

Other Options in Funding Mechanisms

Goal

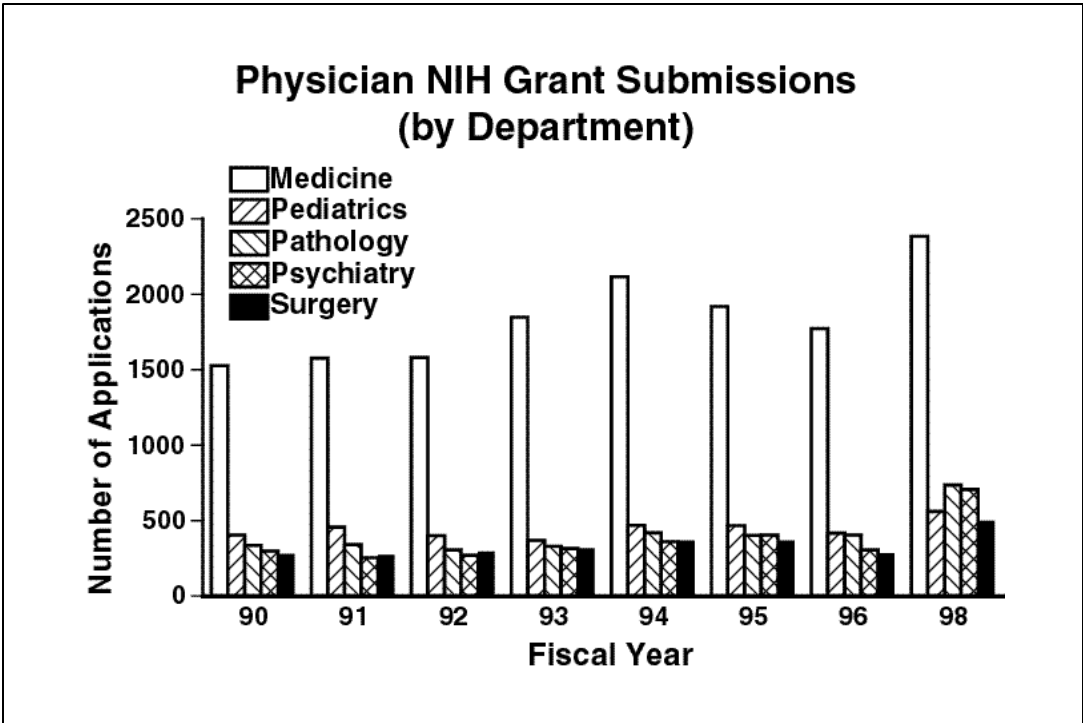
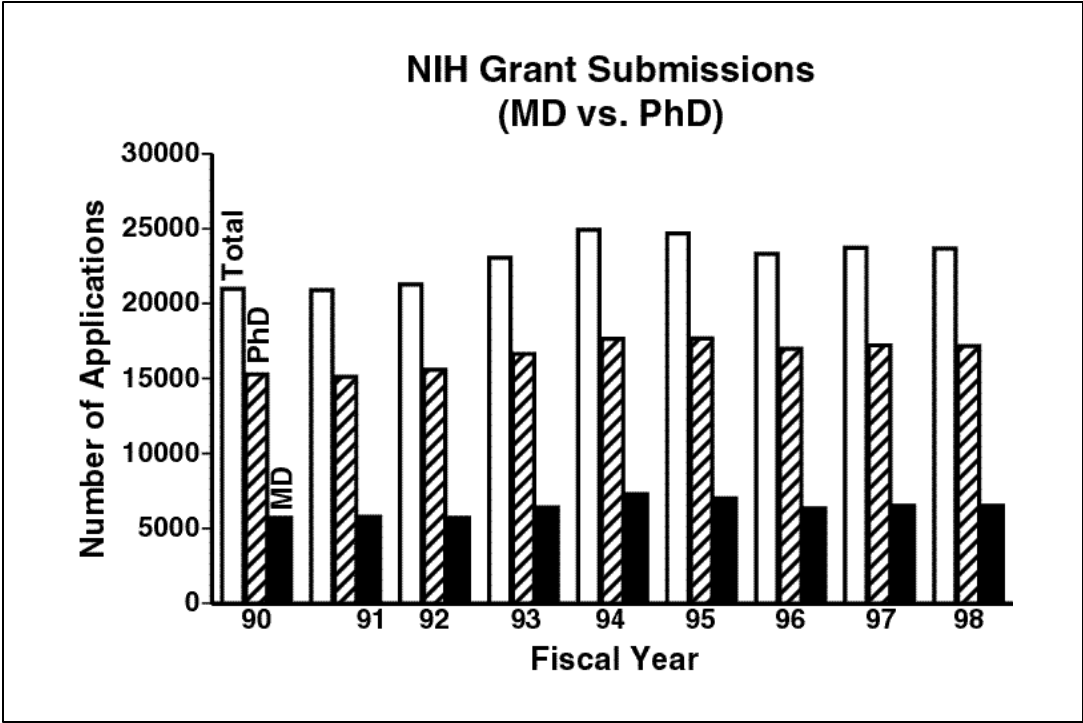
- **To obtain research funding (preferably NIH) as quickly as possible early in your academic career.**

Benefits of Funding

- **Independent investigator**
- **Academic respect/
credibility**

Misconception #1

**Surgeons are writing alot
of grants but they are just
not getting funded.**



Misconception #2

**MDs can not compete
with PhDs in successfully
obtaining NIH support.**

NIH Applicant Success Rates (FY 1998)

PhD	5,252/17,162 = 30.6%
MD	2,143/6,513 = 32.9%
Total	7,395/23,675 = 31.2%

Misconception #3

**The NIH budget is so low
why should I even bother
applying?**

NIH Budget (dollars in millions)

<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000 (estimate)</u>
\$12.8	\$13.7	\$15.6	\$17.8 (↑ 14%)

Possible Grant Support for Junior Faculty

- **Research Fellowship Awards**
 - American College of Surgeons
 - American Surgical Association
 - Society of University Surgeons
- **Intramural support/industry**
- **Veterans' Administration**
- **Shriners' Burn Hospitals**
- **Other Agencies/Foundations**
 - Whitaker Foundation
 - Bristol-Myers Foundation
 - Burroughs-Wellcome Foundation

“K” Awards

- **K08 – Mentored Clinical Scientist Development Award**
 - Development of the independent clinical research scientist
 - 3 to 5 yrs of support
 - Minimum of 75% effort
- **K23 – Mentored Patient-Oriented Research Career Development Award**
 - Development of the independent research scientist in the clinical arena
 - 3 to 5 years of support
 - Minimum of 75% effort

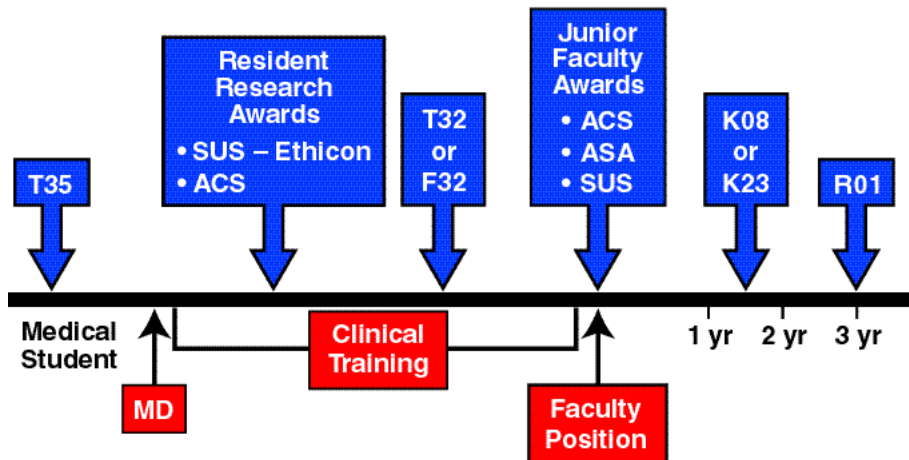
• **R01 – Independent Research Grant**

– “**Gold Standard**”

→ **R29 (First) award no longer exists**

	Years	\$	Mentor Required	% Effort	Success Rate
• K08 • K23	3-5	75K/year (salary support) 20-25K/year (supplies, research support)	Yes	75% (min.)	~50%
• R01	3-5	Variable (100-250K/year)	No	Variable (15-50%)	~15-20%

M.D. Career



Grantsmanship

Grant Preparation (General)

- Research proposal should follow a logical and specific hypothesis
- Read some successful (and unsuccessful) grants
- Completely prepare grant 1 to 2 months in advance
- Identify scientifically knowledgeable colleagues to critically review grant

Grant Preparation (General)

Follow the rules:

- Keep within page limitation
- Be concise, don't ramble
- Don't be sloppy; poor typing, misspellings, faint copies and disorganized layout all convey a negative impression

Abstract

- **Long-term objectives and specific aims**
- **Concise description of research design**
- **“Last but not least”**
 - **Determine which study section reviews grant**
 - **May be only section read by study section members other than 1° or 2° reviewers**

Specific Aims

- **Provide brief but highly relevant background**
- **Have clear testable hypothesis**
- **State long-term objectives and relevance to better care**

Background and Significance

- **Be concise and relevant**
- **Do careful, complete and up-to-date literature search**
- **Show clearly how work of others supports your proposal**
- **Point out obvious “gaps” in the literature**

Preliminary Studies

- **Convince reviewers that you can do the proposed work**
- **Convince reviewers that more work needs to be done**
- **Must flow and tell a story – how all of these experiments support your overall hypothesis**

Experimental Design and Methods

- **Follow specific aims**
- **State purpose for each set of experiments and why it is important**
- **Be concise but with sufficient detail to make sure reviewers understand the experiments**
- ★• **Discuss potential problems and alternative experiments in case hypothesis does not turn out as expected**

Future Goals

- **Briefly outline goals for the next year or two after the requested period**
- **Allows a refocusing on the long-range significance of the work, so that the reviewer comes to an intellectually satisfying break-point, rather than abruptly driving off a cliff**
- **Last chance to “sell” the reviewer on the project’s significance**

Collaboration

- A must for “untested” junior investigators
- Use collaborators when weak in specific areas (recognized authorities preferably with NIH-funding)
- Clearly state the roles of the collaborators or consultants on the project

Biographical Sketch

- **Fill in the spaces**
- **Be relevant**
- **Include collaborators**

Budget

- **Be accurate, act knowledgeable**
- **Do not inflate (too much)**
- **Justify everything**
- **Make supplies, animals, etc consistent with research design**

Direct Grant to Appropriate Study Section

- **Expertise in particular field**
- **Reviewers are you peers
(e.g. study section with
surgeons as members)**

How to Direct Grant to a Particular Study Section

- **Title of Grant**
- **Abstract**
- **Cover letter**

Miscellaneous Suggestions

- **Get to know the scientific review administrator (SRA) or your study section**
- **If in the area - schedule a visit to the NIH and meet with people in the Institute that will receive your grant**

**The priority score
of your grant is not
sufficient for funding.**

What Next?



- **Use critique sheet (pink sheet) to answer all criticisms; revise grant accordingly**
- **Resubmit grant with next cycle**
- **Keep trying – persistence is rewarded**

Summary

- **Testable central hypothesis with well-defined goals and future directions**
- **Write the grant!**
- **Start early, ask knowledgeable scientists and colleagues who have been successful in obtaining funding to critically review your grant**

Summary (cont'd)

- **Identify collaborators/consultants to provide additional expertise and fill in potential “holes”**
- **Specify study section**
- **If not funded the first time, revise and resubmit**