

## NCMRR Research Programs

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-National Center for Medical  
Rehabilitation Research (NCMRR)  
-National Institute of Child Health and  
Human Development (NICHD)  
-National Institutes of Health (NIH)



- Overview of the NIH and NCMRR
- The NIH application and review process
- NIH Grant Mechanisms
- Research Resources and NIH contacts



## The NIH is made up of 28 Institutes, Centers, Divisions:

<a href="#"><u>OD</u></a>	<a href="#"><u>NIDA</u></a>	<a href="#"><u>NCI</u></a>	<a href="#"><u>NIEHS</u></a>
<a href="#"><u>NEI</u></a>	<a href="#"><u>NIGMS</u></a>	<a href="#"><u>NHLBI</u></a>	<a href="#"><u>NIMH</u></a>
<a href="#"><u>NHGRI</u></a>	<a href="#"><u>NINDS</u></a>	<a href="#"><u>NIA</u></a>	<a href="#"><u>NINR</u></a>
<a href="#"><u>NIAAA</u></a>	<a href="#"><u>NLM</u></a>	<a href="#"><u>NIAID</u></a>	<a href="#"><u>CIT</u></a>
<a href="#"><u>NIAMS</u></a>	<a href="#"><u>CSR</u></a>	<a href="#"><u>NIBIB</u></a>	<a href="#"><u>FIC</u></a>
<a href="#"><u>NICHD</u></a>	<a href="#"><u>NCCAM</u></a>	<a href="#"><u>NIDCD</u></a>	<a href="#"><u>NCMHD</u></a>
<a href="#"><u>NIDCR</u></a>	<a href="#"><u>NCRR</u></a>	<a href="#"><u>NIDDK</u></a>	<a href="#"><u>CC</u></a>



## National Center for Medical Rehabilitation Research (NCMRR)

- Established 1990 by Public Law 101-613
- To foster development of scientific knowledge needed to enhance the health, productivity, independence, and quality of life of persons with disabilities
- Located within the **National Institute of Child Health and Human Development (NICHD)**



## Other NIH Institutes support Medical Rehabilitation

NINDS (Neurological Disorders & Stroke) e.g., spinal cord & brain injury, cerebral palsy

NIAMS (Arthritis & Musculoskeletal & Skin) e.g., muscle physiology, bone & skin

NIA (Aging) e.g., geriatric populations

NINR (Nursing Research)

NCI (Cancer)

NHLBI (Heart, Lung & Blood) e.g., exercise, cardiovascular

NIDCD (Deafness & Communication Disorders) e.g., speech, balance

NCCAM (Complementary and Alternative Medicine)

NIBIB (Biomedical Imaging and Bioengineering)



## Applying to the NIH

Majority of funds go to *investigator-initiated* proposals - rather than applications developed in response to program initiatives

Funding for medical rehab research is largely driven by the number of quality applications NIH receives

NIH accepts proposals in three annual cycles, typically:  
February 1, June 1, October 1

From submission to funding: at least 9 months

Support provided to *institutions*, in name of investigator



## Applying to the NIH, continued

The NIH gets over 15,000 applications per round (three rounds per year)

Funding of research is largely driven by the Peer-review system

Each Institute has a limited amount of funds to support research in their areas of interest



## How an Application becomes a Grant – or at least tries

- 15,000 applications arrive at NIH Central: “Receipt and Referral”
- Which Institute(s) is interested in this area of research?
- Which study section has the most appropriate expertise?
- Coverletters?



## Center for Scientific Review

The “Judiciary Branch” of the NIH

Over 100 standing study sections in following areas:

AIDS and Related Research	Behavioral and Biobehavioral Processes
Biochemical Sciences	Biology of Development and Aging
Biophysical and Chemical Sciences	Bioengineering Sciences and Technologies
Brain Disorders and Clinical Neuroscience	Cardiovascular Sciences
Cell Development and Function	Digestive Sciences
Endocrinology and Reproductive Sciences	Genetic Sciences
Hematology	Immunological Sciences
Infectious Diseases and Microbiology	Integrative, Functional, & Cognitive Neuroscience
Molecular, Cellular, & Developmental Neuroscience	Musculoskeletal, Oral and Skin Sciences
Nutritional and Metabolic Sciences	Oncological Sciences
Respiratory Sciences	Risk, Prevention and Health Behavior
Renal and Urological Sciences	Health of the Population
Surgery, Radiology and Bioengineering	



## Also Institute Peer-review

Some study sections also in Institutes to review:  
RFAs and other one-time initiatives  
Training and career-development applications  
Other specialized support mechanisms

Function similar to peer-review panels of CSR



## Application gets assigned to a Study Section

Study section has about two dozen reviewers, plus ad hoc expertise as needed

Scientific Review Administrator (SRA):

- Checks applications for administrative issues
- Makes reviewer assignments
- Avoids “conflicts of interest” both +/-

Typical workload for study section:  
50-80 applications per round



## Prior to the Review Meeting

Each applications assigned to three reviewers:  
primary, secondary, reader  
but other unassigned reviewers also read applications

Sometimes, additional outside opinions sought

Assigned reviewers prepare detailed written critiques prior to the meeting (which become part of the “summary statement”)



## At the Review Meeting

Triage process: Which applications are in the “upper half” and merit further discussion?

Triaged applications do not receive a priority score, but still get full benefit of written critiques

For “upper half” applications:

- Assigned reviewers discuss their critiques
- Rest of committee joins in discussion
- Assign priority score: 100 (best) – 500 (worst)

Later, priority score gets translated into percentile



## Meanwhile, back at the Institutes . . .

Applications with summary statements get second level of review from Institute Councils

Limited amount of funds to support applications:  
based on percentiles, program priorities, etc.

Outcomes:

- Award notice
- Revise
- Back to the drawing board

Talk to your Program official!



## Grantsmanship

***“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 one.”***

- William Raub, former Deputy Director, NIH



## Preparing the NIH Application

- Abstract
- Background/Introduction
- Specific Aims
- Progress and Preliminary Data
- Experimental Design
- Significance
- Other assurances
- Budget



## Coverletters

- One-page letter addressed to the NIH Referral Officer
- Briefly state goals of your proposal
- Requested Institute(s) Assignment
- Appropriate study section (visit the CSR website for expertise and rosters)



## NIH Grant Mechanisms

- Research grants
- Training and Career Development



## Research Project Award: R01

- Investigator-initiated applications (majority of basic and clinical NIH funding)
- Focus on specific set of aims
- Budget: no boundaries but typically \$150-250,000 per year
- May request up to 5 years; Renewable



## Small Grants: R03 and R21

- Pilot studies (feasibility); innovative research; high-risk; new methodology or technology
- New investigators especially encouraged
- Budgets \$100,000/ \$275,000 per year (direct costs) over two years
- Not renewable; not to be used to supplement funded projects



## AREA (Academic Research Enhancement Award): R15

- Schools that have not been major recipients of NIH funding
- Especially projects that engage undergraduate students
- Up to 3 years, aggregate budgets up to \$100,000 direct costs, Renewable



## Small Business Tech Transfer (STTR, R41/42) Small Business Innovation Res (SBIR, R43, R44)

Innovative research, potential for commercialization

- STTR:
  - Phase I: \$100,000 (1 year)
  - Phase II: \$500,000 (2 years)
- SBIR:
  - Phase I: \$100,000 (6 months)
  - Phase II: \$750,000 (2 years)



## Special Research Initiatives

- Program Announcements (PA)
  - Highlights Institute(s) interest in specific area
- Request for Applications (RFA)
  - One-time set aside for applications in specific area
- Request for Proposals (RFP)
  - One time set aside for specific product (contract)



## Training & Career Development

- Individual Fellowships
  - Graduate students (F31) or Postdoc (F32)
- Institutional Training Grants (T32)
  - Department Support graduate and/or Postdocs
- Career Development Mechanisms
  - New investigator in specific fields or
  - Clinician getting into research
  - Mentored research (3-5 yrs @ 75% effort)
  - Application process may vary across Institutes



## Mentored Research Scientist Development Award (K01)

Clinical trained in targeted area\*  
and have advanced degree (e.g., PhD)

\*NICHD is currently targeting:  
Medical Rehabilitation  
Population research  
Child abuse and neglect



## Mentored Clinical Scientist (K08)

Clinically trained individual (e.g., MD),  
getting training in basic research



## Mentored Patient-oriented Research Career Development Award (K23)

Clinically trained individual (e.g., MD), getting  
training in clinical research



## Midcareer Investigator Award in Patient-Oriented Research (K24)

Supports mentoring of clinical researchers  
(To make someone a better mentor)



## Mentored Quantitative Research Career Development Award (K25)

Quantitative or Engineering background getting into biomedical Research



## Supplements to already-funded NIH grants

To add qualified individuals at any level (high school through investigator) who:

- are from under-represented minorities
- have disabilities
- re-entering research after family obligations

Contact NIH program director of funded grant



## Useful NIH Websites

NIH Home page: [www.nih.gov](http://www.nih.gov)

National Center for Medical Rehab (in NICHD)  
[www.nichd.nih.gov/about/ncmrr/ncmrr.htm](http://www.nichd.nih.gov/about/ncmrr/ncmrr.htm)

Neuroscience at the NICHD:  
[www.nichd.nih.gov/neuroscience/funding.cfm](http://www.nichd.nih.gov/neuroscience/funding.cfm)

CRISP (searchable database of all NIH-funded grants): [www.commonscit.nih.gov/crisp/](http://www.commonscit.nih.gov/crisp/)



## Useful NIH Websites

NIH Guide (research initiatives, policy):  
[www.grants.nih.gov/grants/guide/index.html](http://www.grants.nih.gov/grants/guide/index.html)

Center for Scientific review (study section descriptions and rosters): [www.csr.nih.gov](http://www.csr.nih.gov)

The HIPAA Privacy Rule and Research:  
<http://privacyruleandresearch.nih.gov/>

NIH Loan Repayment Program:  
<http://www.lrp.nih.gov/>



## Info on grant writing, peer review, and funding

"Everything you wanted to know about the NCI Grant process but were afraid to ask"

[http://www3.cancer.gov/admin/gab/02gpb/nci\\_grants\\_bk.pdf](http://www3.cancer.gov/admin/gab/02gpb/nci_grants_bk.pdf)

"Answers to Frequently asked Questions about NIH Grants"

<http://grants1.nih.gov/grants/funding/giofaq.htm>

"Tips for New Applicants" from NIGMS:

<http://www.nigms.nih.gov/funding/tips.html>

Specific information for bioengineers:

<http://www.nibib.nih.gov/research/investigators.htm>



### Midwest: Center for Advanced Research in Neurorehabilitation (CARN)

- Consultations to support studies of rehabilitation in CNS dysfunction
- Training in robotics, biomechanics, and human-machine interaction

Website:  
<http://marvin.smpp.nwu.edu/>  
Email: w-rymer@nwu.edu  
Tel: (312) 238-3919

### Medical Rehabilitation Research Networks



Funded by NCMRR to enhance the quality of rehabilitation research

### Northeast: Cognitive Rehabilitation

- Clinical trials core to centralize subject recruitment and screening
- Consultation and methodological development of functional neuroimaging in cognitive rehabilitation research
- New research outpatient clinic to host cognitive rehabilitation studies

Email: [jwhyte@aah2.einstitute.edu](mailto:jwhyte@aah2.einstitute.edu)  
Tel: (215) 456-5925

### RehabNet-West: Experimental Design and Functional Imaging

- Workshops and Consultations on Experimental Design and Statistics
- Consultation and Pilot studies in Functional Neuroimaging at UCLA
- Funding for Pilot Projects in the West

Website:  
<http://rehabnetwest.washington.edu>  
Email: [rehabw@u.washington.edu](mailto:rehabw@u.washington.edu)  
Tel: (206) 543-3674

### Enhancing Rehabilitation Research in the South (ERRIS)

- Expertise in quantification methodologies
- Facilitation of inter-institutional research
- Assistance in development, design, and funding
- Application of technology for research collaboration

Website:  
<http://erris.med.virginia.edu>  
Email: [ERRIS@virginia.edu](mailto:ERRIS@virginia.edu)  
Tel: (434) 924-0245

## You are encouraged to contact NIH Staff . . .

- **Behavioral Sciences & Rehabilitation Technologies**
  - Louis Quatrano, PhD
- **Biological Sciences and Career Development**
  - Ralph Nitkin, PhD
- **Traumatic Brain Injury and Stroke Rehabilitation**
  - Beth Ansel, PhD CCC SLP
- **Pediatric Critical Care and Rehabilitation**
  - Carol Nicholson, MD, FAAP
- **Spinal Cord and Musculoskeletal Disorders and Assistive Devices**
  - Nancy Shinowara, Ph.D.
- **Director, NCMRR**
  - Michael Weinrich, M.D.



## Other NIH Institutes supporting Medical Rehabilitation

- NINDS (Neurological Disorders and Stroke)** e.g., spinal cord & brain injury, cerebral palsy  
Daofen Chen, 301-496-1917 email: [dc342b@nih.gov](mailto:dc342b@nih.gov)
- NIAMS (Arthritis & Musculoskeletal & Skin Diseases)** e.g., muscle physiology, bone & skin  
James Panagis, 301-594-5055 email: [jp149d@nih.gov](mailto:jp149d@nih.gov)
- NIA (Aging)** e.g., geriatric populations  
Chhanda Dutta, 301-435-3048 email: [cd23z@nih.gov](mailto:cd23z@nih.gov)
- NINR (Nursing Research)**  
Claudette Varricchio, 301-402-6423 email: [cv9h@nih.gov](mailto:cv9h@nih.gov)
- NCI (Cancer)**  
Ann O'Mara, 301-402-5336 email: [ao45s@nih.gov](mailto:ao45s@nih.gov)
- NHLBI (Heart, Lung & Blood)** e.g., exercise, cardiovascular  
Denise Simons-Morton, 301-435-0377 email: [ds56h@nih.gov](mailto:ds56h@nih.gov)
- NIDCD (Deafness & Communication Disorders)** e.g., speech, balance  
Jeffery Sklare, 301-496-1804 email: [ds104i@nih.gov](mailto:ds104i@nih.gov)
- NCCAM (Complementary and Alternative Medicine)**  
Richard Nahin, 301-496-4792 email: [rn8p@nih.gov](mailto:rn8p@nih.gov)
- NIBIB (Biomedical Imaging and Bioengineering)**  
John Haller, 301-451-4780 email: [jh586j@nih.gov](mailto:jh586j@nih.gov)



## And Beyond the NIH

**National Institute on Disability & Rehabilitation Research (NIDRR)** e.g., disability and societal interactions

Margaret Campbell, 202-260-0672 email: margaret.campbell@ed.gov

**Center for Disease Control and Prevention (CDC)** e.g., prevention, secondary complications

Donald Lollar, 770-488-7094 email: DCL5@CEHOD1.em.cdc.gov

**Veterans Affairs (VA)** e.g., treatment of Veterans: stroke, SCI, psychosocial issues

Patricia Dorn, 202-254-0261 email: patricia.dorn@hq.med.va.gov

**Dept of Defense**, e.g., bioengineering, assistive devices, robotics

Ravi Athale, 703-696-2237 email: rathale@DARPA.MIL

**And Foundations . . .**

