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

- ~2.4% NIH budget: ~$705 million (FY10)
- ~4,335 awards (FY10)
- currently 14 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

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 provides funding for career development at different stages

- student
- post doc
- resident
- junior faculty
- senior faculty

<table>
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<tr>
<th>Career Development Awards</th>
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<tr>
<td>F31</td>
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<td>F30</td>
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<td>F31</td>
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<tr>
<td>K Awards</td>
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<td>R01</td>
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</table>

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NIH provides funding for career development at different stages

- post doc
- resident
- junior faculty
- independent investigator

**K08**
Mentored Clinical Scientist Award

**K23**
Mentored Patient-Oriented Research

**K01**
Mentored Research Scientist Award

**K22**
Career Transition Award

**K99/R00**
Pathway to Independence Award

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**K01: Mentored Research Scientist Award**

- career development in a new area of research
  - for candidates with potential for productive independent research
  - mentor with extensive research experience
  - 75% effort over 3-5 years
  - differences among Institutes: NCI no longer participates

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**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

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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

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

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
K awards have high success rates

<table>
<thead>
<tr>
<th>K award</th>
<th>Success Rate 2009 (%)</th>
<th># awards 2009</th>
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<tbody>
<tr>
<td>K01</td>
<td></td>
<td>144</td>
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<tr>
<td>K08</td>
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<tr>
<td>K22</td>
<td></td>
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<td>K23</td>
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<td>227</td>
</tr>
<tr>
<td>K99</td>
<td></td>
<td>204</td>
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</table>

R01 Success Rate 2009 = 17.8%

Data from: http://report.nih.gov/FileLink.aspx?id=551

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%

Other individual K Awards

K02 Independent Scientist Award
K05 Senior Scientist Research & Mentorship
K07 Academic Career Award
K18 Career Development Award in the Environmental Health Sciences / Career Enhancement Award for Stem Cell Research
K24 Midcareer Investigator Award in Patient-Oriented Research
K25 Mentored Quantitative Research Development Award
K26 Midcareer Investigator Award in Mouse Pathobiology Research

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For more information on K awards see the NIH website — “K Kiosk”

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

Contact the appropriate Program Officer!

Information on K Awards by NIH Institute

Spreadsheets:
Comparison of K awards across Institutes & Centers

Handout:
Funding of awards by each Institute

http://grants.nih.gov/training/K-Awards_Across_ICs.xls

There are three deadlines per year for submission of K Awards

<table>
<thead>
<tr>
<th>Receipt</th>
<th>Review</th>
<th>Council</th>
<th>Start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 12</td>
<td>June-July</td>
<td>Sept-Oct</td>
<td>December</td>
</tr>
<tr>
<td>June 12</td>
<td>Oct-Nov</td>
<td>Jan-Feb</td>
<td>April</td>
</tr>
<tr>
<td>Oct 12</td>
<td>Jan-Feb</td>
<td>May-June</td>
<td>July</td>
</tr>
</tbody>
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- Applications must be received electronically on or before the receipt date
- Applications are submitted by institutional officials
- Your Grants Office may have a much earlier submission deadline

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K Awards are reviewed by 5 criteria

• Candidate
• Career development plan
• Research strategy
• Mentor
• Environment & Institutional commitment

Remember the criteria as you write your proposal!

Before applying you must obtain & be familiar with 3 sources of information

• SF424 (R&R) Application Guide

• Program Announcement (PA) for your Award (e.g., F32, K08)

• Application Form for your Award (e.g., F32, K08)

Read the Program Announcement (PA) — link to application package

Apply for Grant Electronically

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Program Announcements for K awards (see K Kiosk *)

K01: Mentored Research Scientist Development Award
   PA-10-056

K08: Mentored Clinical Scientist Research Career Development Award
   PA-10-059

K22: see individual institutes on K Kiosk*

K23: Mentored Patient-Oriented Research Career Development Award
   PA-10-060

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

Each application package is for a specific Award

• Application package is a pdf document

Make sure you have the correct application package!

NIH will update forms before next submission deadline

Make sure you have the right forms!

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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 Sponsor
• she/he must write sections of the application

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

There are additional components & instructions for K Awards

Career Development Supplemental Form:

Instructions:
Part I, Section 7
— preparation of a K award proposal

Complete the Cover Component according to standard instructions

• Consult with your grants office for help in completing the forms

Title: limited to 81 characters & spaces
You sign the application by checking “I agree” (Page 2)

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

Other Project Information Form

1. Human Subjects
2. Vertebrate Animals
7. Abstract
• attach as pdf file
• no more than 30 lines
• for K awards, the abstract should include a description of your research project, plus your career goals & training plan

Other Project Information Form

9. Bibliography
• for whole proposal
• attach as pdf file
10. Facilities & Other Resources
11. Equipment
• detailed description of resources and equipment available to candidate
• establishes feasibility of proposal
List your referees in the “Other Attachments” section

• List of Referees:
  • at least 3, not including your sponsor
  • you must include the name of the referee, departmental affiliation, and institution
  • same list must be included in the Cover Letter Component

Attach your Biosketch:
the format of the biosketch has changed!

Five sections:
• education
  A. Personal statement
    — why are you best suited for this project
  B. Positions & honors
  C. Selected publications
    — limit of 15
    — with NIH Manuscript Submission ref #
  D. Research Support

Attach Biosketch & Research Support for Mentor, Co-Mentor, & Key Persons

Research Support
• list current & pending projects
• include major goals, direct costs
• only required for mentored awards
Budget: allowable costs may differ by award type & institute
- consult your grants office &/or Program Officer
- modular budgets not used for K awards
- only a few budget categories used

The application also includes “PHS398 Components”
- Cover Letter Component
  - required for mentored K awards
  - must include list of references
- Cover Page Component
- Checklist
  - follow general instructions
- Career Development Supplemental Form

Watch for changes in forms!

The Career Development Supplemental Form contains the proposal itself
Important sections:
- Introduction (if applicable)
- Candidate Information
- Statements of Support
- Environment and Institutional Commitment
- Research Plan
- Human Subjects, etc
Each component is attached as a separate pdf
Key sections have a page limit: *this limit has been reduced!*

- Candidate Information (items 2–5)
- Research Strategy (item 11)

\[ = 25 \text{ 12 pages total} \]

+ 1 page for Specific Aims

**Tip:** write the Candidate Information & Research Strategy as a single document

- better able to assess fit to 12 page limit
- then separate into sections for uploading as pdfs
- NIH will not count white space generated as part of page limits

The supplemental sections correspond to the review criteria for K Awards

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

*Remember the criteria as you write your proposal!*
Candidate’s Background (item 2)
• describe any relevant information about you that is not included in your Biosketch
• e.g., research, clinical training experience
• be succinct: this section is included in the 12-page limit!

Describe your “Scientific Biography” in Career Goals & Objectives (item 3)
• justify the proposal by describing how it fits into your career development
• describe previous scientific history
• past history
• this proposal
• future career
• how the award will enable you to enhance your career objectives
• include reasons for any changes in career direction

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
• should address candidate’s competence & potential as an independent investigator
List your referees in the “Other Attachments” section

List of Referees:
- at least 3, not including your sponsor
- you must include the name of the referee, departmental affiliation, and institution
- same list must be included in the Cover Letter Component

Reference letters are submitted through the eRA Commons

Instructions for referees:
http://grants.nih.gov/grants/funding/424
Referee_Instructions_Mentored_Career_Awards.doc
- complete & send instruction form to each referee
- letters must be submitted within 5 days of application submission date

Tips for Best Reference Letters
- develop effective working relationships with potential referees
- keep your referees updated on your progress
- make your referees’ job easy, provide:
  – current CV, reprints
  – draft of proposal

*Remember: this is a personal & professional relationship that may last your entire career*
“Applicants must include a cover letter”

- list Referees (including contact information)
- can request assignment to a specific Institute and/or review panel:

<table>
<thead>
<tr>
<th>Application Title</th>
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</thead>
<tbody>
<tr>
<td>Please assign this application to the following:</td>
</tr>
<tr>
<td>Institute/Center:</td>
</tr>
<tr>
<td>National Cancer Institute (NCI)</td>
</tr>
<tr>
<td>Scientific Review Group:</td>
</tr>
<tr>
<td>Cancer Etiology Study Section (CE)</td>
</tr>
</tbody>
</table>

Describe what you will learn in the Career Development Plan (item 4)

- 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
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

Include a Timeline for your Career Goals & Objectives

List:

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

Research Plan should “develop skills needed by a researcher”

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

The format of the Research Plan has changed:

- Specific Aims (1 page)
- Research Strategy:
  a) Significance
  b) Innovation
  c) Approach

Experimental details should be cited using references & not described in detail!
The Mentor 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

Statements by Mentor must also explain how award will develop candidate’s career
**Should include:**
- plans for candidate’s career development
- source(s) of support for research project
- supervision & mentoring of candidate
- candidate’s teaching load (if any)
- plan for transition of candidate to an independent investigator

A strong statement of Institutional Commitment is essential (item 9)
- 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
You must include plans for instruction in Responsible Conduct in Research

- describe in Item 5
- follow new NIH guidelines for RCR instruction

"Applications lacking a plan for instruction in responsible conduct of research will be considered incomplete and may be delayed in the review process or not reviewed."

Write to the review criteria

- Candidate
- Career development plan
- Research plan
- Mentor
- Environment & Institutional Commitment
- RCR Instruction

A strong response for each criterion!

Plan ahead for resubmission!

18 months

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