

## Career Development Grants

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## Overview

- What are they?
- Who funds them?
- How do you write one?
  - Candidate
  - Career Development Plan
  - Mentor
  - Research Plan

## “Currency” for Advancement in Academic Medicine

- Research productivity
  - Publications
  - Grants
- Teaching
- Administrative Service
- Clinical Service

## What is a Career Development Grant?

- 75% protected research time
  - Further research training
    - Coursework
      - Tuition \$\$\$
  - Mentored research experience
    - Limited research \$\$\$
- 25% time for clinical service, administrative service and teaching

## Sources of Career Development Grant

- K grants
  - NIH
    - Institute-specific
  - CDC
- VA Research and Development
- Foundations

## NIH Career Development Timeline for Health Professionals

Medical Residency School	Fellowship	Assistant Professor	Associate Professor	Professor
MD-PhD*	T32* F32	K12* K01 K08		K02 K24
		K23		

\* Institutional awards

## Eligibility Requirements

- Citizens or non-citizen nationals of the United States or Permanent Residents (Alien Registration Receipt Card I-551)
- Doctoral level degree
- NOT eligible
  - Individuals on temporary or student visas
  - Current & former PIs on NIH R01, FIRST awards (R29), comparable career development awards (K01, K07, K23, etc.), sub-projects of PPG or SCOR grants

## K12 Grants at UMB

- UM Multidisciplinary Clinical Research Career Development Program
  - Alan Shuldiner (PI)
    - 10 slots/year
    - <http://medschool.umaryland.edu/careerdev/>
- Maryland's Organized Research Effort in Women's Health
  - Pat Langenberg (PI)
    - ~2 slots/year
    - [http://medschool.umaryland.edu/womenshealth/whrg/more\\_wh.html](http://medschool.umaryland.edu/womenshealth/whrg/more_wh.html)
- Calabresi Cancer Center K12 pending

## K01 vs. K08 vs. K23 Eligibility

- K01
  - Any doctoral degree
  - Only certain institutes
- K08
  - Clinical doctoral degree
  - All institutes
- K23
  - Clinical doctoral degree
  - All institutes
  - Patient-oriented research

## What is patient-oriented research?

- Research conducted with human subjects (or on material of human origin such as tissues, specimens, and cognitive phenomena) for which an investigator directly interacts with human subjects
- This area of research includes: 1) mechanisms of human disease; 2) therapeutic interventions; 3) clinical trials, and; 4) the development of new technologies.

## What is not patient-oriented research?

- Laboratory work on samples from human subjects
- Health Services Research
  - Outcomes Research
  - Decision Analysis
- Epidemiological Research
  - Case-control Study
  - Cohort Study
- Unless you are directly collecting the data from patients

## K01, K08, K23 Details

- Application Receipt Dates
  - ~February 1<sup>st</sup>, June 1<sup>st</sup>, October 1<sup>st</sup>
- Salary
  - Institute specific
  - Generally = \$75,000
    - Legislated maximum
- Research Development Support
  - Institute specific
  - \$25,000-50,000/year
- Facilities and Administrative Costs
  - 8%

## K01, K08, K23 Overview

- Candidate
- Career Development Plan
- Mentor and Mentoring Plan
- Institution
- Research Plan

## Candidate Section

- Background and Qualifications
- Commitment to a Research Career
  - Past research
    - Publications
- How the award will contribute to the candidate's potential to develop into an independent investigator.
- Clear commitment of 75% percent effort to research activities.

## Career Development Plan

- Define your research goals
  - What to you need to know to achieve them
  - Consistency with prior research experience
    - More didactics with less experience
- Mixture of coursework, seminars, journal clubs, national meetings, workshops
  - Faculty Professional Development Seminars
    - Grant writing
    - Running a lab

## Clinical Research Curriculum Award (K30)

- Institutional award for development of a clinical research curriculum.
  - M.S. in Clinical Research
  - Introduction to Clinical Research at UMB
  - Biostatistical Workshops
  - Career Development Workshops and Advising

<http://medschool.umaryland.edu/gcrc/trainingopportunities.html>

## Masters of Science Degree in Clinical Research I

- Thirty-six (36) credits
- Two years on a part-time basis
- Core courses (17-18 credits) in
  - epidemiology (3 credits),
  - biostatistics and data management (10 credits),
  - design, implementation and reporting of clinical research studies (2 credits), and
  - legal, ethical, and regulatory issues related to clinical research (2-3 credits)

## Masters of Science Degree in Clinical Research II

- Students then concentrate in one of three clinical research areas:
  - Epidemiology
  - Outcomes/health services research
  - Human genetics
- All students will be required to do a mentored research project
- Elective coursework in disease mechanisms and therapeutic interventions applicable to the focus of their clinical research activity.

## Career Development Plan Evaluation

- Likelihood that it will contribute substantially to the scientific development of the candidate.
- Systematic plan for obtaining the necessary basic biomedical or behavioral science background and research experience to launch an independent career.
- Quality of the proposed training in the responsible conduct of research.
- Interactions with an internal/external advisory committee

## Mentor & Mentoring Plan I

- Research qualifications in the area of the project
  - History of publications and support
- Extent and quality of his/her proposed role in guiding and advising the applicant
  - Quality of Research Plan is a reflection of this process
    - Past history with the mentee is a plus
  - How often are you going to meet, what are you going to do during the meeting
- Previous experience in training researchers
  - Table or list of past trainees
    - Level of training, project, publications, current position, current funding

## Mentor & Mentoring Plan II

- Protection of at least 75% of candidate's time to proposed research
- Provisions for internal/external advisory committee
- For more than one mentor, the qualifications, role and commitment of each must be discussed

<http://medschool.umaryland.edu/Mentoring.asp>

## Institutional Commitment

- Strong level of commitment to the candidate's development into an independent investigator
  - Faculty position not contingent on receipt of the award
  - Evidence that the candidate's time has been protected
- A minimum of 75% of full-time effort will be protected for the program
  - Consistency
  - Details of what the 25% time will consist of

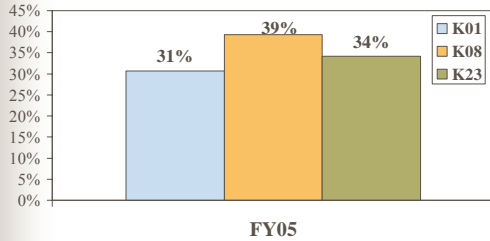
## Research Plan

- Shorter than an R01/Supported by your mentor's funding
  - Specific aims
  - Background & significance
  - Preliminary studies
  - Research design
    - Scientific soundness
    - Feasibility
- Appropriateness of the project for the candidate at his/her stage of development and as a vehicle to acquire research skills necessary for independence.

## Details

- Application Receipt Dates
  - February 1<sup>st</sup>, June 1<sup>st</sup>, October 1<sup>st</sup>
- Salary
  - Institute specific
  - Legislated maximum
- Research Development Support
  - Institute specific
  - Range 20-50K
- Facilities and Administrative Costs
  - 8%

## Success Rates



<http://grants.nih.gov/training/data/rcpsucc.xls>

## Sources of K Grant Information

- K Award Program Announcements
  - <http://grants2.nih.gov/training/careerdevelopmentawards.htm>
- National Institutes of Health, National Heart, Lung and Blood Institute (NIH/NHLBI) Resources
  - Helpful Hints and Model Grant
    - <http://www.nhlbi.nih.gov/funding/training/redbook/hints4k23.htm>
- NIH Program Officer & Study Section Scientific Review Administrator (SRA)

## Issues with K Grants

- 75% protected time
  - Salary cap
- Restrictions on accepting additional salary support on federal sources
  - Limited research \$\$\$
- 8% indirect funds

## VA Research and Development (R&D) Services

- | OLD                        | NEW                           |
|----------------------------|-------------------------------|
| ■ Medical Research Service | ■ Biomedical Laboratory R&D   |
| ■ Cooperative Studies      | ■ Clinical Science R&D        |
| ■ Health Services Research | ■ Cooperative Studies Program |
| ■ Rehabilitation Research  | ■ Health Services R&D         |
|                            | ■ Rehabilitation R&D          |

## VA Career Development Awards

- Participating Services
  - Biomedical Laboratory
  - Clinical Science
  - Health Services Research
  - Rehabilitation Research
- Awards
  - Associate Investigator
    - Similar to NIH F32
  - Research Career Development Award
  - Advanced Research Career Development Award

## VA Career Development Grant Components

- VA Mentor Letter of Commitment
  - $\geq 5/8^{\text{th}}$  salary support
  - VA grant funding from the VA R&D service that you are applying to
- Candidate and Mentors Biographies
- Candidate Career Plan
- Research Plan
  - Relevance to VA

## Research Career Development Award

- Eligibility:
  - M.D., Ph.D.(clinical)
  - U.S. citizen
  - < 50K/yr in peer-reviewed national independent funding as PI
  - ≤ 5 yrs beyond clinical training
    - negotiable
  - ≤ 2 yrs research experience
    - MD/PhD not eligible

## Research Career Development Award

- Resources provided
  - 100% salary
  - 20-50K annual research support
  - 3 years
  - 75% protected time
  - No indirects

## Advanced Research Career Development Award

- Eligibility:
  - M.D., Ph.D. with clinical focus
    - M.D., Ph.D. eligible
  - U.S. citizen
  - < 50K/yr in peer-reviewed independent funding
  - completed clinical training/Board eligible
  - 3-5 yrs research experience
  - Evidence of research competence (first-authored publications)

## Advanced Research Career Development Award

- Resources provided
  - 100% salary
  - ~50K annual research support
  - 3 years
  - 75% protected time
  - No indirects

## VA Career Development Grant Details

- Application Receipt Dates
  - LOI
    - April 15, October 15
  - Grant Application
    - June 15, December 15
- Salary
  - 8/8ths
    - 75% protected time for research
- Routed through UMB and BVAMC Research Service

## Sources of VA Career Development Grant Information

- VA R&D Central Office Website
  - <http://www1.va.gov/resdev/>
  - CD grants service-specific
    - <http://www.appc1.va.gov/resdev/directive/>
- VA R&D Service Baltimore VA MC
  - Miriam Smythe, Ph.D.
    - Phone 5-6510
    - E-mail [mmyth@som.umaryland.edu](mailto:mmyth@som.umaryland.edu)
    - Baltimore VAMC 3A-125

## Career Development- VA vs. NIH

	VA (RCDA/ARCD)	NIH (K01/K08/K23)
Salary	100% of approved salary	\$75K (75% of 100K salary cap)
Research support	\$20 - 50K	\$20 - 50K
Duration	3 years/3 years	5 years

## Foundations

- American Heart Association
  - <http://www.americanheart.org/presenter.jhtml?identifier=3011356>
- American Cancer Society
  - <http://www.aacr.org/page2852.aspx>
- Others?
  - Call prior grant recipients and administrative contacts
    - What are the unwritten rules?

## Thoughts on getting started

- Find a mentor
  - Word of mouth
  - CRISP (K24) or VA
- Agree on a research idea that extends a mentor's project
- Talk to your "institution"
- Develop your career development plan based on the skills needed for the project and your past experience
- Start early!

## What if a Career Development Grant is not an option?

- Support on a mentor's grant
  - What % effort?
- Grants to obtain preliminary data for an R01
  - R03, R21
    - Institute-specific
- Respond to a RFA in your area of interest
  - Sporadic

## Help Along the Way

- Research Proposals: A Guide to Success, Third Edition by Thomas E. Ogden (Editor), Israel A. Goldberg (Editor) (June 2002)
- NIH Websites
  - <http://www.niaid.nih.gov/ncn/grants/index.htm>
  - <http://grants.nih.gov/training/>
- Adviser, Teacher, Role Model, Friend: On being a Mentor to Students in Science and Engineering, National Academy Press
  - <http://www.nap.edu/bookstore>
- Mentor(s), Institutional K30 Award Faculty, Current Awardees (<http://crisp.cit.nih.gov/>)

## Career Development Grants Summary

- Goal of CD grants: Develop into an independent investigator
  - Is this your goal? How do you want to do this?
    - Career development plan needs to be consistent with your goals
    - Your background needs to show your commitment to your goals
- The grant is yours but you won't get it without the appropriate mentor
- You need a mentor who will work with you on a career development and research plan