NIH K Award Mechanisms

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Resources for K Applicants

- **K Kiosk**
  - [http://grants.nih.gov/training/careerdevelopmentawards.htm](http://grants.nih.gov/training/careerdevelopmentawards.htm)
    - K–Awards Across Institutes and Centers
    - Career Award Wizard
- **UCSF NIH Mentored Career Development Awards (K Series) – Parts 1–5**
- **Rochester Career Development and Career Development Awards**
Submission of a Grant

Grant Application
PI

Initiates Research Idea

Institution

Reviews the Application

NIH

Submits the Application

Conducts Research

Allocates Funds
What’s in the Box?

- NIH is one of eight health agencies that are part of the US DHHS
- NIH is composed of 27 separate Institutes or Centers

- Office of the Director
- Nat’l Cancer Institute
- Nat’l Eye Institute
- Nat’l Heart, Lung & Blood Institute
- Nat’l Human Genome Research Institute
- Nat’l Institute on Aging
- Nat’l Institute on Alcohol Abuse & Alcoholism
- National Institute of Allergy & Infectious Diseases
- Nat’l Institute of Arthritis & Musculoskeletal & Skin Diseases
- Nat’l Institute of Child Health & Human Development
- Nat’l Institute on Deafness & Other Communication Disorders
- Nat’l Institute of Dental Research
- Nat’l Institute of Diabetes & Digestive & Kidney Diseases
- Nat’l Institute on Drug Abuse
- Nat’l Institute of Environ Hlth Sciences
- Nat’l Institute of General Medical Sciences
- Nat’l Institute of Mental Health
- Nat’l Institute of Neurological Disorders & Stroke
- Nat’l Institute of Nursing Research
- Nat’l Library of Medicine
- Nat’l Center for Research Resources
- John E. Fogarty International Center
- Warren Grant Magnuson Clinical Center
- Center for Information Technology
- Center for Scientific Review (CRS, formerly DRG)
Know your NIH Institute!

- Look at NIH Institute–specific websites (www.niddk.nih.gov)
- Learn Institute’s research priorities
- Look at Institute’s application success rates (# applications; # awards):
  http://grants1.nih.gov/grants/award/success.htm
Types of Scientific Review Groups

Scientific Groups (SRG)

CSR
- Regular Study Sections
- Special Study Sections
- Special Emphasis Panels

Applications Reviewed
- Research Project Grant
- Academic Research Enhancement Awards
- Postdoctoral Fellowships
- Small Business Innovation Research
- Shared Instrumentation

Institutes
- Scientific Review Groups
- Contract Review Committees

Applications Reviewed
- Program Projects
- Centers
- Institutional Training Grants
- Contracts
- RFA’s
- Conference Grants
- Career Awards
- Some Small Grants
NIH System of Peer Review

Center for Scientific Review
  • assigns to Study Section & Institute/Center

  ➔

Study Section
  • evaluates for Scientific Merit

  ➔

Institute
  • evaluates for Program Relevance

  ➔

Advisory Councils and Boards
  • recommends action

  ➔

Institute Director
  takes final action for NIH Director ($)

•

Advisory Councils and Boards
NIH Career Development Programs ("K" Awards)

- Fourteen different mechanisms
- Articulate with Career Stage: Mentored, Mid-career, Senior
- Interact with other NIH Awards
- Use "K Kiosk" or "Career Award Wizard": [http://grants.nih.gov/training](http://grants.nih.gov/training)
“Career” or K-series Awards

- Designed to “protect” time, i.e., free up time currently spent in clinic or on administrative or teaching duties
- Most are for early career development
- Provide ‘salary’ not ‘stipend’
- Meant to train U.S. citizens/permanent residents
  - K99 is an exception to this policy
- Limited to U.S. research/clinical institutions
Key Features of Mentored K Awards

- 3 – 5 years in length
- Provide substantial salary support but limited research funding.
- Contain both a training plan and a research plan.
- Includes a team of mentors, co-mentors, advisors, etc.
- Goal: transition to research “independence”.
<table>
<thead>
<tr>
<th>Mentored</th>
<th>Independent</th>
<th>Mid-Career</th>
</tr>
</thead>
<tbody>
<tr>
<td>K01</td>
<td>K02</td>
<td>K24</td>
</tr>
<tr>
<td>K08</td>
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<td>K07</td>
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<tr>
<td>K99</td>
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</table>
Types of Mentored Career Development Awards

- **K01**
  - Mentored Research Scientist Development Award: provides for an intensive, supervised career development experience in the biomedical, behavioral, or clinical sciences leading to research independence.
    - Some NIH institutes use this award for individuals who propose to train in a *new field*.
    - Other NIH institutes use this award to increase research workforce in particular types of research.
K22 (example for NIAID*)

- Career Transition Award: Provides 2 years of funding, once the candidate (postdoctoral fellow) has attained a full-time faculty position (to be achieved within 12 months of the award).

*K22s differ widely across NIH Institutes*
Types of Mentored Career Development Awards (cont’d)

- **K08**
  - *Mentored Clinical Scientist Development Award*: development of the independent clinical research scientist.

- **K12**
  - *Mentored Clinical Scientist Development Program Award*: support for an institution for the development of independent clinical scientists.
Types of Mentored Career Development Awards (cont’d)

- **K23**
  - Mentored Patient-Oriented Research Career Development Award: Development of the independent research scientist in a clinical arena.

- **K25**
  - Mentored Quantitative Research Development Award: To foster interdisciplinary collaboration in biomedical research by supporting career development experiences for scientists with quantitative and engineering backgrounds.
Newest Types of Mentored Career Development Awards

- **K99/R00**
  - NIH Pathway to Independence (PI) Award: Provides an opportunity for promising *post-doctoral* scientists to receive both mentored and independent research support from the same award.
**K-series Awards**

- **K01** – Mentored Research Scientist Development Award (Ph.D.) – usually basic research (3 – 5 yrs)
- **K08** – Mentored Clinical Scientist Development Award (M.D. or other clinical degree) – usually basic research (usually 5 yrs)
- **K23** – Mentored Patient-oriented Research Career Development Award (M.D. or other clinical degree) (usually 5 yrs)
- **K99/R00** – Pathway to Independence (PI) Awards (1–2 yrs mentored; 3 yrs independent support after securing independent research position)
- **K22** – Transition Award – 2–3 years at NIH; 2–3 years at extramural academic institution in U.S.
- **K24** – Mid-Career Investigator Award in Patient-oriented Research (M.D.) (devote time to patient-oriented research and serve as mentors for residents, fellows, and faculty)
Career Development Awards (K Awards) for Individuals with a Research Doctorate

- College
- Graduate School
- Postdoctoral
- Independent Investigator

Career Transition Award (K22)
Mentored Research Scientist Development Award (K01)

Senior Scientist Award (K05)
Career Enhance. Award for Stem Cell Res. (K18)
Independent Scientist Award (K02)

Note: The following awards are not shown:
- Academic Career Award (K07)
- Mentored Quantitative Research Career Development Award (K25)
- Midcareer Investigator Award in Mouse Pathobiology Research (K26)
Career Development Awards (K Awards) for Individuals with a Health-Professional Doctorate

Medical School  Residency  Specialty/Sub-Specialty  Independent Investigator

- Mentored Clinical Scientist Development Program (K12) (note: two types)
- Mentored Clinical Scientist Development Award (K08)
- Mentored Patient-Oriented Research CDA (K23)
- Career Enhance. Award for Stem Cells Res. (K18)
- Midcareer Investigator in Patient-Oriented Research (K24)

Note: Individuals with clinical doctorates may also be eligible for awards shown for individuals with research doctorates. The following awards are not shown:
- Academic Career Award (K07)
- Mentored Quantitative Research Career Development Award (K25)
- Midcareer Investigator Award in Mouse Pathobiology Research (K26)
Mentored Clinical Scientist Career Development Award (K08/K23/K99)

Essential components of grant application: *The Applicant*
- Quality of the candidate’s academic and clinical record.
- Potential to develop as an outstanding independent researcher.
- Likelihood that the career development plan will contribute substantially to the scientific development of the candidate.
Mentored Clinical Scientist Career Development Award (K08/K23/K99)

Essential components of grant application: 
*Career Development Plan, Mentor(s), Environment, Institutional Commitment*

- Career development plan must be carefully documented
  - may include coursework
  - may work toward a graduate degree
- Mentorship must be strong and appropriate (consider dual mentors: Clinical and Scientific)
- Institutional commitment to career development must be clear, real, and enthusiastic
Mentored Clinical Scientist Career Development Award (K08/K23/K99)

- Essential components of grant application: *The Research Project*
  - Hypothesis based
  - Focused ("This application is overly ambitious and lacks focus.")
  - Good science AND Good training vehicle
K award applications are generally reviewed by Institute-specific study sections, NOT the Center for Scientific Review (CSR)

- NIAID – AITRC (Allergy, Immunology and Transplantation Review Committee)

Check the roster of study section members BEFORE the review

http://era.nih.gov/roster/index.cfm
Summary of Key Elements Reviewed in Mentored K Award Applications

- Qualifications of candidate
  - prior training
  - letters of recommendation
  - publications

- Mentors and environment
  - previous mentoring experience
  - expertise in area of research
  - current funding
  - institutional support

- Research project
  - hypothesis driven
  - preliminary data
  - reasonable in time frame
  - logical sequence of studies
  - appropriate safeguards

- Career development plan
  - ‘enrichment’
  - training
  - future plans

- Environment
NUMBER OF RESEARCH CAREER AWARDS
BY ACTIVITY

Fiscal Year

Number of Awards


KL2
KL1
K99
K30
K26
K25
K24
K23
K22
K21
K20
K19
K18
K17
K16
K15
K14
K13
K12
K11
K10
K09
K08
K07
K06
K05
K04
K03
K02
K01
RESEARCH CAREER DEVELOPMENT AWARDS: K23s
APPLICATIONS, AWARDS, AND SUCCESS RATES

- Reviewed
- Awarded
- Success Rate

Fiscal Year

Applications and Awards

Success Rate

One Award Only

SELECT RESEARCH CAREER DEVELOPMENT AWARDS
APPLICATIONS, AWARDS, AND SUCCESS RATES

Success Rate

Fiscal Year

K01 K02 K08 K23 K24
<table>
<thead>
<tr>
<th>Grant Types</th>
<th>Payline</th>
<th>Status</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>R01 (non-new PIs)</td>
<td>10 percentile</td>
<td>Final</td>
<td>Research Projects for established investigators</td>
</tr>
<tr>
<td>R01 (new PIs)</td>
<td>14 percentile</td>
<td>Final</td>
<td>Research Projects for new and early–stage investigators</td>
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<tr>
<td>F31</td>
<td>24 overall impact score</td>
<td>Interim</td>
<td>NRSA Individual Predoctoral Fellowships to Promote Diversity in Health–Related Research</td>
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<tr>
<td>F32</td>
<td>22 overall impact score</td>
<td>Interim</td>
<td>NRSA Postdoctoral Fellowships</td>
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<tr>
<td>K (except K99)</td>
<td>20 overall impact score</td>
<td>Interim</td>
<td><strong>Career Development Awards</strong></td>
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<tr>
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<td>Interim</td>
<td>Small Grants</td>
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<td>R15</td>
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<td>Academic Research Enhancement Awards (AREA)</td>
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<td>Exploratory/Developmental Grants</td>
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<td>25 overall impact score</td>
<td>Interim</td>
<td>STTR Phase I and II—Small Business Technology Transfer</td>
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<td>R43, R44</td>
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<td>SBIR Phase I and II—Small Business Innovation Research</td>
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<td>T32</td>
<td>TBA</td>
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<td>Institutional NRSA Training Awards</td>
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