NIH provides funding for career development at different stages

- student
- post doc
- resident
- junior faculty
- senior faculty
- F31
- F32
- K Awards
- R01

The Goal of Mentored K Awards

To provide support and “protected time” (3-5 years) for an intensive, supervised career development experience in the biomedical, behavioral, or clinical sciences leading to research independence.

- A dedicated mentor is essential for
  - successful application
  - successful outcome

NIH Career Development (K) Awards provide support for research careers

- ~2% NIH budget: $688 million (FY17)
- ~3,800 awards (FY17)
- Currently 15 different types (K01-K99)
  - for clinicians & basic scientists
  - for junior & senior faculty
- Mentored K awards:
  - designed for postdocs & junior faculty
  — > K01, K08, K23, K99/R00

Candidates are encouraged to identify more than one mentor, i.e., a mentoring team

- Primary Mentor
- Mentee
- Co-Mentor
- Co-Mentor

Use your mentoring team to complement the expertise of you and your primary mentor

K01: Mentored Research Scientist Award

— to develop research independence or to foster career development in a new area

- for candidates with potential for productive independent research
- mentor with extensive research experience
- 75% effort over 3-5 years
- different Institutes use the K01 award for different purposes
  — contact the Program Officer!
K08: Mentored Clinical Scientist Award
— to develop clinician research scientists as independent investigators

Requires:
• clinical doctoral degree
• must have initiated postgraduate training
• mentor with extensive research experience
• 75% effort over 3-5 years

K23: Mentored Patient-Oriented Research Career Development Award
— to develop investigators committed to patient-oriented research

Requires:
• clinical or nursing doctoral degree
• completion of all clinical training
• mentor with extensive research experience
• 75% effort over 3-5 years

K99/R00: Pathway to Independence Award
— to facilitate independent funding earlier in an investigator's career

• for highly promising postdoctoral scientists
• established in response to increasing age of first independent support
• non-citizens are eligible

K22: Career Transition Award
— support for postdoctoral fellows in transition to faculty positions

• for candidates with potential for productive independent research
• differences among Institutes: may involve training in intramural NIH programs

Other individual K Awards
- K02 Independent Scientist Award
- K05 Senior Scientist Research & Mentorship
- K07 Academic Career Award
- K18 Research Career Enhancement Award for Established Investigators
- K24 Midcareer Investigator Award in Patient-Oriented Research
- K25 Mentored Quantitative Research Development Award
- K26 Midcareer Investigator Award in Biomedical and Behavioral Research
- K43 Emerging Global Leader Award
- K76 Emerging Leaders Career Development Award

Common features of K Awards

Eligibility:
• doctoral degree
• US Citizen, non-citizen national, or permanent resident (except K99/R00)
• not eligible if previous PI on R or K grants

Duration: 3–5 years

Effort: minimum 75% (but can be 100%)
K awards have high success rates

<table>
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<tr>
<th>Award</th>
<th>Success Rate 2017 (%)</th>
<th># Awards</th>
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<tr>
<td>K99</td>
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</table>

New R01 Success Rate 2017 = 16.7%

Data from: https://report.nih.gov/DisplayRePORT.aspx?id=681

Success rates differ between NIH Institutes

The Institute/Program Matrix shows which awards are supported by each institute

NIH has a website dedicated to career development and training

Information on K and F Awards by NIH Institute

Extramural Research in each NIH Institute is organized into Programs

Cultivating the interest and support of program officers is essential!
Current Program Announcements for K awards

**K01:** Mentored Research Scientist Development Award
- PA-18-369 & PA-18-363*

**K08:** Mentored Clinical Scientist Research Career Development Award
- PA-18-373 & PA-18-372*

**K22:** see individual institutes

**K23:** Mentored Patient-Oriented Research Career Development Award
- PA-18-375 & PA-18-374*
  * Clinical Trial Required

Read the Program Announcement (PA)
— make sure you have the most current!

Use the “parent” program announcement only for unsolicited applications
Use the appropriate Funding Opportunity Announcement (FOA) for institute-specific awards
Different PAs for
— Clinical Trial Not Allowed
— Clinical Trial Required

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

Application for a K award should be a collaboration between you & your advisor

You (the “applicant”) are Principal Investigator
- you are responsible for submitting the application
- you write the research training plan in collaboration with your sponsor

Your advisor/mentor is the Mentor
- she/he must write sections of the application

You must involve your mentor early & often in crafting the application!

As the Principal Investigator, you sign the application by checking “I agree”

SF424 (R&R) Form page 2

Remember that in submitting the application, you certify that the contents are “true, complete, and accurate”

Key sections of Career Development Award applications match the review criteria

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<td>Research Plan</td>
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<td>Environment &amp; Institutional</td>
<td>Environment</td>
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<td>Commitment</td>
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</table>

Key sections have a page limit

Candidate Information (item 2) + Research Strategy (item 4) = 12 pages total + 1 page for Specific Aims (Item 3)
All parts of the proposal must be integrated into a coherent and compelling story

A motivated applicant with great promise

Training plan will develop needed skills

Research plan is a vehicle for training

Achievement of career & training goals

Mentors with the right skills and experience

Institutional support and commitment

Your Story

Your achievements and potential are documented first in your biosketch

A. Personal Statement
   Briefly describe why you are well-suited for your role(s) in this project

B. Positions and Honors

C. Contributions to Science
   Briefly describe up to five of your most significant contributions to science

D. Research Support
   Include a link (URL) to a complete bibliography in a public database (SciEncv or My Bibliography)

Mentored K Award applications require letters of reference

Required for K01, K08, K22, K23 & K99/R00 applications
  • 3–5 letters from individuals other than those involved in the application
  • i.e., not sponsor/mentor or collaborators

Letters should address candidate’s competence & potential as an independent investigator

The referees (name, department, institution) must be listed in the Cover Letter Attachment


The story continues in the Candidate Information Section

What have you done already?

How are you going to get there?

Where do you want to be?

past history

future career

your proposal

A. Background & Experience

B. Goals & Objectives

C. Career Development Plan & Activities

Justify the proposal by describing how it fits into your career development!

The Candidate Information Section covers three critical areas

Candidate’s Background/Research Experience:
   — describe your past scientific history, indicating how the award fits into past and future research career development

Career/Training Goals and Objectives:
   — describe your short-term and long-term career goals and objectives and how the award will enable you to develop and/or expand your research career

Candidate’s Plan for Career Development/Training Activities During Award Period:
   — describe the new or enhanced research skills and knowledge you will acquire as a result of the award
   — describe activities planned during the award

Describe what you will learn in the Career Development Plan

Describe new skills & knowledge
   • provide details of courses & workshops

Define distribution of effort for activities (use timeline)

Relate activities to career development & research plans

Proposing to do what you already know will be viewed as having no training potential!
Items that you must include in a Career Development Plan

Describe your goals:
- what you hope to achieve . . .
- describe specific activities designed to achieve each goal
- include a specific aspect of advanced research training and professional skills (e.g. training in grant writing)
- describe how your institutional environment will enhance your success in achieving your goals

Include a Timeline for your Career Goals & Objectives

List:
- your distribution of effort
- specific objectives for each year
- plans for subsequent grant support

Your mentor(s) must describe detailed plans for mentoring

The specific expertise of your mentors and how their guidance will help you to achieve your goals

The specifics of mentoring, including frequency of meetings (e.g., weekly)

Consider adding an Advisory Committee to monitor your progress every 6 months

The Research Plan is a major part of the career development plan

Relate the research plan to the applicant’s scientific career goals

For most types of research the plan should include:
- a specific hypothesis
- specific aims to test the hypothesis
- description of approach, methods, techniques
- possible problems and alternative approaches

Tailor the plan to the experience of the applicant

Mentors and colleagues should review the plan

Research Plan should enable the applicant to develop skills needed by a researcher

- should be hypothesis-driven
- not overly ambitious or routine

Specific Aims

Research Strategy
- organize by sections:
  - Significance
  - Innovation
  - Approach

For Career Awards the Mentor statement must include key information

- plans for candidate’s career development
- source(s) of support for research project
- supervision & mentoring of candidate
- candidate’s teaching load (if any) and other responsibilities
- plan for transition of candidate to an independent investigator
- Mentors previous mentoring experience

Statement limited to 6 pages for all mentors/co-mentors!
Your Mentors must have a strong record of research and mentoring

Your mentor should meet these qualifications (& document them adequately!)
If not, provide a plan to correct any deficiencies:
• co-mentor(s)
• mentoring advisory team

A strong statement of Institutional Commitment is essential for Career Awards

• on institutional letterhead
• commitment to candidate independent of award
• agreement to provide protected time for candidate’s research & career development
• equipment, lab space, office, facilities, resources

Letter limited to 1 page!

Make sure that you complete the “Front Pages” and comply with regulations

• Cover Page (Cover Letter)
• Project Abstract
• Project Narrative
• Bibliography & References Cited
• Facilities & Other Resources
• Human Subjects (if applicable)
• Vertebrate Animals (if applicable)
• Budget
• Biosketches
• etc, etc, etc

Consult with your grants office for help in completing the forms

Complete the Cover Pages according to standard instructions

Title: limited to 200 characters & spaces

Cover letter attachment must include the list of Referees with complete contact information

Budget: allowable costs may differ by award type & institute

• consult your grants office &/or Program Officer
• modular budgets not used for K and F awards
• only a few budget categories used

Other Project Information Form

7. Project Summary/Abstract
• no more than 30 lines
• the abstract should include a description of your research project & your training plan

9. Bibliography
• for whole proposal

10. Facilities & Other Resources; 11. Equipment
• description of resources available to candidate
• establishes feasibility of proposal
Write to the review criteria!

- Candidate
- Career development plan
- Research strategy
- Mentor
- Environment & Institutional Commitment

A strong response for each criterion!

There are three deadlines per year for submission of NIH Awards

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Applications must be received electronically at NIH on or before the receipt date. Your Office of Research will require proposals to review before the NIH deadline.

Plan ahead for resubmission!

18 months

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