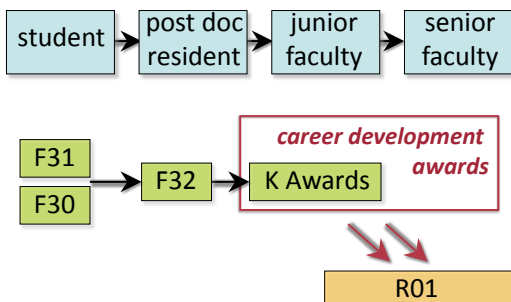**Know Your K**
Joan M. Lakoski, PhD • Robert J. Milner, PhD

NIH provides funding for career development at different stages

student → post doc resident → junior faculty → senior faculty

F31 / F30 → F32 → K Awards *career development awards*

→ R01

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**
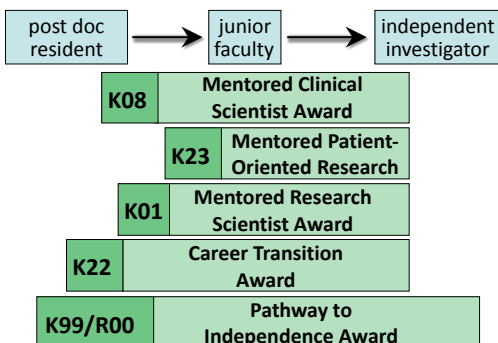

The Goal of Mentored K Awards

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

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

Primary Mentor → Mentee ← Co-Mentor
Co-Mentor ↗ Mentee ↖ Co-Mentor
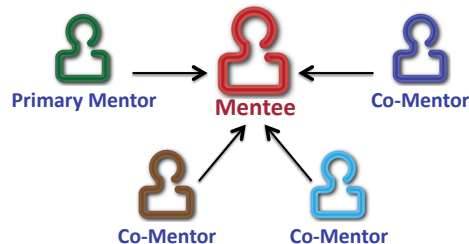
Use your mentoring team to complement the expertise of you and your primary mentor

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NIH provides funding for career development at different stages

post doc resident → junior faculty → independent investigator

Award	
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

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

Afternoon Session on K99 Awards

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

Success Rate 2017 (%)   **# awards 2017**

Award	# awards 2017
K01	
K08	203
K22	195
K23	44
K99	218
	235

New R01 Success Rate 2017 = 16.7%

Data from: https://report.nih.gov/DisplayRePORT.aspx?rid=601

Success rates differ between NIH Institutes

see handout

NIH has a website dedicated to career development and training

an essential source of information

Career Development (K) Awards

https://researchtraining.nih.gov

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

https://researchtraining.nih.gov/institute

Information on K and F Awards by NIH Institute

NIH website:
K & F award information for each award for all Institutes/Centers

Download spreadsheet:
Award success rates

Data from: https://report.nih.gov/DisplayRePORT.aspx?rid=601

Extramural Research in each NIH Institute is organized into Programs

Each **Program** covers an area of research or training

Program Officers administer funded grants in their area

There are program officers for training and career development programs

Cultivating the interest and support of program officers is essential!

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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

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

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

Mentored Clinical Scientist Research Career Development Award (Parent K08)

PA-18-373

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

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

17. By signing this application, I certify (1) to the statements contained in the list of certifications* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances * and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

☐ I agree

*The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

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

Sections		Criteria
Candidate Information Background Career Goals & Objectives		**Candidate**
Career Development Plan Planned Activities		**Career Development Plan**
Research Plan		**Research Strategy**
Mentor, Co-Mentor, Consultants, Collaborators		**Mentor**
Environment & Institutional Commitment		**Environment**

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
- Mentors with the right skills and experience
- Institutional support and commitment

Your Story → **Achievement of career & training goals**

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

see: http://grants.nih.gov/grants/how-to-apply-application-guide/submission-process/reference-letter.htm

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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 → **your proposal** → **future career**

A. Background & Experience | **C.** Career Development Plan & Activities | **B.** Goals & Objectives

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

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Include a Timeline for your Career Goals & Objectives

List:

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

NIH Career Development Award Workshop
Example of a Table for a Career Development Plan:

©2008 Robert J. Milner, Ph.D. & Joan M. Lakoski, Ph.D.

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

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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 ← 1 page

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

6–8 pages
Career Awards

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
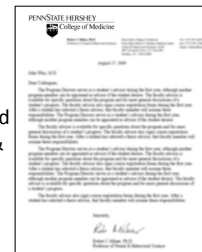
Letter limited to 1 page!

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**

K awards:

Receipt	Review	Council	Start
Feb 12	June-July	Sept-Oct	December
June 12	Oct-Nov	Jan-Feb	April
Oct 12	Jan-Feb	May-June	July

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