Research, Funding Opportunities, and Grantsmanship - Dept of Pediatrics - Fellowship Seminar Series

September 19, 2013
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Dept. of Medicine
College of Physicians and Surgeons
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Topics to be Discussed

- **Types of Awards**
  - Fellowships (F’s), Training grants (T’s), Career Development awards (K’s), Research grants (R’s), Loan Repayment Program

- **Funding Agencies**
  - Federal
    - National Institutes of Health, CDC, AHRQ, HRSA
  - Voluntary Health Organizations, Professional Societies, Foundations, Industry, Other

- **Planning & Organizing a Research Proposal**
Topics to be Discussed

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- **Planning & Organizing a Research Proposal**
National Institutes of Health

Adapted from: NIH (DRG) - Peer Review of NIH Research Grants Applications
Agency for Healthcare Research and Quality (AHRQ)

- Supports research designed to improve the quality, safety, efficiency, and effectiveness of health care.
  - Comparative Effectiveness
  - Prevention and Care Management
  - Value
  - Health Information Technology
  - Patient Safety
  - Innovations/Emerging Issues
Centers for Disease Control and Prevention (CDC)

- Supports programs to promote health and quality of life by preventing and controlling disease, injury, and disability

Health Resources and Services Administration (HRSA)

- To improve health and achieve health equity through access to quality services, a skilled health workforce and innovative programs.
Health Resources & Services Administration

- Bureau of Clinician Recruitment and Service
  - Faculty/Nursing Education Loan Repayment Program
  - National Health Service Corps

- Bureau of Health Professions
  - Predoctoral Training in Primary Care
  - Residency Training in Primary Care
  - Physician Faculty Development in Primary Care
  - National Research Service Award for Primary Medical Care

- Bureau of Primary Health Care

- Maternal and Child Health Bureau

- HIV/AIDS
Topics to be Discussed

- **Types of Awards**
  - Fellowships (F’s), Training grants (T’s), Career Development awards (K’s), Research grants (R’s), Loan Repayment Program

- **Funding Agencies**
  - Federal
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  - Voluntary Health Organizations, Professional Societies, Foundations, Industry, Other

- **Planning & Organizing a Research Proposal**
Not All Funding
Opportunities Are the Same

- **Different mission statements**
  - Career development (K’s)
  - Research project (R’s)

- **Different funding**
  - Stipend/Salary
  - Comprehensive research costs

- **Different time frames**
  - Not renewable: 5 years (K’s), 3 years (F’s), 2 years (T’s)
  - Renewable: 4 years - 5 years (R01) each competitive period
Types of Awards

- Individual fellowships
- Training grants
- Career transition awards
- Career development awards
- Research grants
- Institutional Clinical & Translational Science Award (CTSA)
- Loan Repayment Program
- Administrative supplements
- Program Projects
- Cooperative agreements
- Subcontracts
- Contracts
Timeline of Funding for Junior Investigators

- T35 Training Grant
  Summer Research between 1st and 2nd Years

- Medical School

- Internship/Residency

- Fellowship – Research Years
  - Individual Post-doc Fellowship or Institutional Post-doc Training Grant slot

- Instructor/Assistant Professor
  - Institutional K12 Career Development Slot
  - Individual Mentored K Career Development Award

- Year-long “Enhancement” Research Program
  - Career Transition Award
NIH Career Development Support to Independent Research Funding

K08/K23 \rightarrow \text{Independent Grant}

K12 | K23 \rightarrow \text{Independent Grant}

K12 | K23 \rightarrow \text{Independent Grant}

K08/K23 \rightarrow \text{Independent Grant}

K12 \rightarrow \text{Independent Grant}
R01 Research Award

Independent Investigator

Funds research project
- Salaries of PI and other research personnel
- Supplies, reagents, etc
- Animal costs
- Patient care costs
- Core facilities
- Page charges for publications

Multi-Year (4yrs – 5yrs)
Renewable (e.g. original grant + 2 renewals = 15yrs)
Timeline of Funding for Junior Investigators

- **T35 Training Grant Summer Research** between 1st and 2nd Years
- **Individual Post-doc Fellowship or Institutional Post-doc Training Grant slot**
- **Medical School**
- **Internship/Residency**
- **Fellowship – Research Years**
- **Instructor/Assistant Professor**

**Year-long “Enhancement” Research Program**
Post-doc: Institutional Training Grant (NIH-T32)

- Post-docs selected by institution
- Research training in specific area
- Defined number of slots
- Stipend, health fees, tuition, travel
CUMC: Post-doc Institutional Training Grants

- Training Grant in Pediatric Endocrinology, Diabetes and Metabolism (S. Oberfield)
- Training in Pediatric Infectious Diseases (L. Saiman)
- Cancer Biology Training Program (R. Baer)
- Medical Genetics Training Program (A. Christiano)
- Postdoctoral Training in Cardiovascular Disease (M. Hardy/S. Marx)
Post-doc: Individual Fellowship

- Supports specific individual
- Stipend, health fees, tuition, travel
- NIH: F32

Review criteria:
- Individual fellow
- Mentor
- Research project
- Research environment
Post-doc Fellowships (F32s)
Applications, awards, and success rates

[Graph showing trends in applications, awards, and success rates from 1998 to 2012.]
Post-doc: Individual Fellowship
- Voluntary Health Organizations, Foundations, Professional Societies -

- Cystic Fibrosis Foundation
- Daland Fellowships in Clinical Investigation
- Helen Hay Whitney Foundation
Timeline of NIH Funding for Junior Investigators

Medical School
- T35 Training Grant
- Summer Research between 1st and 2nd Years

Internship/Residency
- Year-long “Enhancement” Research Program

Fellowship – Research Years
- Individual Post-doc Fellowship or Institutional Post-doc Training Grant slot
- Career Transition Award

Instructor/Assistant Professor
Career Transition Awards

- **BWF: Career Awards for Medical Scientists**
  - To support physician-scientists during the last years of a mentored postdoctoral/fellowship position and the beginning years of an independent faculty position.
  - Must hold an M.D., D.D.S., D.V.M., Pharm.D., or equivalent clinical degree
  - 75% effort to research-related activities
  - Funding: $700,000 over five years
    - Postdoctoral/Fellowship Portion: Years 1 and 2
      Annual Total: $95,000
    - Faculty Portion of the Award: Years 3-5
      Annual Total: $170,000
Career Transition Awards

- NIH Pathway to Independence Award (K99/R00)
  - 1-2 years as a mentored K award for post-docs
    - Total/year: = $90,000 (salary and research expenses)
    - 75% effort
  - 3 years as an research support award for independent investigators
    - Total/year: = $249,000 (salary and research expenses)
    - Must have an independent research position
  - Fund 150-200 awards per year
Career Transition Awards

- **American Heart Association (National) Fellow-to-Faculty Transition Award**
  - Provides funding for the crucial period of a physician-scientist’s career development which spans the completion of research training through the early years of the first faculty/staff position.
  - Training stage (1-3 yrs, $65,000 per year) and the first years of the first faculty/staff appointment ($132,000 per year), for a maximum of five years of support.
  - Citizenship: U.S. citizen/ Permanent resident/ Pending permanent resident, Visas (e.g. H1-B, O-1)
Career Transition Awards

**JDRF: Advanced Postdoctoral Fellowships**

- Provides an opportunity to receive full-time research training and to assist awardees in transitioning from a fellowship to an independent (faculty-level) position.
- First degree (PhD, MD, DMD, DVM, or equivalent) received no more than 5 years before the fellowship.
- $90,000 per year for up to 3 years.
- Optional transition year in which awardees may request funding support for their first year as a faculty member.
Timeline of NIH Funding for Junior Investigators

- T35 Training Grant Summer Research between 1st and 2nd Years
- Individual Post-doc Fellowship or Institutional Post-doc Training Grant slot
- Year-long “Enhancement” Research Program
- Career Transition Award
- Individual Mentored K Career Development Award
Research Career Programs (K)

- Minimum Effort: e.g. 75% (sometimes 50%)
  - Research & Career development activities
- Predominantly salary support
- Up to 5 years
- US citizen/permanent resident
- Reduce effort to 50% in last 2 years if PI of NIH research grant
Mentored Clinical Scientist Development Award (K08)

- Support to develop outstanding independent clinician research scientists
- Basic and translational science
Mentored Patient-Oriented Research Career Development Award (K23)

- **Patient-oriented research**: Research conducted with human subjects (or on material of human origin) for which an investigator directly interacts with human subjects

- **Research areas**: (1) Mechanisms of human disease, (2) Therapeutic interventions, (3) Clinical trials, and (4) Development of new technologies
Mentored Research Scientist Development Awards (K01)

- **NCI, NHLBI:**
  - Diversity

- **NICHD:**
  - (a) Child Abuse and Neglect

- **NCCAM**
  - CAM Practitioner

- **NIAID:**
  - (a) Epidemiology
  - (b) Modeling Techniques
  - (c) Outcomes Research
Mentored Research Scientist Development Awards (K01)

- **NHLBI:**
  - (a) Epidemiological Research
  - (b) Biostatistics Research
  - (c) Comparative Effectiveness Research

- **NHGRI**
  - (a) Genomics, proteomics, population genomics
  - (b) Ethical, legal and social issues (ELSI)

- **FIC:**
  - International Research Scientist Development Award (IRSDA)
**CDC K01: Mentored Public Health Research Scientist Development Award**

- Basic, behavioral, and applied sciences
- Health promotion
- Disease prevention
- Injury and disability prevention
- Health protection from infectious, environmental and terrorist health threats
Agency for Healthcare Research and Quality (AHRQ)

- Mentored Clinical Scientist Development Awards (K08)
- Patient-Centered Outcomes Research (PCOR) Mentored Clinical Investigator Award (K08)
- Patient-Centered Outcomes Research (PCOR) Mentored Research Scientist Development Award (K01)
Timeline of NIH Funding for Junior Investigators

Medical School

- T35 Training Grant
- Summer Research between 1st and 2nd Years

Internship/Residency

- Year-long “Enhancement” Research Program

Fellowship – Research Years

- Individual Post-doc Fellowship or Institutional Post-doc Training Grant slot

Instructor/Assistant Professor

- Institutional K12 Career Development Slot
- Career Transition Award
- Individual Mentored K Career Development Award
Mentored Clinical Scientist

Development Program Award (K12)

- Support to an institution for career development experiences for clinicians leading to research independence
- Institutions recruit and select candidates into their programs
- Candidates must meet the same criteria as for the individual mentored clinical scientist development award
Mentored Clinical Scientist
Development Program Award (K12)

- NIH-NICHD:
  - Pediatric Scientist
  - Child Health

- NIH-NIDDK
  - Diabetes Research for Pediatric Endocrinologists

- NIH-NCI: Clinical Oncology

- AHRQ:
  - Patient Centered Outcomes Research (PCOR)
CTSA Awards: A Home for Clinical and Translational Science

Source: Zerhouni (NIH) [9/06]
Mentored Clinical Scientist
Development Program Award (K12)

- CTSA - Clinical and Translational Scientist Award
- TRANSFORM Scholars Mentored Career Development program
  [Training and Nurturing Scientists for Research that is Multidisciplinary]
Degree Program in Patient-Oriented Research [POR]

- Comprehensive courses in clinical research
  - Biostatistics, epidemiology, study designs, bioethics, legal and regulatory issues
- For the career development of clinical investigators
Research Career Development/Scholar Programs

- American Society for Nephrology Foundation for Kidney Research
  - Norman Siegel Research Scholar Grant - preference is given to a pediatric investigator

- American Heart Association
  - Scientist Development Grant

- Doris Duke Charitable Foundation
  - Clinical Scientist Development
NIH Career Development (K) Application

- Model for other career development/scholar grant programs supported by voluntary health organizations, private foundations, and professional societies.
## SCORED REVIEW CRITERIA

1. **Candidate**
   - Strengths
   - Weaknesses

2. **Career Development Plan/Career Goals & Objectives/Plan to Provide Mentoring**
   - Strengths
   - Weaknesses

3. **Research Plan**
   - Strengths
   - Weaknesses
4. Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s)

<table>
<thead>
<tr>
<th>Strengths</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Weaknesses</th>
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5. Environment and Institutional Commitment to the Candidate

<table>
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<tr>
<th>Strengths</th>
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<table>
<thead>
<tr>
<th>Weaknesses</th>
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</table>
OVERALL IMPACT

Overall Impact Write a paragraph summarizing the factors that informed your Overall Impact score.
The Candidate

- Candidate’s Background
- Career Goals and Objectives:
  Scientific Biography
Candidate’s Background

- Personal background for this career path
- Other relevant training experiences
- Other research experiences
- Reasons for basic, clinical, translational, behavioral, multidisciplinary research, relevant publications
Career Goals and Objectives

- Unique expertise/Scientific history
- Skills that are lacking
- Short-term Career Goals
  - Timeline for funded period
- Long-term Career Goals
  - Scientific goals
  - Mentoring goals
  - Networking goals
Career Development/Training
Activities During Award Period

- Review of didactic courses, clinical training, and research experiences to date
- New research skills/ knowledge required
- Identification of training modules required to fill gaps in knowledge in order to reach long term goals
- Mentors, Courses, Workshops and additional training, Conferences, Communication skills, Grant writing
### Mentors/Advisory Committee

- Collaborators and Consultants
  - Scientific area per mentor/committee member
  - Schedule of meetings

### Career Development and Research Training

#### Mentors and Advisors

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Role</th>
<th>Area of Expertise</th>
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<tbody>
<tr>
<td>Name (Title)</td>
<td>Mentor</td>
<td></td>
</tr>
<tr>
<td>Name (Title)</td>
<td>Co-Mentor</td>
<td></td>
</tr>
<tr>
<td>Name (Title)</td>
<td>Advisory Board Member</td>
<td></td>
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<tr>
<td>Name (Title)</td>
<td>Advisory Board Member</td>
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<tr>
<td>Name (Title)</td>
<td>Advisory Board Member</td>
<td></td>
</tr>
<tr>
<td>Name (Title)</td>
<td>Collaborator</td>
<td></td>
</tr>
<tr>
<td>Name (Title)</td>
<td>Consultant</td>
<td></td>
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</tbody>
</table>
Environment and Institutional Commitment to the Candidate

- Description of Institutional Environment
- Institutional Commitment to the Candidate’s Research Career Development
Research Career Development Awards

![Graph showing the number of awards from 1997 to 2012, categorized by fiscal year. The graph includes data for different types of grants, such as K01, K08, K23, K25, and K99.]
Research Career Development Awards

Number of Awards

Funding

$800,000,000
$700,000,000
$600,000,000
$500,000,000
$400,000,000
$300,000,000
$200,000,000
$100,000,000
$0

Fiscal Year


<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Activity Code</th>
<th>NIH Institute / Center</th>
<th>Number of Applications</th>
<th>Number of Applications</th>
<th>Success Rate</th>
<th>Total Funding</th>
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<tbody>
<tr>
<td>2012</td>
<td>K23</td>
<td>NCI</td>
<td>24</td>
<td>4</td>
<td>16.7%</td>
<td>$687,842</td>
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<td>2012</td>
<td>K23</td>
<td>NHLBI</td>
<td>86</td>
<td>18</td>
<td>20.9%</td>
<td>$2,635,891</td>
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<td>2012</td>
<td>K23</td>
<td>NIDCR</td>
<td>5</td>
<td>1</td>
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<tr>
<td>2012</td>
<td>K23</td>
<td>NIDDK</td>
<td>64</td>
<td>26</td>
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<td>$4,468,470</td>
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<tr>
<td>2012</td>
<td>K23</td>
<td>NINDS</td>
<td>41</td>
<td>12</td>
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<td>2012</td>
<td>K23</td>
<td>NIAID</td>
<td>32</td>
<td>17</td>
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<td>2012</td>
<td>K23</td>
<td>NIGMS</td>
<td>10</td>
<td>4</td>
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<td>K23</td>
<td>NICHD</td>
<td>59</td>
<td>28</td>
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<td>NEI</td>
<td>6</td>
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<td>2012</td>
<td>K23</td>
<td>NIEHS</td>
<td>8</td>
<td>4</td>
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<td>K23</td>
<td>NIA</td>
<td>47</td>
<td>14</td>
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<td>2012</td>
<td>K23</td>
<td>NIAMS</td>
<td>14</td>
<td>9</td>
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<td>K23</td>
<td>NIDCD</td>
<td>7</td>
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<td>K23</td>
<td>NIMH</td>
<td>91</td>
<td>35</td>
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<td>K23</td>
<td>NIDA</td>
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<td>12</td>
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<td>2012</td>
<td>K23</td>
<td>NIAAA</td>
<td>15</td>
<td>7</td>
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<td>2012</td>
<td>K23</td>
<td>NINR</td>
<td>11</td>
<td>3</td>
<td>27.3%</td>
<td>$371,160</td>
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<tr>
<td>2012</td>
<td>K23</td>
<td>NIBIB</td>
<td>1</td>
<td>1</td>
<td>100.0%</td>
<td>$189,124</td>
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<tr>
<td>2012</td>
<td>K23</td>
<td>NCCAM</td>
<td>9</td>
<td>2</td>
<td>22.2%</td>
<td>$258,704</td>
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<tr>
<td><strong>2012</strong></td>
<td><strong>K23</strong></td>
<td><strong>Activity Total</strong></td>
<td><strong>555</strong></td>
<td><strong>203</strong></td>
<td><strong>36.6%</strong></td>
<td><strong>$31,820,630</strong></td>
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</tbody>
</table>
Timeline of NIH Funding for Junior Investigators

Medical School
- T35 Training Grant
  Summer Research between 1st and 2nd Years

Internship/Residency
- Year-long “Enhancement” Research Program

Fellowship – Research Years
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- Career Transition Award

Instructor/Assistant Professor
- Institutional K12 Career Development Slot
- Individual Mentored K Career Development Award

NIH Loan Repayment Program
NIH’s Extramural Loan Repayment Program

- Up to $35,000 a year towards educational loan debt
- Conduct qualified research activities for at least 50% of their effort (or less than 20 hours per week) for a minimum of 2 years
- Qualifying educational loan debt equals or exceeds 20% of the applicant's institutional base salary
NIH’s Extramural Loan Repayment Program

Extramural Programs

- Pediatric Research
- Clinical Research
- Health Disparities Research
- Clinical Researchers from Disadvantaged Backgrounds
- Contraception and Infertility Research
LRP: Pediatric Research
– New Applications –

New Applications for Pediatric Research LRP

http://www.lrp.nih.gov/about_the_programs/pediatric.aspx
LRP: Pediatric Research – Renewal Applications -

http://www.lrp.nih.gov/about_the_programs/pediatric.aspx
HRSA

Loan Repayment Programs

- Health Resources and Services Administration/
  Faculty Loan Repayment Program
  - Health professions faculty from disadvantaged backgrounds agree to serve at a health professions college/university for 2 years. Federal government will pay up to $40,000 of the participant's student loans and provides funds to offset the tax burden.
Health Resources and Services Administration/Bureau of Clinician Recruitment & Service National Health Service Corps (NHSC)

- Assists Health Professional Shortage Areas (HPSAs) to meet their need for primary care medical, dental, and mental and behavioral health clinicians. NHSC clinicians expand access to high quality health services and improve the health of underserved people.

- Loan Repayment Program provides $50,000 for 2 years of full-time or 4 years of half-time service, with the potential for additional funding for additional service.
**R01 Research Award**

**Independent Investigator**

**Funds research project**
- Salaries of PI and other research personnel
- Supplies, reagents, etc
- Animal costs
- Patient care costs
- Core facilities
- Page charges for publications

**Multi-Year (4yrs – 5yrs)**

**Renewable** (e.g. original grant + 2 renewals = 15yrs)
R01 Research Grant

- Supports a discrete, specified project
- “Comprehensive” funding
- Modular budgets up to $250,000/year
- Multi-year
- Flexibility
- Most of the research that NIH supports is through this funding mechanism
Exploratory/Developmental Grants (R21)

- Encourages new, exploratory, and developmental research
- Pilot and feasibility studies
- 2 years of funding
- Budget: $275,000 over two years
- Not renewable
Small Research Grants (R03)

- Supports:
  - Pilot or feasibility studies
  - Collection of preliminary data
  - Secondary analysis of existing data
  - Small, self-contained research projects
  - Development of new research technology

- 2 years of funding
- Budget: $50,000/year
- Not renewable
Thrasher Research Fund
Early Career Awards

- **Funding**
  - Research topics important to children's health - incidence and severity are considered when determining the significance of the problem being studied
  - 2014: Up to 30 awards (total) in two funding cycles
  - Maximum of $25,000 in direct costs
  - Duration: Up to two years

- **Eligibility:**
  - Physicians who are in a residency/fellowship training, or who have recently completed that program
  - Post-doctoral researchers who received the doctoral level degree within the past three years
Academic Pediatric Association
Young Investigator Award

- **Research Areas**
  - Health services research, medical education, adolescent medicine, public health, epidemiology, emergency medicine, child maltreatment, hospitalist medicine, developmental/behavioral pediatrics, and other general pediatric clinical research domains.

- **Funding:** Up to $10,000

- **Eligibility:**
  - 1) Faculty members who are no more than five years from completion of training; 2) Fellows; or 3) Residents
<table>
<thead>
<tr>
<th>Challenging Times for All Researchers</th>
<th>1999</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall success rate for NIH RO1* Proposals</td>
<td>32%</td>
<td>24%</td>
</tr>
<tr>
<td>Success rate on first submission</td>
<td>29%</td>
<td>12%</td>
</tr>
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<tr>
<th>Especially for Young Investigators</th>
<th>Then 1990</th>
<th>Now 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at first Ro1* grant</td>
<td>39</td>
<td>43</td>
</tr>
<tr>
<td>% of Ro1s* that go to first-time investigators</td>
<td>29%</td>
<td>25%</td>
</tr>
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</table>

*R01 Equivalents: RO1, R29, R37  
Source: National Institutes of Health

http://www.brokenpipeline.org/brokenpipeline.pdf
Age Distribution of NIH RPG Investigators: 1980

Average Age
New R01 Investigator: 37.2

Sources: IMPAC II Current and History Files
Age Distribution of NIH RPG Investigators: 2006

Average Age
New R01 Investigator: 42.2

Sources: IMPAC II Current and History Files
Preliminary Projection of Age Distribution of NIH RPG Investigators: 2020

Sources: IMPAC II Current and History Files and Preliminary Demographic Projection Model
NIH R01 Principal Investigators:
Age 36 and Younger / Age 66 and Older

http://nexus.od.nih.gov/all/rock-talk/
Early Stage Investigators

- No previous “significant NIH independent research award”
  - e.g. R01’s
  - Does not include: F’s, K’s, loan repayment program
- Within 10 years of terminal research degree/completion of medical residency
- Extensions permitted
  - Additional clinical training
  - Family responsibilities
# Early Stage Investigators: NHLBI

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<tr>
<th>Grant Program</th>
<th>Percentile</th>
<th>Priority Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R01</td>
<td>11.0</td>
<td></td>
<td>Research Project Grant</td>
</tr>
<tr>
<td>ESI</td>
<td>21.0*</td>
<td></td>
<td>Early Stage Investigators</td>
</tr>
</tbody>
</table>

*Summary Statement issues must be satisfactorily resolved on applications >16 percentile.

FY13

http://www.nhlbi.nih.gov/funding/policies/operguid.htm
Early Stage Investigators: NIDDK

For FY 2013 NIDDK is establishing a nominal “payline” for new (Type 1) and renewal or competing continuation (Type 2) R01 applications of 11th percentile. Most R01 applications which have a primary assignment to NIDDK and which request less than $500,000 direct cost per year and score at or better than the 11th percentile will receive an award.

establishing a nominal payline for R01 applications submitted by ESIs at the 16th percentile.

FY13
http://www2.niddk.nih.gov/Funding/Grants/FundingPolicy.htm
R01-Equivalent grants, New (Type 1)
Success rates, by career stage of investigator
Topics to be Discussed

- **Types of Awards**
  - Fellowships (F’s), Training grants (T’s), Career Development awards (K’s), Research grants (R’s), Loan Repayment Program

- **Funding Agencies**
  - Federal
    - National Institutes of Health, CDC, AHRQ, HRSA
    - Voluntary Health Organizations, Professional Societies, Foundations, Industry, Other

- **Planning & Organizing a Research Proposal**
Voluntary Health Organizations

- Cystic Fibrosis Foundation
  - Clinical Research Awards
    - Single-center clinical research
    - Multi-center clinical research
    - Cystic Fibrosis Foundation Therapeutics
  - Research Grants
  - Training Grants
    - Postdoctoral Research Fellowships
    - Clinical Fellowships
    - Student Traineeships
    - Summer Scholarships in Epidemiology
Cystic Fibrosis Foundation

- Clinical Research Awards
- Research Grants
- Pilot and Feasibility Awards
- Research Grants
- LeRoy Matthews Physician/Scientist Award
  - Newly trained pediatricians and internists to complete subspecialty training, develop into independent investigators, and initiate a research program
- Harry Shwachman Clinical Investigator Award
  - Clinically-trained physicians to develop into independent investigators - facilitate the transition from postdoctoral training to a career in academic medicine.
- CFF/NIH-unfunded Grant Award
  - To support excellent projects that have been submitted to and approved by the NIH, but cannot be supported by available NIH funds
- Training Grants
Professional Societies

- American Academy of Allergy, Asthma & Immunology (AAAAI)/Education and Research Organization, Inc. (ARTrust)
  - K and R Award Bridge Grant Application ($50,000)
  - Mini-grants ($15,000)
  - Travel Scholarship
Private Foundations

Robert Wood Johnson Foundation

- Program Areas
  - Childhood Obesity
  - Coverage
  - Global Health
  - Human Capital
  - Pioneer
  - Public Health
  - Quality/Equality
  - Vulnerable Populations
Topics to be Discussed

- **Types of Awards**
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- **Funding Agencies**
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  - Voluntary Health Organizations, Professional Societies, Foundations, Industry, Other

- **Planning & Organizing a Research Proposal**
When Preparing an Application:

- Read instructions
- Never assume that reviewers “will know what you mean”
- Refer to literature thoroughly and thoughtfully
- Explicitly state the rationale of the proposed investigation
- Include well-designed tables and figures
- Present an organized, lucid write-up
Elements of a Good Proposal

- Feasible
- Relevant
- Unique
- Innovative
- Clear
- Brief
- Consistent
Anticipate Questions and Answer them before they are asked
Investigator

- Competent
- Enthusiastic
- Thorough
- Professional
NIH: one round of applications
Pink Sheet: Reviewers’ Comments
Bell Curve of Reviewer’s Grant Applications

Great

Definitely do not fund

Fine

Definitely fund

Great
Poor Statistics
Research Resources not Adequately Described
Career Development Plan
not Comprehensive
Figure Caption Font too Small
All Components of the Application are as Strong as Possible
Common Problems with Grant Applications from New Investigators

- Overly ambitious
- Not independent of previous mentor’s research
- Fishing expedition
- Not hypothesis driven
- Descriptive, not mechanistic project
- Unfocussed
- No or insufficient preliminary data
- Unrealistic budget
- Methodologies beyond the expertise of investigator or research team
Good Luck!