



Supporting research that is the foundation for disease diagnosis, treatment, and prevention

NIH 101: Grant Writing



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National Institutes of Health

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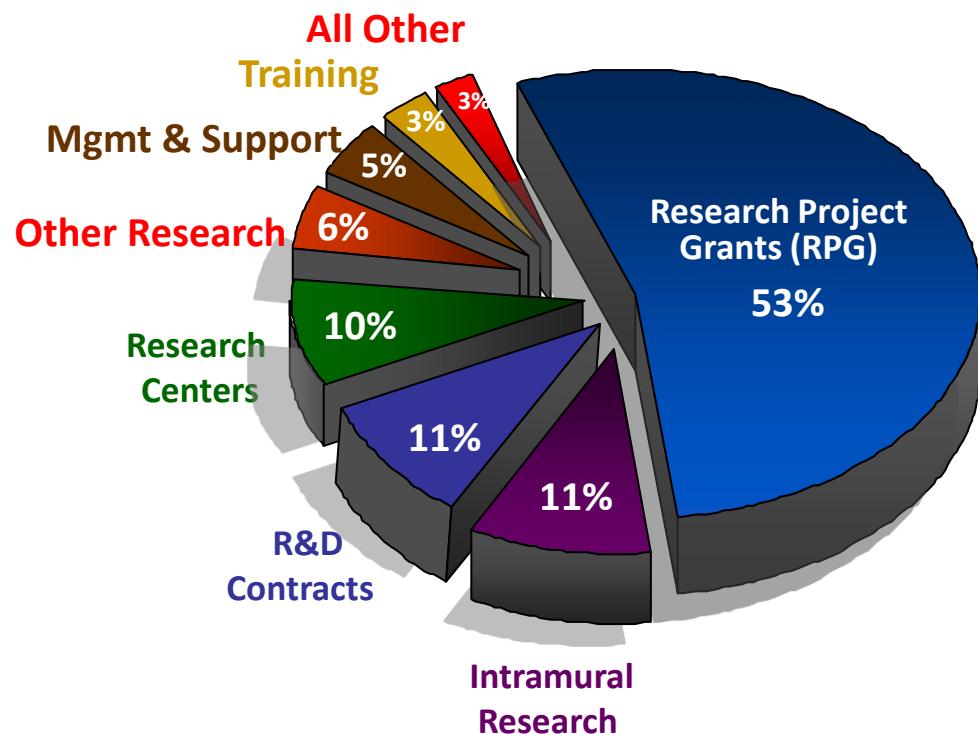
NIH 101

- 1. NIH Mission**
- 2. Grant Mechanism**
- 3. Forms & Information**
- 4. Grantsmanship**
- 5. Resources**
- 6. Submission**
- 7. Review**
- 8. Priority Score**
- 9. Award**
- 10. Assistance**

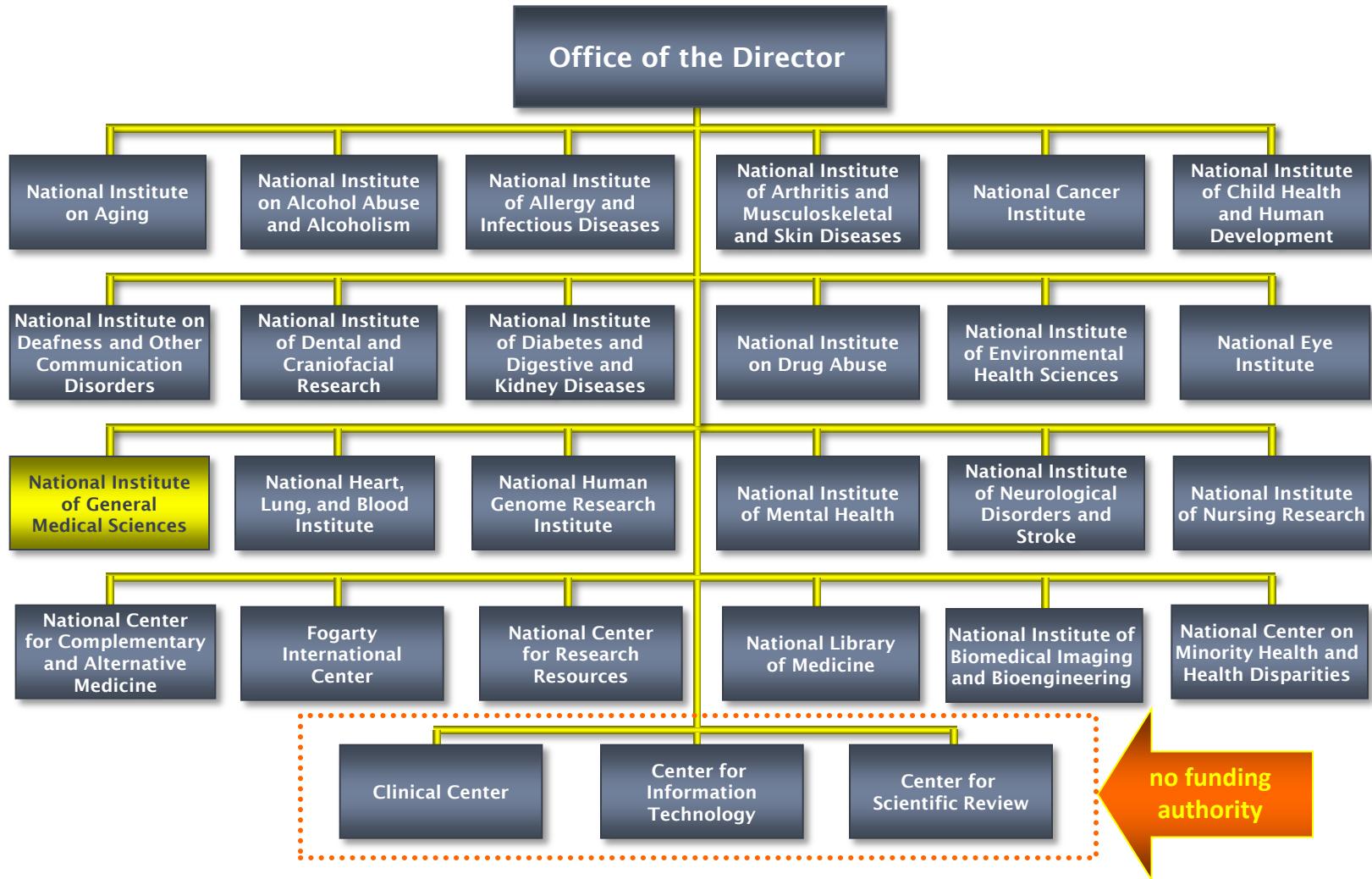


NIH is the steward of medical and behavioral research for the Nation. Its mission is science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability.

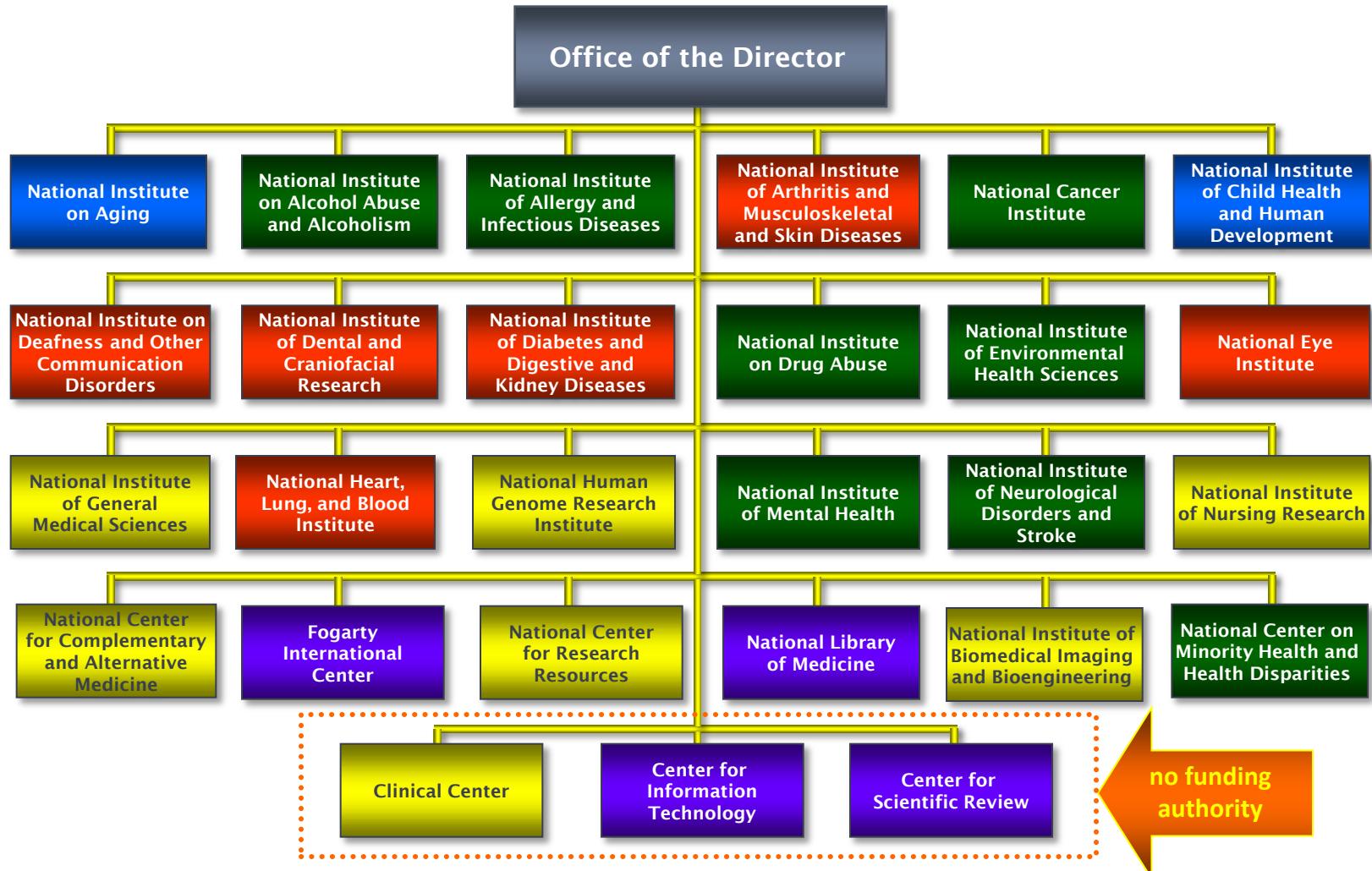
**Annual Budget
\$31.2 Billion**
Fiscal Year 2010



27 Institutes and Centers

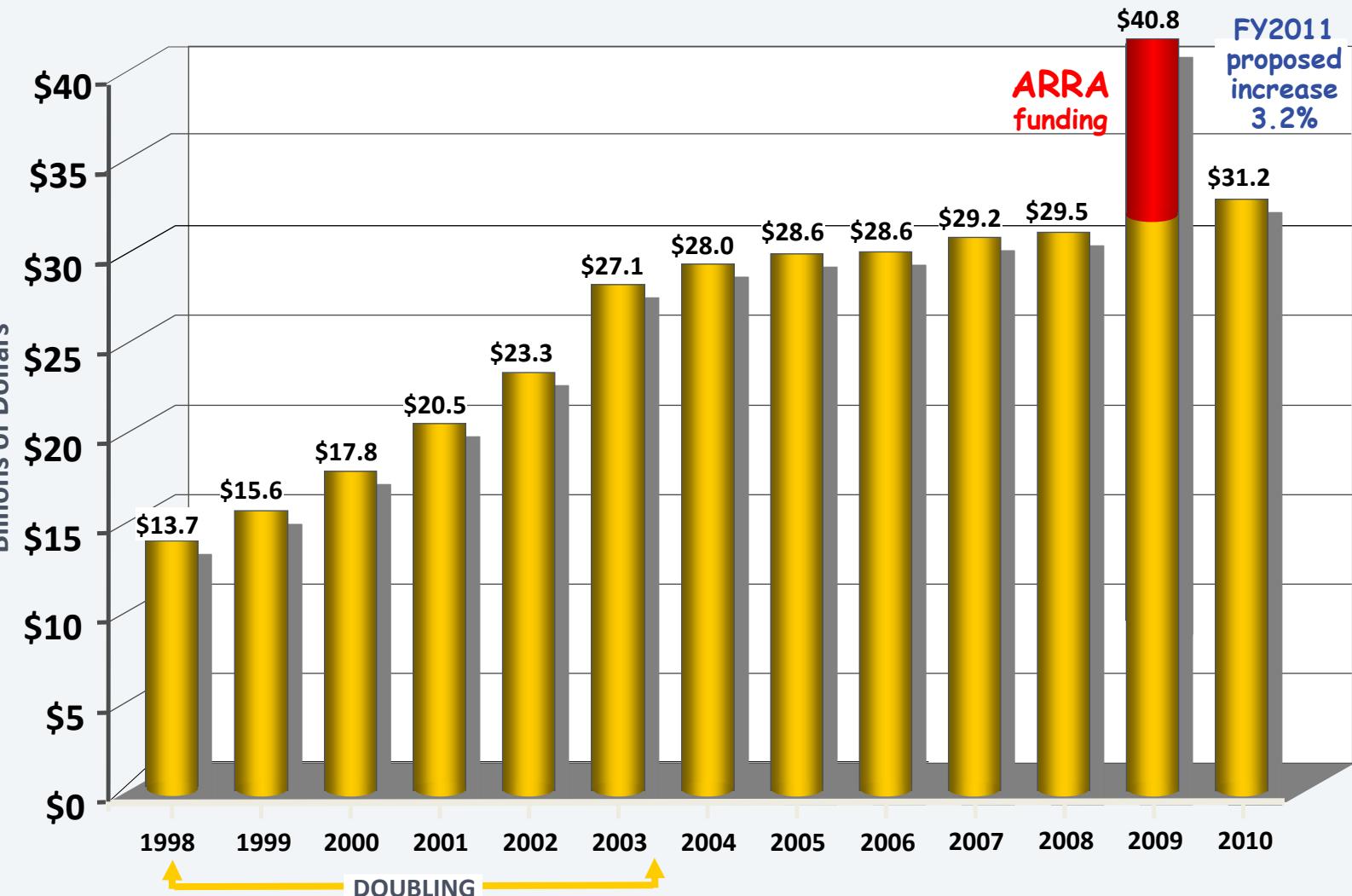


27 Institutes and Centers



Different Missions, Responsibilities and Constituencies

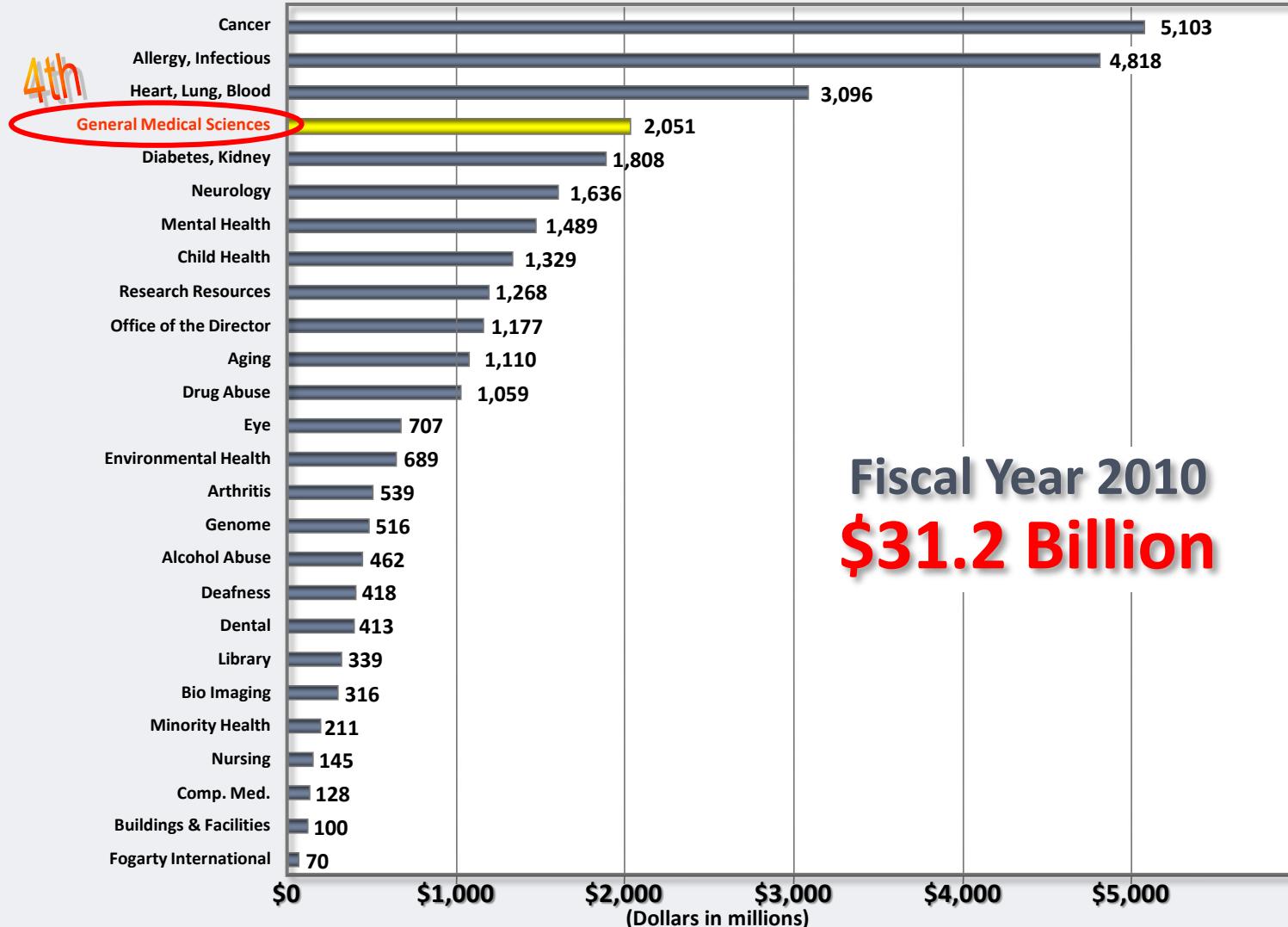
NIH Appropriations



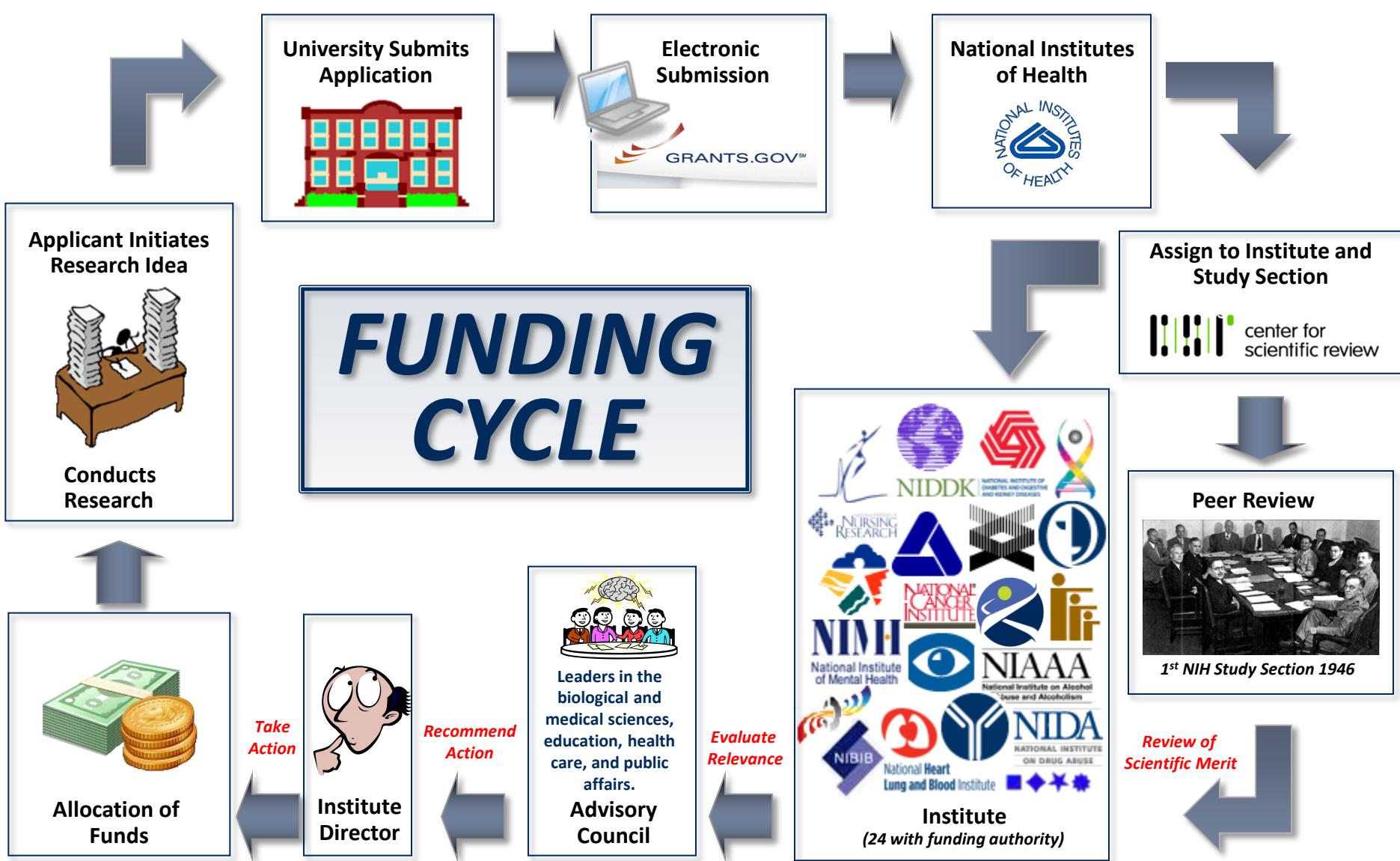
Institute Funding (2010)



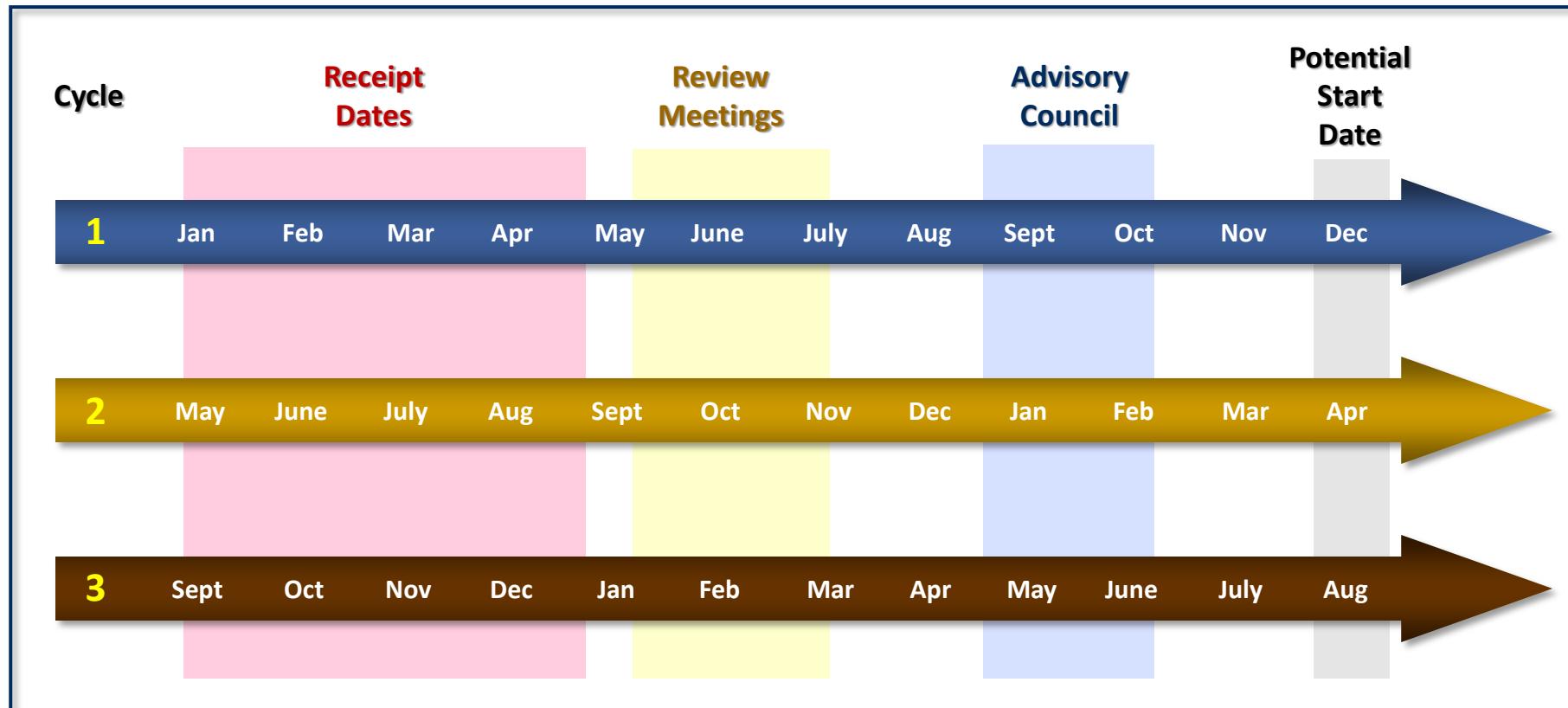
Direct responsibility for funding research and training relevant to their mission.



Submission & Award Process



3 Overlapping Funding Cycles Per Year



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NRSA Fellowship Awards

F30 Individual Predoctoral Fellowship for MD/PhD *8 participating institutes*

F31 Predoctoral Fellowship to Promote Diversity *21 participating institutes*

To support doctoral candidates from underrepresented groups (minorities and individuals with disabilities)

F31 Individual Predoctoral Fellowship *8 participating institutes*

F32 Individual Postdoctoral Fellowship *21 participating institutes*

F33 Individual Senior Fellowship *15 participating institutes*

Characteristics:

- Not all Institutes participate in each mechanism
- Apply with mentor / sponsor
- Eligibility: U.S. Citizen or permanent resident
- Length: Up to 5 years support predoctoral; 3 years postdoctoral
- Stipend, tuition and institutional allowance
- Payback Service Obligation

Career Development Awards

K01	Mentored Research Scientist Development Award	<i>16 participating institutes</i>
	<i>Usually for Ph.D.'s in basic research</i>	
K02	Independent Scientist Award	<i>11 participating institutes</i>
K05	Senior Scientist Award	<i>Additional time & effort support for researcher with R01 award</i>
K07	Academic Career Award	
K08	Mentored Clinical Scientist Development Award	<i>For clinicians to get basic laboratory research training</i>
K12	Mentored Clinical Scientist Program Award	
K22	Career Transition Award	
K23	Patient-Oriented Research Career Development Award	
K24	Mid-Career Patient-Oriented Research Award	
K99/R00	Pathway to Independence Award	<i>22 participating institutes</i>
	<i>1-2 year mentored phase followed by 3 year independent phase</i>	

Research Awards

R01	Research Project Grant
	<ul style="list-style-type: none">• <i>Primary funding mechanism for investigator initiated research</i>• <i>Up to 5 years and \$500K per year</i> (prior required approval for projects greater than \$500K).
R03	Small Research Grant Project
	<ul style="list-style-type: none">• <i>Up to 2 years and \$50K per year</i>• <i>Not all ICs support this mechanism</i>
R13	Support for Conferences and Scientific Meetings
R15	Academic Research Enhancement Award (AREA)
	<ul style="list-style-type: none">• <i>Small-scale health-related research projects at <u>eligible domestic institutions</u></i>• <i>Up to 3 years and \$300K total direct costs</i>
R21	Exploratory Development Research Grant
	<ul style="list-style-type: none">• <i>Foster the introduction of novel scientific ideas, model systems, tools, agents, targets and technologies</i>• <i>Break new ground or extend previous discoveries toward new directions or applications</i>• <i>Up to 2 years and \$275K total direct costs</i>
R41/R42	Small Business Technology Transfer Grant (STTR)
R43/R44	Small Business Innovation Research Grant (SBIR)

- **New and Early Stage Investigator Policies**

grants.nih.gov/grants/new_investigators

- **Definition**

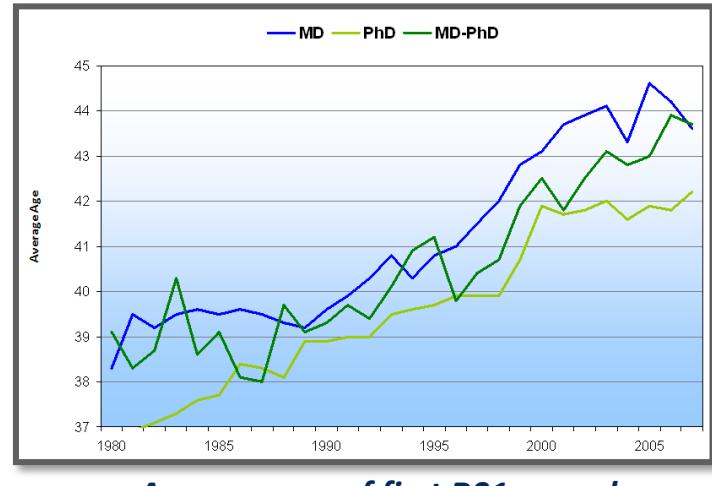
A principle investigator who has not previously competed successfully for a significant NIH independent research award.

- **Designations**

- Early Stage Investigator (ESI): Within 10 years of receiving terminal degree
- New Investigator (NI): No record of significant independent support

- **Commitment to New Investigators**

- Over the past three years about ~25% of all R01 awards have gone to new investigators.
- Institutes maintain success rates for new investigators - better paylines
- Longer award length
- Separate clustering during review



Average age of first R01 award

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Everything is here, but you may still want to try Google™



grants.nih.gov/grants/oer.htm

U.S. Department of Health & Human Services

Office of Extramural Research
National Institutes of Health

www.hhs.gov

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Home About Grants Funding Forms & Deadlines Grants Policy News & Events About OER NIH Home

About Grants

Grants Process

- Grant Application Basics
- Grants Process Overview
- Types of Grant Programs
- How to Apply
- Peer Review Process
- Award Management
- Foreign Grants Information
- NIH Financial Operations (w/Funding Strategies)

Electronic Grants

- Electronic Research Admin (eRA)
- eRA Commons
- Applying Electronically

Funding

Funding Opportunities

Search Funding Opportunities: NIH Guide for Grants and Contracts Go

- Funding Opportunities (RFAs, PAs) & Notices
- Unsolicited Applications (Parent Announcements)

NIH-Wide Initiatives

- New and Early Stage Investigators
- Stem Cell Information
- Genome-Wide Association Studies (GWAS)
- NIH Common Fund
- OppNet (Behavioral & Social Sciences)

Award Data

NIH RePORT REPORTS DATA ANALYSES

- Search NIH Awards (RePORTER)

Global OER Resources

- Glossary & Acronyms
- Frequently Used Links
- Frequent Questions

News & Events

News Flashes

- NEW** Resubmission Policy Clarified
- FY 2009 NIH Data Book Released
- All Personnel Report FAQs Posted

More...

Get Connected

- Nexus (Monthly News)
- Workshops & Training
- Listservs & Feeds

More...

Hot Topics

- ClinicalTrials.gov and FDAAA
- Financial Conflict of Interest (FCOI)
- Animals in Research
- Enhancing Peer Review
- NIH Policy Notices

Grants Policy

Forms & Deadlines

About OER

grants.nih.gov/grants/oer.htm

- ***Official notification of NIH policies, notices and availability of funds***
- ***Contains all Funding Opportunities (PAs/RFAs) for new or ongoing interest from one or more Institutes in supporting research, training or resources.***
- ***Sign up to receive weekly NIH Guide updates***



Funding Opportunities

Search Funding Opportunities:
NIH Guide for Grants and Contracts

- [Funding Opportunities \(RFAs, PAs\) & Notices](#)
- [Unsolicited Applications \(Parent Announcements\)](#)

Program Announcement (PA)

- Addresses a broad category of research
- No set-aside budget
- Submit on regular receipt dates
- Regular review criteria for mechanism of application

Request for Applications (RFA)

- Addresses a well defined area of research
- Set-aside budget
- Submit on special, one-time receipt date
- Often special eligibility and/or review criteria
- Often special application format and/or submission instructions

All the details are here!

- **Participating Organizations**
- **Title**
- **Announcement Type**
- **Program Announcement Number**
- **Link to Apply Electronically**
- **Key Dates**
- **Summary / Overview**
- **Specifics**
 - Objectives
 - Award Information
 - Eligibility
 - Application / Submission
 - Review Information
 - Award Administration
 - Agency Contacts

Apply for Grant Electronically

110 - See Notice NOT-NS-10-013 NINDS Announces Availability of Funds for Competitive Revision Applications for Grand Challenge on Optimal Control of DARPA Revolutionizing Upper-Limb Prosthetics (R01 and R37).
7.2009 - See NOT-OD-10-031 - Availability of Reissued Parent Announcements for Due Dates on or after January 25, 2010.

Program Announcement (PA) Number: PA-10-067

NOTICE: Applications submitted in response to this Funding Opportunity Announcement (FOA) for Federal assistance must be submitted electronically through Grants.gov (<http://www.grants.gov>) using the SF424 Research and Related (R&R) forms and the SF424 (R&R) Application Guide.

APPLICATIONS MAY NOT BE SUBMITTED IN PAPER FORMAT.

This FOA must be read in conjunction with the application guidelines included with this announcement in [Grants.gov/Apply for Grants](http://www.grants.gov/Apply_for_Grants) (hereinafter called Grants.gov/apply).

A registration process is necessary before submission and applicants are highly encouraged to start the process at least four (4) weeks prior to the grant submission date. See [Section IV](#).

Apply for Grant Electronically

A compatible version of [Adobe Reader](#) is required for download. For assistance downloading this or any Grants.gov application package, please contact Grants.gov Customer Support at <http://grants.gov/CustomerSupport>.

Part I Overview Information

Department of Health and Human Services

Participating Organizations

National Institutes of Health (NIH) (<http://www.nih.gov>)

Components of Participating Organizations

National Institute on Aging (NIA), (<http://www.nia.nih.gov>)

National Institute on Alcohol Abuse and Alcoholism (NIAAA), (<http://www.niaaa.nih.gov>)

National Institute of Allergy and Infectious Diseases (NIAD), (<http://www.niaid.nih.gov>)

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), (<http://www.niams.nih.gov>)

National Institute of Biomedical Imaging and Bioengineering (NIBIB), (<http://www.nibib.nih.gov>)

National Cancer Institute (NCI), (<http://www.nci.nih.gov>)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), (<http://www.nichd.nih.gov>)

National Center for Complementary and Alternative Medicine (NCCAM), (<http://www.nccam.nih.gov>)

National Institute on Deafness and Other Communication Disorders (NIDCD), (<http://www.nidcd.nih.gov>)

National Institute of Dental and Craniofacial Research (NIDCR), (<http://www.nidcr.nih.gov>)

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), (<http://www.niddk.nih.gov>)

National Institute on Drug Abuse (NIDA), (<http://www.nida.nih.gov>)

National Institute of Environmental Health Sciences (NIEHS), (<http://www.niehs.nih.gov>)

National Eye Institute (NEI), (<http://www.nei.nih.gov>)

National Institute of General Medical Sciences (NIGMS), (<http://www.nigms.nih.gov>)

National Heart, Lung, and Blood Institute (NHLBI), (<http://www.nhlbi.nih.gov>)

National Human Genome Research Institute (NHGRI), (<http://www.nhgri.nih.gov>)

National Institute of Mental Health (NIMH), (<http://www.nimh.nih.gov>)

National Institute of Neurological Disorders and Stroke (NINDS), (<http://www.ninds.nih.gov>)

National Institute of Nursing Research (NINR), (<http://www.ninr.nih.gov>)

National Library of Medicine (NLM), (<http://www.nlm.nih.gov>)

National Center for Research Resources (NCRR), (<http://www.ncrr.nih.gov>)

Title: Research Project Grant (Parent R01)

Announcement Type

This Funding Opportunity Announcement (FOA) is a reissue of [PA-07-070](#).

Update: The following update relating to this announcement has been issued:

110 - See Notice NOT-NS-10-013 NINDS Announces Availability of Funds for Competitive Revision Applications for Grand Challenge on Optimal Control of DARPA Revolutionizing Upper-Limb Prosthetics (R01 and R37).

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Catalog of Federal Domestic Assistance Number(s)

93.113, 93.114, 93.115, 93.121, 93.143, 93.172, 93.173, 93.233, 93.242, 93.273, 93.279, 93.286, 93.361, 93.389, 93.393, 93.394, 93.395, 93.396, 93.399, 93.837, 93.838, 93.839, 93.846, 93.847, 93.848, 93.849, 93.853, 93.855, 93.856, 93.859, 93.866, 93.867, 93.879

Key Dates

Release/Posted Date: December 17, 2009

Opening Date: January 5, 2010 (Earliest date an application may be submitted to Grants.gov)

Letters of Intent Receipt Date(s): Not Applicable

NOTE: On-time submission requires that applications be successfully submitted to Grants.gov no later than 5:00 p.m. local time (of the applicant institution/organization).

Application Due Date(s): Standard dates apply, please see <http://grants.nih.gov/grants/funding/submissionschedule.htm> AIDS Application Due Date(s): Standard dates apply, please see <http://grants.nih.gov/grants/funding/submissionschedule.htm#AIDS>.

Peer Review Date(s): Standard dates apply, please see <http://grants.nih.gov/grants/funding/submissionschedule.htm#reviewandaward>

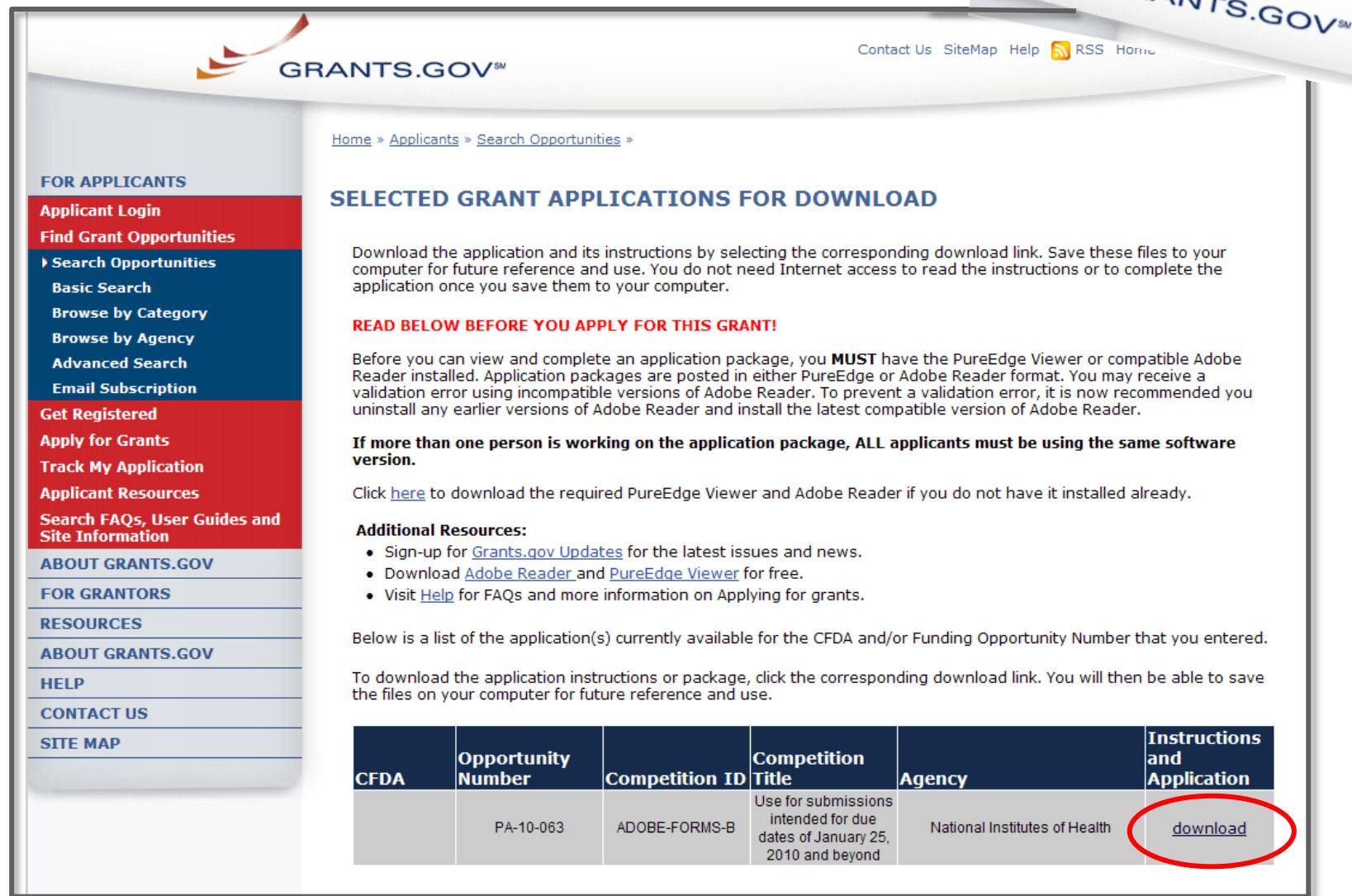
Council Review Date(s): Standard dates apply, please see <http://grants.nih.gov/grants/funding/submissionschedule.htm#reviewandaward>

Earliest Anticipated Start Date(s): Standard dates apply, please see <http://grants.nih.gov/grants/funding/submissionschedule.htm#reviewandaward>

Additional Information To Be Available Date (URL Activation Date): Not Applicable

Expiration Date: January 8, 2013

Download Forms from Grants.gov



The screenshot shows the Grants.gov website with a navigation bar at the top. The main content area is titled "SELECTED GRANT APPLICATIONS FOR DOWNLOAD". It contains instructions for downloading applications, a warning about software requirements, and a list of available applications. A red circle highlights the "download" link for the first application in the table.

GRANTS.GOV™

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Home > Applicants > Search Opportunities >

FOR APPLICANTS

- Applicant Login
- Find Grant Opportunities**
- Search Opportunities
- Basic Search
- Browse by Category
- Browse by Agency
- Advanced Search
- Email Subscription

Get Registered

Apply for Grants

Track My Application

Applicant Resources

Search FAQs, User Guides and Site Information

ABOUT GRANTS.GOV

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SITE MAP

SELECTED GRANT APPLICATIONS FOR DOWNLOAD

Download the application and its instructions by selecting the corresponding download link. Save these files to your computer for future reference and use. You do not need Internet access to read the instructions or to complete the application once you save them to your computer.

READ BELOW BEFORE YOU APPLY FOR THIS GRANT!

Before you can view and complete an application package, you **MUST** have the PureEdge Viewer or compatible Adobe Reader installed. Application packages are posted in either PureEdge or Adobe Reader format. You may receive a validation error using incompatible versions of Adobe Reader. To prevent a validation error, it is now recommended you uninstall any earlier versions of Adobe Reader and install the latest compatible version of Adobe Reader.

If more than one person is working on the application package, ALL applicants must be using the same software version.

Click [here](#) to download the required PureEdge Viewer and Adobe Reader if you do not have it installed already.

Additional Resources:

- Sign-up for [Grants.gov Updates](#) for the latest issues and news.
- Download [Adobe Reader](#) and [PureEdge Viewer](#) for free.
- Visit [Help](#) for FAQs and more information on Applying for grants.

Below is a list of the application(s) currently available for the CFDA and/or Funding Opportunity Number that you entered.

To download the application instructions or package, click the corresponding download link. You will then be able to save the files on your computer for future reference and use.

CFDA	Opportunity Number	Competition ID	Competition Title	Agency	Instructions and Application
	PA-10-063	ADOBEST-063	Use for submissions intended for due dates of January 25, 2010 and beyond	National Institutes of Health	download

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*There is no amount of
Grantsmanship that will turn a
bad idea into a good one*

*But there are many ways to
disguise a good idea.*

*Dr. William Raub
Past Deputy Director, NIH*

What makes a research project outstanding?

- Addresses an important problem clearly
- Potential to lead to seminal new observations or new ways of thinking
- Lays the foundation for further research in the field
- Addresses a difficult problem in a way that seems simple in retrospect.
Makes reviewers wonder why they didn't think of the idea themselves
- All aspects of the project are clearly linked

Key Features of Successful Applications

Hypothesis

- A meaningful hypothesis AND a means of testing it
- A sound rationale for the hypothesis

Preliminary Data

- Documents feasibility of the proposed project
- Shows training for research proposed and ability to interpret results
- Include alternative interpretations and address limitations of methods

Well Organized Research Plan

- **Aims focused** (*relate to each other and the hypothesis*)
- **Rationale for methods proposed, with alternatives**
- **Research flow and priorities clearly indicated**
- **Sufficient experimental detail to show you understand methods**
- **Emphasize MECHANISM** (*avoid “descriptive data gathering”*)

Preparing to Write a Grant Application

Critically assess yourself

- Do you have the necessary **expertise, resources, personnel and preliminary data** to be competitive?

Assess the competition

- Who are the important contributors to the field? *Remember they might be your reviewers!*
- What have they accomplished?
- Search the literature and the **NIH RePORTER** database of funded grants in the field

Assess the potential for your idea

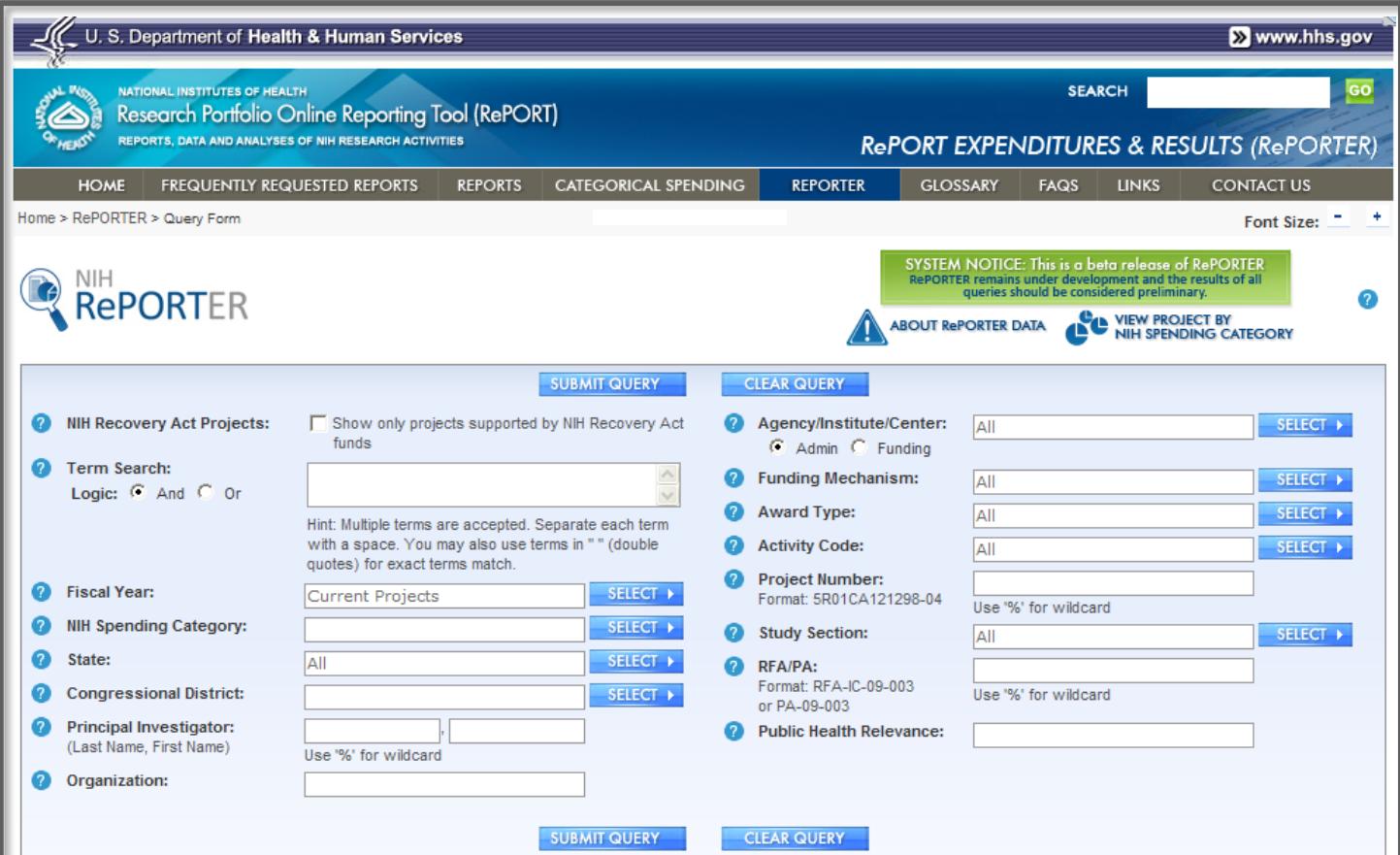
- What has already been done, reported and funded in your area?
- What are the “gaps”?
- How can you take it a step farther?

Expenditures and Results of NIH-Funded Research

projectreporter.nih.gov

**Search Many
New Categories**

- Over 200 disease categories
- Keywords
- RFA/PA
- Investigator
- Organization
- Funding mechanism
- Recovery Act
- Location
- Study Section



The screenshot shows the NIH RePORTER search interface. At the top, the U.S. Department of Health & Human Services logo and the Research Portfolio Online Reporting Tool (RePORT) logo are visible. The main title is "RePORT EXPENDITURES & RESULTS (RePORTER)". The navigation bar includes links for HOME, FREQUENTLY REQUESTED REPORTS, REPORTS, CATEGORICAL SPENDING, REPORTER, GLOSSARY, FAQS, LINKS, and CONTACT US. A search bar with a "GO" button is on the right. A "SYSTEM NOTICE" box states: "SYSTEM NOTICE: This is a beta release of RePORTER. RePORTER remains under development and the results of all queries should be considered preliminary." Below the notice are links for "ABOUT RePORTER DATA" and "VIEW PROJECT BY NIH SPENDING CATEGORY". The search form itself has sections for NIH Recovery Act Projects, Term Search, Fiscal Year, NIH Spending Category, State, Congressional District, Principal Investigator, Organization, Agency/Institute/Center, Funding Mechanism, Award Type, Activity Code, Project Number, Study Section, RFA/PA, and Public Health Relevance. Each section includes dropdown menus and "SELECT" buttons. Buttons for "SUBMIT QUERY" and "CLEAR QUERY" are at the bottom.

Convey Impact in Less Detail and Space!

- **Focus on strategy**

- Rather than detailing all your experiments, describe your strategy

- **Detail experiments that highlight your work**

- Rather than detailing all your experiments, describe your strategy

- **Limit your aims**

- ~1 aim per year funding

- **Know when detail is needed**

- Preliminary to show you're on the right track.
- New or unique methods

- **Know details to skip**

- Published methods
- If you've used a method before, point it out, cite and skip the description

Introduction to Revision	1 page
Specific Aims	1 page
Research Strategy (R03,13, R21, R36, R41, R43), Fellowship (F) (R01, R10, R15, R18, R21/33, R24, R25 , R33, R34, R42, R44) Career (K) (Combined Candidate Information & Research Strategy)	6 pages 12 pages 12 pages
Institutional Training(Ts & K12) (Research Training Plan) all other activity codes, including Cs, Ps, Ss, Us	25 pages See FOA
Biosketch	4 pages
Appendices	Unlimited

new page limits

Significance

- Does this study address an important problem?
- How will scientific knowledge or clinical practice be advanced?
- What will be the effect of these studies this field?

Approach

- Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well-integrated, well-reasoned, and appropriate to the aims of the project?
- Does the applicant acknowledge potential problem areas and consider alternative tactics?

Innovation

- Is the project original and innovative?
- Does the project challenge existing paradigms or clinical practice?
- Does the project develop or employ novel concepts, approaches or methodologies for this area?

Investigators

- Are the key personnel appropriately trained and well suited to carry out this work?
- Is the work proposed appropriate to the experience level?
- Does the investigative team bring complementary and integrated expertise to the project?

Environment

- Does the scientific environment in which the work will be done contribute to the probability of success?
- Do the proposed studies benefit from unique features of the scientific environment?
- Is there evidence of institutional support?

An application has two audiences of reviewers: a small number who are likely to be familiar with your techniques or field and the majority who are not.

Reviewers are . . .

- Over committed, over worked and tired
- Inherently skeptical and critical
- Informed strangers

Make their job easier

- Guide reviewers with graphics - flow diagrams, charts, figures
- Well organized, clearly written and labeled
- Clear timelines
- Sell your application, show why NIH should fund your application
- Demonstrate enthusiasm, use strong active verbs

Avoid things that irritate

- Exceeding page limits, small margins, and/or font too small,
- Information in the wrong section
- Omitting or mislabeling references/figures
- Spelling, grammar . . .
- Math errors

Reviewers Appreciate a Highly Readable Application

- **Start with an outline**
- **Write a topic sentence for each main point**

A topic sentence is usually the first one in the paragraph and is supported by more information in the next few sentences.

- **Make only one point in each paragraph, stating it clearly as a topic sentence**

This is key for your reviewers to be able to read or scan your application.

- **Keep it short and simple:** Keep paragraphs short. Start with basic ideas and progress to more complex ones. State key points as non-technically as possible.

- **Use short sentences with a basic structure:** subject, verb, and object. Break up long, involved sentences; avoid introductory phrases longer than six words. Keep sentences to 20 or words or less.

- **Include transitions**

At the beginning of a new paragraph or concept, add a transition to your next point by relating it to your previous one. Use statements such as "furthermore," "additionally," "in another area," "in contrast," and "following the same path," to show a relationship between ideas.

- **Keep related ideas and information together**, e.g., put clauses and phrases as close as possible to -- preferably right after -- the words they modify.

- **Use strong, active verbs** -- they are the workhorses of effective sentences. For example, write "We will develop a cell line," not "A cell line will be developed."

- **Use verbs instead of abstract nouns:** Turn dull abstract nouns ending in "ion" and "ment" into verbs. For example, say "creating the assay leads to..." rather than "the creation of the assay leads to..."

- **If writing is not your forte, get help.**

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NIH Websites

NIH Central Resource Site

grants.nih.gov/grants/grant_tips.htm

New Investigators

grants1.nih.gov/grants/new_investigators/resources.htm

NIGMS

www.nigms.nih.gov/Research/Application/Tips.htm

NCI

deainfo.nci.nih.gov/extra/extdocs/gntapp.htm

NIAID

www.niaid.nih.gov/ncn/grants/default.htm

NINDS

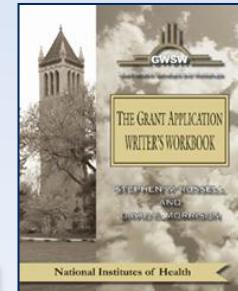
www.ninds.nih.gov/funding/grantwriting.htm

NIMH

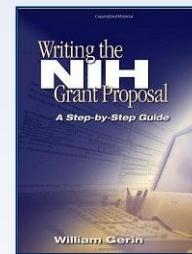
www.nimh.nih.gov/grants/researchchecklist.cfm

Manuals & Books

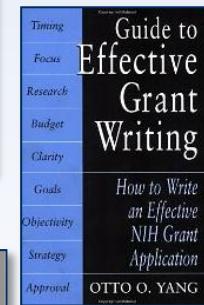
“The Grant Application Writer’s Workbook” available at
GrantCentral.com ★



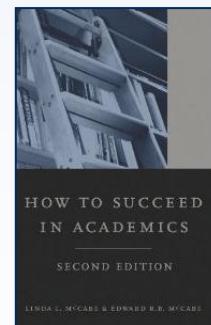
“Writing the NIH Grant Proposal: A Step-by Step Guide” by
William Gerin



“Grant Application Writers Handbook” (4th Ed)
by Liane Reif-Lehrer



“Guide to Effective Grant Writing: How to Write a Successful NIH Grant Application” by Otto O. Yang



“How to Succeed in Academics”
by Edward R. B. McCabe and Linda McCabe



NIH 101

1. NIH Mission
2. Grant Mechanism
3. Forms & Information
4. Grantsmanship
5. Resources
6. Submission
7. Review
8. Priority Score
9. Award
10. Assistance



Where the NIH exchanges electronic information



- Study Section and Institute Assignments
- Priority Score
- Summary Statement
- Notice of Grant Award
- View errors/warnings associated with electronic submissions
- View assembled applications *2 day window*
- Individual accounts through your Office of Sponsored Research

Only place to access this information!

Make sure your application is complete and correct as submitted!

- **Start early:** Register for both Grants.gov and eRA Commons
- Read the instructions thoroughly and follow them carefully
- Get feedback from a senior investigator with review experience prior to submission
- Poor grammar, missing information, confused figure legends, etc will be very apparent to reviewers
- NIH receives over 76,000 applications annually, pages can **NOT** be changed after submission is complete
- Contact the Scientific Review Officer (SRO) if you need to send corrected information after submission

What to include . . .

- *your title*
- *grant mechanism*
- *FOA title & number*
- *main scientific discipline*
- *institutes which may have an interest in your research topic*
- *appropriate study sections*
- *program director you've discussed your application*
- *list of scientific areas that are important for understanding the application – primarily for multidisciplinary applications*

What not to include . . .

- *potential reviewers*
- *anything you're not certain! !!*

CSR is excellent at assigning an appropriate study section and institute. Not making a suggestion may be the best alternative.

Example

[Date]

Suzanne Fisher, Ph.D., Director
Division of Receipt and Referral
Center for Scientific Review
National Institutes of Health
6701 Rockledge Dr., Suite 2030
Rockledge II MSC 7720
Bethesda, MD 20892-7720

Dear Dr. Fisher:

Enclosed for your consideration is a grant application entitled *[Title as it appears on the application]*. I believe that the subject of the study *[elaborate, as necessary]* would be of interest to the *[name of NIH institute(s)]*. The scope of the science proposed *[elaborate, as necessary]* matches best the expertise represented on the *[name(s) of study section(s)]*.

If you should need any additional information, please contact me at *[telephone number and email address]*.

Thank you for your consideration.

Sincerely,
[PI signature and name]

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Center for Scientific Review (CSR)

- Central receipt point for all applications for the NIH
- Assigns applications NIH Institute/Center as potential funding component
- Manages ~200 Scientific Review Groups (“Study Sections”)
- 76,000 applications received, 52,000 reviewed, 2000 meetings
- Institutes share interest areas, so multiple assignments possible

Division of Receipt and Referral

- **Review cover letter**
- **Review past history (if any) of application/applicant**
- **Identify research area**
- **Where it gets reviewed**
 - **CSR Study Sections**
 - Research project grants (R01, R03, R21)
 - Small business innovation research
 - Pre- and Postdoctoral Fellowship (F) applications
 - **Institute Review Offices**
 - Career development (K series) and Training
 - Complex and special types of grants
 - Multi-site clinical trials
 - Responses to RFAs, specialized PAs, and RFPs
 - Other “mission-targeted” applications



center for
scientific review

2 R01 GM063815-09A1

●--- *type* ----- *mechanism* ----- *institute* ----- *serial* ----- *year* ----- *suffix* -----●

Application Type

- 1 - New
- 2 - Competing Continuation
- 5 - Noncompeting Continuation

Serial Number

Sequential numbering of applications submitted to particular Institute

Support Year

All new applications start at -01

Mechanism

R01, R03, R15, K01, F32, etc . . .

Suffix – *additional identifier*

A1 - amended application
S1 - supplement

Institute

GM (NIGMS), CA (NCI), etc . . .

- **Scientific Review Officer (SRO) assigns your application to 3 primary reviewers**
- **Reviewers submit preliminary scores (1-9) with comments through eRA Commons**
- **SRO determines Review Order**
 - Best scoring application first
 - New investigators (best-to-worst)
 - Everyone else (best-to-worst)
- **Application by application discussion**
 - Persons with conflicts of interest excused
 - Primary reviewers (3) give preliminary scores (1-9)
 - Discussion of application's scientific and technical merit
 - Other panel members join discussion
 - Primary reviewers give final scores (1-9)
 - **All panel members (except those in conflict) score privately**
 - Assignment of codes for animals and human subjects protection
 - Budget recommendations.
- **About 50% applications will be discussed, remainder triaged (ND, not discussed)**

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- **Priority Score & Percentile** *eRA Commons*

- 1-2 days after meeting
- Impact/Priority score is average reviewer score (1-9) times ten (10-90)
- Percentile: relative ranking of application with last 3 meetings of study panel
- Not all application get percentiled

SRG Action: Impact/Priority Score: 20 Percentile: 6
Human Subjects: 10-No human subjects involved
Animal Subjects: 10-No live vertebrate animals involved for competing appl.

- **Summary Statement** *eRA Commons*

- SRO prepares and releases
- 4-6 weeks after meeting
- Summary of discussion written by SRO
- Criteria scores from assigned reviewers
- Critiques from assigned reviewers
- Budget recommendations
- Administrative notes
- Codes for Animal Vertebrates and Human Subjects



Significance: 2
Investigator(s): 1
Innovation: 1
Approach: 3
Environment: 1

- **Assigned Program Officer**

- Typically present at review meeting
- Interpret comments
- Advice on resubmission

Most Common Reasons for Unscored or Not Recommended for Further Considerations

- Rationale for hypothesis or methods not sound or not supported by preliminary data
- Unfocused or superficial research plan
- Aims do NOT address hypothesis
- Flaws in experimental approaches
- Models not relevant to human situation
- Unrealistically large amount of work proposed
- Work not new or original (*lack of appreciation of published relevant work*)
- Lack of experience in essential methods
- Insufficient experimental detail
- Serious risks to human subjects or use of animals

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What factors determine funding?

Scientific Merit

- Percentile ranking (priority score)
- Each Institute sets its own “paylines”
- Paylines vary for different types of grants
- More liberal payline for “New Investigators” (*R01 applications*)

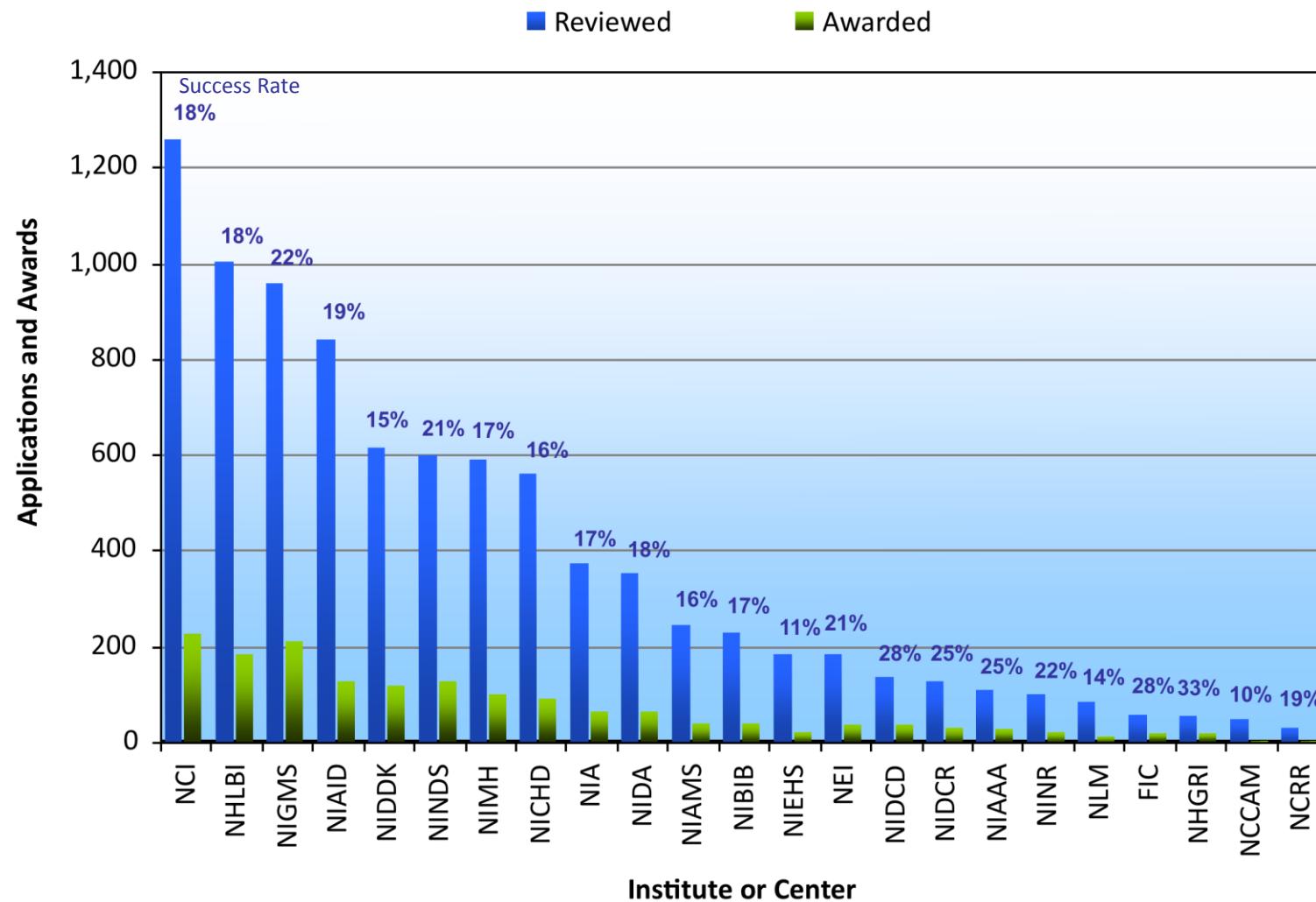
Programmatic Considerations

- A balance of models, geographic sites, approaches, etc in portfolio

Availability of Funds

- Most of budget already committed to continuing grants and programs
- A “flat” NIH budget means tighter paylines

New Investigator R01 Applications & Success Rates



Relevant For Your Application

- Always check the website of the Institute your application is assigned

NIH paylines and success rates

- grants.nih.gov/grants/financial/index.htm
- officeofbudget.od.nih.gov/UI/HomePage.htm

NCI description of grant process and administration

- www3.cancer.gov/admin/gab/2005GPB/GPB05-LowRes.pdf

NIAID description of grant process

- www.niaid.nih.gov/ncn/grants/basics/index.htm

Office of Extramural Research (OER) award data

- grants1.nih.gov/grants/award/award.htm

Albert Einstein website on institute paylines

- www.aecom.yu.edu/ogs/NIHInfo/paylines.htm

Scientific Review Officer (PhD/MD)

- CSR or Institute Staff
- Organizes and manages study section
- Liaison between applicant and reviewers
- Prepares summary statements

Program Officer (PhD/MD)

- Institute Staff
- Manages a portfolio of awarded grants
- Monitors scientific progress made on grant
- Inform, interpret, intervene, facilitate and advise applicants and grantees
- Stewardship of scientific area

Grants Management Officer

- Institute Staff
- Fiscal stewardship of portfolio of awarded grants
- Negotiates fiscal aspects of awards
- Monitors financial progress made on grants



When

Who

Pre-application	Colleagues, Institute Staff, CSR Staff
Submission	Your Office of Sponsored Research, eRA Helpdesk
Receipt & Referral	Scientific Review and Program Officers
Review	<u>Only</u> Scientific Review Officer
Summary Statement	
Advisory Council	
Resubmit - or not?	Program Director
Funding Decision	
Award	Program Director or Grant Specialist