

FY 2008 BUDGET DETAIL FOR NIAMS

The Institute often receives questions about the budget. While many of these questions are focused on success rates and paylines, there is also much interest in the Institute's other funding categories. Since final data for Fiscal Year 2008 are now available, it seemed an opportune time to provide more in-depth information about both success rates and how the NIAMS spends its annual appropriation. As always, you are invited to visit the NIAMS website, where current and historical data are available and where you can find our latest funding plan. Additional information is also available from the NIH Office of Extramural Research (OER) and Office of Budget (OB) websites, and these links are provided at the end of this document for your easy reference.

As with most Institutes, and indeed for NIH overall, the largest percentage of the budget is devoted to Research Project Grants (RPGs). In FY 2008, 65.5 percent of the NIAMS budget supported RPGs, for NIH overall the percentage is 53.8. Within the RPG pool there are several different types of grants; however, the majority of support in this category—84.9 percent—is for traditional R01s. There are three pie charts that follow at the end of this document—the first two reflect the distribution of NIAMS funding by budget category as well as the distribution for NIH overall; the third chart reflects the distribution of the various types of grants within the RPG category for NIAMS. A brief description of the types of grants and budget categories is found below.

- R01—Research Project: These grants support a specific, circumscribed project to be performed by the named investigator(s) in an area representing his/her specific interest and competencies.
- R03—Small Research Grants: NIAMS small research grants are currently limited to new investigators. They are specifically limited in time to 3 years and in amount to \$50,000/year for studies in categorical program areas. Small grants provide flexibility for initiating studies that are generally for preliminary short-term projects and are non-renewable.
- R15—Academic Research Enhancement Awards (AREA): AREA grants support small research projects in the biomedical and behavioral sciences conducted by students and faculty in health professional schools, and other academic components that have not been major recipients of NIH research grant funds.
- R21—Exploratory/Developmental Grants: These grants are intended to encourage exploratory and developmental research projects by providing support for the early and conceptual stages of these projects. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on a field of biomedical, behavioral, or clinical research.
- R34—Clinical Trial Planning Grants: The purpose of this grant is to provide support for the development of a Phase III clinical trial. This includes the establishment of the research team, the development of tools for data management and oversight of the research, the definition of recruitment strategies, and the finalization of the protocol and other essential elements of the study included in a manual of operations/procedures. The Clinical Trial Planning Grant is not designed for the

collection of preliminary data or the conduct of pilot studies to support the rationale for a clinical trial.

- **R37—Merit Award**: These awards provide long-term grant support to investigators whose research competence and productivity are distinctly superior and who are highly likely to continue to perform in an outstanding manner. Investigators may not apply for a MERIT award. Program staff and/or members of the National Advisory Council will identify candidates for the MERIT award during the course of review of competing research grant applications. NIAMS policy for a merit award stipulates that the project application must have been reviewed three times by CSR with each application receiving a score better than the 10th percentile on original (unamended) application; the project must represent the major NIH funded research endeavor of the Principal Investigator (PI); and the PI must be considered to be an outstanding leader in the field.
- **P01—Research Program Project**: Program projects generally involve the organized efforts of three or more investigators who conduct projects with a central research focus or objective. These projects are interdependent and are usually under the overall leadership of a recognized senior investigator. Please note, however, in order to preserve the maximum funding for R01 projects, in FY 2005 the NIAMS made the decision to begin phasing out P01 grants and will no longer accept unsolicited applications for new P01s. Competing continuation applications for P01s will only be considered for a second competing award, for a total project period of up to 10 years. All P01s that have already competed successfully for one or more continuation awards will end at the completion of their current project period, and will not be continued further.
- **U01—Research Project (Cooperative Agreement)**: These awards are made to support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing their specific interest and competencies when there is a demonstrated need for the substantial involvement of scientific and programmatic staff during the performance of the activity.

As reflected in the attached pie chart, within the RPG pool, approximately 84.9 percent of the budget supports R01 grants, 1.9 percent supports R03s, 0.2 percent supports R15s, 5.1 percent supports R21s, 1.0 percent supports R37s, 5.2 percent supports P01s, and 1.7 percent supports U01s.

Small Business Technology Transfer (STTR) and Small Business Innovation Research Grants (SBIR)—The STTR and SBIR programs are supported by a mandated set aside of funds. The set aside amounts currently are 0.3 percent and 2.5 percent of the extramural base (less research training) for STTR and SBIR, respectively. A description of these grants follows:

- **R41/R42—STTR**: These grants support cooperative research and development projects between small business concerns and research institutions that have potential for commercialization. The Phase I award (R41) is to establish the technical merit and feasibility of ideas. The Phase II award (R42) supports in-depth development of ideas with feasibility that has already been established in Phase I.

- R43/R44—SBIR: These grants are awarded to small businesses to enable them to pursue research and development ideas that may ultimately lead to commercial products or services. The aim of the Phase I grant (R43) is to test feasibility. A Phase II grant (R44) supports in-depth development of research ideas with feasibility that has already been established in Phase I and that are likely to result in commercial products or services.

The NIAMS centers program represents 8 percent of the budget and is comprised of four types of centers, each of which is described below:

- P30s—Research Core Centers in Rheumatic, Musculoskeletal and Skin Diseases: These centers promote a cooperative interaction among basic science and clinical investigators in a manner that will enrich the effectiveness of ongoing research and promote new research. Any institution or consortium with an active program of excellence in basic and clinical biomedical research in skin diseases, musculoskeletal disorders or rheumatic disease may qualify for support through a Core Center. A strong biomedical research base is the prerequisite for establishment of a Core Center and an important component in considering continued funding of an established center. The components of a Core Center include 2 or more research cores, pilot and feasibility studies, and an administrative unit.
- P50s—Centers of Research Translation (CORT) [a new Centers program which will replace the former Specialized Centers of Research]: CORTs are designed to bring together basic and clinical research in the NIAMS mission areas in a way that helps translate basic discoveries into new drugs, treatments, and diagnostics. Two major features of the CORT program include: 1) the overarching aim of disease-specific research translation, and 2) the inclusion of resources and an administrative structure to facilitate research translation.
- P60s—Multidisciplinary Clinical Research Centers (MCRCs): The MCRCs support a full range of outstanding multidisciplinary clinical research on arthritis, musculoskeletal and skin diseases. Each MCRC is organized around a methodology core and includes a minimum of three highly meritorious projects encompassing clinical research drawing from two or more clinical approaches. The methodology core is the foundation of the Center, providing key support for development and implementation of clinical projects. The director of the MCRC, aided by an executive committee and the methodology core, provides leadership to focus all research projects on clinically relevant issues to prevent disease or to assess and/or to improve patient outcomes and to assure a rigorous research approach. Each project must address a critical issue that directly involves disease prevention or assessment and/or outcomes of patients whose diseases or disorders are within the mission of the NIAMS.
- U54s—Senator Paul D. Wellstone Muscular Dystrophy Cooperative Research Centers (MDCRCs): The MDCRCs were mandated by Congress under provisions of the Muscular Dystrophy Community Assistance, Research and Education Amendments of 2001, or the MD-CARE Act. The primary goal of these Centers is to bring together expertise, infrastructure and resources focused on major questions about muscular dystrophy. In addition to the self-contained activities of individual centers, the

MDCRCs will collaborate with other centers, overseen by a Steering Committee involving representation from each center and the NIH.

The Other Research category represents 4.3 percent of the budget and is comprised primarily of the various research career mechanisms (K awards), which provide salary support for development of independent scientists and clinicians. Other activities in this category include conference grants, the Clinical Research Education and Career Development in Minority Institutions (CRECD) program, and the Collaborative Arthritis and Musculoskeletal and Skin Diseases Sciences Award (CAMSSA), which is targeted to research faculty of institutions with substantial minority enrollment.

Approximately 3 percent of the NIAMS budget is devoted to Research Training. Within this category 80.7 percent of the funds support institutional training grants, while 19.3 percent of the funds support individual fellowships.

The Research and Development Contracts mechanism represents 4 percent of the NIAMS budget. NIAMS has historically used the contract mechanism to fund such activities as clinical trials, disease registries, and information clearinghouses. In addition to R&D contracts, this mechanism also supports inter- and intraagency agreements and the loan repayment programs for clinical and pediatric researchers.

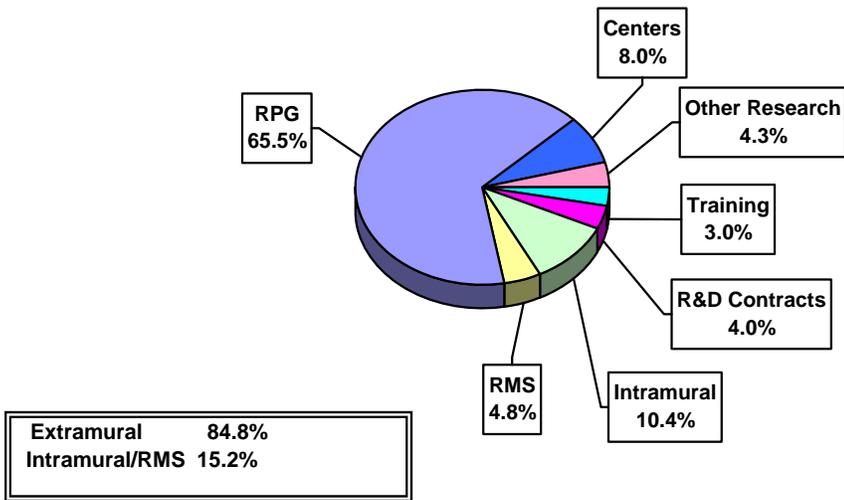
Research conducted on the NIH campus is captured in the Intramural Research mechanism, and approximately 10.4 percent of the NIAMS budget supports this effort. This is consistent with the overall NIH percentage of 10.5. The mission of the intramural research program is to conduct innovative basic and translational research relevant to the health concerns of the Institute, and to provide training for investigators interested in careers in these areas. NIAMS intramural investigators pursue diverse projects in biomedical research ranging from fundamental analyses of protein structure and function involving crystallography, cryoelectron microscopy, and atomic force microscopy, through protein chemistry, cell biology, signal transduction, gene regulation, tissue development and differentiation, genetics, and immunology, to animal models of disease and direct clinical studies on the genetics, etiology, pathogenesis, and treatment of a variety of rheumatic, autoimmune, inflammatory, joint, skin, and muscle diseases.

The remaining category is Research Management and Support (RMS), which represents 4.8 percent of the budget. Like the RMS expenditures of other Institutes and Centers, the RMS budget includes the scientific and administrative management expenses associated with the Institute's day-to-day operations. It also reflects the costs associated with the review of applications for grants and contracts by special panels of outside experts and the management and evaluation of grants and contracts after they are awarded. Expenses incurred to disseminate research results and health information to patients, health care providers, and the American public are included as well.

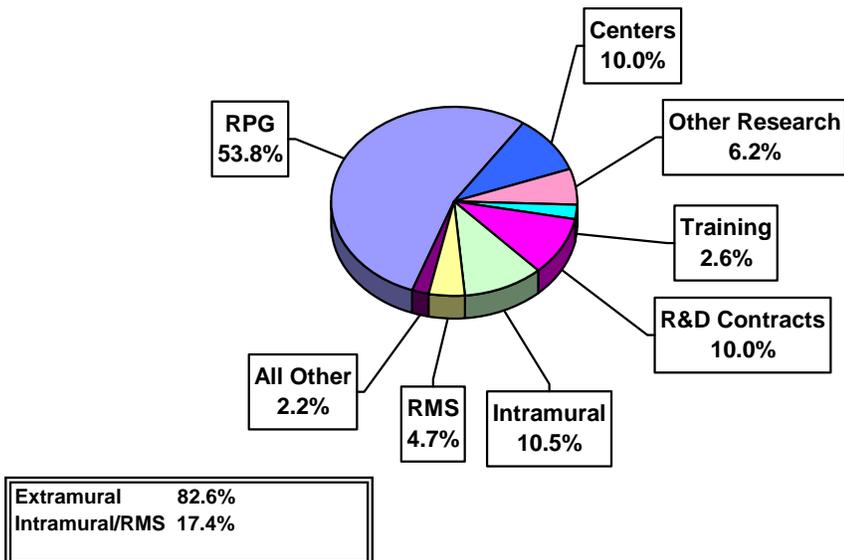
It is important to note that the distribution of funds across these mechanisms has been very stable over the years.

FY 2008 Actual by Budget Mechanism NIAMS vs. NIH

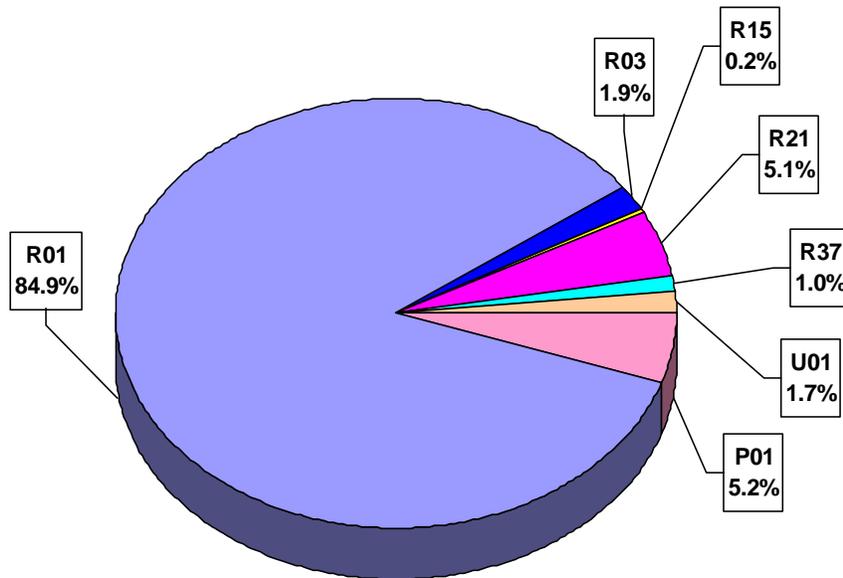
NIAMS Total Budget -- \$510.4 million



NIH Total Budget -- \$29.3 Billion



NIAMS RESEARCH PROJECT GRANTS BY ACTIVITY CODE--FY 2008



Success Rates

As mentioned previously, the Institute receives many questions about success rates. The success rate is defined as the total number of competing applications funded divided by the total number of competing applications reviewed, regardless of whether or not they were scored or triaged. Amended applications reviewed in the same fiscal year are only counted once in success rate calculations.

Success rates vary from year to year, from mechanism to mechanism, and from Institute to Institute. Data on success rates for all the NIH Institutes and Centers are publicly available on the NIH Office of Extramural Research Web site. For example, the overall success rate for RPGs for NIAMS for Fiscal Year 2008 was 20.9 percent. The overall success rate for RPGs for all of NIH for the same year was 21.8 percent. Success rate data for selected mechanisms for NIAMS in Fiscal Year 2008 are shown in the table below.

NIAMS Success Rates

FY 2008 Actual

RPG:	Applications	Number	Success
	<u>Reviewed</u>	<u>Awarded</u>	<u>Rate</u>
R01 & R37	750	176	23.5%
R21	301	47	15.6%
R03	130	23	17.7%
P01	5	3	60.0%
R15	22	4	18.2%
R34	2	-	0.0%
U01*	-	-	0.0%
TOTAL	<u>1,210</u>	<u>253</u>	20.9%
SBIR/STTR			
SBIR	99	34	34.3%
STTR	34	6	17.6%
TOTAL	<u>133</u>	<u>40</u>	30.1%
CAREER			
K01	25	6	24.0%
K02	1	-	0.0%
K08	25	13	52.0%
K25	3	-	0.0%
Subtotal	<u>54</u>	<u>19</u>	35.2%
K23	20	8	40.0%
K24	7	5	71.4%
Subtotal	<u>27</u>	<u>13</u>	48.1%
K99	<u>22</u>	<u>4</u>	18.2%
TOTAL	<u>103</u>	<u>36</u>	35.0%
TRAINING			
F31	13	7	53.8%
F32	65	27	41.5%
F33	1	-	0.0%
Subtotal	<u>79</u>	<u>34</u>	43.0%
T32	<u>21</u>	<u>6</u>	28.6%
TOTAL F&T	<u>100</u>	<u>40</u>	40.0%

* **Please note:** U01 applications are only accepted as part of a specific solicitation or as a competitive renewal of a previously funded U01. Unsolicited U01s are not accepted. Occasionally, an R01 application may be converted to a U01 if it is deemed that substantial involvement of NIAMS program staff is needed. Such circumstances require an agreement between NIH and the grantee institution.

Useful Websites:

http://www.niams.nih.gov/About_Us/budget/default.asp

<https://officeofbudget.od.nih.gov/>

<http://report.nih.gov/>