after January 25, 2020**. The eRA system will check the PD/PI eRA Commons IDs on all submitted fellowship and career development applications. If there isn't a linked ORCID iD, an error will be generated preventing the application from moving forward to NIH for consideration. For more details, see the full Guide Notice or the Open Mike blog on this topic.

Resources

❑ The Berkeley Population Center website: http://www.populationsciences.berkeley.edu/grants/nih-grantsmanship.

❑ See also vcresearch.Berkeley.edu/brdo

❑ http://foundationcenter.org/pnd/ to sign up for their emails of RFPs.

❑ www.eval.org for jobs, grants, more.

❑ Treasure trove of NIH and other grant information
   http://writedit.wordpress.com/nih-paylines-resources/

❑ NIH: https://grants.nih.gov/grants/how-to-apply-application-guide.html

❑ P3-85 Developing a Successful Application: An Overview of the NIH Grants Process, *Thursday, April 27, 2017, 12:45 PM-2:15 PM. Salon C (Hilton Chicago).*

❑ *The book...The Grant Application Writer's Handbook.* Published by the Grant Writers' Seminars and Workshops.