Career Development Awards: First Planning Steps

Epidemiology Department
Maria Glymour

Why?

- You will learn a lot by writing one- it will help you crystallize your interests and distinctive aims and clarify your path
- It will provide financial support and more flexibility, including support for travel
- The NIH stipend is benchmarked below the BU stipend but we will ensure your stipend is matched to that of all other PhD students
- It will give you more flexibility to spend your time focused on the research you consider highest priority
- It forces you to outline a detailed training plan above and beyond the core PhD requirements
- You will look competitive for all kinds of positions (academic and non-academic) when you graduate if you have successfully competed for a grant
- You will develop grant-writing skills, which are extremely important for success in our field

First choices for a career development award

- What mechanism?
  - F31, F31-diversity, F99, Foundation funded, R36, diversity supplements
- What institute/ funder?
  - Look up eligibility
    - citizenship/visa status
    - candidates underrepresented in science
    - International scholars: F99 (some institutes), foundations
  - Check paylines and success rates
  - NIH F31s don't vary much re how much money they allow, but foundation career development awards do vary
  - Check examples of funded grants of that mechanism from that institute in NIH reporter
  - Look at the institute's mission statement
  - Talk to a program officer (once you have draft aims)

First steps: read the rules

Note that the format for F30, F31, F32, F33, F99/K00 is changing on January 25, 2025.

https://grants.nih.gov/policy-and-compliance/policy-topics/peer-review/revisions-nih-fellowship-application-review-process

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I don't think this changes much of my advice, but if you are using a prior application as a template, you will need to restructure substantially.

Start working on the grant: F31s

- Research aims 2-4 aims
- Training activities 2-4 big topics or methods you want to learn, with specific activities supporting each learning domain
- You will go back and forth iteratively between research aims and training activities: "the research training project within the overall research training plan should be evaluated in the context of its utility in providing training to the fellowship candidate in concert with their career goals and strengths and weaknesses"
- Start by saying as closely as possible what you want to do in the field, how you will be unique, your clear and distinctive vision
- Ask what skills you need to develop into that scientist
- Think about research activities that will mesh with those training activities and give you the opportunity to build your skills
- Do not over promise or overreach on the research aims. Feasibility is a common concern.
  - Draft these components and show them to *everyone* and get feedback at every opportunity. Expect to revise- major revisions - about 15 times. And smaller revisions hundreds of times. The aims are the most work and ~50% of the whole grant effort will be spent on them

Plan the grant: F31, Ks

- Candidate (that's you) - what is special and unique about your background that positions you to fill this much needed niche
  - The further along you are professionally, the more distinctive this description should be.
- Mentoring team- Primary, co-primary, additional mentors, consultants. Everyone should have something to teach you. There should be someone with expertise on each thing you need to learn.
- Your strongest research plan will be aligned with your mentor's research activities (ideally funded by the same institute) but also bring your own unique spin - something your primary mentor would not necessarily have done themselves but they are excited about and think is important. Blend expertise of multiple mentors.
- Get examples of funded grants and summary statements (the reviews) from funded and unfunded grants. Summary statements are really important. Caveat format is changing.

Career Development Awards: training plans

This is the fun part

- The training plan is probably as important or more so than the research plan
- The training plan must integrate with the research plan, so you propose to learn skills you then use in your research
- The training plan must build a bridge between where you are now and the type of career you state you wish to pursue
- The training plan must roughly correspond with the expertise of your mentoring team
- The training plan should include activities you'd be excited to do, things you want to learn

What should you train in?

- Typical is 3-4 training domains
- Something you do not already know deeply. Why would they give you more support to do the same thing?
  - 1-2 substantive aims about outcome and/or about the exposure
- Remember who will review your app and what they value. Often good to have an aim related to the health outcome for clinical reviewers:
  - Clinical dimensions of the disease? Physiologic mechanisms of the disease? Epidemiology of the disease?
- Include 1-2 methodologic development aims
  - Causal inference, longitudinal modeling, psychometrics, mediation, selection bias, data science tools, NLP.
- Sometimes people specify professional development as Aim 4. Either approach can be successful.

What kinds of activities

- Formal coursework
- Directed readings
- One-on-one mentoring
- Peer directed learning groups (especially for writing)
- Journal clubs and seminar series
- Conferences
- Short courses
- Rotations with external mentors
- Ask your mentors and department leadership if they can tailor opportunities for you.

What kinds of activities

- Directed readings
  - Curated by your mentor, e.g., blah and blah core theoretical frameworks
  - Time-delimited
- One-on-one mentoring
  - Specify meeting frequency
  - Meet individually and then with mentoring team to ensure coordination
- Peer directed groups
  - K-writing group
  - First R01 writing support group

What kinds of activities

- Journal clubs
  - Existing journal clubs or seminar series: neuropathology conference; social justice epi; MELODEM series.
  - Journal clubs you will launch: focused on cutting edge reading in a specific area
- Conferences
  - Methods focused, e.g., Society for Epidemiologic Research; Joint Statistical Meetings
  - Clinical research: Neurology, Stroke
  - Often have short courses tied to the meetings
- Short courses
  - Many summer short courses (genetics @UW; epi @UCSF or Columbia; data science @UCSF
  - UCSF Office for Career and Professional Development
- Rotations with external mentors
  - Go to their group for a certain number of days.
  - Work with faculty member's post-docs or research team

Justify it!

- Explain why doing this will help you get to your goal, why it's especially relevant for what you want to do.
- Tailor it to your goals, trimming irrelevant components
- Make sure it does not consume a disproportionate amount of time.
- Emphasize two-birds opportunities: classroom project will be applied to your own research project

Make it easy for reviewers

- Summarize in a table tying each activity to the training aim and specifying when in your training you will do it and how much time it will take
- Reviewers can be detail oriented. Make sure all the numbers match in your proposal, in your letter writers letters, and in all affiliated documents