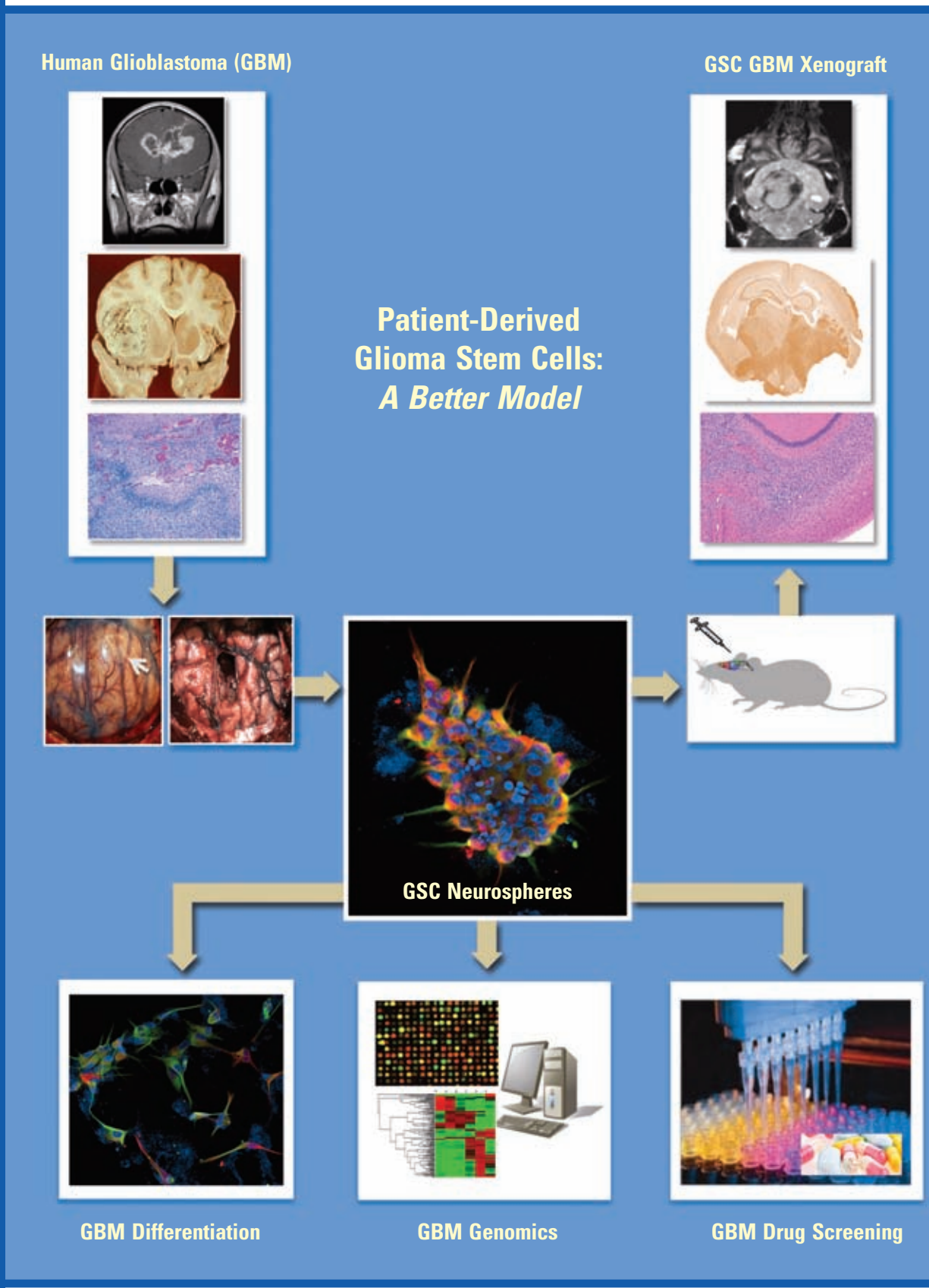
National Cancer Institute

Division of Extramural Activities
Annual Report 2009



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

Glioblastoma-Derived Tumor Stem Cells

Glioblastoma (GBM) is the most common malignant primary brain tumor and one of the most lethal of all human cancers with a median survival of little more than 14 months. Along with its rapid proliferative capacity, the lethality of GBM is in large part a result of its highly infiltrative nature with individual glioma cells invading deep into surrounding eloquent areas of the brain. Standard glioma xenografts grow as balls within the brain of immunodeficient animals and do not recapitulate the most critical aspect of human GBM biology, making them poor model systems for biological study and testing of new therapies. Not only are new therapies desperately needed in GBM, but also better model systems are needed. Recently a new model of tumor growth, called the cancer stem cell hypothesis, has generated growing interest. This model suggests that tumors actually possess only a small subpopulation of cells with truly tumorigenic potential and that these cells have characteristics similar to that of normal tissue-restricted stem cells. Several years ago, we began a search for such cells in primary patient-derived human GBMs, resulting in a series of observations that we hope will change the way we study these tumors and treat patients with malignant gliomas:

- We demonstrated using whole genomic single nucleotide polymorphism (SNP) scanning and gene expression arrays that the standard glioma cell lines that scientists have been studying for more than 20 years do not resemble primary human GBMs at all. In fact, they look more like any other long-established cancer cell line than they do GBMs. Additionally, the few standard glioma cell lines that form tumors in immunodeficient mice are non-invasive and do not recapitulate human GBM histology. Standard glioma cell lines are therefore very poor models for human GBMs (and other gliomas) and raise the concern for the relevance of these cells in studying GBM biology and for screening new therapeutic agents.

- We demonstrated that by using novel culturing techniques we could derive a population of cells that had normal neural stem cell (NSC)-like features; however, unlike NSC, these cells also possessed all of the genomic anomalies that the parental human GBM contained, were clonogenic *in vitro*, and could form highly invasive tumors *in vivo* that were histologically identical to the original patient's GBMs. Additionally, these cells and their resultant tumors maintained the unique genomic landscape and had gene expression profiles very similar to the parental tumor. These cells therefore meet the criteria of tumor/glioma stem cells (TSC/GSC) and suggest that GBMs are derived from a population of TSC. Furthermore, glioma TSC represent a much more promising model system for studying human GBM and may help identify novel molecular targets (i.e., stem cell pathways and for screening novel therapeutics).

- The CD133 surface marker was widely accepted as a marker for glioma TSCs, but unfortunately this marker is found in only a minority of tumor samples. We demonstrated that the embryonic and early neural stem cell marker CD15 (SSEA-1) allowed us to identify subpopulations of glioma TSC/GSC more efficiently in a significant percentage of tumors that were negative for CD133 cells, therefore allowing the generation of patient-derived glioma TSC/GSC lines from a greater number of patients.

- Glioma TSCs from different patients are highly heterogeneous and patient-specific in their biological behavior and genomic/epigenomic landscape, modeling the great heterogeneity seen genomically and clinically in human GBMs.

- It can be shown that many glioma TSC/GSC lines can be terminally differentiated along both glial and neuronal lineages; however, several glioma TSC/GSC lines are refractory to terminal differentiation. We have identified a subgroup of GBMs that do not terminally differentiate to normal developmental cues secondary to polycomb repressor complex-mediated hypermethylation and subsequent downregulation of the bone-morphogenic protein receptor-1b (BMPR1B). Demethylation of the promoter and subsequent re-expression of the *BMPR1b* gene by treatment of the TSC with the demethylating agent, 5-azacytidine, induced terminal differentiation of the TSC and tumorigenecity, opening up the possibility of epigenetic-targeted differentiation therapies in patients with GBM.

- We have identified connective tissue growth factor (CTGF), through its activation of TrkA, as a potent inducer of glioma cell invasion and demonstrate that reactive astrocytes that surround glioma cells secrete CTGF, establishing a host-derived, pro-invasive microenvironment for glioma invasion. Accordingly, small molecule Trk-A inhibitors potently inhibit glioma cell invasion *in vitro* and *in vivo*.

Tumor stem cells represent a potential paradigm change in how we think about and study GBMs. Furthermore, the fact that glioma TSC/GSCs appear to represent a much improved and clinically relevant model of primary human GBMs has opened up the door to developing novel therapeutics directed at intrinsic stem cell signaling pathways (i.e., notch, wnt) as well as to such important GBM properties as terminal differentiation (i.e., 5-azacytidine) and invasion (i.e., Trk-A inhibitors) that could not have been appropriately studied or targeted using our old GBM models.

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National Cancer Institute

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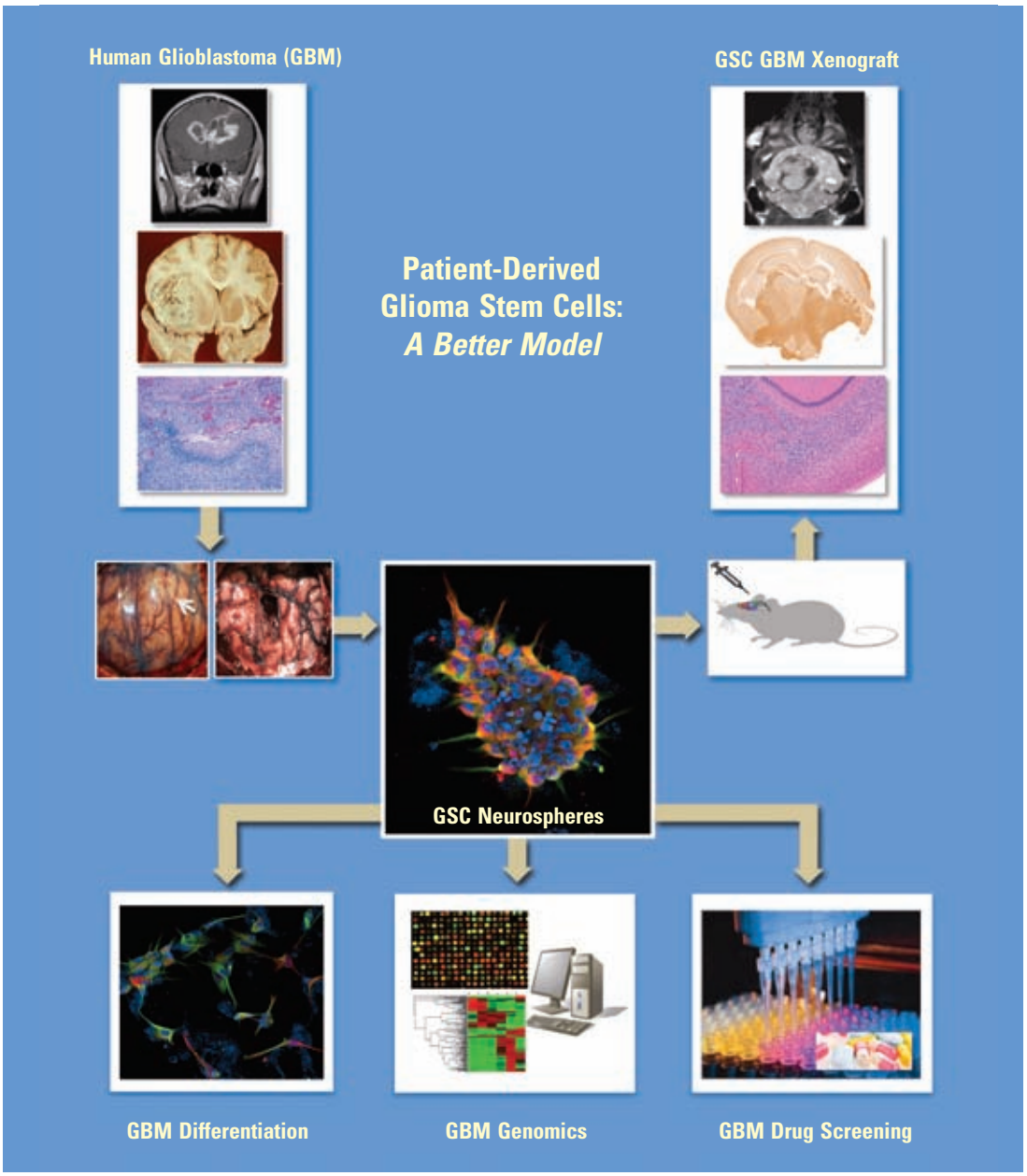

Cover Images: The generation of tumor stem cell-derived neurospheres from patient-derived glioblastoma tissue. The neurospheres are transplanted back into immunodeficient mice generating tumor xenografts with the biological, radiographic, and clinical characteristics of the primary human tumor. Neurosphere-derived tumor stem cells can be used to study properties such as tumor cell differentiation and genomics as well as for screening new therapeutic agents.

Images and narrative are courtesy of Dr. Howard A. Fine, Neuro-Oncology Branch, National Cancer Institute, NIH.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Foreword

Everything we do at the National Cancer Institute (NCI) begins and ends with our focus on the cancer patient. That singular focus encompasses all of our work in basic, translational, and clinical science from finding better treatments for cancer, reaching out to deliver those treatments to people where they live, to enhancing our efforts in cancer prevention. The NCI is dedicated to the understanding, diagnosis, treatment, and prevention of cancer for all people.

The backbone of America's cancer research enterprise is the peer review process. The Division of Extramural Activities (DEA) is the NCI's Division responsible for managing our peer review activities. The DEA is crucial to ensuring excellence in the review process, by providing the highest quality and most effective scientific peer review of applications and oversight of NCI extramural research. Without question, peer review is the first vital step that enables the NCI to invest in the outstanding scientists who devote their careers to the study of cancer.

In addition to conducting peer review, the DEA plays a critical role in all aspects of the grant funding process, from assisting in the development of Funding Opportunity Announcements, receipt and referral of applications, administering advisory board activities for concept approval and second-level review, to coding and tracking of research after awards are made.

This investment, based on rigorous peer review standards, powers and empowers the engine of cancer research. Our Nation's investment is paying dividends in the number of lives saved, in the greater quality of life for cancer patients, and in cancers prevented.

I congratulate the many dedicated staff of the DEA who contributed to the activities described in this annual report and offer my gratitude for the important role that they play in coordination of the NCI extramural research enterprise.

John E. Niederhuber, M.D.
Director
National Cancer Institute

Introduction

The Division of Extramural Activities (DEA) is the organizational component of the National Cancer Institute (NCI) responsible for coordinating the scientific review of extramural research before funding and for the systematic surveillance of that research after funding. The Division solicits advice from individuals or committees of experts on the technical and scientific merit of grants, cooperative agreements, and contracts. The peer review process is important to science in that it allows good ideas to surface and to be judged on their merit and promise. The peer review system is the keystone for ensuring that the best science is supported.

The DEA coordinates the activities of the: (1) National Cancer Advisory Board (NCAB), whose members are appointed by the President and whose responsibilities include conducting the second-level review of grants and cooperative agreements as well as advising the Director, NCI, on policy for the conduct of the National Cancer Program; (2) the Board of Scientific Advisors (BSA) in its oversight of the extramural program and the approval of NCI-initiated scientific concepts, and (3) program and review extramural staff training.

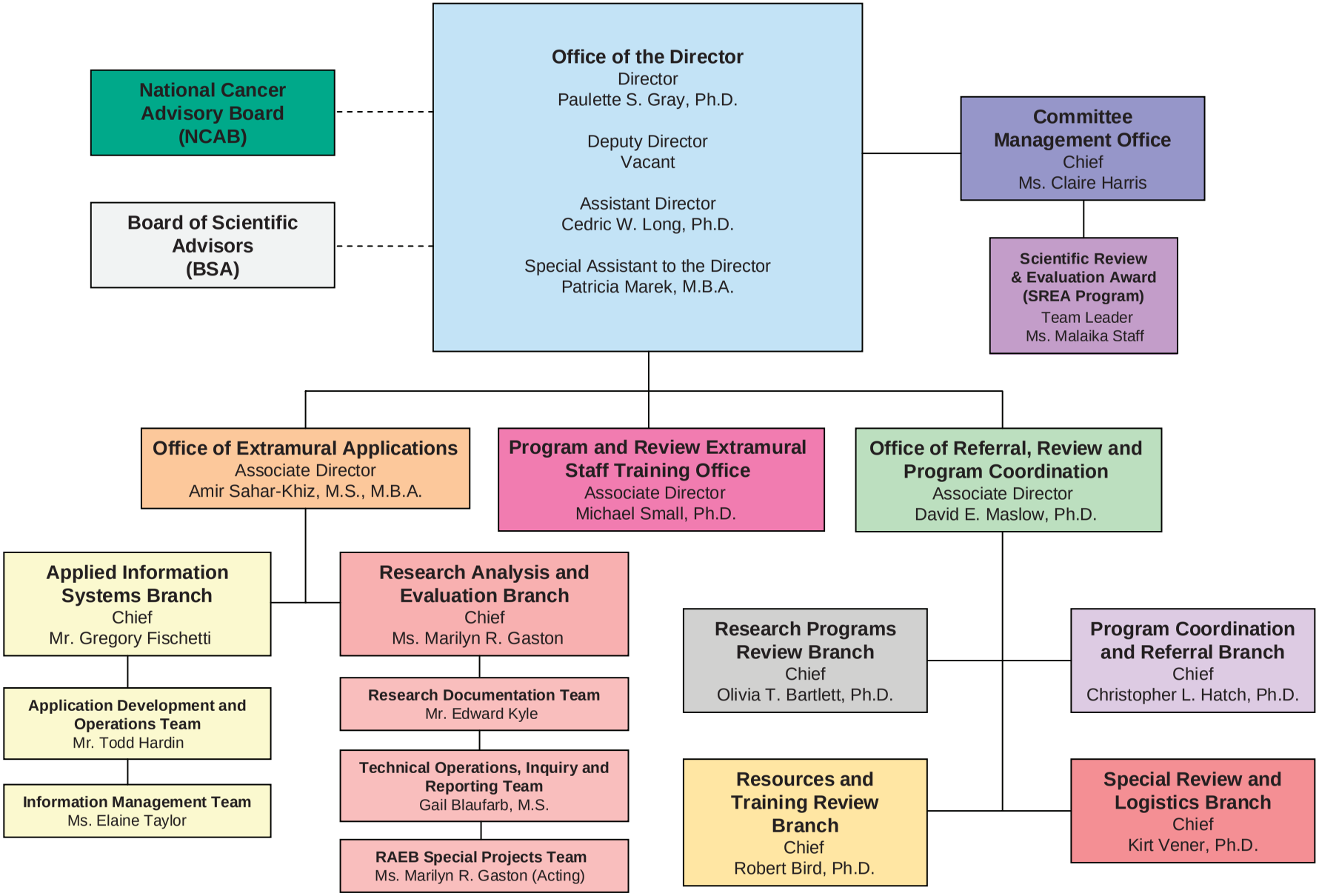
As a Division, we: evaluate the content of all extramural research funded by the NCI and annually track the NCI research portfolio of more than 7,800 research and training awards by using consistent budget-linked scientific information to provide a basis for budget projections; maintain extensive records of this research and provide specialized analyses of the costs, goals, and accomplishments of the research; and serve as an NCI resource to others for reporting and dissemination of the NCI's research portfolio. The DEA: monitors budgetary limitations for grant applications; participates in establishing policies to expedite funding; and initiates and implements changes to applications, guidelines, and award processes. The Division also: coordinates, for the NCI, the review and response to appeals from applicants regarding the peer review process or the subsequent disposition and management of grants, cooperative agreements, and contracts; and responds and coordinates requests from the NIH Office of Extramural Research's Agency Extramural Research Integrity Officer for information and assistance regarding scientists (or institutions) supported by NCI research funds who were the subject of allegations, inquiries, and/or investigations of possible research misconduct.

The intent of this annual report is to provide insight and useful information about the research funding process and the role of the DEA in support of NCI's mission. A comprehensive look at each of the major areas of responsibility within the Division is provided. The data and information presented cover Fiscal Year (FY) 2009 (1 October 2008 – 30 September 2009) and provide data comparison with previous years.

To implement a biomedical research program of the highest quality, the NCI draws on the national pool of scientists actually engaged in research for assistance in selecting the best research and training projects. We sincerely want to thank the more than 2,200 researchers, clinicians, and advocates who gave unselfishly of their time in FY2009 and have contributed to the continuing success of NCI's peer review and advisory activities.

Paulette S. Gray, Ph.D.
Director
Division of Extramural Activities

Division of Extramural Activities



Overview of the Division of Extramural Activities

The paramount goal of the National Cancer Institute (NCI) is to develop the knowledge base that will ultimately lessen the impact of cancer. Among the most important contributors to this base are the outstanding extramurally funded scientists supported by the NCI through grants, contracts, and cooperative agreements. The DEA was established within the NCI to provide the Institute and the scientific community with expert scientific review of the merits of extramural research. An important part of DEA's mission is to manage and coordinate the second level of grants review with the National Cancer Advisory Board (NCAB) and the concept review of all new and reissued Requests for Applications (RFAs) and research and development (R&D) Requests for Proposals (RFPs) with the Board of Scientific Advisors (BSA).

The **Committee Management Office** (CMO) provides oversight of all NCI-chartered advisory boards and committees, working groups, task forces, and chartered review groups, and serves as an NIH service center for the National Center for Complementary and Alternative Medicine and a Department of Health and Human Services (DHHS) chartered advisory committee. The CMO provides policy guidance and assistance to ensure that the NCI and client Institutes operate within the appropriate Federal Advisory Committee Act (FACA), the Government in Sunshine Act, and various other policies, procedures, and guidelines.

The DEA also provides effective and timely coordination of program initiatives from the initial concept stage through publication of RFAs, PAs, Notices, and RFPs, and, finally, through the peer review of grant and cooperative agreement applications and contract proposals. The **Office of Referral, Review, and Program Coordination** (ORRPC) with four branches was established for: (1) development and issuance of NCI program initiatives; (2) coordination of grant referral; and (3) management of NCI review activities. Review activities include the organization and management of peer review for all RFAs, Research and Development (R&D) RFPs, Program Announcements with Special Receipt (PARs), and multi-component grant applications. The program coordination responsibilities of the DEA, in cooperation with NCI extramural program divisions and offices, extend to the development of all new extramural program guidelines and funding opportunities.

Another program coordination activity is the development and maintenance of referral guidelines for assignment of grant applications to the NCI. These guidelines, included in the *Referral Guidelines for Funding Components of PHS*, are critical to the development of program initiatives across the NIH, as well as to the prompt referral of unsolicited grant applications to the NCI. These guidelines differ from the NCI Internal Referral Guidelines, which are vital to the prompt referral of grant applications to the appropriate NCI program areas.

The **Research Analysis and Evaluation Branch** (RAEB) works closely with the NCI Office of Budget and Finance to provide budget-linked portfolio data for NCI grants and contracts. In doing so, the Institute has the capability of responding expeditiously to congressional and other inquiries. This Branch has historical budget-linked portfolio data all the way back to the 1930s.

The DEA conducts continual evaluation of program initiatives and coordinates policies and procedures to ensure that all aspects are as clear and accessible as possible to staff, advisory groups, and applicants. To facilitate this evaluation, the **Office of Extramural Applications** (OEA), through the **Applied Information Systems Branch** (AISB), maintains a Web-based information system to provide key information on new initiatives. This Web-based information system includes early notice of approved concepts, listings of active PAs and recently published RFAs, and policies related to the clearance of new program initiatives. This information is provided in both public Internet (**http://deainfo.nci.nih.gov/funding.htm**) and NCI limited-access Intranet versions. Both RAEB and AISB were actively involved in elevating the DEA Funded Research Portfolio Web Site to become the NCI Funded Research Portfolio (NFRP) Web Site (**http://fundedresearch.cancer.gov**).

Special Activities in the Office of the Director, DEA

In addition to managing and coordinating the extramural operations described in this report, the DEA Office of the Director (OD) is a focal point and repository of information and policies related to various funding mechanisms for NIH grants, staff and awardee responsibilities, eligibility requirements, receipt dates for all granting mechanisms, and special programs. The DEA OD is, for example, the coordinating center for submission of applications for special NIH-wide awards, such as the James A. Shannon Director's Award, the Institutional Development Awards (IDeAs), and the Research Enhancement Awards Program (REAP).

The DEA OD ensures that the NCI meets the congressional mandate to promote increased participation of women, children, and members of minority and medically underserved populations in the research areas of cancer cause, prevention, control, diagnosis, and treatment. The NIH Revitalization Act of 1993 mandates that women and members of minority groups be included as subjects in each research project, unless there are clear scientific or ethical reasons that inclusion is inappropriate with respect to the health of the subject or the purpose of the research. Administrative procedures allow NCI staff to resolve inclusion problems after initial review of grant applications that are otherwise highly meritorious. In the event that a grantee believes the proposed study does not warrant or require inclusion of women or minority groups, he or she can apply for a waiver of this requirement. The DEA Director is the appeals officer for the NCI and has the authority to grant waivers. In FY2009, 48 applications with preliminary bars to award were received by the DEA. Through corrective action, working with the applicants and program directors, all bars to award were brought into compliance before award decisions were made.

Additionally, the DEA Director serves as the locus for implementation and oversight of NCI policies concerning extramural research integrity and serves as a resource to all NCI staff with questions in this area. In this role, the DEA OD works to address concerns about extramural research misconduct, misuse of human and animal research subjects, financial mismanagement, and financial conflict of interest involving NCI-supported research. The DEA Director functions as the NCI Research Integrity Officer (RIO) and receives from the appropriate sources all documents related to research misconduct for transmittal and reporting to relevant sources. In FY2009, six cases of alleged research misconduct involving NCI funding were opened and under investigation by the Office of Research Integrity, HHS, and referred to the Director, DEA. Nine pending cases from previous years were closed, and five of the cases were found to involve research misconduct.* Other cases from FY2009 and prior years are open, pending resolution.

*Cases found to involve research misconduct are published in the *Federal Register* and *NIH Guide for Grants and Contracts*.

Program Coordination: A Resource for New Funding Initiatives

The DEA performs critical functions in the development of new strategic funding initiatives at the NCI and in the coordination of their publication as Funding Opportunity Announcements (FOAs), which comprise both Requests for Applications (RFAs) and Program Announcements (PAs). Specifically, members of the **Program Coordination and Referral Branch** (PCRB) provide expert assistance to NCI program staff members as they work to develop and publish new FOAs. PCRB staff members disseminate various operating policies and procedures pertaining to extramural funding programs. To maintain consistency and completeness, under PCRB coordination, all new and reissued NCI FOAs, Notices, and various associated guidelines are reviewed, adjusted/edited as needed, and cleared through the DEA before being forwarded to the NIH Office of Extramural Research for approval and publication in the *NIH Guide for Grants and Contracts* and on Grants.gov. In these steps, PCRB staff members help to streamline and clarify FOA technical parameters and requirements as well as optimize accuracy, precision, and clarity of their presentation in proper format. PCRB verifies consistency with NIH-wide requirements, provides quality control, and coordinates timelines throughout the development and publication processes. Overall, these services ensure the high quality and timely availability of NCI's funding opportunities for cancer researchers as prospective applicants.

Tables 1a and **1b** show the variety of NCI-issued RFAs in FY2009, and **Table 2** lists RFAs issued by other NIH institutes or centers (ICs) that the NCI has joined as a participating partner. **Tables 3a** and **3b** show the variety of PAs issued by the NCI in FY2009, and **Table 4** lists PAs issued by other NIH institutes or centers (ICs) that the NCI has joined as a participating partner.

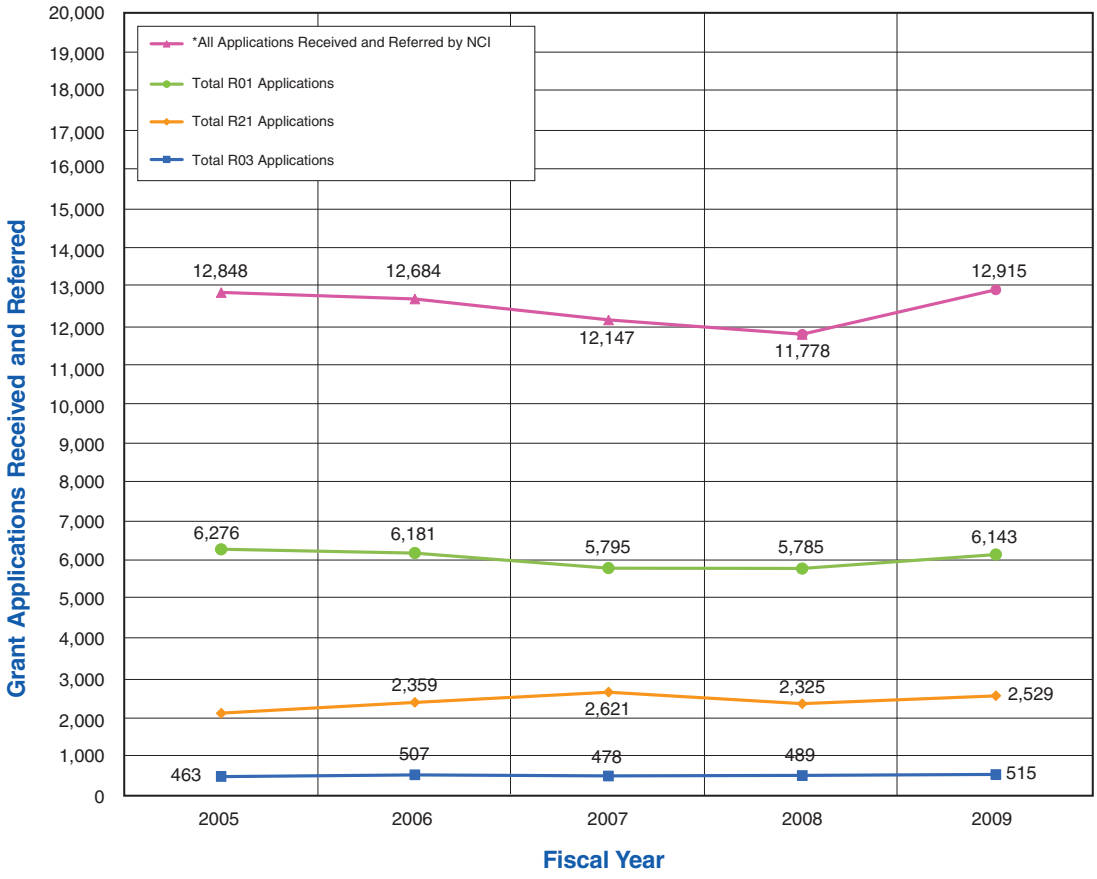
In early 2006, the NIH began the process of transitioning to the electronic (instead of paper-based) submission of grant applications through Grants.gov (**http://www.grants.gov**), which is the online grant application submission portal of the Federal Government. The DEA has played a lead role in helping the NCI and its customers transition to the electronic submission of all types of grant applications. PCRB staff members have been heavily involved in conversions and reissuances of NCI FOAs so that the applications would be submitted electronically to the NIH through use of the SF424 application package and Grants.gov. Greater than 80 percent of NIH grant applications are now submitted electronically in this way. As a representative on the NIH SF424 Application eSubmission IC Liaisons Group, the Chief of PCRB provides relevant information and timely updates to all NCI extramural staff members on activities and results related to the transition from paper to electronic grant applications, and also served as a direct source of guidance on this topic for individual program directors and their applicants. The Referral Officers (ROs) have transitioned from paper-based to electronic referrals of applications as each grant mechanism has transitioned from the former to the latter mode of submission. The ROs and Branch Chief collaborated with NCI information technology staff members and their contractors to successfully develop and deploy an improved Awaiting Receipt of Application (ARA) management system (permission for special application receipts) and a new electronic management system for Assignment Change Requests (for handling application changes and transfer requests between the NCI and other NIH ICs), both of which contribute to an improved efficiency of service for the NCI's grant applicants and awardees. In addition to PCRB's referral responsibilities, Scientific Review Officer (SRO) staff in the branch also managed the review of 382 student loan program contract proposals in FY2009.

Grant Referral: A First Point of Contact for NCI Grant Applicants and Applications

In FY2009, a total of 12,915 grant applications were submitted to the NCI for funding with appropriated funds (see Figure 1 and Table 5). These included applications for 50 different types of funding award mechanisms (see Appendix E), including the Investigator-Initiated Research Project (R01), Career Development Awards (K series), Research Program Project (P01), Cancer Center Support Grant (CCSG, P30), Specialized Program of Research Excellence (SPORE, P50), Small Research Project (R03), Exploratory/Developmental Project (R21), Exploratory/Developmental Phase II Project (R33), Small Business Technology Transfer (STTR) Grant (R41/R42), Small Business Innovation Research (SBIR) Grant (R43/R44), and U-series (Cooperative Agreements) mechanisms.

All applications submitted to the National Institutes of Health (NIH) are assigned to an Institute or Center (IC). The IC in turn has a structure in place to address internal assignments. DEA's **Program Coordination and Referral Branch** is responsible for receipt, referral, and assignment of applications as well as for program (i.e., scientific initiative and funding opportunity) development functions. Upon receipt of primary and secondary assignments of applications to the NCI by the NIH Center for Scientific Review (CSR), DEA PCRB Referral Officers: (1) assign all incoming applications to one of the 50 NCI extramural research program areas; (2) track program acceptance; and (3) whenever necessary, negotiate transfers of grant applications to and from other

Figure 1. Receipt and Referral of NCI Grant Applications*†
FY 2005 - 2009



*Includes NCI Primary and Secondary applications received and referred.
†ARRA applications are not included.

NIH ICs and even other DHHS research funding agencies, such as the Agency for Healthcare Research and Quality [AHRQ] and the Centers for Disease Control and Prevention [CDC].

The PCRB distributes all of the applications that are to be directly reviewed by NCI DEA-managed peer review groups. These applications include those for P01 Program Projects, P30 Cancer Centers, P20 Planning Grants, P50 Specialized Centers, R13 Conference Grants, R03 Small Grants, certain R21/R33 Phased Innovation Grants, T32 and R25 Training Grants, K-series Career Development Grants, certain R01 Research Project Grants, and U-series Cooperative Agreement applications.

The PCRB is often the first point of contact for applicants. It is the receipt point for Letters of Intent (LOIs) from potential applicants for multiproject Program Project Grants (P01) and Conference Grants (R13). Also, it is the information and coordinating center for the submission of applications for the Academic Research Enhancement Award (AREA, R15) grants for research at institutions and organizations that have little or no current NIH grant award support; applicants contact PCRB for information about NCI programs, their eligibility to apply, the relevance of their proposed research to the missions of various NCI programs, and the names and contact information of NCI program staff members to guide them through the application process. In addition, ROs work with program staff members to determine and/or verify the responsiveness of R21 exploratory/developmental grant applications to the specific FOAs to which they are being submitted.

The ROs serve as primary NCI contact persons for members of the extramural scientific community in need of information on a broad range of subjects, including application information (e.g., opportunities, mechanisms, policies, processes, procedures), new initiatives announced as RFAs or PAs (i.e., FOAs), and the review process. In addition, the ROs assist members of the extramural community in navigating NIH and NCI Web pages to obtain current information, forms, and guidelines.

Peer Review—The Next Step

Once applications are referred to the NCI and the appropriate program, they must be reviewed. The high caliber of NCI-sponsored research is maintained through a peer review process in which experts in the appropriate fields review and score the merit of grant applications and contract proposals for research. The peer review mechanism helps to ensure that the NCI uses its resources wisely and funds research that has the potential to make a significant contribution to science and medicine. The NCI's extramural programs and activities are funded primarily through peer reviewed grants and cooperative agreements. Programs that are funded through research contracts also are subject to peer review, including contract-supported projects conducted within the intramural research program.

The peer review system of the NIH consists of two sequential levels of review mandated by statute. The first level is of grant applications assigned to the NCI. This review is performed by either an NIH CSR study section, a chartered NCI Initial Review Group (IRG) subcommittee, or an NCI Special Emphasis Panel (SEP) whose primary purpose is to review and evaluate the scientific merit of research grant and cooperative agreement applications. The second level of review, which is for program relevance, is conducted by the National Cancer Advisory Board.

Most investigators are familiar with the NIH CSR study sections, which have primary responsibility for managing the peer review of investigator-initiated Research Project (R01) grants and fellowships. It is less widely known, however, that grant applications representing more than 50 percent of the NCI's extramural budget are reviewed by chartered IRGs and SEPs that are directly formed and managed within the NCI by the DEA. Peer review by either the CSR or the DEA is usually determined by the choice of grant mechanism.

The NCI has no direct input into the selection of peer reviewers who serve on CSR study sections. In contrast, members of the NCI IRG and SEPs are selected by DEA review staff, with suggestions from program staff. All chartered DEA review subcommittee members are approved by the Director, DEA, based on their knowledge of the various disciplines and fields related to cancer. There are six active NCI IRG specialized review subcommittees; for example, Subcommittee A reviews Cancer Centers, Subcommittee H reviews Clinical Cooperative Groups, and Subcommittee I reviews career development applications. (The membership of NCI-chartered subcommittees may be found in **Appendix C (pp. 96-117)** and at **http://deainfo.nci.nih.gov/advisory/irg.htm.**) IRG members are appointed for varying terms of service, which may be up to 6 years. DEA SEPs may be formed to review grant applications received in response to RFAs or Program Announcements with Special Receipt (PARs), other specialized applications, or R&D contract proposals received in response to an RFP. Members of such panels are selected on a one-time, as-needed basis to review specific grant applications, cooperative agreement applications, or contract proposals. Additional information about NCI SEPs can be accessed at **http://deainfo.nci.nih.gov/advisory/sep.htm**.

Both the SEPs and the IRGs provide advice on the scientific and technical merit of applications for research and research training grants, cooperative agreements, and contract proposals relating to scientific areas relevant to cancer. DEA SROs manage the scientific review of applications and contract proposals, including the selection of peer reviewers and the overall administration of the peer review process.

The peer review of grant applications generally occurs in the fall, winter, and spring prior to February, June, and September NCAB meetings, respectively.

Enhancing Peer Review

In June 2007, the NIH initiated an effort to formally review the NIH extramural funding system to address the many challenges that the increasing breadth, complexity, and interdisciplinary nature of modern research has created. NCI staff and grantees participated in NIH external and internal working groups identifying the challenges and making recommendations regarding enhancements to the review system. A final report with recommendations in the following four broad areas was released in March 2008: (1) engage the best reviewers; (2) improve the quality and transparency of review; (3) ensure balanced and fair reviews across scientific fields and career stages, and reduce administrative burden; and (4) provide continuous review of the peer review process.

Beginning in January, 2009, NIH initiated several changes in the peer review system to implement some of the recommendations. To engage the best reviewers, flexibility was provided to reviewers regarding their tour of duty on CSR study sections and submission dates for their own applications. In addition, the NCI and CSR have conducted pilots using "virtual" Internet reviews as an alternative to in-person review meetings. To address the goal of balanced and fair reviews across scientific fields and career stages, Early Stage Investigators were invited to self-identify in the eRA Commons, and their research project applications are clustered together for review in CSR review meetings. In addition, where feasible, applications addressing clinical studies are clustered for review in CSR review meetings. The NIH established a Peer Review Evaluation Group to evaluate pilots and new policies to ensure that the NIH continues to provide high-quality peer review.

To improve the quality and transparency of review, the NIH implemented a number of changes for applications submitted on or after January 25, 2009, for review meetings in the spring and summer of 2009 and September/October 2009 councils. These changes included enhanced review criteria for most types of applications, a new 1 – 9 scoring scale for all applications, and a new template for reviewers' critiques. In addition, reviewers assigned to an application began to give 1 – 9 scores to each of the five "core" review criteria for an application. For research project grants, these are Significance, Investigators, Innovation, Approach, and Environment. The criterion scores are intended to help applicants and NCI staff understand which aspects of each application, particularly applications that were not discussed (streamlined) during the review meeting, are strongest or weakest. To reduce administrative burden, fund the best science earlier and enhance initial success rates, applications submitted on or after January 25, 2009, are allowed only one resubmission (amendment). Plans for FY2010 include shorter applications restructured to align with the review criteria.

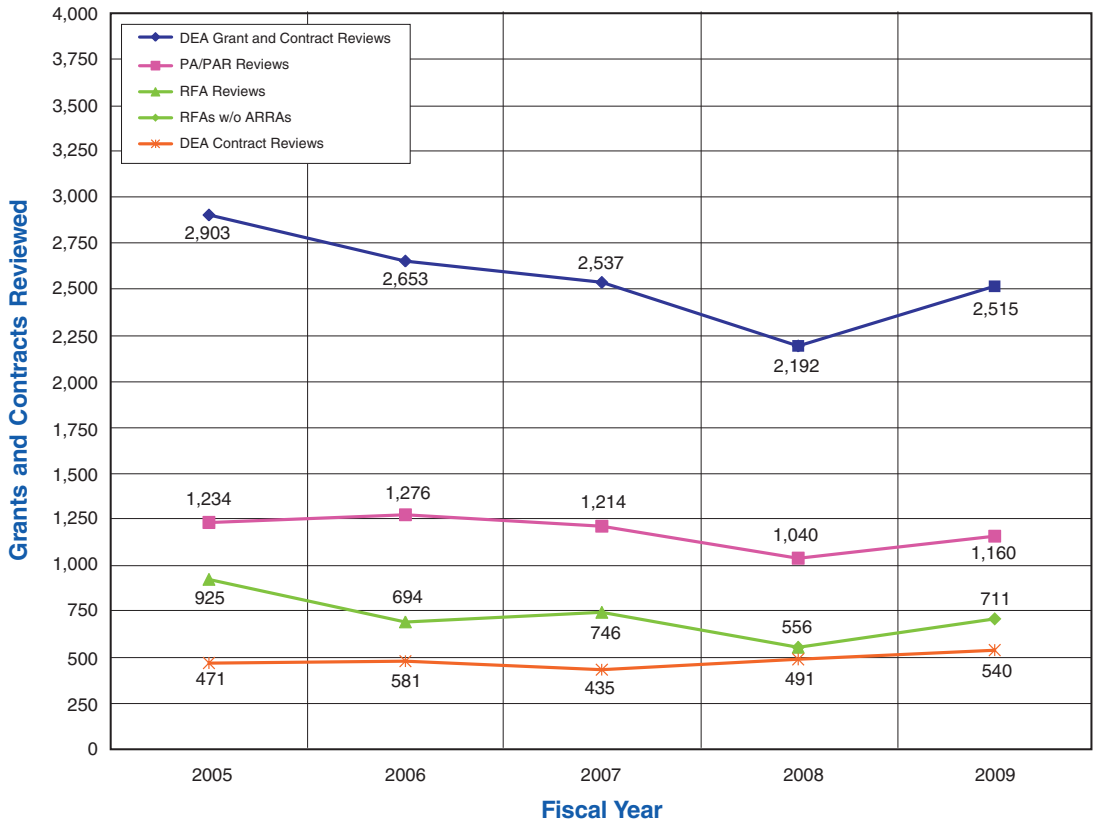
Since the NIH-wide changes in the scoring system, review criteria, and reviewer templates applied to applications reviewed by the DEA, Office of Referral, Review, and Program Coordination staff undertook a number of activities to implement them and to make the transitions for reviewers as smooth as possible. ORRPC review staff formed several working groups to adapt the generic scoring guidelines issued by the NIH Office of Extramural Research (OER) to the specific types of grant applications reviewed by the DEA. In particular, the generic instructions were not applicable to the large complex applications, such as cancer centers, program projects, SPOREs and other P50 applications, and cooperative clinical trials groups, that are reviewed by the DEA. The reviewer critique templates and scoring guidelines developed by ORRPC staff for multi-component P01 and P50 applications became a model for other NIH IC review units. ORRPC staff participated in NIH-wide working groups to develop enhanced review criteria and scoring guidelines for career development applications. All DEA review guides were updated with the enhanced review criteria, the new scoring system, and the new reviewer critique templates. To ensure that all reviewers thoroughly understood

the enhanced review criteria, the new scoring system, the new critique template, and their new responsibilities for criterion scoring, all DEA SROs conducted orientation teleconferences prior to the spring and summer 2009 review meetings. Thanks to these efforts, all review meetings using the new procedures were conducted effectively.

Review Workload

In FY2009, the DEA organized, managed, and reported the review of a total of 1,975 grant and cooperative agreement applications (see Table 6) and 540 contract proposals (see Table 12) assigned to the NCI for funding with appropriated dollars. The total number of grant, cooperative agreement applications, and contract proposals reviewed in FY2009 was 2,515 (see Figure 2). Table 7 provides a summary of the applications reviewed by NCI IRG subcommittees and SEPs. Fifteen meetings of the NCI IRG subcommittees and 116 SEPs were convened to review and evaluate grant applications and contract proposals of various types. In addition, there were 12 site visits and 84 other review associated meetings, such as teleconferences, applicant interviews, and fact-finding review panel workgroups. Approximately 2,204 peer reviewers and expert consultants served on the parent IRG subcommittees, SEPs, and workgroups in FY2009 (see Appendixes C and D). Members were selected because they are authorities in relevant fields of biomedical research or because they represent informed consumer perspectives.

Figure 2. DEA Review Workload*
FY 2005 - 2009



*Withdrawn and ARRA applications are not included. LRP contracts are not included in the RFAs.

Peer Review Functions

The **Office of Referral, Review, and Program Coordination** (ORRPC) is responsible for the coordination and management of the review of grants, cooperative agreements, and contracts for the Institute, and oversees three review branches and a referral branch. The review branches are responsible for organizing, managing, and reporting the scientific peer review of applications for a wide variety of grant mechanisms and topics. Reviews are conducted by one of the six subcommittees of the NCI IRG or by one of the specially convened SEPs as shown in **Table 7**.

The **Research Programs Review Branch** (RPRB) and the **Resources and Training Review Branch** (RTRB) are primarily responsible for the peer review of a variety of unsolicited multiproject and career development grant applications (see **Table 6**). The RPRB has primary responsibility for review of unsolicited applications for program project grants (P01s) and for Specialized Programs of Research Excellence (SPOREs, P50s) in various organ sites. All of these applications are reviewed by SEPs. The RTRB manages the six active subcommittees of the NCI IRG (see **Appendix D**). Specifically, the RTRB has primary responsibility for review of applications for cancer centers, cancer training and career development, and cancer clinical trials, as well as for managing the corresponding six subcommittees of the NCI IRG.

The **Special Review and Logistics Branch** (SRLB) organizes and manages peer review primarily for grant applications in response to most of NCI's RFAs and PARs, and R&D contract proposals submitted in response to Requests for Proposals (RFPs); all of these reviews are conducted by SEPs. In addition, the **Program Coordination and Referral Branch** (PCRB) often collaborates with the review branches to assist in the review of special initiatives and also has responsibility for the reviews of conference (R13) grants and loan repayment program (LRP) applications.

SROs in these review units prepare the summary statements of the evaluations and recommendations for each review committee meeting and distribute these reports to program officials, the NIH data management system, and NCI's Records Management Center. Each principal investigator for an application also receives the summary statement as do the NCAB members for second-level review.

Many of the reviews conducted by the RTRB, including the Cancer Center Support Grants (P30) and Cooperative Clinical Trials Grants (U10), involve a two-tier review process. Normally, the first tier of the review involves either a site visit to the applicant's institution, an applicant interview in the Washington, DC, area, or a teleconference by an expert review panel; these review formats provide an opportunity for the reviewers to question the applicants directly to clarify issues in the application, thereby enhancing the review process. The review panel members prepare a draft review report, which is then considered, along with the application, by the relevant subcommittee of the NCI IRG. Two of the six active NCI subcommittees of the NCI IRG serve as the "parent committees" for final scoring of applications after expert panel reviews: Subcommittee A is the "parent committee" for Cancer Center Support Grant (P30) applications and Subcommittee H is the "parent committee" for review of Cooperative Clinical Trials (primarily U10) applications. The other four subcommittees of the NCI IRG (Subcommittees F, G, I, and J) review all of the career development, training, and education grant applications submitted to the NCI.

Research Programs Review Branch

Program Project (P01) Applications

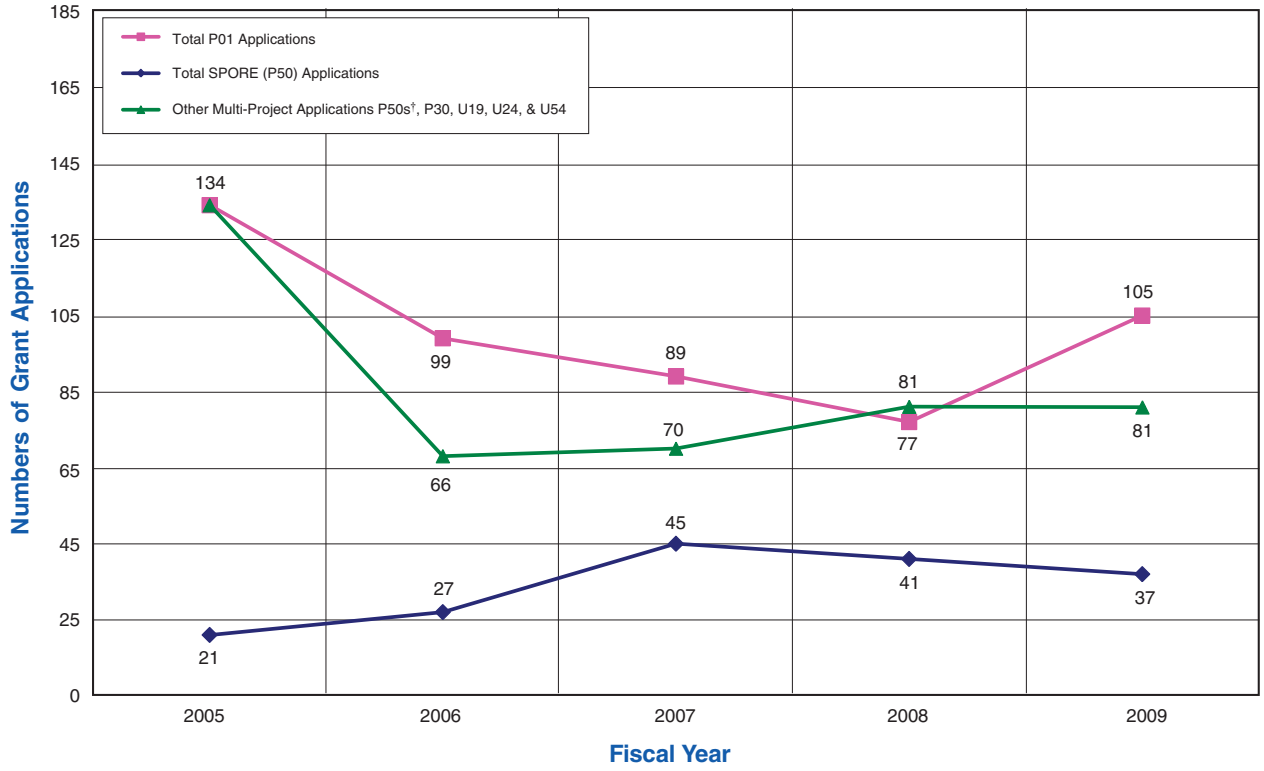
A significant proportion of the effort of the RPRB during FY2009 was associated with the review of unsolicited P01 applications. During 2009, the SROs in the RPRB organized and managed the review of 105 new, recompeting, amended, and

supplemental P01 applications (see Table 8), a higher P01 workload than the NCI has seen in the past 3 years, as shown in Figure 3. Approximately 40 percent of the applications were amended (see Table 8). The 105 applications requested almost $244 million in total costs for the first year (see Table 9) and $1.3 billion in total costs for all years.

P01 applications are reviewed in groups of up to 10 applications by a one-tier, "paper only" review process. All review panels are constituted as SEPs, with reviewers recruited based on the expertise needed for the applications being reviewed. The applications are grouped based on science, typically into four to six SEPs. Although the groupings vary depending on the applications that are received in each review round, the SEPs typically address molecular biology; cellular and tissue biology; prevention, epidemiology, and control; discovery and development; and clinical studies. A SEP may include applications represnting a continuum of research from basic through translational studies. The SEP reviewers evaluate and score projects, cores, and integration, and then assign the overall priority score to each application.

The first receipt date for P01 applications under NCI's new umbrella Funding Opportunity Announcement (FOA) for P01s, PAR-09-025, was January 25, 2009. Issuance of an FOA was necessary to allow investigators to propose multiple principal investigators (PIs) for NCI P01s. The objective of the NIH multiple PIs initiative is to give formal recognition to investigators performing vital portions of large multidisciplinary research projects. All of the multiple PIs have the responsibilities traditionally required of a single PI on an NIH grant, with one of the multiple PIs

Figure 3. P01, SPORE, and Other Multi-Project Research Applications Reviewed*
FY 2005 - 2009



*Withdrawn applications and ARRA supplements are not included.
†Non-SPORE applications.

designated as the "contact PI." The NIH began allowing multiple PIs for applications that were submitted electronically in 2007. P01 grants fit the definition of "team science" and require at least three coordinated research projects. However, P01 applications are still submitted on paper on the PHS 398 form. According to NIH policy, applications submitted on paper may include more than one PI only when the multiple PI option is clearly specified in the soliciting FOA. The NCI Executive Committee approved the multiple PI option for NCI P01s in August 2008, and RPRB updated the NCI P01 Guidelines and prepared the new NCI P01 FOA in the next few months. RPRB senior staff worked closely with PCRB staff to draft the new FOA and shepherd it through the NIH approval process Each application proposing multiple PIs must include a new section of the application describing the Multple PI Leadership Plan. Multiple PIs may be proposed for the overall program only; each research project and shared resource core must have a single designated leader. Of the 37 P01 applications submitted for the January 2009 receipt date for the September 2009 NCAB meeting, seven (19%) included multiple PIs.

In addition, January 25, 2009, marked the beginning of the new 1 – 9 NIH scoring system as part of the NIH Enhancing Peer Review initiative. Because the RPRB reviews P01 applications for all four of NCI's program Divisions, the RPRB organized a working group that included staff with P01 portfolios from each of the program Divisions and SROs who manage P01 reviews to consider how to adapt the longstanding P01 Scoring Guides to the new scoring system. The resulting Scoring Guide adapted the standard NIH guidance for R01 applications to multicomponent applications, incorporated the new concept of "overall impact" in the scoring for projects and the overall application, and was easy for reviewers to use. The updated P01 Scoring Guide also was used as a model for the SPORE Scoring Guide.

Specialized Centers of Research Excellence (P50)

The other major responsibility for RPRB during 2009, was the peer review of applications received for the NCI Special Programs of Research Excellence (SPORE). These large, complex multidisciplinary P50 research center applications focus on translational research directly applicable to human disease in various organ sites. During 2009, the RPRB organized and managed five SEPs for the review of a total of 37 SPORE applications, continuing the high SPORE review workload seen during 2007 (see **Figure 3**). These 37 applications addressed all organ sites, with the following distribution of applications: Brain (3); Breast (3); GI (2); GU (1); Gyn (4); HN (2); Leukemia (1); Lymphoma (3); Lung (3); Myeloma (1); Pancreas (2); Prostate (2); Ovarian (5); Skin (3), and Sarcoma (2). Overall, 19 (51%) of the 37 applications were for new SPOREs, and 18 (49%) of the 37 applications were renewal applications. The applications requested a total of $92,214,537 in total costs for the first year of support.

Also following the trend seen in 2008, the SPORE review workload for each review round continues to be very diverse. There were six applications addressing six organ sites reviewed for the February 2009 NCAB meeting, 23 applications addressing 13 organ sites were reviewed for the June 2009 NCAB meeting, and eight applications addressing seven organ sites were reviewed for the September 2009 NCAB meeting.

The large number of applications, the number of organ sites, and the number of amended applications results in increased complexity for the RPRB Scientific Review Officers (SROs) who manage the SPORE reviews. Due to the complexity of the review, the special review criteria and the large number of reviewers required for the diverse research proposed, the SROs who organize the SPORE reviews routinely conduct orientation conference calls with all of the reviewers before the applications are sent to the

reviewers to explain the special features of the SPORE program and the special review criteria. The orientation teleconferences were particularly important during 2009 due to the change in the application scoring system and the new template for reviewers' critiques.

To facilitate uniform scoring calibration across all of the SPORE review panels, and to recalibrate the scores, use of the new Scoring Guide implemented in 2008 was continued in 2009. The Scoring Guide was adapted to the new 1 – 9 NIH scoring system. Evaluation of the scoring outcomes by NCI SPORE review and program staff showed that reviewers are using the Scoring Guide appropriately and that it is having the desired effects. Reviewers generally found the Scoring Guide easy to use and gave positive feedback about it. In addition, the final overall impact scores were well spread, facilitating decision-making by the SPORE program staff.

Resources and Training Review Branch

The RTRB, which administers six NCI IRG subcommittees (A, F, G, H, I, and J), has the responsibility for review of applications for multidisciplinary cancer centers, cooperative clinical trials groups, institutional training and education, and career development awards. Staff members from this branch also participate in the reviews of other funding mechanisms within the DEA.

The reviews conducted by the RTRB subcommittees are of two types: (1) the complex, multidisciplinary applications, such as cancer center support grants (P30s), and multi-institutional clinical trial cooperative group—statistical center cooperative agreements (U10s) applications; and (2) individual component training and career development awards. The review formats for the multicomponent applications generally involve a two-step initial review. The first step of the review for Cancer Centers has involved a site visit to the applicant institution. Each group of experts serves as a fact-finding body to clarify any issues or information related to the application through discussion with the applicants. This first committee prepares a draft report that is presented, together with the full application, for discussion, evaluation, and final scoring by the appropriate parent subcommittee (NCI IRG Subcommittee A for cancer centers and Subcommittee H for clinical trials). Second, the U10 applications for support of the operational aspects of the clinical trial cooperative groups are reviewed by applicant interview at the parent subcommittee meeting, which eliminates a separate trip for reviewers and, thus, reduces the reviewer burden. Scoring by a parent subcommittee provides for a more uniform evaluation of applications than scoring by individual review teams. The individual component applications are reviewed in a chartered subcommittee. Please note that the clinical trial enterprise of the NCI is undergoing review, and changes in clinical trial approval and possibly funding are expected in the future. These changes will certainly affect the operation of Subcommittee H.

In early 2009, major changes in Peer Review were implemented. A new 1 – 9 scoring system with single-digit voting, a two-digit priority/impact (10-90) score, and bulleted critiques for the newly formatted summary statements were implemented. The RTRB instituted these changes for the single project applications beginning with the January 2009 receipt dates. Telephone conferences were used in many cases to introduce the new systems to both committee members and temporary reviewers. The new scoring system was implemented for all applications reviewed by the RTRB.

NCI Cancer Centers

During 2008, the Cancer Center Support Grant (CCSG) Guidelines were revised as a collaborative effort between the DEA and the Cancer Centers Branch. In this Guidelines revision, effective with the January 25, 2009, application receipt date, modification was made to incorporate the guidelines clarifications issued since the last version, update application dates, and clarify required federal citations. Also, standardization of text on clinical trials with that found in the

National Cooperative Group and SPORE Guidelines, and a more detailed table of contents and increased margins and spacing for better document readability have been added. In 2009, these efforts continued with the introduction of the new scoring system (1 – 9). The transition went smoothly because of efforts of DEA and Program Staff to clarify the new system and training of reviewers.

With the evolving changes in review of CCSG P30 applications, RTRB review staff members have continued a proactive practice of preparing, in collaboration with program staff members in the Cancer Centers Branch, clarification documents for those portions of the Guidelines that are unclear to reviewers. This includes preparation of clarifications for the review of Comprehensiveness Stage II as well as implementing these changes in peer review. RTRB review staff members also have continued to update and utilize modifications of the review process to reduce the burden on peer reviewers, such as the use of poster sessions for shared resource presentations, limited time for program presentations and better organization of the time spent on site, staff selection of protocols for review, and simplified review of budgets. To assist reviewers and applicants, a summary of modifications and the new guidelines have been placed on the Office of Cancer Centers Web Site, which also provides direct access to the DEA-prepared documents to assist reviewers in the transition to these new Guidelines and, as they are developed, informational sheets (guidelines clarifications).

A new aspect of the Guidelines that became effective in 2006 was the option for Cancer Centers to have a limited site visit with full review at the Subcommittee A (i.e., parent committee) meeting based on the application alone when requesting no more than a 10 percent increase in funding and no major changes in structure, designation, or leadership. The limited site visit focuses on the administrative, regulatory, and financial aspects of the application and center, including institutional commitment, administration, and clinical trials oversight, which includes the clinical trials office, protocol review and monitoring, and data and safety monitoring. This opportunity is available for the Centers that qualify. During FY2009, Subcommittee A reviewed eight CCSG P30 applications (see **Table 7**).

A Funding Opportunity Announcement for Cancer Center Support Grants (P30) is being prepared along with a new set of Cancer Center Guidelines, which will include more of the enhancement of Peer Review elements such as page limitations on the application sections.

Training and Career Development

The number of DEA reviewed career development applications submitted remained at a relatively steady rate from 2005 to 2007. In the past 2 years, the NCI has seen a decline in applications to 405 in 2008 and 385 in 2009 or a decrease of 31 percent from 2007 to 2009. Similarly, the number of institutional training and education grant applications submitted has decreased from 201 to 158 between 2005 and 2009 (21 percent), with a small increase of 6.8 percent in 2009 over the previous year (see **Figure 4**).

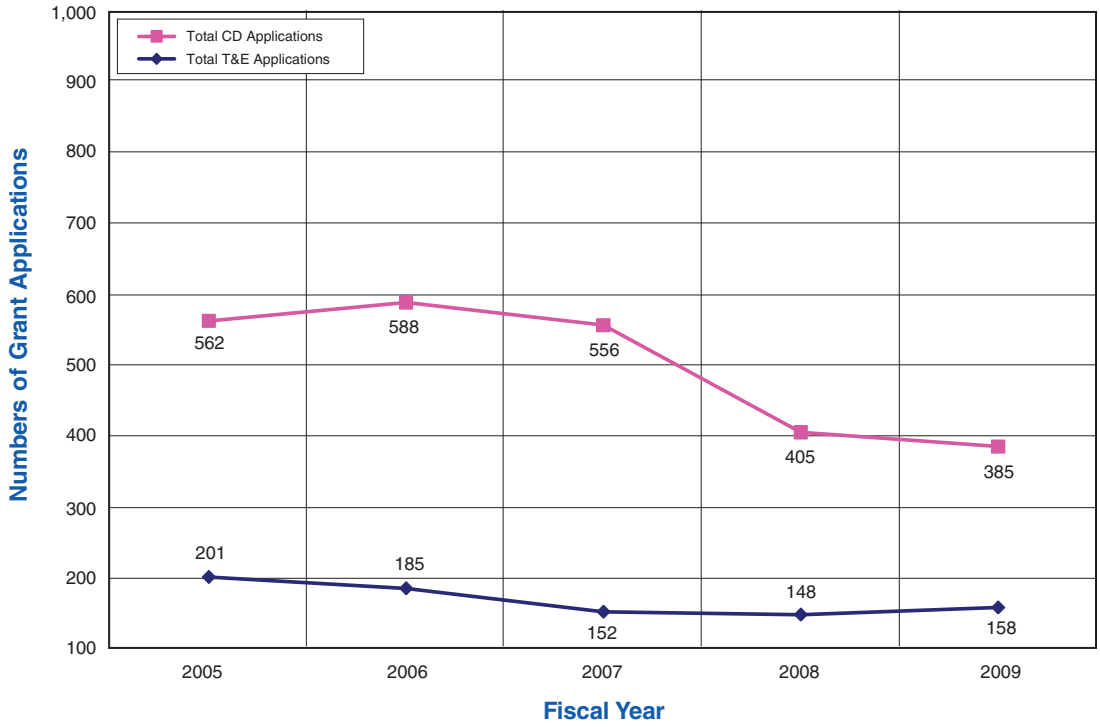
Clinical Cooperative Groups

The SRO for Subcommittee H (Clinical Cooperative Groups) manages the review of the NCI Clinical Trials Cooperative Group Program and works closely with the Clinical Investigations Branch staff of the NCI Clinical Trials Evaluation Program (CTEP). A major revised draft of the NCI Clinical Trials Cooperative Group Program Guidelines has been approved by NCI leadership and the NIH Office of the Director.

Steps have been taken to make some minor improvements in the Subcommittee H review process. A dialogue with Program Staff is underway to further streamline the review process for cooperative group applications.

During FY2009, two Clinical Cooperative Group applications were reviewed. These included 33 individual Statistics Centers and institutional sites.

**Figure 4. Numbers of Career Development (CD) and Training and Education (T&E) Applications Reviewed*
FY 2005 - 2009**



CD Grant Mechanisms: F32, F33, K01, K05, K07, K08, K22, K23, K24, K25, K99; T&E Grant Mechanisms: R25, T15, T32, K12.
*Withdrawn applications and ARRA supplements are not included.

Subcommittee H's role in the management of NCI clinical trials is being examined along with the general process for clinical trial approval and management. Some changes in the process are expected in the future.

Other RTRB Activities

To assist reviewers in preparing for their participation in peer review, Reviewer Guides were maintained for all of the application types reviewed by the RTRB. These Reviewer Guides were updated for the newly reissued FOAs and for electronic receipt. This resource was especially helpful for the subcommittee members who evaluate training and career development grant applications, because most reviewers on each subcommittee review several types of applications. The Reviewer Guides contain general information on peer review and NIH rules on use of human subjects, as well as specific instructions for each of the mechanisms to be reviewed by that subcommittee. These mechanism-specific guides have been completed for all education, training, and career development types of applications that are reviewed in the RTRB, and for the cancer centers and clinical cooperative group applications that are evaluated by Subcommittees A and H.

Special Review and Logistics Branch

The SRLB organizes and manages peer review primarily for grant applications submitted in response to specific NCI RFAs and PARs as well as for contract proposals submitted in response to specific RFPs. The reviews are conducted with SEPs and involve recruiting scientists with the appropriate expertise for each review meeting. During FY2009, the DEA reviewed 1,871 applications received in response to 31 RFAs and 41 PAs/PARs.

Following approval of RFA concepts by the NCI Executive Committee and BSA, program staff members prepare RFA initiatives for publication in the *NIH Guide for Grants and Contracts*. DEA staff members, including members of the SRLB, assist in critically reading the draft documents and providing recommendations for clarity relative to application requirements and review criteria. In an RFA, a specific, published dollar amount is set aside by the Institute, whereas for a PAR, there is no dollar set-aside and no requirement for BSA review. **Table 10** lists the RFAs and number of related applications that were reviewed by the DEA in FY2009. **Table 11** presents the number of applications submitted in response to PAs or PARs, the review of which is shared by the SRLB, the RPRB, and the RTRB. The Institute also issues RFP solicitations seeking offers for contract awards to support activities targeted to highly specific institute goals. A total of 540 contract proposals submitted in response to RFPs were reviewed by the SRLB and the PCRB during FY2009 are shown in **Table 12**.

Technology Research Applications

The majority of technology research initiatives use the R21 Exploratory/Developmental award mechanism and the R33 Exploratory/Developmental Phase II award mechanism. The R21 mechanism is intended to encourage exploratory/developmental research by providing support for exploratory pilot projects in the early stages of project development. The R33 mechanism is suitable for projects where "proof-of-principle" of the proposed technology or methodology has already been established and supportive preliminary data are available. Both of these mechanisms are well suited for technology development. In FY2009, 245 technology applications for exploratory/developmental grants (R21) and exploratory/developmental phase II grants (R33) were reviewed under 10 RFAs. In addition, 35 cooperative agreement (U54) applications were reviewed for the "Physical Sciences-Oncology Centers" RFA, 32 cooperative agreement (U54) applications for the Cancer Genome Atlas Research Network RFA, and 24 cooperative agreement (U01) applications for the Quantitative Imaging PAR. This represented an increase in applications received in FY2009, compared to FY2008 (see **Figure 5**).

The Small Business Innovation Research (SBIR) program supports Phase I feasibility applications (R43), Phase II applications (R44), and Fast-Track applications (R43/R44). RFA initiatives reviewed by SRLB staff included: Innovative Technologies for the Molecular Analysis of Cancer and Applications of Emerging Technologies for Cancer Research (**Table 10**). These initiatives also were matched with announcements for Small Business Technology Transfer (STTR) using the Phase I R41 and Phase II R42 grant mechanisms. In 2009, there was the first issuance of the SBIR Phase II Bridge Awards designed to "bridge the gap" between the end of the Phase 2 award and commercial development. Forty applications were received in 2009. The total number of applications received and reviewed in 2009 (95) represents a 38 percent increase from the number submitted in 2008 (69).

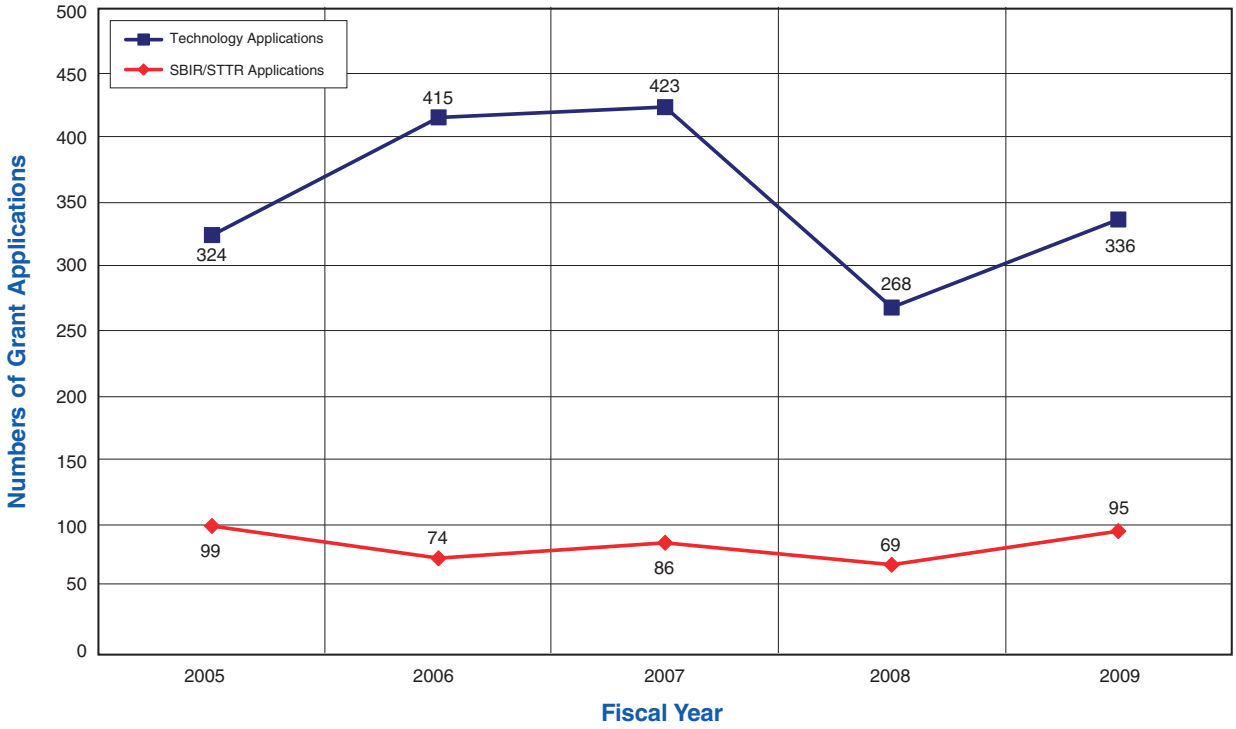
Multicomponent Research Applications

Figure 3 describes the historic and current workload for multicomponent grant applications. In addition to the SPORES and Cancer Centers, there were four initiatives that were comprised of multicomponent applications: Comprehensive Minority Institution Cancer Center Partnership (RFA-CA-09-501); Cancer Disparities Research Partnership Program (CA-09-502); Physical Science-Oncology Centers (CA-09-009); Genome Characterization Centers and Genome Data Analysis Centers for The Cancer Genome Atlas Research Network (CA-09-010).

Small Grant Programs

Several small grant program initiatives are stimulating increased interest in the applicant community. These include: the small grant (R03) PARs programs in cancer prevention (PAR-08-055); cancer epidemiology (PAR-08-237); and behavior research in cancer control (PAR-06-458 and PAR-09-003) in support of many new

Figure 5. Technology Initiatives Applications Reviewed* FY 2005 - 2009



*Withdrawn applications are not included. 2009 includes: R21, R33, U01, U24, and U54.

investigators and pilot studies. In FY2008, there were 332 applications submitted in response to the three initiatives (*DEA Annual Report 2008*). In FY2009, those same initiatives attracted 406 applications, a significant increase. An additional 109 R03 applications were submitted under other Program Announcements in FY2009 and reviewed in CSR.

Research and Development Contract Proposals

The DEA SRLB and PCRB reviewed 540 R&D contract proposals (including 382 Loan Repayment Program applications) received in response to 33 RFPs. Of those 33 RFPs, 30 were part of the Omnibus Solicitation for Small Business Innovation Research (SBIR) published each fall (Phase I topics and Phase II topics) (Table 12). During review, several elements of each proposal are individually evaluated and scored, with the combined score indicating the overall merit. After negotiations, contract awards result from the RFP solicitation. Phase II SBIR proposals can be submitted only at the request of the Institute. To facilitate the contract review process, the SRLB has been working with the staff of the Applied Information Systems Branch (AISB) to develop a series of Web-based documents to be used for contract peer review.

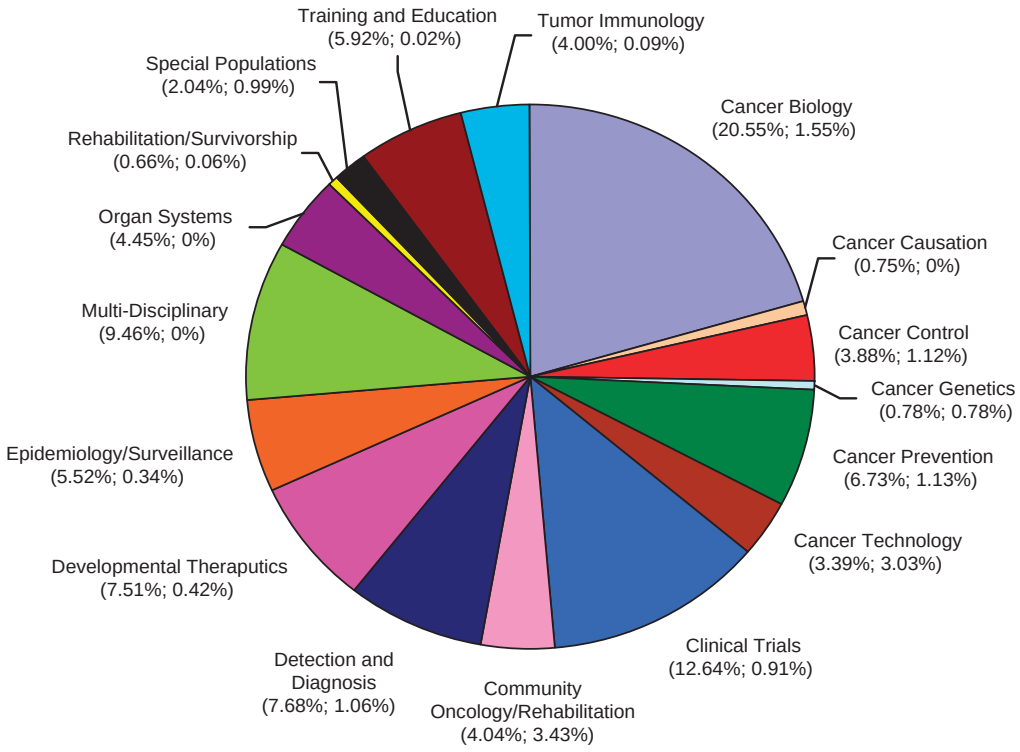
NCI Grant and RFA Funding

The Board of Scientific Advisors (BSA) is responsible for advising the NCI Director on the extramural program and the future direction and funding of each Division's extramural research. As such, it provides concept review for NCI-sponsored RFAs. Figures 6 and 7 show total NCI Grant and RFA funding according to scientific concept area in FY2008 and FY2009. Figure 8 shows RFA concepts that the BSA approved from FY2006 and FY2009 according to the sponsoring NCI Division, Office, and Center.

Table 13 presents a summary of total funding of NCI grant awards by mechanism for FY2009. In Table 14, a comparison is made of the average cost and number of NCI R01, P01, R03, R13, R21, P30, P50, U01, U10, and U19 grants awarded in FY2005 through FY2009 according to the extramural division, center, and office.

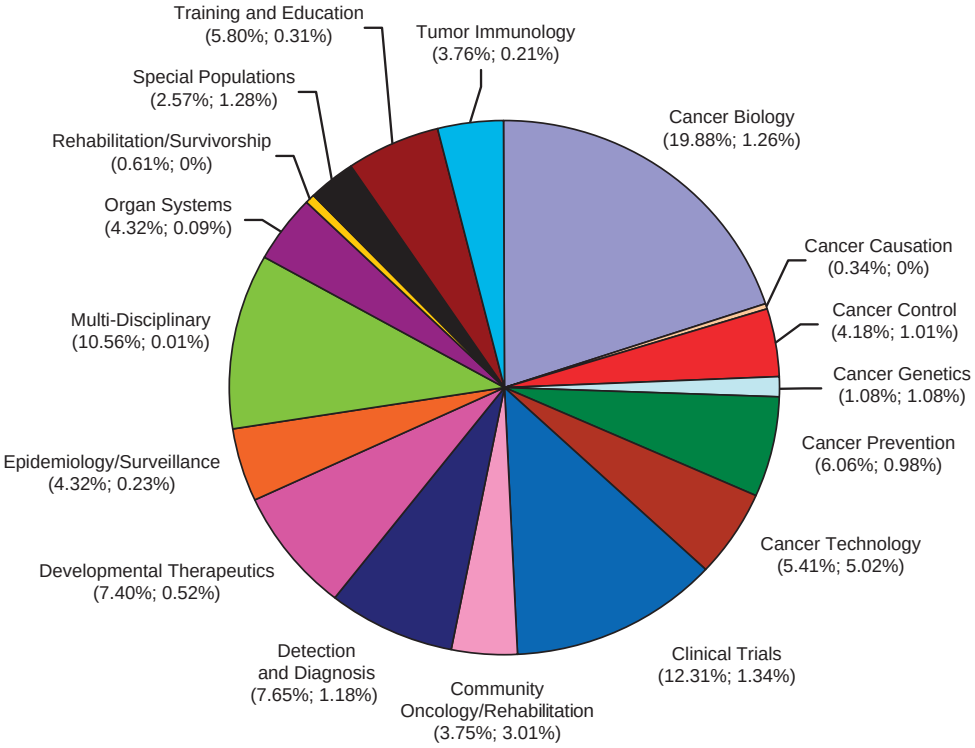
Trends in grant funding according to scientific discipline and organ site are provided in Tables 15 and 16. Table 17 reports NCI's funding of foreign research grants in FY2009, and Table 18 reports foreign components of U.S. domestic research grants in FY2009. **Note:** Some grant awards made during a fiscal year may have been for grant applications reviewed in a prior fiscal year.

Figure 6. NCI Grant and RFA Funding Percentages by Concept Area FY2008



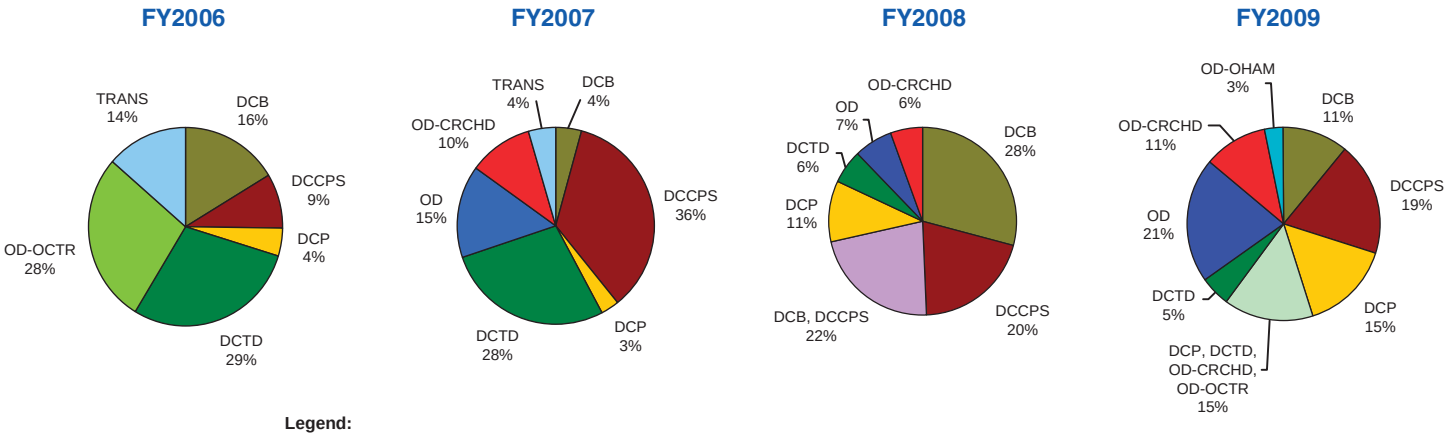
Concept Area (% of Total Funding to Total NCI Grants; % of RFA Funding to Total NCI Grants)
Percents represent Total Funding and RFA Funding for the Concept Area as a percentage of Total NCI Grants.

Figure 7. NCI Grant and RFA Funding Percentages by Concept Area FY2009



Concept Area (% of Total Funding to Total NCI Grants; % of RFA Funding to Total NCI Grants)
Percents represent Total Funding and RFA Funding for the Concept Area as a percentage of Total NCI Grants.

Figure 8. BSA Approved RFA Concept Set-Asides by Division/Office



Legend:

	DCB	Division of Cancer Biology
	DCCPS	Division of Cancer Control and Population Sciences
	DCP, DCCPS	Divisions of Cancer Prevention & Cancer Control and Population Sciences
	DCP	Division of Cancer Prevention
	DCTD	Division of Cancer Treatment and Diagnosis
	OD	Office of Director
	OD-OCTR	Office of Director - Office of Centers, Training, and Resources
	OD-OTIR	Office of Director - Office of Technology and Industrial Relations
	OD-CRCHD	Office of Director - Center to Reduce Cancer Heath Disparities
	OD-OHAM	Office of HIV and AIDS Malignancy
	TRANS	NCI (DCCPS), Trans-NIH

American Recovery and Reinvestment Act

The American Recovery and Reinvestment Act of 2009 (ARRA, i.e., The Recovery Act or The Stimulus Act) is an economic stimulus package enacted by Congress in February 2009. The ARRA stimulus was intended to create jobs, promote investment and consumer spending, and address neglected challenges. The United States (U.S.) Department of Health and Human Services (DHHS) received $145.7 billion of the stimulus funds for a variety of health-related activities, including new programs at the NIH. The NIH received $10.4 billion in ARRA funds for FY2009 and FY2010, of which the NCI received almost $1.3 billion. To advance NCI's strategic vision of accelerating cancer research and advancing innovations that would make a difference in the lives of those affected by cancer, seven objectives were: (1) accelerate and expand cancer research; (2) advance personalized cancer treatment and prevention; (3) redesign informatics infrastructure; (4) revamp the clinical trials system, expand extramural collaborations; (5) strengthen the research workforce; and (6) improve the care and quality of life for cancer patients. To achieve these objectives, ARRA funds were used to increase funding of meritorious grant applications that fell beyond the usual payline (NOT-OD-09-078), provide administrative supplements for equipment, expand research goals to already funded grants (NOT-OD-09-056), significantly expand several onoing NCI programs addressing personalized medicine for cancer, and to participate in several NIH-wide ARRA initiatives. These initiatives were to provide competitive supplements to existing grants based on peer review evaluation (NOT-OD-09-058); the NIH Challenge Grants in Health and Science Research (RC1) (RFA-OD-09-003); Research and Research Infrastructure "Grand Opportunities" (RC2) (RFA-OD-09-004); and Biomedical Research Core Centers to Enhance Research Resources (P30 grants for faculty recruitment)(RFA-OD-09-005). NCI participation in these trans-NIH ARRA RFAs is summarized in **Tables 19** and **24**.

These new initiatives greatly added to the already heavy review workload of the DEA staff, as summarized in **Tables 21** and **22** and **Figures 9** and **10**. The referral staff in PCRB referred all competitive applications assigned to the NCI, including primary and secondary assignments for 4,349 Challenge Grant applications, 603 competitive revisions, 602 Grand Opportunity (GO) applications, and 63 P30 Core Center applications, to the correct NCI program area. This 43.5% increase in the yearly referral workload all occurred in June, July, and August 2009. **Table 20** lists the different types of ARRA solicited applications received by the DEA for referral. Because NCI program staff had a short deadline for nominating GO RC2 applications for primary referral to the NIH Common Fund, the DEA referral staff processed all of the 602 GO applications in less than 2 days, within just a few days of receipt of the applications.

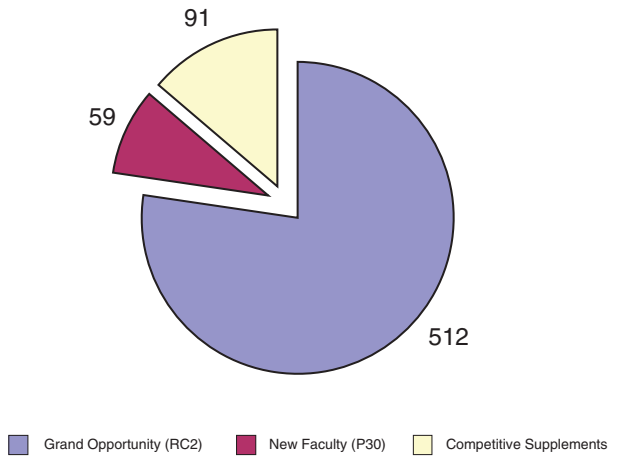
Almost all DEA ORRPC staff contributed to organizing and managing the review of the 662 ARRA applications, including 512 GO, 59 P30, and 91 competitive supplement applications, that were assigned by the NIH for review in the DEA (see **Figure 9**). **Figure 10** shows the number of competitive supplements submitted and reviewed under 15 different mechanisms. The workload entailed setting up 23 NCI separate Special Emphasis Panel (SEP) review meetings in July and August 2009 in addition to DEA's regular review responsibilities for the September 2009 NCAB meeting. Because the receipt dates for the GO, P30, and competitive supplement applications were so late, the review schedule was highly expedited, with about one third of the usual time from receipt of applications to finalizing the summary statements. To ensure that this massive effort ran smoothly, one of the SROs served as the central coordinator for all DEA ARRA review activities.

DEA review staff had to be very proactive in recruiting reviewers so that every application received a full and fair review by individuals with expertise in the research proposed. Efforts to recruit potential reviewers began as soon as the RFAs were announced, well before the application due dates in late May and June. Mass electronic mailings were done in mid-April to approximately 1,200 scientists who had participated in DEA reviews in the past 18 months and to another 800 NCI-funded investigators with research programs related to the topics listed in the NCI GO grant announcements. They were asked to indicate their willingness and availability to participate, if needed, in reviews of ARRA applications on two dates in late July and early August. Almost 1,000 investigators generously agreed to assist and, after eliminating reviewers with conflicts of interest, 446 reviewers were ultimately recruited for participation in one or more of the ARRA review meetings.

SROs also collaborated across ORRPC Branches to sort through the ARRA applications as soon as they arrived, group them appropriately for review, prepare special instructions for the reviewers, and prepare for the review meetings. A series of reviewer orientation teleconferences was held early in July to explain the goals of special ARRA initiatives, the special review criteria for the applications, and the new 1 – 9 NIH scoring scale, which many reviewers were using for the first time.

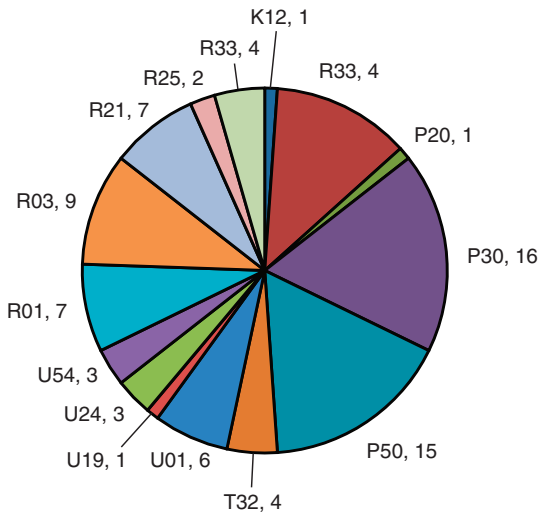
All SROs attended the ARRA review meetings so they could help prepare summary statements. Many of DEA's Extramural Support Assistants in the NIH Division of Extramural Activities Support (DEAS) also volunteered to work many extra hours, including weekends, to insert the reviewers' comments into the summary statement templates immediately after the review meetings and prepare them for editing by the SROs. To facilitate NCI funding decisions and to meet HHS deadlines for processing of ARRA awards, DEA review staff worked collaboratively to complete the summary statements for the top 25% of applications within 7 business days after the end of the review meetings, and the top 50% of the applications within the next 7 business days. The remaining summary statements were completed in time for the September 2009 NCAB meeting. The staff of RAEB scientifically indexed all ARRA funded projects by anatomical site and science areas for FY2009 (Tables 23 and 24).

Figure 9. ARRA Initiatives Reviewed by NCI/DEA in FY2009*



*Number of applications.

Figure 10. ARRA Competitive Supplements Reviewed by NCI/DEA in FY2009* (by grant mechanism)



*Number of applications submitted to FOA OD09-058.

Supporting Peer Review Consultants

Ensuring that highly qualified individuals are available for expert review of grant applications and contract proposals requires an efficient administrative support system. The DEA's Scientific Review and Evaluation Activities (SREA) unit, residing within the NCI **Committee Management Office** (CMO), supports the NCI peer review process by compensating consultants for their services on the NCI IRG subcommittees or SEPs and by reimbursing them for their travel and other expenses (see **Appendixes C** and **D**). The SREA staff also approves and processes payments for other activities related to review, including contract-supported ticketing services and hotel contracts.

The NCI SREA program is a multi-million dollar program. The staff members of CMO continue to oversee the successful reconciliation of peer review costs charged against the SREA account; identify erroneous charges; and keep an extensive tracking sheet on all costs related to approximately 225 peer review associated meetings to successfully manage the budget. The CMO is able to provide the DEA Director with a clear picture of funds spent against the SREA budget throughout the year to ensure there are enough funds to cover all NCI peer review activities.

During FY2009, approximately 2,204 consultants were reimbursed flat-rate payments and honoraria for serving at more than 225 peer review meetings (**Appendix E**). Teleconference meeting costs and airline tickets were paid expeditiously throughout the year, and SREA staff ensured the timely review and approval of 108 hotel contracts and 98 hotel invoices. There were 4,507 instances of honoraria and flat-rate payments to NCI peer review consultants.

Another important aspect of the SREA Program is the reimbursement of reviewers. On May 22, 2008, the SREA program was subjected to a major change, when the General Services Administration (GSA) directed the NIH to discontinue use of the U. S. Treasury Central Contractor Registration (CCR) for electronic disbursement of reviewers' honoraria and reimbursements for expenses incurred during their participation in NIH peer review meetings. NCI peer review consultants who were not registered with CCR or their registration had expired, were issued a check from a government contractor, World Travel Services, Inc. (WTS). In FY2009, there were 428 instances of honoraria and flat-rate payments where WTS issued checks to NCI peer review consultants. These reimbursement checks were sent to the residential mailing address on file in the consultant's electronic Receipt of Applications (eRA) Commons Account.

On January 17, 2009, there was a major change to the reimbursement process when the NIH implemented the use of the Secure Payee Registration System (SPRS). SPRS replaced CCR as the new repository for reviewer data used for electronic disbursement of reviewers' honoraria and reimbursements for expenses incurred during their participation in NIH peer review meetings.

The SREA staff works diligently to ensure reviewers are reimbursed in a timely manner and when appropriate, as well as contacts NCI reviewers regarding unpaid and returned reimbursements. This is done by sending out monthly e-mail alerts to unpaid reviewers after each and every meeting. Once the unpaid reviewer has completed the SPRS registration process, a final e-mail is sent alerting the reviewer of their SPRS registration status; when payment can be expected; and amount of reimbursement. Therefore, the majority of reviewers who attended meetings were registered in SPRS. The SROs have expressed their gratitude to the members of the SREA team for tracking the reviewers' payments and ensuring that they would be reimbursed in a timely manner.

Due to these proactive efforts by the SREA staff, only 47 out of the 4,507 instances of honoraria and flat-rate payments to NCI peer review consultants were not paid in FY2009.

The CMO and SREA programs created new training materials and conducted monthly training sessions for new and current NCI DEAS staff members. These training sessions encompass all facets of the peer review process as it related to the committee management office and SREA (i.e., the importance of Federal Advisory Committee Act [FACA], an overview of NCI advisory committees, pre- and post-committee management meeting activities for NCI peer review meetings, peer review meeting logistics, and the components of the NIH reimbursement process).

The SREA staff use their extensive knowledge of the NIH SREA program to provide guidance and ongoing assistance to NCI review staff and peer review consultants with questions or concerns regarding meeting logistics and the NIH reimbursement process.

The SREA staff collaborates with the Associate Director, ORRPC, NCI DEA Branch Chiefs, CMO, and SROs on the development of NCI SREA policies and procedures. On an ongoing basis, they monitor and evaluate current SREA activities and initiate changes and improvements when warranted. The NCI Committee Management Procedures for Peer Review Meetings training book, which contains detailed guidelines, policies, and procedures for all aspects of SREA activities, is updated as needed. This training book is given to all NCI SROs and extramural support assistants (ESAs) as a reference guide to important CMO and SREA policies and procedures that are imperative to the peer review process and the integrity of NCI's mission.

In FY2009, the NCI SREA Team Lead actively participated in various NIH-wide SREA related working groups such as the BPA Hotel Renewal, NIH SPRS, and IC Hotel Centralization Pilot Program. Such involvement has allowed the NCI SREA staff to provide advice and guidance on the development and implementation of significant changes to the NIH Scientific Review Evaluation Activities Program. The NCI SREA Team Lead received an NIH Director's Award as a result of a CSR nomination for their service on the NIH SPRS Working Group. The citation reads "For outstanding leadership in developing a new NIH Secure Payee Registration System (SPRS) for the NIH Peer Review Community." The NCI SREA Team Lead also received an NIH Merit Award at the 2009 OD Honor Awards Ceremony in recognition of superior achievement in developing and implementing the SPRS into the existing grant review payment process, which minimizes effort duplication and protects secured personal data.

DEA's Role in Advisory Activities

Beyond its central role in coordinating the referral of grants and peer review, perhaps the most far-reaching role the DEA plays across the NCI is the coordination and administration of NCI's 10 chartered Federal advisory committees (see Appendix C). The activities and membership of these advisory bodies are coordinated by the Office of the Director, DEA, and the Committee Management Office, DEA, in consultation with the NCI Director. A primary responsibility of the DEA is coordination of the activities of the NCAB, whose members are appointed by the President and whose responsibilities include conducting the second-level review of grants and cooperative agreements, as well as advising the NCI Director on policy for the conduct of the National Cancer Program. The DEA also coordinates administration of the Board of Scientific Advisors (BSA), the body responsible for the oversight and concept review of the extramural programs and initiatives of the NCI. Under the various chartered committees, working groups are formed to address and make recommendations on several important areas of cancer research related to basic research, clinical trials, diverse populations, cancer advocacy, treatment, cancer control, drug development, prevention, communication, education, and so on. As such, the DEA plays a major role in the development and issuance of PAs, PARs, and RFAs, the major extramural program initiatives used by the NCI to fund extramural research. The DEA Director serves as Executive Secretary to the NCAB and to the BSA. (See Appendixes B and C for highlights of the activities of these Boards in FY2009 and Appendix D for a list of chartered committee members.)

Major NCI Advisory Bodies Administered by the DEA

National Cancer Advisory Board (NCAB). NCI's principal advisory body is the Presidentially appointed NCAB. The Board advises the Department of Health and Human Services (HHS) Secretary and the NCI Director on issues related to the entire National Cancer Program and provides a second level of review for grant applications referred to the NCI and for the Food and Drug Administration (FDA) (see Appendix A).

President's Cancer Panel (PCP). The PCP consists of three members appointed by the President, who by virtue of their training, experience, and background are exceptionally qualified to appraise the National Cancer Program. At least two members of the Panel are distinguished scientists or physicians, and the third member is a nationally recognized cancer research advocate. The Panel monitors the development and execution of the activities of the National Cancer Program, and reports directly to the President. Any delays or hindrances in the rapid execution of the Program are immediately brought to the attention of the President.

Board of Scientific Advisors (BSA). The BSA represents the scientific community's voice in NCI-supported extramural science. The Board, composed of distinguished scientists from outside the NCI and representatives from the advocacy community, advises the NCI leadership on the progress and future direction of the Institute's Extramural Research Program. The Board evaluates NCI extramural programs and policies, and reviews concepts for new research opportunities and solicitations, to ensure that a concept is meritorious and consistent with the Institute's mission (see Appendix B).

The NCI and BSA believe it is important to interact with and receive feedback from the clinical, population science, and laboratory research communities that are affected by NCI policies. To this end, the BSA established "NCI Listens" sessions at national cancer relevant meetings. Prior to 2009, BSA and NCI staff members invited conference participants to join them for

NCI Advisory Boards

Members of the NCAB

NCAB Retirees

Retiring NCAB Chair, Dr. Carolyn Runowicz, and Dr. Niederhuber

Retiring NCAB member, Mr. David Koch, with Drs. Niederhuber (L) and Runowicz (R)

NCAB Retirees

Retiring NCAB member, Dr. Diana Lopez, with Drs. Niederhuber (L) and Runowicz (R)

Retiring NCAB member, Dr. Daniel Von Hoff, with Drs. Niederhuber (L) and Runowicz (R)

BSA New Members

BSA member, Dr. Jeffrey Drebin

BSA member, Dr. Joshua LaBaer

BSA New Members

BSA member, Mr. Don Listman

BSA member, Dr. Frank Torti

NCI Advisory Boards (continued)

BSA New Members

New BSA Chair, Dr. Richard Schilsky

BSA Retirees

Retiring BSA Chair, Dr. Robert Young, and Dr. Niederhuber (L)

BSA Retirees

Retiring BSA member, Dr. Kirby Bland, with Drs. Niederhuber (L) and Young (R)

Retiring BSA member, Dr. Leland Hartwell, with Drs. Niederhuber (L) and Young (R)

BSA Retirees

Retiring BSA member, Ms. Ellen Sigal, with Drs. Niederhuber (L) and Young (R)

Retiring BSA member, Dr. Jane Weeks, with Drs. Niederhuber (L) and Young (R)

these sessions. A brief presentation was given by NCI staff emphasizing the status of grant funding, the Bypass Budget, and the status of several new initiatives. The brief presentation was followed by an open question-and-answer period. The NCI was committed to providing a written response to the scientific society hosting the meeting concerning issues raised during the session. The BSA hoped that conference participants would take advantage of the opportunity to present any ideas or concerns that they might have had. Frequently asked questions and answers are posted at http://deainfo.nci.nih.gov/advisory/bsaminmenu.htm.

Boards of Scientific Counselors (BSCs) for Basic Sciences, and for Clinical Sciences and Epidemiology. The two BSCs, managed through the Office of the Director (OD), NCI, advise the Institute leadership on the progress and future direction of NCI's Intramural Research Program residing in the Center for Cancer Research (CCR) and the Division of Cancer Epidemiology and Genetics (DCEG). These groups of scientific experts from outside the NCI evaluate the performance and productivity of NCI staff scientists through periodic site visits to intramural laboratories and provide evaluation and advice on the course of research for each Laboratory and Branch.

Advisory Committee to the Director (ACD), NCI. The ACD advises and makes recommendations to the Director, NCI, for the oversight and integration of various planning and working groups serving the broad programmatic and institutional objectives of the Institute. The Committee serves as the official channel through which the findings and recommendations emerging from these groups are submitted to the NCI. The Committee may consider the reports of the various working groups as informational, advisory, or as recommendations, and provides the NCI with assistance in identifying opportunities to be pursued within the areas of cancer research that cut across the intramural and extramural NCI programs. The Committee consists of the Director, NCI, as Chair, and chairpersons of the NCAB, PCP, BSCs (Basic Sciences, and Clinical Sciences and Epidemiology), BSA, and DCLG. Nonvoting *ex officio* members include NCI Deputy Directors and the Director, DEA, NCI.

Director's Consumer Liaison Group (DCLG). The DCLG advises the Director, National Cancer Institute (NCI), with respect to promoting research outcomes that are in the best interest of cancer patients. To this end, the DCLG will conduct these activities with the intent to identify new approaches, promote innovation, recognize unforeseen risks or barriers, and identify unintended consequences that could result from NCI decisions or actions. Additionally, the DCLG will provide insight into enhancing input, optimizing outreach, and promoting strong collaborations, all with respect to non-scientist stakeholders.

Clinical Trials and Translational Research Advisory Committee (CTAC). The CTAC advises and makes recommendations to the Director, NCI, NCI Deputy Directors, and the Director of each NCI Division on the NCI-supported national clinical trials enterprise to build a strong scientific infrastructure by bringing together a broadly developed and engaged coalition of stakeholders involved in the clinical trials process. In addition, the Committee makes recommendations regarding the effectiveness of NCI's translational research management and administration program, including needs and opportunities across disease sites, patient populations, translational developmental pathways, and the range of molecular mechanisms responsible for cancer development. CTAC also will advise on the appropriate magnitude for dedicated translational research priorities and recommend allocation of translational research operations across organizational units, programs, disease sites, populations, developmental pathways, and molecular mechanisms. This responsibility encompasses oversight of all trials, both extramural and intramural. The Committee provides broad scientific and programmatic advice on the investment of taxpayer dollars in clinical trials and supportive science.

NCI Initial Review Group (IRG). The IRG, composed of six active subcommittees, reviews grant and cooperative agreement applications for centers, clinical cooperative groups, research projects, and research training activities in the areas of cancer cause, diagnosis, treatment, and prevention. Members may be appointed as standing committee members with overlapping terms of up to 6 years, or as "temporary" members with all the rights and obligations of committee membership, including the right to vote on recommendations in which the individual fully participated as a reviewer for a specific meeting. Consultants also may be invited to serve as special experts or *ad hoc* members to provide information or advice. These individuals generally serve on site visit groups or work groups providing critical information to the chartered advisory subcommittees responsible for initial peer review.

NCI Special Emphasis Panels (SEPs). The SEPs advise the Director, NCI, and the Director, DEA, regarding research grant and cooperative agreement applications, contract proposals, and concept reviews relating to basic and clinical sciences, and applied research and development programs of special relevance to the NCI. Membership of a SEP is fluid, with individuals designated to serve for individual meetings rather than for fixed terms. These individuals have all of the rights and obligations of committee membership, including the right to vote on recommendations.

Committee Management Activities

The **Committee Management Office** (CMO) coordinates the general administration of NCI's chartered Federal advisory committees and serves as a Service Center to both the HHS Secretary's Advisory Committee on Genetics, Health, and Society, which is administered through the Office of the Director (OD), NIH, and to the NIH Center for Complementary and Alternative Medicine (NCCAM). The CMO provides advice related to the provisions of the Federal Advisory Committee Act (FACA) and other Federal, HHS, and NIH regulations for NCI staff who manage advisory committees and ensures that NCI and NIH staff comply with Federal advisory committee policy. Additionally, the OD, DEA, and the CMO provide guidance and information to staff and external groups on specific NIH policies related to the operation of working groups and *ad hoc* consultants operating under the direction of some of NCI's chartered Federal advisory committees. NCI working groups provide scientific expertise through chartered committees to the NCI Director and Division Directors on a range of matters related to the National Cancer Program. The Office works closely with the other DEA offices to: coordinate activities with NCI advisory committees; implement policies and procedures designed to avoid conflicts in the nomination and selection of board members; implement policies and procedures to ensure compliance with HHS and NIH regulations governing the operation of chartered advisory bodies; advise on issues related to conflicts of interest, selection, and recruitment of viable committee members, and management of committee records; provide logistical support for NCAB and BSA meetings; and facilitate reimbursement of committee member expenses.

Some highlights of FY2009 CMO activities include:

- The NCI Committee Management Office continued to provide expert advice to the Director, NCI, and the Deputy Director, NCI, and other senior-level Institute/Center staff on all rules, regulations, guidelines, policies, procedures, etc., of FACA. This included accurate advice and sound guidance to NCI/NCCAM/SACGHS (Secretary's Advisory Committee on Genetics, Health, and Society) senior staff officials on matters pertaining to legal directives for the management and stewardship of 20 chartered advisory committees. In addition, the Committee Management Officer and her staff successfully oversaw the planning of four National Cancer Advisory Board meetings, three Board of Scientific Advisors meetings, numerous other NCI Board meetings, subcommittees, and work groups as well as three NCCAM Council meetings and three SACGHS meetings.

- As a service center for the NIH OD and NCCAM, the CMO continued to provide exceptional service to these Client-Institutes on the management of their Federal advisory committees.

- In 2009, the NIH Office of General Counsel informed NCCAM that an audit of their Special Government Employee Conflict of Interest files would be conducted in November 2009. The CMO oversaw the preparation of this review to ensure that a successful audit would be achieved.

- The CMO reviewed the *DEA Consumer Guide*, the *NCAB Orientation* book, and the *BSA Orientation* book.

- The CMO provided extensive training to SROs and DEAS staff throughout the year on various facets of committee management (i.e., FACA, CM IMPAC II Module, and SREA activities). Training included how to properly code meeting attendees in the CM Module, several Brown Bag meetings on advisory committee female/minority and other statistical data, hotel contracts

and Blanket Purchase Agreements, DEAS staff orientation, pre- and post-peer review meeting activities, the new Secure Payee Reimbursement System (SPRS) peer review reimbursement system, etc. The CMO also participated in the DEA SRO Retreat giving a presentation on recent changes in committee management as well as a FACA overview.

- The CMO met with the ORRPC Associate Director on several occasions to discuss SREA issues and met with several Executive Secretaries to orient them on their roles and responsibilities related to the advisory committees and discuss the polices and procedures. The CMO also participated in several conference calls to discuss various topics, such as NIH Ethics procedures for Special Government Employees (SGEs).

- The CMO also responded to several Freedom of Information Act (FOIA) requests, initiated a clean-up of SEP female/minority data, and provided oversight for the travel of many Board members to the Principal Investigators' Retreat.

- The CMO orchestrated several Brown Bag sessions for DEA staff. In particular, they had Premiere Global Services, the teleconference company used for NCI peer review meetings, provide an overview of their services and review their pricing in detail.

- The CMO participated in the NIH CSR SREA Hotel Centralization Pilot meeting to discuss concerns and map out procedures that CSR will follow when reviewing and invoicing NCI peer review hotel contracts. Additionally, the CMO participated in the CM J2EE testing of the new CM Module.

- The CMO continued to provide exceptional leadership for all SREA activities ensuring that 4,507 NCI peer reviewers were paid expeditiously and all peer review meeting costs were tracked appropriately to provide the DEA Director with budget estimates for FY2009.

- The CMO also oversaw 23 ARRA SEP/IRG meetings to ensure hotel contracts and invoices were processed expeditiously and reviewer reimbursements were completed as well so that the close out of ARRA dollars could be achieved by September 30, 2009.

- SREA staff participated in an NIH work group tasked with developing guidelines and procedures to be sent out of more than 30,000 peer review consultants giving them instructions on registering for electronic reimbursement through a new system. The CMO reviewed the instructions and provided comments and concerns to the NIH SREA Transition team regarding the new SPRS system. This payment system is used by the peer review community as they enter their banking data so that electronic reimbursement can be done expeditiously.

Other activities included:

- Participated in numerous meetings throughout the year providing expert advice on working groups, FACA, and SGE rules and regulations.

- Responded to requests from senior NCI and Client staff on various non-FACA meetings and working group concerns.

- Continue to provide a standard training plan for DEAS staff on committee management and SREA activities. With this plan in place, DEAS staff members now have regularly scheduled training on committee management and SREA activities throughout the year.

The CMO is critical to the continued success of all NCI FACA activities, including Boards, Advisory Committees, working groups, review panels, etc.

Portfolio Tracking and Analysis

The DEA's **Research Analysis and Evaluation Branch** (RAEB) is the officially designated contact for scientific information on NCI-supported research. The NCI needs consistent budget-linked scientific information across all of its scientific programs to analyze the Institute's portfolio, make budget projections, and disseminate information about cancer. The DEA conducts analyses to project future NCI research expenditures and to provide budget justifications to Congress. The work of the RAEB allows the DEA to respond immediately to requests for information from NCI staff, the broader NIH community, and requesters nationally and worldwide regarding the NCI Funded Research Portfolio (http://fundedresearch.cancer.gov). The RAEB reviews both unfunded applications and funded extramural grants supported by the NCI to consistently link scientific categories to budget categories on all Institute programs. These capabilities are based on a sophisticated system of indexing, in which research documentation staff analyze grant applications to classify each project for its degree of relevance to Special Interest Category (SIC) and Organ Site Codes (SITE). SIC Codes are meant to describe in a consistent way the major scientific disciplines that are of stated or growing interest to the NIH, HHS, Congress, and the public. A critical characteristic of these data is comparability from one fiscal year to the next. Trends in funding from FY2005 through FY2009 for selected organ sites and SIC Codes are presented in Tables 15 and 16. RAEB staff act as DEA or NCI representatives on NCI or NIH-wide scientific reporting initiatives. These groups and committees deal with various aspects of NIH grants and contracts or tracking and reporting on areas of special interest to the NIH, NCI, and/or Congress.

FY2009 Highlights

- Provided information to numerous requesters.
- Indexed and coded nearly 16,000 funded and unfunded applications.
- Supported the NCI Funded Research Portfolio (NFRP) Web Site by providing scientific indexing for NCI-funded extramural projects (http://fundedresearch.cancer.gov).
- Initiated scientific indexing of multiproject grants by subproject.
- Continued coordination with the NCI Office of Budget and Finance (OBF) to update and align budget reporting categories.
- Served as the NCI lead group for the NIH Research, Conditions, and Disease Categorization (RCDC) Initiative.
- Chaired the NCI Accrual Working Group to prepare data for biennial reporting of NCI compliance with Congressional Health Disparities reporting requirements, and represented the NCI on the NIH Population Tracking and Inclusion Committee.
- Two staff members received NIH Merit Awards "in recognition of exceptional contributions to monitoring compliance with the NIH policy on the inclusion of women and minorities as subjects in clinical research."
- Initiated data quality comparison checks with DCTD program staff for RAEB multiproject clinical trials coding.
- Under the direction of the NCI Clinical Trials Working Group, conducted a pilot study for disease coding of Translational Research.
- Supports the ICR Partners (ICRP), a group of international cancer funding organizations, by coding NCI extramural projects to the common scientific outline (CSO) and participating in the ICRP.
- Tracked extramural research by foreign research institutions and extramural NCI research grants with a foreign research component.
  - In FY2009, the NCI allocated $24.4 million to support 73 grants received by foreign research institutes. These foreign grants are listed by country, mechanism, and total funding support in Table 17.
  - In FY2009, the NCI supported 251 U.S. domestic grants with 382 foreign components. These grants are listed in Table 18 by country, mechanism, and number of grants. Because many grants have multiple foreign contributors, the total count is greater than the total number of grants.

Information Resources Management

The **Applied Information Systems Branch** (AISB) provides integrated computer support, information technology expertise, and information systems development for the DEA. The AISB maintains and monitors the DEA Internet and Intranet Web sites; designs, develops, and maintains Division-specific software applications; administers and maintains various DEA servers; provides helpdesk support; provides oversight of hardware and connectivity; and serves as a liaison with the NIH Center for Information Technology (CIT) and the NCI Center for Biomedical Informatics and Information Technology (CBIIT). Its mission is critical to the Division in communicating current information technology activities and new developments to all components of the NCI and NIH as well as to external reviewer and applicant communities.

DEA's Information Technology and Information Systems contracts are managed by the AISB. The AISB has a computer support team to track staff requests, manage the Division's computer equipment inventory, and provide computer-related training, as needed. Specific projects utilizing the technologies and services provided by the AISB are described under the appropriate functions of the DEA throughout this report. For FY2009, specific AISB accomplishments are highlighted below.

System Administration and Desktop Support

- Installed and configured new servers for: additional backup and restore capability; Subversion application installation for software code development version control management; Microsoft SharePoint Services for testing SharePoint functionality and managing share files; DEA application and database production services for separating production from test and development environments; Fiscal Linked Analysis of Research Emphasis (FLARE) application production and development server migration and upgrade; and DEA print services to alleviate contention from existing development and testing environments.
- Upgraded DEA server room environment, security, and power capability with the installation of: a new temperature and humidity monitoring system; swipe card panel to restrict access; and new rack-mounted power distribution units to disperse power loads more efficiently and a 220 volt circuit for special server needs.
- Worked with CBIIT staff to identify and correct problems with Federal Desktop Core Configuration Compliance (FDCC) settings and pilot the rollout of Privilege Manager for administrator rights removal for desktop computers.
- Completed IT security configuration standards for all four FLARE servers in preparation for Certification and Accreditation (C&A).

Major DEA Internet/Intranet Development

- Restructured all major categories and sections on the DEA Intranet site. Revised and reorganized the "Funding Opportunities" pages on the DEA Internet site.
- Completed compilation of DEA Internet/Intranet Logs Reports to the internal Web site.
- Developed mockups for the redesign of the DEA Internet Web site.

Application Development Projects

- Deployed the BSA Concepts Review Reports application.
- Implemented modifications to the IRG Reports to accommodate and identify American Recovery and Reinvestment Act (ARRA) grant applications.
- Redesigned and renamed RFA/PA Reports to FOA (Funding Opportunity Announcement) Reports.

- Redesigned the Initial Review Group (IRG) Reports.
- Redesigned the Reviewer CD (now Review Material Preparation [RevPrep]) application employing the CIT Secure Email Transfer utility.
- Redesigned the Formula Coding application.
- Redesigned the Concepts to Award Tracking System (CATS) Web Site and added additional features.
- Developed a roadmap for the redesign of the Electronic Early Concurrence (EEC) application to better integrate with DEA systems infrastructure.

In addition to the development and/or redesign of applications, AISB staff implemented and performed training sessions for users for Formula Coding and RevPrep applications as well as for Adobe Connect and SharePoint collaborative software. AISB staff also performed training for Blackberry users.

Development and Support of Software Applications for the Research Analysis and Evaluation Branch's (RAEB) Scientific Coding and Analysis

- Coordinated user support, application enhancement and environment management, scientific coding data management, dissemination and reporting for the Fiscal Linked Analysis of Research Emphasis (FLARE) application. Major enhancements included: improvement in the capability of the Quick Search Query Module; addition of the PI Coding Folder; and enhancement of the Coding Module.
- Provided support for DEA Research Conditions Disease Coding (RCDC) staff that included investigation, data comparison, and validity testing of RCDC data in concert with FLARE and IMPAC II data.
- Provided enhancement, user training, and support of the I2E Program Coding (I2E PC) application.
- Managed and coordinated special coding and data requirements for ARRA grants and contracts and IMPAC II subproject data.
- Met the deadline for deploying selected enhancements for the NCI Funded Research Portfolio (NFRP) application for announcement in the *NCI Cancer Bulletin* for the October 21, 2008, issue.

AISB Staff Involvement

AISB staff were involved with many NCI and NIH information systems and information technology groups and organizations, including:

- NCI Change Management Group
- NCI Office and Division IT Contacts Group
- NCI Research, Condition, and Disease Categorization (RCDC)—Power Users Group
- NCI Science Management Workspace (formerly Institute Information Systems Advisory Group)
- NIH CIT Architecture Review Board
- NIH Electronic Council Book and Query View Reporting Steering Committee
- NIH eRA RCDC Data Analysis Working Group/Power User Group
- NIH eRA Review Users Group (RUG)
- NIH eRA Subproject Re-engineering Focus Group
- NIH eRA Technical Coordinators Group.

Organizational Structure of the Division of Extramural Activities

Office of the Director

- Directs and administers the operations of the Division, including those activities relating to grant review and administration, contract review, and Advisory Committee and Board activities.
- Directly coordinates and manages the NCAB and the BSA.
- Coordinates coding of NCI's grant portfolio.
- Initiates, coordinates, and implements Institute policies and procedures relating to grants and contracts reviews.
- Oversees the NCI's Committee Management Office.
- Implements NCI policies regarding extramural research integrity.
- Advises the Executive Committee, NCI, on extramural guidelines, review, advisory activities, and implementation strategies.
- Coordinates NCI extramural staff training requirements with the NIH.
- Represents the NCI on the NIH Institute-wide Extramural Program Management Committee (EPMC) with responsibility for development of extramural policy and procedures across all NIH Institutes and Centers.
- Oversees inclusion of gender, minority, and children.
- Serves as NCI Research Integrity Office.
- Coordinates, develops, and implements extramural policy.

Paulette Gray, Ph.D. ..... Director
Vacant ..... Deputy Director
Cedric Long, Ph.D. ..... Assistant Director
Patricia Marek, M.B.A. ..... Special Assistant to the Director
Barbara Hider ..... Secretary
Judi Ziegler ..... Secretary
Justin Rhoderick* ..... Management and Program Assistant

*Transferred to OEA in 2009.

Committee Management Office, OD

- Coordinates functionally related Federal advisory committee activities across the Institute and its client-Institutes. The office manages NCI advisory committees, an HHS committee, and three National Center for Complementary and Alternative Medicine (NCCAM) committees to ensure that appropriate policies and procedures are in place to conduct the designated mission of each committee.
- Acts as a Service Center to provide advisory committee policy and management services to the Office of Biotechnology Activities, Office of the Director, NIH, and the NCCAM.
- Provides policy guidance to the NCI and client-Institute staff on administrative and technical aspects of Federal advisory committees; coordinates activities with all other NCI advisory committees; implements policies and procedures designed to avoid conflicts in the nomination, selection, and recruitment of board members; implements CM Module guidelines and procedures to ensure that all committee-related data are correctly entered into the database for preparation and submission of required annual reports to the President of the United States, HHS, and NIH; provides logistical support for NCAB and BSA meetings, subcommittees, and work groups; and facilitates NCAB and BSA committee-related travel.
- Provides administrative support for the peer review system by: compensating consultants for their services on NCI IRG subcommittees and SEPs; reimbursing consultants for travel and other expenses; and approving and processing payments for other activities related to review such as hotel contracts and teleconferencing.

Claire Harris ..... **Committee Management Officer**
Andrea Collins ..... **Deputy Committee Management Officer**
Linda Southworth ..... **Senior Committee Management Specialist**
Malaika Staff ..... **Senior Committee Management Specialist**
Natasha Copeland ..... **Committee Management Specialist**
Hing Lee ..... **Committee Management Specialist**
Alonda Lord ..... **Committee Management Specialist**
Ricardo Rawle ..... **Committee Management Specialist**
Kate Reardon* ..... **Committee Management Specialist**
Kimberly Taylor* ..... **Committee Management Specialist**

*Joined in 2009.

Office of Referral, Review, and Program Coordination

- Coordinates program concept development; publication functions; and receipt, referral, and assignment of all NCI applications.
- Coordinates review activities of the SRLB, RTRB, RPRB, and PCRB.

David Maslow, Ph.D. ..... **Associate Director**
Catherine Battistone ..... **Program Analyst**
Linda Brown ..... **Program Specialist**
Linda Coleman ..... **Committee Management Specialist**

Special Review and Logistics Branch

- Plans, manages, and assists in the scientific merit review of special grant and cooperative agreement applications (received in response to RFAs and PARs) and the technical merit review of contract proposals (received in response to RFPs).
- Identifies and recommends appropriate review committee members and site visitors, as required for the review of assigned applications and proposals.
- Provides the SROs and other support staff for the technical review committees.
- Serves as the information and coordination center for all grant applications and contract proposals pending review by the Branch.
- Provides input and advice on grant and contract review policy and procedures, application and proposal patterns, and research trends and other related information, as required.
- Coordinates second-level review activities of the NCAB with staff of other NCI Divisions, other Branches of the Division, and the Office of Grants Administration.
- Provides logistical support for primary- and second-level review activities in support of other Division and Institute units.

Kirt Vener, Ph.D. ..... **Chief**
Thomas Vollberg, Ph.D. ..... **Deputy Chief**

Special Review Unit

Kenneth Bielat, Ph.D. ..... **Scientific Review Officer**
Jeffrey DeClue, Ph.D. ..... **Scientific Review Officer**
Sherwood Githens, Ph.D. ..... **Scientific Review Officer**
Irina Gordienko, Ph.D. ..... **Scientific Review Officer**
C. Michael Kerwin, Ph.D., M.P.H.† ..... **Scientific Review Officer**
Gerald Lovinger, Ph.D. ..... **Scientific Review Officer**
Savvas Makrides, Ph.D.* ..... **Scientific Review Officer**
Rhonda Moore, Ph.D.† ..... **Scientific Review Officer**
Thu Nguyen ..... **Program Analyst**
Lalita Palekar, Ph.D. ..... **Scientific Review Officer**
Joyce Pegues, Ph.D. ..... **Scientific Review Officer**
Marvin Salin, Ph.D. ..... **Scientific Review Officer**
Viatcheslav Soldatenkov, Ph.D.* ..... **Scientific Review Officer**
Adriana Stoica, Ph.D.* ..... **Scientific Review Officer**

Review Processing and Distribution Unit

Adrian Bishop ..... **Mail and File Clerk**
Sanjeeb Choudhry ..... **Mail and File Clerk**
Robert Kruth ..... **Mail and File Clerk**
Clara Murphy ..... **Program Assistant**

*Joined in 2009.
†Left in 2009.

Program Coordination and Referral Branch

- Serves as the information and coordination point within the NCI for the development, clearance, publication, and tracking of all NCI extramural program (funding) initiatives, which include all RFAs, PAs, and Notices submitted for publication in the *NIH Guide for Grants and Contracts*, and also on Grants.gov, which is a Federal-wide online portal for electronic submission of grant applications.
- Coordinates the development and periodic revision of referral (i.e., application assignment) guidelines within the NCI for both external and internal use.
- Coordinates the development of shared (referral) interest statements with other NIH Institutes and Centers (ICs) so that grant applications of possible or real mutual interest can be properly assigned for receipt, review, and/or funding.
- Serves as liaison to the Center for Scientific Review (CSR), NIH, to ensure the appropriate referrals (i.e., assignments) of grant applications to the Institute and the transfers of grant applications between the NCI and other NIH ICs.
- Refers new (Type 1) applications to the appropriate cancer activity area(s) according to the NCI Internal Referral Guidelines that define the program interests of each of the 50 cancer activity areas (which typically represent program branches in the NCI extramural divisions).
- Semi-automatically refers amended and competing continuation (Type 2) applications to the cancer activity area that accepted the previously submitted application (with quality control measures performed to ensure the accuracy of referrals).
- Coordinates requests from program staff for application status changes (including corrections of application assignments and numbers, which is done in collaboration with NCI program staff, CSR referral staff, and referral staff of other ICs and agencies) and for acceptance of grant assignments.
- Serves as the NCI contact point and liaison to involved parties at the NIH for approval of the use of cooperative agreement mechanisms and for conversion of grants to cooperative agreements.
- Works with NCI program and review staff and with NIH referral liaisons to address unresolved referral and review issues with the CSR and other NIH ICs.
- Receives and distributes advance copies of applications to review and program staff.
- Receives Letters of Intent from applicants (principal investigators) intending to submit large budget grants (including, but not limited to, program projects and cooperative agreements for clinical trials).
- By handling communications with applicants and NCI program staff members, coordinates approvals (and disapprovals) of the NCI to sponsor the submission of individual conference (R13) grant applications.
- Serves as the primary point of contact and assistance at the NCI for applicants who want to apply for an Academic Research Enhancement Award (i.e., the NIH R15 grant mechanism).
- Processes and tracks requests for submissions of large-budget grant applications that allow them to be received at the NIH, peer reviewed, and possibly awarded by the NCI.
- Maintains database records of prospective large-budget grant and conference grant applications for each council round.
- Serves as the primary NCI information and referral point for the extramural scientific community on a broad range of subjects, including grant guidelines, application information, new initiatives announced as RFAs or PAs, and the review process.
- Assists the extramural community in navigating the NIH and NCI Web pages to help users obtain current information, forms, and guidelines.

- Directs applicants to the appropriate SROs and Program Directors for information regarding the status of the review and award of their grant applications.
- Tracks and analyzes trends of CSR referral to study sections and resultant review outcomes.
- Provides data and data analyses on funding opportunities and on the receipt and referral of grant applications to NCI senior staff members and committees.

Christopher L. Hatch, Ph.D. ..... Chief
David Contois..... Referral Officer, NCI/NIH Referral Liaison
Anandarup Gupta, Ph.D..... RFA/PA Coordinator, Scientific Review Officer
Leota Hall..... Referral Officer, NCI/NIH Referral Liaison
Natacha P. Lassègue..... Program Analyst
Kimberly Morris ..... Program Support Assistant
Bratin Saha, Ph.D. ..... Referral Officer, Scientific Review Officer
Jan Woynarowski, Ph.D. ..... RFA/PA Coordinator, Scientific Review Officer

Research Programs Review Branch

- Plans, coordinates, and manages the scientific merit review of program project grants, specialized centers, and other grant mechanisms, as necessary, by chartered review committees and Special Emphasis Panels.
- Arranges for and participates in onsite assessments of the research capabilities and facilities of selected applicants.
- Identifies and recommends appropriate review committee members and site visitors, as required, for the review of assigned applications.
- Provides input and advice on grant review policy and procedures, application patterns, research trends, and other related information, as required.
- Coordinates grant review activities with staff of other NCI Divisions and other DEA Branches.

Olivia Bartlett, Ph.D. ..... Chief
Virginia Wray, Ph.D. ..... Deputy Chief
Shakeel Ahmad, Ph.D. ..... Scientific Review Officer
Monica Congo ..... Program Specialist
Majed Hamawy, Ph.D., M.B.A. ..... Scientific Review Officer
Wlodek Lopaczynski, M.D., Ph.D. ..... Scientific Review Officer
Caron Lyman, Ph.D. ..... Scientific Review Officer
Michael Small, Ph.D. ..... Scientific Review Officer
Shamala Srinivas, Ph.D. ..... Scientific Review Officer
Peter Wirth, Ph.D. ..... Scientific Review Officer

Resources and Training Review Branch

- Plans, coordinates, and manages the scientific merit review of cancer center, clinical cooperative group, training, education, and career development grant and cooperative agreement applications by chartered review committees and Special Emphasis Panels.
- Arranges for and participates in onsite assessments of the research capabilities and facilities of selected applicants.
- Identifies and recommends appropriate review committee members and site visitors, as required, for the review of assigned applications.
- Provides input and advice on grant review policy and procedures, application patterns, and research trends and other related information, as required.
- Coordinates grant review activities with staff of other NCI Divisions, other DEA Branches, and the Center for Scientific Review.

Robert E. Bird, Ph.D. ..... **Chief**
Lynn Amende, Ph.D. ..... **Scientific Review Officer**
Gail Bryant, M.D. ..... **Scientific Review Officer**
Jeannette Korczak, Ph.D. ..... **Scientific Review Officer**
Ilda McKenna, Ph.D. ..... **Scientific Review Officer**
Timothy Meeker, M.D. ..... **Scientific Review Officer**
Sonya Roberson, Ph.D. ..... **Scientific Review Officer**
Denise M. Santeufemio ..... **Program Specialist**

Office of Extramural Applications

- Coordinates activities of the RAEB and AISB.
- Provides budget-linked research portfolio data and coordinates the information management of extramural NCI-supported research.

Amir Sahar-Khiz, M.S., M.B.A. ..... **Associate Director**
Justin Rhoderick* ..... **Program Analyst**

*Joined in 2009.

Research Analysis and Evaluation Branch

- Serves as the Institute's officially designated, centralized source of scientific information and science-based budget information on NCI-supported research.
- Analyzes and classifies the science content of all Institute-supported research projects.
- Analyzes the distribution of funds among research areas; these analyses serve as a basis for budget projections.
- Reports and answers inquiries on the scientific and budgetary aspects of Institute-funded research, including research grants, center grants, training grants, and research contracts.
- Maintains liaisons with other organizations involved in related classification activities.
- Documents the need for proposed RFAs by comparing RFA concepts with existing NCI-supported research and with unsolicited applications.

Marilyn Gaston ..... **Branch Chief**
Edward Kyle ..... **Deputy Branch Chief**

Research Documentation

- Analyzes and indexes grants and contracts for the Branch's computerized systems.
- Analyzes extramural projects for relevance to SICs and Anatomic Sites to determine the officially reported figures for Institute support and to provide a basis for budget projections.
- Maintains liaison with other offices within the Institute to ensure consistent reporting of data.
- Monitors the results of Institute grant-supported research.
- Assists other NCI organizations by indexing NCI research projects for attributes other than SICs and Sites, for example, Common Scientific Outline (CSO) Codes and AIDS Categories.

Edward Kyle..... Lead Biologist/Team Leader
Beth Buschling ..... Biologist
Beverly Johnson, M.S. ..... Biologist
Ernestyne Watkins, M.S. ..... Biologist
Bernard Whitfield ..... Biologist
Tyrone Wilson..... Biologist

Technical Operations, Inquiry, and Reporting

- Provides specialized data querying, archiving, and reporting functions for the Division and the Institute.
- Coordinates Institute data reporting with the NCI Office of Budget and Financial Management, NIH Population Tracking and Inclusion Committee, and others.
- Answers inquiries from Congress, the public, the press, and others concerning any phase of Institute-supported work.
- Conducts in-depth analyses of extramural research data, including trends analyses.
- Identifies emerging priority areas for data collection and analysis.
- Ensures that terms and categories for indexing are updated and reflect current trends in cancer research, and maintains a thesaurus of term definitions.
- Manages RAEB's FLARE grants documentation and indexing database, ensuring reliability and completeness of its contents.
- Maintains and updates archival document files.
- Works with contractors and the AISB to refine RAEB's computer applications to meet the Branch's needs, and resolve FLARE computer application problems for the Branch.
- Represents the DEA as its communications coordinator in the Office of Communications and Education Steering Committee.

Gail Blaufarb, M.S. ..... Lead Biologist/Team Leader
Clarissa Douglas..... Program Specialist
William Clark, M.S. ..... Biologist
Vacant..... Biological Statistician
Vacant..... Epidemiologist

*Knowledge Management/Special Projects

- Represents the NCI on the NIH Research, Conditions and Disease Categorization (RCDC) Initiative. This Initiative is a requirement of the 2006 NIH Reauthorization Bill and has the goal of developing an advanced Knowledge Management technology to enhance and standardize disease coding at the NIH.
- Serves as the NCI Lead and Point of Contact for the RCDC Initiative.
- Represents the NCI on several RCDC Working Groups.
- Chairs the NCI RCDC Steering Committee, which has been charged by the NCI Executive Committee with facilitating the incorporation of RCDC-related activities and requirements into NCI business processes.

Lisa Krueger, M.S. ..... Lead Biologist/Team Leader*
Michele Vos, M.S. ..... Biologist*

*Moved in 2009 to the Center for Strategic Scientific Initiatives, OD, NCI.

Applied Information Systems Branch

- Fulfills the information technology (IT) requirements of the Division; coordinates information resources management (IRM) activities with other relevant NCI and NIH units; and provides high-quality information analysis, design, development, and coordination of applications in support of the Division's business processes.
- Serves as the focal point for the Division in the development, deployment, and application of specialized software and databases required for the conduct of review, referral, coding, advisory, and other extramural applications.
- Serves as the liaison with the NCI Information Systems and Computer Services (ISCS) staff; NCI computer professionals; NCI units charged with execution of extramural IRM functions; trans-NIH functional units such as the CSR, Office of Policy for Extramural Research Administration (OPERA), and Office of Extramural Research (OER); and the IMPAC II and NIH eRA (electronic Research Administration) staff and systems.
- Supports connectivity and design of Internet and Intranet applications.
- Establishes, administers, and monitors commercial support contracts to provide design, production, and maintenance for microcomputer equipment and information storage and retrieval systems that are not covered by ISCS.
- Formulates DEA-specific office automation policy.
- Provides staff/lead users with technical support and training for DEA IT applications.
- Coordinates general user support and training with NCI and NIH services.
- Provides Division-specific applications of video teleconferencing and audiovisual services in support of review and Board activities.
- Provides management with recommendations for establishing and implementing policies for conducting Division computer-assisted presentations, as necessary.
- Reviews user-created applications and recommends and/or designs changes to improve efficiency and effectiveness.

Gregory Fischetti ..... Chief

Application Development and Operations Team

- Analyzes and coordinates life-cycle development of software for the Division; develops and designs applications to support the Division's business practices, including user guides.
- Develops, administers, and monitors contracts for acquisition, support, and maintenance of database systems.
- Administers office automation contracts as well as DEA-wide Blanket Purchase Agreements for microcomputer equipment maintenance and supplies.
- Formulates office automation policy, system development, and IMPAC II operations for the Division.
- Coordinates internal user groups and the provision of training for specific DEA applications and the use of office automation equipment technology.

William Ireland ..... Team Leader
Deborah Buranich ..... Information Technology Specialist
Richard Florence ..... Information Technology Specialist
Roderick James ..... Information Technology Specialist
Teresa Park ..... Information Technology Specialist

Information Management Team

- Designs and maintains the Division's Intranet and Internet sites and pages, and identifies documents to be placed on the NCI Web Site to make Division information more accessible to the public.
- Develops new Web-based software applications that will enhance the productivity and efficiency of extramural processes within the DEA and the distribution of Division information throughout the NCI.
- Coordinates application development and supports the Research Analysis and Evaluation Branch in the areas of scientific coding and analysis.
- Establishes partnerships and ongoing communications with staff and external customers to foster openness and collaboration in accomplishing the information initiatives of the Division.
- Works with DEA staff to ensure the current utility and linkages of documents placed on the Web.

Elaine Taylor ..... Team Leader
Lorrie Smith..... Information Technology Specialist
Joshua Rhoderick..... Information Technology Specialist

Table 1a. Requests for Applications (RFAs) Published by the NCI in FY2009

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office and Center
10/17/2008	CA09-503	U01	Cancer Care Outcomes Research and Surveillance (CanCORS) Consortium (Limited Competition)	DCCPS
10/24/2008	CA09-502	U54	Cancer Disparities Research Partnership (CDRP) Program: Limited Competition	DCTD
12/9/2008	CA09-009	U54	Physical Science–Oncology Centers	CSSI
12/15/2008	CA09-004	R21	Innovative and Applied Emerging Technologies in Biospecimen Science	CSSI
	CA09-005	R33		
12/15/2008	CA09-006	R21	Application and Use of Transformative Emerging Technologies in Cancer Research	CSSI
	CA09-007	R33		
12/15/2008	CA09-008	R21	Innovative Technology Development for Cancer Research	CSSI
12/23/2008	CA09-001	P50	NIH-Supported Centers for Population Health and Health Disparities (CPHHD)	DCCPS
1/2/2009	CA09-501	U54	Comprehensive Minority Institution/Cancer Center Partnership (Limited Competition)	CRCHD
1/7/2009	CA09-010	U24	Genome Characterization Centers and Genome Data Analysis Centers for The Cancer Genome Atlas Research Network (TCGA)	CSSI
1/12/2009	CA09-002	U19	Transdisciplinary Cancer Genomics Research: Post-Genome Wide Association (Post-GWA) Initiative	DCCPS
3/6/2009	CA09-011	U54	The Integrative Cancer Biology Program (ICBP): Centers for Cancer Systems Biology (CCSB)	DCB
5/1/2009	CA09-023	U10	Minority-Based Community Clinical Oncology Program	DCP
5/4/2009	CA09-022	U10	Community Clinical Oncology Program	DCP
5/28/2009	CA09-012	U54	Centers of Cancer Nanotechnology Excellence (CCNEs)	CSSI
5/28/2009	CA09-013	U01	Cancer Nanotechnology Platform Partnerships	CSSI
6/25/2009	CA09-025	U01	Cancer Intervention and Surveillance Modeling Network (CISNET)	DCCPS
6/26/2009	CA09-017	U01	The Early Detection Research Network: Biomarker Developmental Laboratories	DCP
7/24/2009	CA09-018	U01	The Early Detection Research Network: Clinical Validation Centers	DCP
7/24/2009	CA09-019	U24	The Early Detection Research Network: Biomarker Reference Laboratories	DCP
7/24/2009	CA09-020	U24	The Early Detection Research Network: Data Management and Coordinating Center and Statistics and Biomarker Resource Center	DCP
7/24/2009	CA09-504	U24	Support for Human Specimen Banking in NCI-Supported Clinical Trials–Cooperative Group Banks (CGB) (Limited Competition)	DCTD
8/13/2009	CA09-026	U01	The Biology of Estrogen Receptor-Negative Breast Cancer in Various Racial and Ethnic Groups	DCB
9/22/2009	CA09-016	D43	Developing Research Capacity in Africa for Studies on HIV-Associated Malignancies	DCTD

Table 1b. Requests for Applications (RFAs) Published by the NCI in FY2009

Sorted by Division, Office, and Center

Division, Office and Center	RFA	Mechanism	Title	Date of Publication
CRCHD	CA09-501	U54	Comprehensive Minority Institution/Cancer Center Partnership (Limited Competition)	1/2/2009
CSSI	CA09-009	U54	Physical Science–Oncology Centers	12/9/2008
CSSI	CA09-004	R21	Innovative and Applied Emerging Technologies in Biospecimen Science	12/15/2008
	CA09-005	R33		
CSSI	CA09-006	R21	Application and Use of Transformative Emerging Technologies in Cancer Research	12/15/2008
	CA09-007	R33		
CSSI	CA09-008	R21	Innovative Technology Development for Cancer Research	12/15/2008
CSSI	CA09-010	U24	Genome Characterization Centers and Genome Data Analysis Centers for The Cancer Genome Atlas Research Network (TCGA)	1/7/2009
CSSI	CA09-012	U54	Centers of Cancer Nanotechnology Excellence (CCNEs)	5/28/2009
CSSI	CA09-013	U01	Cancer Nanotechnology Platform Partnerships	5/28/2009
DCB	CA09-011	U54	The Integrative Cancer Biology Program (ICBP): Centers for Cancer Systems Biology (CCSB)	3/6/2009
DCB	CA09-026	U01	The Biology of Estrogen Receptor-Negative Breast Cancer in Various Racial and Ethnic Groups	8/13/2009
DCCPS	CA09-503	U01	Cancer Care Outcomes Research and Surveillance (CanCORS) Consortium (Limited Competition)	10/17/2008
DCCPS	CA09-001	P50	NIH-Supported Centers for Population Health and Health Disparities (CPHHD)	12/23/2008
DCCPS	CA09-002	U19	Transdisciplinary Cancer Genomics Research: Post-Genome Wide Association (Post-GWA) Initiative	1/12/2009
DCCPS	CA09-025	U01	Cancer Intervention and Surveillance Modeling Network (CISNET)	6/25/2009
DCP	CA09-023	U10	Minority-Based Community Clinical Oncology Program	5/1/2009
DCP	CA09-022	U10	Community Clinical Oncology Program	5/4/2009
DCP	CA09-017	U01	The Early Detection Research Network: Biomarker Developmental Laboratories	6/26/2009
DCP	CA09-018	U01	The Early Detection Research Network: Clinical Validation Centers	7/24/2009
DCP	CA09-019	U24	The Early Detection Research Network: Biomarker Reference Laboratories	7/24/2009
DCP	CA09-020	U24	Early Detection Research Network: Data Management and Coordinating Center and Statistics and Biomarker Resource Center	7/24/2009
DCTD	CA09-502	U54	Cancer Disparities Research Partnership (CDRP) Program (Limited Competition)	10/24/2008
DCTD	CA09-504	U24	Support for Human Specimen Banking in NCI-Supported Clinical Trials–Cooperative Group Banks (CGB) (Limited Competition)	7/24/2009
DCTD	CA09-016	D43	Developing Research Capacity in Africa for Studies on HIV-Associated Malignancies	9/22/2009

Table 2. NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2009‡

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office and Center	Issuing NIH-IC
10/27/2008	RM09-001	DP1	2009 NIH Directors Pioneer Award Program	*	NIH/RM†
10/27/2008	RM09-003	DP2	2009 NIH Directors New Innovator Award Program	*	NIH/RM†
12/10/2008	RM09-005	R01	New Methodologies for Natural Products Chemistry	DCTD	NIH/RM†
1/7/2009	RM09-004	U54	Institutional Clinical and Translational Science Award	CCT	NIH/RM†
1/23/2009	OD09-001	P50	Dietary Supplement Research Centers: Botanicals	DCP	NIH/OD
1/30/2009	GM10-001	U01, U19	Pharmacogenomics Research Network	DCCPS	NIGMS
3/17/2009	NR09-004	R01	Interventions to Improve Palliative Care at the End of Life	DCP	NINR
3/17/2009	NR09-005	R01	Incorporating Cost-Effectiveness Analysis Into Factors Affecting Quality-of-Life Health Related Research	DCCPS	NINR
4/1/2009	RM09-006	R01	Novel Statistical Methods for Human Gene Expression Quantitative Trait Loci (eQTL) Analysis	*	NIH/RM†
5/27/2009	RM09-007	P41	Pilot-Scale Libraries (PSL) for High-Throughput Screening	DCTD*	NIH/RM†
7/16/2009	RM09-008	R01	Development of New Technologies Needed for Studying the Human Microbiome	CSSI	NIH/RM†
	RM09-009	R21			NIH/RM†
7/17/2009	OD09-006	K12	Building Interdisciplinary Research Careers in Womens Health	CCT	NIH/OD
7/29/2009	DA10-001	R01	Substance Use and Abuse Among U.S. Military Personnel, Veterans, and Their Families	DCCPS	NIDA
	DA10-002	R21			
8/18/2009	RM09-010	DP1	2010 NIH Directors Pioneer Award Program	*	NIH/RM†
8/26/2009	RM09-011	DP2	2010 NIH Directors New Innovator Award Program	*	NIH/RM†
8/27/2009	RM09-019	U54	Institutional Clinical and Translational Science Award	CCT	NIH/NCRR
9/17/2009	GM10-009	R01	Exceptional, Unconventional Research Enabling Knowledge Acceleration (EUREKA)	DCB	NIGMS

*All NCI Divisions, Offices and Centers may participate.
†Road Map.
‡ARRA RFAs are not included.

Table 3a. Program Announcements (PAs) Published by the NCI in FY2009

Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division, Office and Center
10/6/2008	PAR09-003	R03	Small Grants for Behavioral Research in Cancer Control	DCCPS
10/6/2008	PA09-004 PA09-005	R01, R21	Understanding the Effects of Emerging Cellular, Molecular, and Genomic Technologies on Cancer Health Care Delivery	DCCPS
11/6/2008	PA09-023	R01	Erythropoiesis Stimulating Agents and Tumor Progression	DCB
	PA09-024	R21		
11/12/2008	PAR09-025	P01	National Cancer Institute Program Project Applications	DEA
11/13/2008	PAR09-026	U01	Collaborative Research in Integrative Cancer Biology and the Tumor Microenvironment	DCB
12/16/2008	PAR09-050	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity	CRCHD
12/16/2008	PAR09-051	K23	NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity	CRCHD
12/16/2008	PAR09-052	K01	NCI Mentored Research Scientist Development Award to Promote Diversity	CRCHD
12/31/2008	PAR09-069	K22	NCI Transition Career Development Award to Promote Diversity	CRCHD
1/15/2009	PAR09-078	K07	Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award	CCT
1/22/2009	PAR09-088	K05	Established Investigator Award in Cancer Prevention and Control	CCT
1/23/2009	PAR09-089	K22	The NCI Transition Career Development Award	CCT
2/19/2009	PA09-046	R01	Testing Tobacco Products Promoted to Reduce Harm	DCCPS
	PA09-047	R21		
3/13/2009	PA09-130	R21	Exploratory Grants for Behavioral Research in Cancer Control	DCCPS
4/3/2009	PA09-143	R03	Cancer Surveillance Using Health Claims-based Data System	DCCPS
	PA09-144	R21		
	PA09-145	R01		
4/8/2009	PA09-149	R21	Studies of Energy Balance and Cancer in Humans	DCCPS
	PA09-148	R01		
4/8/2009	PAR09-147	P01	Etiology, Prevention, and Treatment of Hepatocellular Carcinoma	DCB, DCP
4/13/2009	PAR09-157	P50	*In vivo* Cellular and Molecular Imaging Centers (ICMICs)	DCTD
4/14/2009	PA09-158	R21	Developmental Research in Cancer Prognosis and Prediction	DCTD
	Pa09-159	R33		
4/16/2009	PAR09-160	R21	Exploratory/Developmental Grants Program for Basic Cancer Research in Cancer Health Disparities	DCB, CRCHD
4/16/2009	PAR09-161	U01	Basic Cancer Research in Cancer Health Disparities	DCB, DCP, CRCHD

continued

Table 3a. Program Announcements (PAs) Published by the NCI in FY2009

Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division, Office and Center
4/17/2009	PA09-167 PA09-168	R21 R03	Developmental Projects in Complementary Approaches to Cancer Care and Treatment	DCTD
5/19/2009	PA09-187	R43, R44	Technology Development for the Detection and Evaluation of Chemical and Biological Carcinogens (SBIR)	SBIRDC
5/19/2009	PA09-188	R43, R44	Technologies and Software to Support Integrative Cancer Biology Research (SBIR)	SBIRDC
5/19/2009	PA09-189	R43, R44	Technology for the Detection and Characterization of Low Abundance Proteins, Peptides, or Micro RNAs (SBIR)	SBIRDC
6/1/2009	PA09-197 PA09-198	R01 R21	Biomarkers for Early Detection of Hematopoietic Malignancies	DCP
6/1/2009	PA09-199 PA09-200	R01 R21	Identifying Non-coding RNA Targets for Cancer Early Detection and Prevention	DCP
6/11/2009	PAR09-162	R21	Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research	CRCHD, DCB
6/11/2009	PAR09-201	P20	Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership	CRCHD
7/9/2009	PAR09-224	R01	Improving Diet and Physical Activity Assessment	DCCPS
7/15/2009	PA09-234 PA09-235	R01 R21	Diet, Epigenetic Events, and Cancer Prevention	DCP
7/17/2009	PAR09-225	R21	Improving Diet and Physical Activity Assessment	DCCPS
7/22/2009	PA09-238	R21	Exfoliated Cells and Circulating DNA in Cancer Detection and Diagnosis	DCP
8/13/2009	PA09-253	R01	Image-guided Drug Delivery in Cancer	DCTD

Table 3b. Program Announcements (PAs) Published by the NCI in FY2009

Sorted by Division, Office, and Center

Division, Office and Center	PA	Mechanism	Title	Date of Publication
CCT	PAR09-078	K07	Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award	1/15/2009
CCT	PAR09-088	K05	Established Investigator Award in Cancer Prevention and Control	1/22/2009
CCT	PAR09-089	K22	The NCI Transition Career Development Award	1/23/2009
CRCHD	PAR09-050	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity	12/16/2008
CRCHD	PAR09-051	K23	NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity	12/16/2008
CRCHD	PAR09-052	K01	NCI Mentored Research Scientist Development Award to Promote Diversity	12/16/2008
CRCHD	PAR09-069	K22	NCI Transition Career Development Award to Promote Diversity	12/31/2008
CRCHD	PAR09-201	P20	Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership	6/11/2009
CRCHD, DCB	PAR09-162	R21	Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research	6/11/2009
DCB	PA09-023	R01	Erythropoiesis Stimulating Agents and Tumor Progression	11/6/2008
	PA09-024	R21		
DCB	PAR09-026	U01	Collaborative Research in Integrative Cancer Biology and the Tumor Microenvironment	11/13/2008
DCB, DCP	PAR09-147	P01	Etiology, Prevention, and Treatment of Hepatocellular Carcinoma	4/8/2009
DCB, CRCHD	PAR09-160	R21	Exploratory/Developmental Grants Program for Basic Cancer Research in Cancer Health Disparities	4/16/2009
DCB, DCP, CRCHD	PAR09-161	U01	Basic Cancer Research in Cancer Health Disparities	4/16/2009
DCCPS	PAR09-003	R03	Small Grants for Behavioral Research in Cancer Control	10/6/2008
DCCPS	PA09-004 PA09-005	R01, R21	Understanding the Effects of Emerging Cellular, Molecular, and Genomic Technologies on Cancer Health Care Delivery	10/6/2008
DCCPS	PA09-046	R01	Testing Tobacco Products Promoted to Reduce Harm	2/19/2009
	PA09-047	R21		
DCCPS	PA09-130	R21	Exploratory Grants for Behavioral Research in Cancer Control	3/13/2009
DCCPS	PA09-143	R03	Cancer Surveillance Using Health Claims-based Data System	4/3/2009
	PA09-144	R21		
	PA09-145	R01		
DCCPS	PA09-149	R21	Studies of Energy Balance and Cancer in Humans	4/8/2009
	PA09-148	R01		
DCCPS	PAR09-224	R01	Improving Diet and Physical Activity Assessment	7/9/2009
	PAR09-225	R21		7/17/2009

continued

Table 3b. Program Announcements (PAs) Published by the NCI in FY2009

Sorted by Division, Office, and Center

Division, Office and Center	PA	Mechanism	Title	Date of Publication
DCP	PA09-197 PA09-198	R01 R21	Biomarkers for Early Detection of Hematopoietic Malignancies	6/1/2009
DCP	PA09-199 PA09-200	R01 R21	Identifying Non-coding RNA Targets for Cancer Early Detection and Prevention	6/1/2009
DCP	PA09-234 PA09-235	R01 R21	Diet, Epigenetic Events, and Cancer Prevention	7/15/2009
DCP	PA09-238	R21	Exfoliated Cells and Circulating DNA in Cancer Detection and Diagnosis	7/22/2009
DCTD	PAR09-157	P50	*In vivo* Cellular and Molecular Imaging Centers (ICMICs)	4/13/2009
DCTD	PA09-158 Pa09-159	R21 R33	Developmental Research in Cancer Prognosis and Prediction	4/14/2009
DCTD	PA09-167 PA09-168	R21 R03	Developmental Projects in Complementary Approaches to Cancer Care and Treatment	4/17/2009
DCTD	PA09-253	R01	Image-guided Drug Delivery in Cancer	8/13/2009
DEA	PAR09-025	P01	National Cancer Institute Program Project Applications	11/12/2008
SBIRDC	PA09-187	R43, R44	Technology Development for the Detection and Evaluation of Chemical and Biological Carcinogens (SBIR)	5/19/2009
SBIRDC	PA09-188	R43, R44	Technologies and Software to Support Integrative Cancer Biology Research (SBIR)	5/19/2009
SBIRDC	PA09-189	R43, R44	Technology for the Detection and Characterization of Low Abundance Proteins, Peptides, or Micro RNAs (SBIR)	5/19/2009

Table 4. NCI Participation in Trans-NIH Program Announcements (PAs) in FY2009

Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division, Office and Center	Issuing NIH-IC
10/20/2008	PA09-010	R01	Basic and Preclinical Research on Complementary and Alternative Medicine (CAM)	DCP	NCCAM
10/23/2008	PAR09-012 PAR09-013	X02	Pre-Application for the 2009 NIH Directors Pioneer Award Program	*	NIH/RM†
11/14/2008	PAR09-027	X01	National Institutes of Health Rapid Access to Interventional Development (NIH-RAID) Program	DCTD	NIH/RM†
12/11/2008	PA09-037	K24	Midcareer Investigator Award in Patient-Oriented Research	CCT	NIH
12/12/2008	PA09-036	K99, R00	NIH Pathway to Independence Award	CCT	NIH
12/12/2008	PA09-039	K25	Mentored Quantitative Research Development Award	CCT	NIH
12/12/2008	PA09-042	K08	Mentored Clinical Scientist Research Career Development Award	CCT	NIH
12/12/2008	PA09-043	K23	Mentored Patient-Oriented Research Career Development Award	CCT	NIH
1/22/2009	PA09-080	R43, R44	PHS 2009-02 Omnibus Solicitation of the NIH, CDC, FDA, and ACF for Small Business Innovation Research Grant Applications (Parent SBIR)	SBIRDC	NIH
1/22/2009	PA09-081	R41, R42	PHS 2009-02 Omnibus Solicitation of the NIH for Small Business Technology Transfer Grant Applications (Parent STTR)	SBIRDC	NIH
1/23/2009	PAR09-091	X02	Pre-Application for Dietary Supplement Research Centers: Botanicals	DCP	NIH/ODS
2/11/2009	PA09-094 PA09-095	R41, R42 R43,R44	New Technologies for Liver Disease	SBIRDC	NIDDK
2/12/2009	PA09-100	R43, R44	Energy Efficiency and Renewable Energy System Technology Research and Development (SBIR)	SBIRDC	NIH
2/13/2009	PAR09-103	P30	Centers for AIDS Research and Developmental Centers for AIDS Research	OHAM	NIAID
2/24/2009	PA09-110	K18	Career Enhancement Award for Stem Cell Research	CCT	NIH
2/26/2009	PA09-113 PA09-114	R43,R44 R41, R42	Manufacturing Processes of Medical, Dental, and Biological Technologies (SBIR)	SBIRDC	NIH
3/9/2009	PA09-122 PAR09-121	R01 R21	Research on Clinical Decision Making in People With or at Risk for Life-Threatening Illness	DCCPS	NINR
3/11/2009	PA09-124	R21	Exploratory/Developmental Clinical Research Grants in Obesity	DCP	NIDDK
3/12/2009	PA09-125 PA09-126	R01 R21	Biobehavioral Methods to Improve Outcomes Research	DCCPS	NINR

continued

*All NCI Divisions, Offices, and Centers may participate.
†Road Map.

Table 4. NCI Participation in Trans-NIH Program Announcements (PAs) in FY2009

Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division, Office and Center	Issuing NIH-IC
3/12/2009	PAR09-129	R03	Solicitation of Assays for High Throughput Screening (HTS) in the Molecular Libraries Probe Production Centers Network (MLPCN)	*	NIH/RM†
3/17/2009	PA09-121	R21	Research on Clinical Decision Making in People With or at Risk for Life-Threatening Illness	DCCPS	NINR
3/17/2009	PAR09-120	UH2, UH3	Biomedical Research on the International Space Station (BioMed-ISS)	DCTD	NIAMS
3/27/2009	PA09-137	R01	Basic and Translational Research in Emotion	DCCPS	NIMH
4/2/2009	PA09-140	R03	Community-Based Partnerships for Childhood Obesity Prevention and Control: Research to Inform Policy	DCCPS	NICHD
	PA09-141	R21			
4/8/2009	PA09-151	R21	Pilot and Feasibility Clinical Research Studies in Digestive Diseases and Nutrition	DCP	NIDDK
6/12/2009	PA09-209	F31	Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research	CRCHD	NIH
6/12/2009	PA09-210	F32	Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Postdoctoral Fellows	CCT	NIH
	PA09-211	F33			
7/6/2009	PA09-216	R01	Mechanisms Underlying the Links Between Psychosocial Stress, Aging, the Brain, and the Body	DCCPS	NIA
8/5/2009	PAR09-218	R01	Innovations in Biomedical Computational Science and Technology	DCB	NIGMS
8/17/2009	PAR09-219	R21	Exploratory Innovations in Biomedical Computational Science and Technology	DCB	NIGMS

*All NCI Divisions, Offices, and Centers may participate.
†Road Map.

Table 5. Applications Received for Referral by the NCI/DEA in FY2009*†

Sorted by Mechanism

Mechanism	Activity Code	Totals by Activity	Applications by Board			Total Costs Requested First Year
			Feb	June	Sept	
International Training Grants in Epidemiology (FIC)	D43	49	14	35	0	$11,631,834
NIH Director's Pioneer Award (NDPA)	DP1	5	0	0	5	$2,500,000
Predoctoral Individual National Research Service Award	F31	123	41	40	42	$0‡
Postdoctoral Individual National Research Service Award	F32	467	121	165	181	$0‡
National Research Service Award for Senior Fellows	F33	2	0	0	2	$0‡
Research Scientist Development Award–Research and Training	K01	31	8	16	7	$3,659,208
Research Scientist Award	K05	10	2	5	3	$1,560,591
Academic/Teacher Award	K07	71	22	23	26	$9,275,692
Clinical Investigator Award	K08	94	26	33	35	$13,534,622
Physician Scientist Award (Program)	K12	8	8	0	0	$5,187,049
Career Transition Award	K22	56	16	25	15	$8,510,627
Mentored Patient-Oriented Research Development Award	K23	42	8	17	17	$6,514,187
Midcareer Investigator Award in Patient-Oriented Research	K24	12	6	0	6	$2,065,598
Mentored Quantitative Research Career Development	K25	20	5	7	8	$2,827,230
Career Transition Award	K99	123	46	39	38	$13,330,303
Research Program Projects	P01	110	46	24	40	$253,701,859
Exploratory Grants	P20	13	0	0	13	$2,318,953
Center Core Grants	P30	15	10	2	3	$47,691,768
Biotechnology Resource Grant Program	P41	1	0	0	1	$508,512
Specialized Center	P50	41	7	23	11	$12,208,200
Research Project	R01	6,143	1,843	2,265	2,035	$2,736,220,195
Small Research Grants	R03	515	153	196	166	$37,676,570
Conference Grants	R13	147	65	42	40	$4,866,309
Academic Research Enhancement Awards (AREA)	R15	135	40	40	55	$27,139,879
Exploratory/Developmental Grants	R21	2,529	672	1,058	799	$591,496,626
Education Projects	R25	75	28	26	21	$25,384,968

continued

* Source: IMPAC II. Includes NCI primary and secondary assigned applications and withdrawn applications.
† ARRA-solicited applications are not included.
‡ Negotiated at the time of award.

Table 5. Applications Received for Referral by the NCI/DEA in FY2009*†

Sorted by Mechanism

Mechanism	Activity Code	Totals by Activity	Applications by Board			Total Costs Requested First Year
			Feb	June	Sept	
Exploratory/Developmental Grants Phase II	R33	51	14	23	14	$24,257,538
Method to Extend Research in Time (MERIT) Award	R37	15	8	7	0	$9,419,878
Small Business Technology Transfer (STTR) Grants–Phase I	R41	168	68	46	54	$27,928,402
Small Business Technology Transfer (STTR) Grants–Phase II	R42	50	15	13	22	$19,240,446
Small Business Innovation Research Grants (SBIR)–Phase I	R43	910	263	275	372	$153,148,049
Small Business Innovation Research Grants (SBIR)–Phase II	R44	244	87	52	105	$141,834,309
James A. Shannon Director's Award	R55	1	0	1	0	$0‡
High Priority, Short Term Project Award	R56	54	28	26	0	$0‡
Research Enhancement Award	SC1	23	6	6	11	$7,093,615
Pilot Research Project	SC2	26	5	14	7	$3,388,214
Institutional National Research Service Award	T32	89	33	27	29	$29,310,424
Research Project (Cooperative Agreements)	U01	217	11	130	76	$203,610,106
Cooperative Clinical Research (Cooperative Agreements)	U10	47	28	0	19	$93,692,851
Conference (Cooperative Agreement)	U13	2	1	1	0	$200,000
Resource-Related Research Project (Cooperative Agreements)	U24	33	0	0	33	$110,037,770
Specialized Center (Cooperative Agreements)	U54	110	0	61	49	$211,483,580
Exploratory/Developmental Cooperative Agreement Phase I	UH2	3	3	0	0	$2,908,009
Preapplication	X02	35	0	0	35	$0
Overall Totals		**12,915**	**3,757**	**4,763**	**4,395**	**$4,857,363,971**

*Source: IMPAC II. Includes NCI primary and secondary assigned applications and withdrawn applications.
†ARRA-solicited applications are not included.
‡Negotiated at the time of award.

Table 6. Grant and Cooperative Agreement Applications Reviewed by the NCI/DEA in FY2009*†

Sorted by Mechanism

Mechanism	Activity Code	Totals by Activity	Applications by Board			Total Costs Requested First Year
			Feb	June	Sept	
Research Scientist Development Award–Research and Training	K01	31	8	16	7	$3,659,208
Research Scientist Award	K05	10	2	5	3	$1,560,591
Academic/Teacher Award	K07	68	21	22	25	$9,275,692
Clinical Investigator Award	K08	69	18	20	31	$10,035,685
Physician Scientist Award (Program)	K12	8	8	0	0	$5,187,049
Career Transition Award	K22	51	15	22	14	$8,510,627
Mentored Patient-Oriented Research Development Award	K23	31	7	13	11	$4,445,695
Midcareer Investigator Award in Patient-Oriented Research	K24	10	5	0	5	$1,711,894
Mentored Quantitative Research Career Development	K25	19	5	7	7	$2,653,276
Career Transition Award	K99	96	40	30	26	$10,969,190
Research Program Projects	P01	105	44	24	37	$243,810,683
Exploratory Grants	P20	12	0	0	12	$2,318,953
Center Core Grants	P30	8	4	2	2	$36,978,400
Specialized Center	P50	37	6	23	8	$92,214,537
Research Project	R01	116	4	107	5	$59,639,404
Small Research Grants	R03	406	126	150	130	$33,197,160
Conferences	R13	77	33	19	25	$2,465,738
Exploratory/Developmental Grants	R21	254	50	123	81	$72,399,163
Education Projects	R25	70	24	25	21	$25,384,968
Exploratory/Developmental Grants–Phase II	R33	40	9	19	12	$21,088,023
Small Business Technology Transfer (STTR) Grants–Phase I	R41	4	2	2	0	$398,133
Small Business Technology Transfer (STTR) Grants–Phase II	R42	7	4	3	0	$1,228,276
Small Business Innovation Research Grants (SBIR)–Phase I	R43	39	14	25	0	$4,838,602
Small Business Innovation Research Grants (SBIR)–Phase II	R44	45	24	4	17	$44,277,101
Institutional National Research Service Award	T32	78	29	23	26	$27,608,800
Research Project (Cooperative Agreements)	U01	153	2	121	30	$115,431,612

continued

*Source: IMPAC II. Includes NCI primary and secondary assigned applications and withdrawn applications.
†ARRA-solicited applications are not included.

Table 6. Grant and Cooperative Agreement Applications Reviewed by the NCI/DEA in FY2009*†

Sorted by Mechanism

Mechanism	Activity Code	Totals by Activity	Applications by Board			Total Costs Requested First Year
			Feb	June	Sept	
Cooperative Clinical Research (Cooperative Agreements)	U10	47	28	0	19	$93,692,851
Resource-Related Research Project (Cooperative Agreements)	U24	32	0	0	32	$112,318,555
Specialized Center (Cooperative Agreements)	U54	52	0	5	47	$145,895,776
Totals		**1,975**	**532**	**810**	**633**	**$1,193,195,642**

*Source: IMPACII. Includes NCI Primary and Secondary assigned applications and withdrawn applications.
†ARRA solicited applications are not included.

Table 7. Applications Reviewed by NCI IRG Subcommittees and Special Emphasis Panels (SEPs) in FY2009*†

NCI IRG Subcommittee	Types of Applications Reviewed	Number of Applications	Total Costs Requested First Year
A - Cancer Centers	P30	8	$36,978,400
F - Manpower & Training	K99, T32	171	$38,577,990
G - Education	K01, K05, K07, K12, K22, K24, R25	93	$29,416,620
H - Clinical Groups	U10	33	$79,556,282
I - Career Development	K01, K08, K22, K25	159	$23,292,941
J - Population and Patient-Oriented Training	K07, K23	93	$12,330,142
Totals - NCI IRG Subcommittees		**557**	**$220,152,375**
Total SEPs	K01, K07, K12, K22, K23, K24, P01, P20, P30, P50, R01, R03, R13, R21, R25, R33, R41, R42, R43, R44, T32, U01, U10, U24, U54	**1,418**	**$973,043,267**
Total		**1,975**	**$1,193,195,642**

*Source: IMPAC II. Application count includes secondary assignments. 16 withdrawn applications have been subtracted from the total count of IRG Subcommittees. 129 withdrawn applications have been subtracted from the total count of SEPs.
†ARRA-solicited applications are not included.

Table 8. Summary of Investigator-Initiated P01 Applications Reviewed, Sorted by NCAB Meeting, in FY2009*

Type of Application	Applications by Board			FY 2009 Total
	February 2009	June 2009	September 2009	
New	18	7	9	34
Resubmitted New	9	4	6	19
Renewal	8	9	10	27
Resubmitted Renewal	9	3	11	23
Revisions		1	1	2
Total	**44**	**24**	**37**	**105**

*ARRA competitive supplements (11) are not included.

Table 9. Summary of Investigator-Initiated P01 Applications Reviewed, Sorted by NCI Program Division, in FY2009*

Program Division	Number of Applications	First Year Requested Total Costs	Total Costs for Requested Period
Division of Cancer Biology (DCB)	38	$75,473,133	$481,823,174
Division of Cancer Control and Population Sciences (DCCPS)	8	$25,542,770	$119,484,637
Division of Cancer Prevention (DCP)	10	$19,594,298	$110,919,927
Division of Cancer Treatment and Diagnosis (DCTD)	49	$123,200,482	$645,828,947
Total	**105**	**$243,810,683**	**$1,358,056,685**

*ARRA competitive supplements (11) are not included.

Table 10. Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2009*†

Title of Initiative	RFA Number	Activity Codes	Applications by NCAB Round				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Innovative Technologies for Molecular Analysis of Cancer	CA08-006	R21	73	29	44	0	$22,201,468
Application of Emerging Technologies for Cancer Research	CA08-007	R21	34	13	21	0	$11,173,975
	CA08-008	R33	24	8	16	0	$13,900,332
Innovative Technology Solutions to Cancer Sample Preparation	CA08-009	R21	15	8	7	0	$3,359,893
	CA08-010	R33	3	1	2	0	$1,170,535
Innovative and Applied Molecular Analysis Technologies for Cancer (SBIR)	CA08-011	R42	1	1	0	0	$95,238
		R43	33	10	23	0	$4,173,458
		R44	3	1	2	0	$1,058,149
	CA08-012	R41	2	0	2	0	$198,133
		R42	6	3	3	0	$1,133,038
Innovative Technology Solutions to Cancer Sample Preparation (SBIR)	CA08-013	R43	6	4	2	0	$665,144
		R44	2	0	2	0	$450,529
	CA08-014	R41	2	2	0	0	$200,000
Community Clinical Oncology Program	CA08-015	U10	10	10	0	0	$11,662,140
Minority-Based Community Clinical Oncology Program	CA08-016	U10	4	4	0	0	$2,474,429
Integration of Mouse Models into Human Cancer Research	CA08-018	U01	106	0	106	0	$80,456,556
Tumor Stem Cells in Cancer Biology, Prevention, and Therapy	CA08-020	P01	10	10	0	0	$22,403,366
SBIR Phase II Bridge Awards to Accelerate the Development of New Cancer Therapies and Cancer Imaging Technologies Toward Commercialization	CA08-021	R44	40	23	0	17	$42,768,423
Improving Effectiveness of Smoking Cessation Interventions and Programs in Low Income Adult Populations	CA08-022	R01	34	0	34	0	$21,133,888
	CA08-023	R21	41	0	41	0	$8,855,091
Measures and Determinants of Smokeless Tobacco Use, Prevention, and Cessation	CA08-024	R01	19	0	19	0	$10,540,367
	CA08-025	R21	10	0	10	0	$2,291,176
Pediatric Brain Tumor Consortium	CA08-026	U01	1	1	0	0	$2,200,000
Replication and Fine-Mapping Studies for the Genes Environment and Health Initiative (GEI)	CA09-003	R01	23	0	23	0	$8,971,224
Innovative and Applied Emerging Technologies in Biospecimen Science	CA09-004	R21	10	0	0	10	$2,304,992
	CA09-005	R33	3	0	0	3	$1,105,806

continued

*Source: IMPAC II. Includes NCI primary and secondary assigned applications.
†ARRA-solicited applications are not included.

Table 10. Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2009*†

Title of Initiative	RFA Number	Activity Codes	Applications by NCAB Round				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Application and Use of Transformative Emerging Technologies in Cancer Research	CA09-006	R21	17	0	0	17	$6,804,922
	CA09-007	R33	11	0	1	10	$5,431,976
Innovative Technology Development for Cancer Research	CA09-008	R21	55	0	0	55	$15,519,605
Physical Science-Oncology Centers	CA09-009	U54	35	0	0	35	$122,110,270
Genome Characterization Centers and Genome Data Analysis Centers for The Cancer Genome Atlas Research Network (TCGA)	CA09-010	U24	32	0	0	32	$111,037,770
Comprehensive Minority Institution/ Cancer Center Partnership (Limited Competition)	CA09-501	U54	12	0	0	12	$16,329,721
Cancer Disparities Research Partnership (CDRP) Program: Limited Competition	CA09-502	U54	5	0	5	0	$4,324,831
Cancer Care Outcomes Research and Surveillance (CanCORS) Consortium (Limited Competition)	CA09-503	U01	1	0	1	0	$3,449,387
Exceptional, Unconventional Research Enabling Knowledge Acceleration (EUREKA)	GM09-008	R01	28	0	28	0	$8,456,537
Totals			**711**	**128**	**392**	**191**	**$570,412,369**

* Source: IMPAC II. Includes NCI primary and secondary assigned applications.
† ARRA-solicited applications are not included.

Table 11. Program Announcements (PAs) Reviewed by the NCI/DEA in FY2009*†

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB Round				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Mentored Patient-Oriented Research Career Development Award	PA05-143	K23	28	6	13	9	$3,925,349
	PA09-043		9	0	0	9	$1,378,943
Mentored Quantitative Research Development Award	PA06-087	K25	12	5	7	0	$1,682,183
	PA09-039		7	0	0	7	$971,093
Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants	PA06-468	T32	25	23	2	0	$8,267,064
	PA08-226		44	0	21	23	$14,161,364
Mentored Clinical Scientist Research Career Development Award	PA06-512	K08	34	16	18	0	$4,540,270
	PA09-042		31	0	0	31	$4,986,407
Research Project Grant (Parent R01)	PA07-070	R01	12	4	3	5	$10,537,388
NIH Pathway to Independence (PI) Award	PA07-297	K99	69	40	29	0	$7,261,956
	PA09-036		26	0	0	26	$3,617,234
NIH Support for Conferences and Scientific Meetings (Parent R13/U13)	PA08-149	R13	77	33	19	25	$2,465,738
Midcareer Investigator Award in Patient-Oriented Research	PA08-151	K24	5	5	0	0	$866,226
	PA09-037		5	0	0	5	$845,668
Established Investigator Award in Cancer Prevention & Control	PAR05-145	K05	8	2	5	1	$1,240,408
	PAR09-088		2	0	0	2	$320,183
NCI Mentored Research Scientist Development Award to Promote Diversity	PAR06-220	K01	24	8	16	0	$2,834,078
	PAR09-052		7	0	0	7	$825,130
NCI Mentored Clinical Scientist Award to Promote Diversity	PAR06-221	K08	3	2	1	0	$372,118
NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity	PAR06-222	K23	1	1	0	0	$137,626
	PAR09-051		2	0	0	2	$382,720
Small Grants Program for Cancer Epidemiology	PAR08-237	R03	51	0	0	51	$4,085,332
	PAR06-294		83	40	43	0	$6,611,528
		U01	1	1	0	0	$92,594
Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award	PAR06-381	K07	43	21	22	0	$5,689,003
	PAR09-078		25	0	0	25	$3,451,984
Paul Calabresi Career Development Award For Clinical Oncology	PAR06-449	K12	8	8	0	0	$5,187,049
The NCI Transition Career Development Award	PAR06-455	K22	25	12	13	0	$4,014,653
	PAR09-089		9	0	0	9	$1,727,659

continued

*Source: IMPAC II. Includes NCI primary and secondary assigned applications. 51 withdrawn applications have been subtracted from the total count.

†ARRA-solicited applications are not included.

Table 11. Program Announcements (PAs) Reviewed by the NCI/DEA in FY2009*†

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB Round				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Small Grants for Behavioral Research in Cancer Control	PAR06-458	R03	60	26	34	0	$4,790,837
	PAR09-003		28	0	0	28	$2,383,149
Cancer Education Grants Program	PAR06-511	R25	23	9	8	6	$10,498,443
	PAR08-120	R25	47	15	17	15	$14,886,525
Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership	PAR07-230	P20	12	0	0	12	$2,318,953
Specialized Programs of Research Excellence (SPOREs) in Human Cancer for the Years 2008 and 2009	PAR08-020	P50	37	6	23	8	$92,214,537
NCI Transition Career Development Award to Promote Diversity	PAR08-047	K22	12	3	9	0	$1,969,525
	PAR09-069		5	0	0	5	$798,790
Cancer Prevention Research Small Grant Program	PAR08-055	R03	184	60	73	51	$15,326,314
Quantitative Imaging for Evaluation of Responses to Cancer Therapies	PAR08-225	U01	24	0	14	10	$16,918,780
Etiology, Prevention, and Treatment of Hepatocellular Carcinoma	PAR08-245	P01	2	0	0	2	$4,994,297
National Cancer Institute Program Project Applications	PAR09-025	P01	30	0	0	30	$75,591,523
Collaborative Research in Integrative Cancer Biology and the Tumor Microenvironment	PAR09-026	U01	20	0	0	20	$11,917,864
Totals			**1,160**	**346**	**390**	**424**	**$357,088,485**

*Source: IMPAC II. Includes NCI primary and secondary assigned applications. 51 withdrawn applications have been subtracted from the total count.
†ARRA-solicited applications are not included.

Table 12. Requests for Proposals (RFPs) Reviewed by NCI/DEA in FY2009*

Announcement/ Topic Number	Announcement Title	Workload Round	No. of Proposals
Topic 230 (Phase II)	Synthesis of Stable Isotope-Labeled Steroids as Internal Standards for the Measurement of Endogenous Steroid Hormones in Biologic Samples by Liquid Chromatography-Mass Spectrometry (LC-MS)	Feb-09	1
Topic 204 (Phase II)	Altered Isoflavone Soybeans for Hormone-Responsive Cancer	Feb-09	1
Topic 220 (Phase II)	Chemical Optimization and Structure-Activity Relationship	Feb-09	1
Topic 240 (Phase II)	Early Diagnostics Using Nanotechnology-Based Imaging and Sensing	Feb-09	1
Topic 229 (Phase I: 5) (Phase I & II: 2)	Development of Molecular Pharmacodynamic Assays for Targeted Therapies	Jun-09	9
Topic 255 (Phase I: 25) (Phase I & II:1)	Development of Anticancer Agents	Jun-09	27
Topic 256	Innovative Methods for Manufacturing Safe, Effective Cancer Therapeutics	Jun-09	3
Topic 206 (Phase II)	Methods for Innovative Pharmaceutical Manufacturing and Quality Assurance	Jun-09	1
Topic 267	Multifunctional Therapeutics Based on Nanotechnology	Jun-09	11
Topic 241 (Phase II)	Multifunctional Therapeutics Based on Nanotechnology	Jun-09	1
Topic 249 (Phase I: 2) (Phase I & II:1)	System to Analyze and Support Biomarker Research & Development Strategies	Jun-09	4
Topic 260	High Level Programming Language to Expedite Development of User Interfaces	Jun-09	5
Topic 263	Antibody Array for Cancer Detection	Jun-09	12
Topic 268 (Phase I: 3) (Phase I & II: 2)	Novel Antibody Epitope Mapping Technologies	Jun-09	7
Topic 259 (Phase I: 3) (Phase I & II: 1)	Quantitative Tissue Imaging for Clinical Diagnosis and Treatment	Jun-09	5
Topic 266 (Phase I: 18) (Phase I & II: 1)	Nanotechnology Imaging and Sensing Platforms for Improved Diagnosis of Cancer	Jun-09	20
Topic 270	Peptide Aptamers: New Tools to Capture and Study Protein Interactions in Lieu of Immunological Reagents	Jun-09	2
Topic 238 (Phase II)	Development of Clinical Automated Multiplex Affinity Capture Technology for Detecting Low Abundance Cancer-related Proteins/Peptides	Jun-09	2
Topic 239 (Phase II)	Development of Alternative Affinity Capture Reagents for Cancer Proteomics Research	Jun-09	1
Topic 257 (Phase I: 3) (Phase I & II: 2)	Biopsy Instruments and Devices that Preserve Molecular Profiles in Tumors	Jun-09	7

continued

*NCI reviewed a total of 540 proposals. The proposals were in response to SBIR Contract Solicitations - Phase I (121) and Fast Track Phase I/II (22), Phase II (14), RFP (1), and Loan Repayment (382).

Table 12. Requests for Proposals (RFPs) Reviewed by NCI/DEA in FY2009*

Announcement/ Topic Number	Announcement Title	Workload Round	No. of Proposals
Topic 264	Novel and Improved Methods for Detecting Epigenetic Modifications	Jun-09	3
Topic 265	Development of shRNA Library Screening Technology for Cancer-Related Targets	Jun-09	2
Topic 261	Mobile Computing for Consumer-Centered Cancer Prevention and Control	Jun-09	10
Topic 262	Health Information Technology to Facilitate Patient-Centered Communication in Cancer-related Care	Jun-09	5
Topic 258 (Phase I: 5) (Phase I & II: 1)	Innovative Strategies to Protect Radiosensitive Organs and Structures During Radiation Therapy	Jun-09	7
Topic 269	Development of Novel Protein Expression Technologies for Glycosylated Cancer Related Proteins	Jun-09	4
Topic 234 (Phase II)	Develop Automated Methods to Identify Environmental Exposure Patterns in Satellite Imagery Data	Jun-09	1
Topic 233 (Phase II)	Development of Software Systems to Facilitate the Use of Electronic Data Records in the Collection of Population-Based Cancer Surveillance Data	Jun-09	1
OD08-085	Loan Repayment (L40)	Aug-09	93
OD08-088	Loan Repayment (L30)	Aug-09	289
CM-91001-03	Pediatric Preclinical Testing Program (PPTP)	Oct-09	1
Topic 237 (Phase II)	Glycan Arrays for Biomarker Discovery and Validation	Oct-09	1
Topic 236 (Phase II)	Antibody Array for Cancer	Oct-09	2
Total			**540**

*NCI reviewed a total of 540 proposals. The proposals were in response to SBIR Contract Solicitations - Phase I (121) and Fast Track Phase I/II (22), Phase II (14), RFP (1), and Loan Repayment (382).

Table 13. Summary of NCI Grant Awards by Mechanism in FY2009*

Mechanism	Award Count	Award Dollars in Thousands	Avg. Cost	% of NCI Total Grants		Competing Requested	Competing Awarded	Success Rate
				Number	Dollars			
Research Project Grants (RPG)								
Traditional Research Grants - R01/RL1	3,573	1,248,939	349,549	53.74%	39.24%	3,744	736	19.66%
Program Projects - P01	151	302,269	2,001,781	2.27%	9.5%	78	28	35.9%
Small Grants - R03	239	18,401	76,993	3.59%	0.58%	415	128	30.84%
Exploratory/Developmental Research - R21	447	91,537	204,781	6.72%	2.88%	1,561	205	13.13%
Phased Innovation Grant (Phase 2) - R33	25	9,094	363,771	0.38%	0.29%	4	0	0.0%
Bridge Award - R56	0	80	79,545	0.0%	0.0%	2	0	0.0%
Pathway to Independence - R00	29	7,186	247,795	0.44%	0.23%	0	0	0.0%
Merit Award - R37	63	32,640	518,092	0.95%	1.03%	12	11	91.67%
NIH Director Pioneer Award (NDPA) - DP1	3	3,313	1,104,417	0.05%	0.1%	0	0	0.0%
Academic Research Enhancement Awards (AREA) - R15	27	5,823	215,666	0.41%	0.18%	97	27	27.84%
Shannon Awards - R55	1	100	100,000	0.02%	0.0%	1	1	100.0%
Request for Applications - RFA	169	58,061	343,555	2.54%	1.82%	354	58	16.38%
Cooperative Agreements - RFA - U01/U19	157	160,737	1,023,801	2.36%	5.05%	110	31	28.18%
Cooperative Agreements - not RFA - U01/U19	34	32,905	967,793	0.51%	1.03%	41	10	24.39%
Small Business Innovation Research (SBIR)	219	80,317	366,744	3.29%	2.52%	610	127	20.82%
Small Business Technology Transfer (STTR) - R41/R42	42	11,637	277,064	0.63%	0.37%	143	26	18.18%
Program Evaluation - R01	0	70,912	70,912,000	0.0%	2.23%	0	0	0.0%
Subtotal, RPG	**5,179**	**2,133,951**	**412,039**	**77.9%**	**67.05%**	**7,172**	**1,388**	**19.35%**
Other Research								
Conference Grants - D43/R13	80	2,882	36,024	1.2%	0.09%	77	50	64.94%
Training Conference Grants - T15/RL9	6	694	115,744	0.09%	0.02%	0	0	0.0%
Research/Resource Grant - R24/U24	51	62,837	1,232,092	0.77%	1.97%	29	12	41.38%
Research Enhancement Award - SC1	2	695	347,625	0.03%	0.02%	0	0	0.0%
Pilot Research Project - SC2	3	331	110,173	0.05%	0.01%	1	1	100.0%
Clinical Cooperative Groups	134	232,984	1,738,690	2.02%	7.32%	30	25	83.33%
Clinical Cooperative Groups - CCCT	0	1,547	1,546,942	0.0%	0.05%	0	0	0.0%

continued

*Courtesy of the Office of Extramural Finance and Information Analysis.

Table 13. Summary of NCI Grant Awards by Mechanism in FY2009*

Mechanism	Award Count	Award Dollars in Thousands	Avg. Cost	% of NCI Total Grants		Competing Requested	Competing Awarded	Success Rate
				Number	Dollars			
Minority Biomedical Research Support - S06	1	889	888,769	0.02%	0.03%	0	0	0.0%
Exploratory Grants - Coop. Agreement (NCI) - U56	4	3,370	842,472	0.06%	0.11%	0	0	0.0%
Subtotal, Other Research	**281**	**306,229**	**1,089,783**	**4.24%**	**9.62%**	**137**	**88**	**64.23%**
Centers								
Core	80	282,723	3,534,039	1.2 %	8.88%	33	12	36.36%
Core - CCCT	0	2,885	2,884,831	0.0%	0.09%	0	0	0.0%
Spore Grants	66	131,360	1,990,302	0.99%	4.13%	36	12	33.33%
Other P50/P20	18	28,105	1,561,371	0.27%	0.88%	10	2	20.0%
Specialized Center (Cooperative Agreement)	65	116,380	1,790,465	0.98%	3.66%	86	19	22.09%
Subtotal, Centers	**229**	**561,453**	**2,451,759**	**3.44%**	**17.64%**	**165**	**45**	**27.27%**
Cancer Education								
Cancer Education	83	31,945	384,885	1.25%	1.0%	63	17	26.98%
Subtotal, Cancer Education	**83**	**31,945**	**384,885**	**1.25%**	**1.0%**	**63**	**17**	**26.98%**
Ruth Kirschstein National Research Service Awards (NRSA)								
NRSA Institutional Award	177	61,480	347,345	2.66%	1.93%	55	24	43.64%
NRSA Fellowships	201	8,654	43,053	3.02%	0.27%	302	79	26.16%
Subtotal NRSA	**378**	**70,134**	**185,539**	**5.68%**	**2.2%**	**357**	**103**	**28.85%**
Careers								
Mentored Clinical Scientist - K08	85	11,779	138,573	1.28%	0.37%	58	15	25.86%
Preventive Oncology Award - K07	108	14,585	135,046	1.62%	0.46%	50	18	36.0%
Mentored Career Award - K12	17	11,643	684,908	0.26%	0.37%	8	4	50.0%
Temin Award - K01/KL1	96	13,748	143,204	1.44%	0.43%	27	11	40.74%
Clinical Research Track - K22	43	6,763	157,270	0.65%	0.21%	54	9	16.67%
Mentored Patient-Oriented Research Career Development Award - K23	44	6,178	140,403	0.66%	0.19%	29	9	31.03%
Mid-Career Investigator in Patient-Oriented Research Award - K24	18	2,916	162,006	0.27%	0.09%	5	1	20.0%
Mentored Quantitative Research Career Development Award - K25	22	3,087	140,306	0.33%	0.1%	14	5	35.71%
Established Investigator Award in Cancer Prevention & Control - K05	20	2,926	146,290	0.3%	0.09%	9	6	66.67%
Pathway to Independence - K99	46	5,496	119,484	0.69%	0.17%	89	21	23.6%
Subtotal, Careers	**499**	**79,121**	**158,557**	**7.5 %**	**2.48%**	**343**	**99**	**28.86%**
Total	**6,649**	**3,182,833**	**478,693**	**100.0%**	**100.0%**	**8,237**	**1,740**	**21.12%**

*Courtesy of the Office of Extramural Finance and Information Analysis.

Table 14. Average Total Cost* and Number of Research Project Grant Awards Sorted by Division, Office, Center, and Mechanism From FY2005 - FY2009†

	FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		Percent Change 2005 - 2009	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
R01 Average Cost of Award Data												
NCI Overall	3,848	$341	3,909	$331	3,849	$329	3,732	$335	3,573	$350	-7.1%	2.6%
DCB	2,132	$306	2,132	$300	2,050	$294	1,923	$298	1,792	$308	-15.9%	0.7%
DCP	203	$418	225	$394	231	$392	247	$368	246	$388	21.2%	-7.2%
DCTD	1,057	$319	1,087	$312	1,083	$308	1,055	$317	1,042	$327	-1.4%	2.5%
DCCPS	453	$502	459	$464	478	$474	490	$484	478	$515	5.5%	2.6%
OD (CRCHD, OCAM, CSSI, OCTR, OHAM, etc.)	3	$3,539	6	$2,148	7	$1,751	17	$917	15	$977	400.0%	-72.4%
P01 Average Cost of Award Data												
NCI Overall	176	$1,924	173	$1,963	172	$1,901	158	$1,932	151	$2,002	-14.2%	4.1%
DCB	67	$1,717	70	$1,677	65	$1,584	58	$1,675	60	$1,729	-10.4%	0.7%
DCP	15	$2,047	12	$2,133	13	$2,047	11	$1,916	9	$1,931	-40.0%	-5.7%
DCTD	84	$2,027	82	$2,148	84	$2,067	77	$2,069	69	$2,215	-17.9%	9.3%
DCCPS	9	$2,358	8	$2,270	9	$2,367	11	$2,306	12	$2,174	33.3%	-7.8%
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	1	$1,426	1	$2,349	1	$2,442	1	$2,397	1	$2,220	0.0%	55.7%
R03 Average Cost of Award Data												
NCI Overall	223	$76	218	$76	284	$76	256	$77	239	$77	7.2%	1.3%
DCB	5	$70	3	$78	5	$73	9	$75	15	$76	200.0%	8.6%
DCP	85	$76	96	$76	122	$77	107	$78	91	$78	7.1%	2.6%
DCTD	5	$82	3	$95	8	$78	9	$73	12	$76	140.0%	-7.9%
DCCPS	128	$76	116	$75	149	$76	131	$75	119	$77	-7.0%	1.3%
OD (CRCHD, OCAM, OCTR, etc.)	0	N.A.	0	N.A.	0	N.A.	0	N.A.	2	$47	N.A.	N.A.
R21 Average Cost of Award Data												
NCI Overall	430	$178	405	$174	437	$180	466	$198	447	$205	4.0%	15.2%
DCB	75	$150	59	$145	64	$161	74	$183	75	$193	0.0%	28.7%
DCP	42	$176	47	$166	48	$163	55	$169	50	$174	19.0%	-1.1%
DCTD	240	$193	228	$191	250	$194	248	$214	236	$218	-1.7%	13.0%
DCCPS	72	$153	70	$150	75	$158	87	$180	85	$195	18.1%	27.5%
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	1	$455	1	$239	0	N.A	2	$230	1	$204	0.0%	-55.2%

continued

*In thousands.

†Courtesy of the Office of Extramural Finance and Information Analysis.

Table 14. Average Total Cost* and Number of Research Project Grant Awards Sorted by Division, Office, Center, and Mechanism From FY2005 - FY2009†

	FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		Percent Change 2005 - 2009	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
U01/U19 Average Cost of Award Data												
NCI Overall	164	$969	146	$1,040	145	$1,010	125	$906	110	$1,035	-32.9%	6.8%
DCB	27	$782	26	$840	26	$850	23	$870	28	$776	3.7%	-0.8%
DCP	10	$831	9	$696	15	$469	9	$402	7	$366	-30.0%	-56.0%
DCTD	85	$1,076	65	$1,251	61	$1,293	56	$1,051	39	$1,417	-54.1%	31.7%
DCCPS	42	$902	45	$921	43	$886	32	$564	32	$678	-23.8%	-24.8%
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	0	N.A.	1	$951	0	N.A.	5	$2,534	4	$3,159	N.A.	N.A.
R13 Average Cost of Award Data												
NCI Overall	99	$23	85	$16	81	$15	92	$34	80	$36	-19.2%	56.5%
DCB	55	$9	43	$8	42	$8	40	$9	33	$10	-40.0%	11.1%
DCP	13	$14	10	$11	8	$18	4	$12	8	$15	-38.5%	7.1%
DCTD	13	$33	14	$7	16	$12	24	$11	19	$13	46.2%	-60.6%
DCCPS	10	$63	13	$42	10	$29	11	$30	14	$24	40.0%	-61.9%
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	8	$64	5	$57	5	$52	13	$162	6	$307	-25.0%	379.7%
U10 Average Cost of Award Data – Includes Cancer Control												
NCI Overall	136	$1,732	123	$1,912	138	$1,728	133	$1,773	134	$1,750	-1.5%	1.0%
DCB		N.A.		N.A.		N.A.		N.A.	0	N.A.	N.A.	N.A.
DCP	73	$1,269	60	$1,485	72	$1,250	72	$1,275	73	$1,254	0.0%	-1.2%
DCTD	63	$2,266	63	$2,316	66	$2,246	61	$2,360	61	$2,344	-3.2%	3.4%
DCCPS	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	0	N.A.	0	N.A.	0	N.A	0	N.A.	0	N.A.	N.A.	N.A.
P30 Average Cost of Award Data – Includes Cancer Control												
NCI Overall	63	$3,945	63	$4,098	63	$4,229	64	$4,217	65	$4,337	3.2%	9.9%
DCB	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
DCP	2	$818	2	$823	0	N.A.	0	N.A.	0	N.A.	-100.0%	-100.0%
DCTD	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
DCCPS	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	61	$3,982	61	$4,134	63	$4,141	64	$4,217	65	$4,337	6.6%	8.9%

continued

* In thousands.

† Courtesy of the Office of Extramural Finance and Information Analysis.

Table 14. Average Total Cost* and Number of Research Project Grant Awards Sorted by Division, Office, Center, and Mechanism From FY2005 - FY2009†

	FY 2005		FY 2006		FY 2007		FY 2008		FY 2009		Percent Change 2005 - 2009	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
P50 Average Cost of Award Data – Includes Cancer Control												
NCI Overall	76	$2,197	75	$2,138	80	$1,957	60	$2,055	71	$1,967	-6.6%	-10.5%
DCB	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
DCP	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
DCTD	7	$1,984	8	$1,974	9	$1,591	60	$2,051	64	$2,025	814.3%	2.1%
DCCPS	12	$1,868	12	$1,830	12	$1,746	0	N.A.	7	$1,334	-41.7%	-28.6%
OD (CRCHD, OCAM, OCTR, OHAM, etc.)	57	$2,292	55	$2,229	59	$2,056	0	N.A.	0	N.A.	-100.0%	-100.0%
SBIR Average Cost of Award Data												
NCI Overall	231	$375	225	$379	231	$356	274	$314	219	$367	-5.2%	-2.1%
CSSI	0	N.A.	1	$250	1	$250	0	N.A.	0	N.A.	N.A.	N.A.
DCB	28	$343	26	$347	33	$284	23	$268	0	N.A.	-100.0%	-100.0%
DCP	12	$170	22	$231	14	$341	16	$318	0	N.A.	-100.0%	-100.0%
DCTD	171	$400	153	$409	163	$378	165	$342	4	$318	-97.7%	-20.5%
DCCPS	20	$327	23	$361	20	$314	13	$326	0	N.A.	-100.0%	-100.0%
SBIRDC	0	N.A.	0	N.A.	0	N.A.	57	$251	215	$368	N.A.	N.A.
STTR Average Cost of Award Data												
NCI Overall	34	$329	39	$286	47	$242	38	$297	42	$277	23.5%	-15.8%
CSSI	0	N.A.	0	N.A.	0	N.A.	0	N.A.	0	N.A.	N.A.	N.A.
DCB	2	$577	2	$490	2	$292	3	$189	0	N.A.	-100.0%	-100.0%
DCP	0	N.A.	3	$453	3	$300	3	$325	0	N.A.	N.A.	N.A.
DCTD	31	$300	33	$264	41	$238	27	$297	1	$138	-96.8%	-54.0%
DCCPS	1	$753	1	$119	1	$107	2	$301	0	N.A.	-100.0%	-100.0%
SBIRDC	0	N.A.	0	N.A.	0	N.A.	3	$368	41	$280	N.A.	N.A.
SBIR/STTR Average Cost of Award Data												
NCI Overall	265	$369	264	$365	278	$337	312	$312	261	$352	-1.5%	-4.6%
CSSI	0	N.A.	1	$250	1	$250	0	$0	0	N.A.	N.A.	N.A.
DCB	30	$359	28	$357	35	$284	26	$259	0	N.A.	-100.0%	-100.0%
DCP	12	$170	25	$257	17	$334	19	$319	0	N.A.	-100.0%	-100.0%
DCTD	202	$385	186	$383	204	$350	192	$335	5	$282	-97.5%	-26.8%
DCCPS	21	$348	24	$351	21	$304	15	$323	0	N.A.	-100.0%	-100.0%
SBIRDC	0	N.A.	0	N.A.	0	N.A.	60	$257	256	$354	N.A.	N.A.
U54 Average Cost of Award Data												
NCI Overall	17	$2,956	27	$2,222	42	$1,778	44	$1,802	56	$1,939	229.4%	-34.4%
CRCHD	0	N.A.	0	N.A.	15	$961	17	$1,161	21	$1,274	N.A.	N.A.
CSSI	7	$3,748	8	$3,655	8	$3,635	8	$3,683	16	$3,311	128.6%	-11.7%
DCB	6	$2,435	15	$1,426	15	$1,483	15	$1,407	15	$1,327	150.0%	-45.5%
DCCPS	4	$2,352	4	$2,339	4	$2,236	4	$2,242	4	$2,238	0.0%	-4.8%

* In thousands.
† Courtesy of the Office of Extramural Finance and Information Analysis.

Table 15. NCI Organ and Related Site-Specific Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

ANATOMICAL SITE	2005	2006	2007	2008	2009	Average Dollar Change/yr.	Average Percent Change/yr.
Adrenal	2,717,779	2,022,497	1,713,386	490,757	443,049	-568,683	-30.49%
Anus	6,313,360	1,903,513	2,118,674	2,148,120	3,128,690	-796,168	-2.88%
Bladder	25,392,413	19,803,683	17,371,697	20,366,778	20,264,479	-1,281,984	-4.39%
Bone Marrow	17,969,897	22,465,093	22,451,131	14,699,518	15,921,750	-512,037	-0.31%
Bone, Cartilage	20,296,744	21,063,492	19,387,491	15,746,190	15,911,802	-1,096,236	-5.48%
Brain	101,434,991	105,060,878	115,250,618	117,942,993	121,885,407	5,112,604	4.74%
Breast	510,552,531	527,807,370	521,633,567	506,731,944	533,474,050	5,730,380	1.16%
Central Nervous System	17,192,652	14,061,106	12,427,536	9,058,038	5,766,426	-2,856,557	-23.32%
Cervix	75,787,307	73,228,337	72,958,209	61,219,296	57,221,994	-4,641,328	-6.59%
Childhood Leukemia	45,113,301	38,504,393	39,602,861	41,961,968	41,328,896	-946,101	-1.84%
Colon, Rectum	238,230,314	228,997,550	242,141,015	241,069,600	237,071,104	-289,803	-0.06%
Connective Tissue	7,558,119	11,474,292	10,576,461	12,287,974	10,319,893	690,444	11.04%
Embryonic Tissue, Cells	5,318,429	4,184,399	3,009,363	1,682,044	546,911	-1,192,880	-40.25%
Esophagus	20,378,823	18,672,533	19,566,240	17,755,949	23,365,878	746,764	4.69%
Eye	2,465,231	1,689,222	2,107,705	1,850,716	1,910,869	-138,591	-3.91%
Gall Bladder	899,162	1,186,770	990,701	462,516	372,129	-131,758	-14.35%
Gastrointestinal Tract	21,145,926	17,155,752	13,337,106	9,097,081	8,823,425	-3,080,625	-18.98%
Genital System, Female	4,794,366	2,823,806	2,545,359	1,983,043	1,168,412	-906,489	-28.53%
Genital System, Male	4,243,858	2,308,078	2,074,914	1,955,709	2,133,014	-527,711	-13.10%
Head and Neck	44,641,240	41,555,151	37,581,195	43,067,725	41,550,093	-772,787	-1.35%
Heart	4,452,774	4,255,232	3,088,826	2,857,539	2,326,923	-531,463	-14.48%
Hodgkin's Lymphoma	16,354,733	19,636,312	15,148,880	15,433,893	13,445,556	-727,294	-3.45%
Kaposi Sarcoma	20,071,159	20,133,663	20,075,346	19,750,554	17,865,839	-551,330	-2.78%
Kidney	24,984,890	22,472,490	22,095,888	25,070,678	25,442,568	114,420	0.80%
Larynx	491,395	353,412	333,234	94,951	387,226	-26,042	50.63%
Leukemia	201,052,444	198,818,288	182,882,813	180,455,806	185,295,802	-3,939,161	-1.94%
Liver	52,888,388	53,472,232	58,928,177	57,758,872	56,307,759	854,843	1.70%
Lung	245,457,301	220,104,368	205,545,637	211,664,104	210,380,706	-8,769,149	-3.64%
Lymph Node	4,350,116	3,744,942	4,278,957	5,067,477	4,181,890	-42,057	0.32%
Lymphatic System	424,632	718,819	658,665	1,008,473	972,288	136,914	27.61%
Melanoma	94,558,088	94,920,227	85,849,652	88,137,544	83,524,972	-2,758,279	-2.94%
Mesothelioma	†	†	†	5,118,746	4,954,819	-163,927	-0.03%
Muscle	9,250,584	7,605,653	7,437,525	7,024,414	6,481,674	-687,728	-8.32%

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

†Coding not required or requested.

Table 15. NCI Organ and Related Site-Specific Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

ANATOMICAL SITE	2005	2006	2007	2008	2009	Average Dollar Change/yr.	Average Percent Change/yr.
Myeloma	25,085,863	27,013,588	27,362,776	33,503,775	38,604,683	3,379,705	11.66%
Nervous System	2,909,612	3,302,967	4,023,649	5,435,453	4,647,939	434,582	13.98%
Neuroblastoma	22,004,713	19,558,040	15,104,996	15,573,801	16,181,400	-1,455,828	-6.72%
Non-Hodgkin's Lymphoma	94,545,180	98,911,228	99,384,129	99,020,696	97,443,215	724,509	0.78%
Nose, Nasal Passages	1,759,357	956,549	762,856	805,092	645,963	-278,349	-20.03%
Oral Cavity	5,494,543	8,081,757	9,150,490	6,596,431	8,597,531	775,747	15.68%
Ovary	91,509,918	87,686,822	88,505,726	84,649,015	96,873,625	1,340,927	1.71%
Pancreas	64,697,347	70,407,600	69,056,905	79,059,158	81,662,578	4,241,308	6.17%
Parathyroid	186,052	187,134	171,823	144,230	103,991	-20,515	-12.89%
Penis	1,777,028	2,938,868	2,720,503	3,031,187	752,499	-256,132	-1.45%
Pharynx	3,405,521	3,703,659	3,924,697	3,893,205	4,419,331	253,453	6.86%
Pituitary	1,904,001	1,726,533	897,516	583,208	482,208	-355,448	-27.42%
Prostate	281,876,087	262,443,938	269,922,959	255,319,704	253,313,062	-7,140,756	-2.56%
Respiratory System	447,805	413,800	400,761	381,863	417,743	-7,516	-1.52%
Reticuloendothelial System	16,748,919	14,526,383	12,410,375	8,597,331	7,317,901	-2,357,755	-18.36%
Retinoblastoma	3,716,422	3,340,918	3,691,685	4,486,957	3,582,106	-33,579	0.44%
Salivary Glands	247,997	209,785	166,982	167,305	167,181	-20,204	-8.92%
Skin	63,603,865	59,159,876	55,115,019	46,826,626	43,600,685	-5,000,795	-8.94%
Small Intestine	1,956,314	3,736,917	3,398,526	1,695,992	2,221,942	66,407	15.72%
Spleen	314,378	413,583	553,101	579,727	190,652	-30,932	0.75%
Stomach	9,259,931	9,655,711	10,208,137	8,358,787	10,903,212	410,820	5.58%
Testis	6,138,620	7,345,304	7,745,565	6,627,363	4,680,001	-364,655	-4.68%
Thymus	1,102,792	1,285,454	1,097,000	944,461	702,233	-100,140	-9.41%
Thyroid	6,696,420	9,035,918	7,116,425	9,946,977	10,657,506	990,272	15.15%
Trachea, Bronchus	272,569	209,385	256,970	283,631	332,875	15,077	6.82%
Uterus	29,654,053	17,863,777	15,215,991	13,302,939	13,783,508	-3,967,636	-15.89%
Vagina	922,677	405,092	334,452	395,049	374,910	-136,942	-15.13%
Vascular	35,543,894	30,549,373	23,495,473	15,923,035	12,670,835	-5,718,265	-22.45%
Wilms Tumor	3,394,348	4,070,329	3,551,394	3,486,161	3,908,135	128,447	4.36%

*Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

Table 16. NCI Special Interest Category (SIC) Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

Special Interest Categories (SIC)	2005	2006	2007	2008	2009	Average Dollar Change per Year	Average Percent Change per Year
Adoptive Cell Immunotherapy	70,072,700	77,231,307	74,955,015	70,996,207	62,117,615	-1,988,771	-2.63%
Adv. Manufacturing Technology	16,171,766	12,137,985	10,801,162	5,511,219	5,221,964	-2,737,451	-22.55%
Aging	171,633,181	159,035,657	161,216,276	152,145,852	134,207,065	-9,356,529	-5.85%
AIDS	131,010,836	116,787,294	112,492,187	103,067,182	100,209,525	-7,700,328	-6.42%
Alternative Medicine, Direct	59,802,451	65,332,949	72,400,207	94,206,788	82,386,325	5,645,969	9.41%
Alternative Medicine, Indirect	25,822,838	21,292,360	19,658,748	12,699,686	7,835,105	-4,496,933	-24.73%
Alzheimers Dementia	1,536,040	874,500	688,918	519,280	643,620	-223,105	-16.24%
Arctic Research	2,227,788	1,569,039	401,216	657,911	593,726	-408,516	-12.44%
Arthritis	1,007,647	902,084	675,986	558,858	229,414	-194,558	-27.95%
Asbestos	2,728,981	3,507,819	2,045,502	2,928,933	2,598,119	-32,716	4.69%
Ataxia Telangiectasia	4,746,714	4,234,624	3,510,779	3,327,580	3,679,780	-266,734	-5.63%
Autoimmune Diseases	9,037,735	7,958,704	6,680,112	6,740,955	5,149,554	-972,045	-12.68%
Behavior Research	295,139,435	282,212,112	290,345,827	267,635,881	281,062,299	-3,519,284	-1.08%
Bioengineering	207,349,791	195,581,838	188,957,673	186,040,980	152,515,356	-13,708,609	-7.16%
Bioinformatics	147,062,040	175,997,702	186,084,187	209,948,644	181,001,236	8,484,799	6.11%
Biological Carcinogenesis, Non-Viral	5,956,723	7,500,235	9,839,320	9,579,173	12,703,496	1,686,693	21.77%
Biological Response Modifiers	887,217,706	880,071,661	860,970,394	798,141,312	719,144,678	-42,018,257	-5.04%
Biomaterials Research	37,785,085	29,846,909	28,675,262	29,381,474	27,151,082	-2,658,501	-7.52%
Biomedical Computing	†	†	105,704,582	150,599,210	170,941,827	55,065,937	27.99%
Birth Defects	9,889,474	9,956,995	12,542,976	12,567,050	11,370,639	370,291	4.33%
Bone Marrow Transplantation	49,480,615	52,200,213	55,302,120	45,432,991	49,847,129	91,629	0.83%
Breast Cancer, Detection	101,390,086	111,131,349	106,172,825	107,322,996	104,655,336	816,313	0.94%
Breast Cancer, Early Detection	48,551,540	55,723,001	53,629,264	51,733,151	44,189,642	-1,090,475	-1.78%
Breast Cancer, Education	19,854,753	18,302,054	18,883,906	15,001,800	16,730,072	-781,170	-3.42%
Breast Cancer, Epidemiology	63,832,544	60,364,732	57,226,668	53,983,579	53,538,704	-2,573,460	-4.28%
Breast Cancer, Genetics	81,815,294	94,109,611	94,230,669	95,988,119	104,157,046	5,585,438	6.38%
Breast Cancer, Prevention	32,360,672	33,363,774	33,215,639	23,912,416	23,068,268	-2,323,101	-7.22%
Breast Cancer, Rehabilitation	18,220,763	17,438,406	19,165,391	17,693,808	21,417,515	799,188	4.74%
Breast Cancer, Screening	25,913,420	26,400,323	23,893,551	21,218,698	19,799,231	-1,528,547	-6.38%
Breast Cancer, Treatment	154,285,405	152,504,604	156,754,889	158,632,338	174,253,628	4,992,056	5.86%
Breast Cancer, Basic	143,175,326	153,408,211	149,008,004	144,944,361	156,338,727	3,290,850	2.35%
Cancer Survivorship	145,043,558	182,562,991	183,385,657	191,403,957	11,590,100	191,403,957	7.67%

continued

* Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

† Coding not required or requested.

Table 16. NCI Special Interest Category (SIC) Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

Special Interest Categories (SIC)	2005	2006	2007	2008	2009	Average Dollar Change per Year	Average Percent Change per Year
Carcinogenesis, Environmental	542,772,539	508,632,113	480,503,052	383,643,608	-39,782,233	383,643,608	-8.26%
Cervical Cancer Education	4,178,353	5,056,722	6,182,900	4,999,437	205,271	4,999,437	5.81%
Chemoprevention	187,622,217	178,294,664	173,799,362	152,129,816	-8,873,100	152,129,816	-4.99%
Chemoprevention, Clinical	63,463,878	62,232,663	52,265,744	42,967,021	-5,124,214	42,967,021	-9.01%
Chemotherapy	479,353,115	492,096,516	511,658,388	498,607,076	4,813,490	498,607,076	1.05%
Child Health	61,887,153	63,340,710	60,378,263	40,373,649	-5,378,376	40,373,649	-9.55%
Childhood Cancers	159,567,547	162,737,733	154,308,213	155,626,941	-985,152	155,626,941	-0.58%
Chronic Myeloproliferative Disorders	36,959,663	39,593,377	36,332,441	30,853,073	-1,526,648	30,853,073	-3.95%
Clinical Trials, Diagnosis	113,103,165	102,442,171	81,920,488	73,641,723	65,607,991	-11,873,794	-12.62%
Clinical Trials, Other	54,757,357	69,989,916	81,173,367	91,237,981	55,070,673	78,329	4.14%
Clinical Trials, Prevention	68,628,972	69,044,253	69,733,610	67,120,061	68,687,930	14,740	0.05%
Clinical Trials, Therapy	401,297,009	421,686,177	439,300,266	402,694,464	415,254,788	3,489,445	1.01%
Combined Treatment Modalities	330,666,739	314,506,511	336,391,245	328,805,877	330,023,120	-160,905	0.05%
Cost Effectiveness	23,995,438	23,921,107	25,035,865	26,636,734	26,203,774	552,084	2.28%
Diabetes	10,440,254	8,964,992	6,820,800	6,794,392	6,005,950	-1,108,576	-12.51%
Diagnosis	618,317,471	623,326,562	592,320,513	600,487,839	573,454,652	-11,215,705	-1.82%
Diagnostic Imaging	317,336,979	316,552,835	310,447,316	324,161,058	298,188,119	-4,787,215	-1.44%
Diethylstilbestrol	2,222,054	1,822,731	1,871,382	1,707,757	1,332,877	-222,294	-11.50%
Dioxin	194,225	1,211,643	1,143,466	1,187,187	1,109,536	228,828	128.87%
DNA Repair	157,358,768	152,063,390	151,334,073	129,868,435	117,628,173	-9,932,649	-6.86%
Drug Development	559,855,963	547,465,176	569,531,767	594,508,969	566,358,752	1,625,697	0.37%
Drug Discovery	66,215,930	70,219,959	81,218,072	86,460,260	92,397,892	6,545,491	8.76%
Drug Resistance	120,398,474	110,355,246	112,906,437	105,408,222	108,142,214	-3,064,065	-2.52%
Drugs, Natural Products	132,933,883	136,300,671	142,695,237	132,810,296	149,147,149	4,053,317	3.15%
Early Detection	301,025,316	301,289,984	279,983,823	254,455,950	234,555,404	-16,617,478	-5.98%
Effectiveness Research	68,702,939	55,680,495	48,982,584	38,755,884	51,473,034	-4,307,476	-4.76%
Endocrinology	183,285,587	179,691,910	169,505,236	149,659,737	157,722,749	-6,390,710	-3.49%
Energy Balance	38,184,297	37,257,614	39,314,259	37,926,551	34,965,885	-804,603	-2.06%
Epidemiology, Biochemical	206,718,733	186,779,069	194,325,396	191,429,441	197,999,526	-2,179,802	-0.92%
Epidemiology, Environmental	218,875,075	189,175,911	186,698,902	174,036,057	173,517,889	-11,339,297	-5.49%
Epigenetics	94,971,910	108,953,373	117,556,094	110,601,258	135,156,123	10,046,053	9.73%
Gene Mapping, Human	182,663,241	156,498,765	136,466,661	118,007,627	152,234,669	-7,607,143	-2.91%
Gene Mapping, Non-Human	67,952,386	62,725,805	55,900,097	48,645,517	39,156,622	-7,198,941	-12.76%
Gene Transfer Clinical	17,254,725	19,282,015	16,253,425	8,853,885	11,095,921	-1,539,701	-6.04%

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

Table 16. NCI Special Interest Category (SIC) Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

Special Interest Categories (SIC)	2005	2006	2007	2008	2009	Average Dollar Change per Year	Average Percent Change per Year
Genetic Testing Research, Human	196,298,554	195,880,886	175,570,284	153,302,520	128,859,704	-16,859,713	-9.80%
Genomics	24,245,008	63,935,842	90,249,814	190,911,970	229,633,005	51,346,999	84.17%
Health Literacy	2,001,381	4,490,912	9,043,623	13,580,160	18,937,191	4,233,953	78.84%
Health Promotion	238,467,719	223,190,419	222,364,888	194,924,155	191,158,981	-11,827,185	-5.26%
Healthcare Delivery	†	28,336,001	49,315,952	58,437,701	78,056,074	16,573,358	42.04%
Helicobacter	3,815,249	4,831,420	6,991,551	5,648,579	8,117,901	1,075,663	23.96%
Hematology	450,398,699	448,191,248	462,367,203	452,616,267	435,171,234	-3,806,866	-0.82%
Hematopoietic Stem Cell Research	105,121,325	123,066,724	113,195,029	110,411,418	109,282,901	1,040,394	1.39%
Hormone Replacement Therapy	14,254,242	11,719,547	10,761,691	6,676,504	7,065,990	-1,797,063	-14.52%
Hospice	8,671,792	9,281,180	9,486,659	6,083,327	5,282,511	-847,320	-9.95%
Iatrogenesis	56,013,837	52,112,380	50,524,538	55,841,059	65,536,168	2,380,583	4.47%
Inflammation	†	†	†	65,178,221	64,166,768	-1,011,453	-1.56%
Information Dissemination	390,365,620	352,206,158	320,747,829	291,642,914	290,130,953	-25,058,667	-7.07%
Metastasis	310,478,648	323,687,694	336,636,916	337,268,992	355,686,152	11,301,876	3.48%
Mind/Body Research	19,535,017	17,114,346	14,990,313	13,187,773	13,512,149	-1,505,717	-8.59%
Molecular Disease	1,432,200,446	1,505,288,239	1,494,763,190	1,476,030,136	1,528,955,033	24,188,647	1.68%
Molecular Imaging	22,894,743	67,339,111	102,987,435	144,549,611	170,872,392	36,994,412	76.41%
Molecular Targeted Prevention	†	26,767,232	34,803,249	38,589,501	46,234,785	6,489,184	20.24%
Molecular Targeted Therapy	168,524,743	235,736,478	304,259,412	383,816,836	393,472,436	56,236,923	24.40%
Nanotechnology	160,886,764	139,280,697	115,493,360	151,959,286	115,312,420	-11,393,586	-5.76%
Neurofibromatosis	5,441,436	6,196,638	3,981,414	4,017,486	6,209,557	192,030	8.40%
Nursing Research	12,875,140	14,431,353	15,260,161	12,201,542	10,555,166	-579,994	-3.93%
Nutrition	225,476,479	209,329,870	223,526,960	201,619,594	204,317,432	-5,289,762	-2.21%
Nutrition Monitoring	27,724,349	21,030,276	22,761,837	13,630,246	15,021,112	-3,175,809	-11.46%
Obesity	47,654,377	47,392,071	51,503,516	47,333,147	50,280,955	656,645	1.56%
Occupational Cancer	12,431,237	12,471,937	10,925,839	10,713,973	8,632,965	-949,568	-8.36%
Oncogenes	650,329,143	635,069,232	601,158,227	533,729,012	502,102,431	-37,056,678	-6.21%
Organ Transplant Research	65,746,345	65,707,332	70,998,100	62,167,759	63,127,376	-654,742	-0.73%
Osteoporosis	1,657,557	1,536,104	1,291,894	1,596,851	913,593	-185,991	-10.60%
Pain	20,644,937	18,649,226	17,232,485	14,851,154	14,492,776	-1,538,040	-8.37%
Palliative Care	24,483,291	23,757,110	25,370,733	19,987,513	18,656,631	-1,456,665	-6.01%
Pap Testing	18,343,787	17,521,998	15,939,640	13,137,398	10,181,411	-2,040,594	-13.40%

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

†Coding not required or requested.

Table 16. NCI Special Interest Category (SIC) Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

Special Interest Categories (SIC)	2005	2006	2007	2008	2009	Average Dollar Change per Year	Average Percent Change per Year
Pediatric Research	240,263,190	240,581,866	226,000,356	198,764,140	203,216,177	-9,261,753	-3.93%
Personalized Health Care	†	†	†	246,722,424	233,130,556	-13,591,868	-5.53%
Pesticides	2,300,012	2,502,883	2,757,238	2,310,305	1,610,727	-172,321	-6.88%
Prevention	407,329,290	398,996,283	403,184,059	368,664,039	363,247,880	-11,020,353	-2.76%
Proteomics	37,141,648	68,071,793	82,439,359	134,855,573	99,592,562	15,612,728	35.45%
Radiation, Electromagnetic Fields	580,932	591,341	1,246,146	821,382	235,460	-86,368	1.78%
Radiation, Ionizing	43,059,514	43,805,949	37,278,455	31,997,830	24,171,736	-4,721,945	-12.95%
Radiation, Ionizing Diagnosis	31,082,541	36,896,621	45,911,196	49,298,293	59,702,591	7,155,013	17.90%
Radiation, Ionizing Radiotherapy	233,258,022	224,914,720	211,921,221	201,677,405	193,938,425	-9,829,899	-4.51%
Radiation, Low-Level Ionizing	11,900,597	9,904,869	6,781,869	6,004,368	6,700,454	-1,300,036	-12.04%
Radiation, Magnetic Resonance Imaging	69,701,604	73,324,083	76,509,175	78,536,764	73,020,662	829,765	1.29%
Radiation, Mammography	36,724,102	35,098,510	26,506,642	26,290,017	30,249,347	-1,618,689	-3.67%
Radiation, Non-Ionizing	38,469,271	41,765,880	36,518,288	30,188,447	25,645,724	-3,205,887	-9.09%
Radiation, Non-Ionizing Diagnosis	97,126,317	106,677,590	113,743,238	129,147,614	132,689,147	8,890,708	8.19%
Radiation, Non-Ionizing Therapy	10,281,596	19,703,696	20,512,897	30,389,175	40,237,663	7,489,017	44.08%
Radiation, Ultraviolet	36,599,581	34,863,897	30,248,878	25,712,458	22,275,336	-3,581,061	-11.59%
Radon	2,064,419	1,877,626	1,928,547	2,177,728	1,976,301	-22,030	-0.67%
Rare Diseases	41,827,984	40,951,967	35,970,832	30,474,361	26,264,577	-3,890,852	-10.84%
Rehabilitation	33,264,360	33,023,938	36,343,543	33,128,036	37,686,513	1,105,538	3.56%
Rural Populations	49,888,988	47,378,913	46,608,058	45,719,118	48,376,198	-378,198	-0.69%
Sexually Transmitted Diseases	53,246,020	49,404,310	46,567,630	38,109,174	34,674,171	-4,642,962	-10.03%
Sleep Disorders	†	8,394,505	7,121,771	7,432,947	7,469,494	-308,337	-3.43%
Small Molecules	72,467,673	75,198,858	75,388,735	76,740,713	71,581,029	-221,661	-0.23%
Smokeless Tobacco	3,157,981	5,455,151	4,915,185	5,757,700	5,933,701	693,930	20.76%
Smoking, Passive	5,646,628	5,916,667	4,724,698	4,619,916	3,130,987	-628,910	-12.45%
Structural Biology	382,597,297	373,716,079	350,255,158	342,497,661	275,478,039	-26,779,815	-7.60%
Surgery	102,248,250	68,506,434	62,186,093	60,403,091	58,357,189	-10,972,765	-12.12%
Taxol	67,584,901	67,818,280	68,614,085	61,670,540	68,307,440	180,635	0.54%
Telehealth	122,527,280	114,070,880	109,251,686	93,969,029	87,383,641	-8,785,910	-8.03%
Therapy	1,272,641,374	1,266,274,256	1,298,039,566	1,266,717,259	1,293,734,934	5,273,390	0.43%
Tobacco	131,902,138	116,460,252	107,599,912	104,590,592	102,768,073	-7,283,516	-5.96%
Tobacco Use Behavior	65,185,509	57,593,749	54,845,966	58,744,833	63,265,058	-480,113	-0.40%

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

†Coding not required or requested.

Table 16. NCI Special Interest Category (SIC) Dollars for FY2005 - FY2009 – Annual Percent Change*

(This table reports funding for research grants and contracts only; training grants and intramural projects are excluded.)

Special Interest Categories (SIC)	2005	2006	2007	2008	2009	Average Dollar Change per Year	Average Percent Change per Year
Tropical Diseases	11,102,730	11,470,288	8,793,217	8,202,639	7,681,852	-855,220	-8.27%
Tumor Markers	434,204,129	379,942,155	319,696,793	252,702,581	221,617,165	-53,146,741	-15.40%
Underserved Populations	177,574,214	185,053,103	193,031,767	177,547,393	196,599,887	4,756,418	2.81%
Vaccine Development	27,059,011	28,477,513	25,921,581	23,403,407	27,788,242	182,308	1.32%
Vaccine Production	1,693,418	2,554,459	2,813,459	1,698,905	1,679,991	-3,357	5.06%
Vaccine Research	40,521,325	40,811,267	35,338,089	47,978,733	36,008,507	-1,128,205	-0.47%
Vaccine Testing	45,170,380	41,589,965	42,358,539	36,980,922	32,284,058	-3,221,581	-7.87%
Virus Cancer Research	191,052,843	184,005,089	169,548,341	170,424,367	150,056,843	-10,249,000	-5.74%
Virus, Epstein-Barr	24,534,511	24,823,910	20,885,807	26,125,350	25,817,384	320,718	2.31%
Virus, Genital Herpes	507,354	297,627	496,778	540,230	477,647	-7,427	5.68%
Virus, Hepatitis B	7,739,861	9,761,386	11,248,067	11,012,984	11,871,783	1,032,981	11.76%
Virus, Hepatitis C	4,890,912	5,314,150	6,013,368	4,333,370	5,630,219	184,827	5.95%
Virus, Herpes	52,021,227	50,636,437	49,617,358	54,880,575	52,782,064	190,209	0.53%
Virus, HHV8	19,069,528	19,444,589	21,063,289	22,368,841	19,211,560	35,508	0.59%
Virus, HTLV-I	8,734,324	9,255,632	8,125,525	6,781,564	7,297,891	-359,108	-3.79%
Virus, HTLV-II	246,497	180,823	286,731	409,579	135,552	-27,736	1.97%
Virus, Papilloma	56,846,619	48,746,509	52,204,543	45,471,104	43,170,681	-3,418,985	-6.28%
Virus, Papova	69,718,574	63,010,553	64,028,274	56,437,588	53,452,161	-4,066,603	-6.29%
Virus, SV40	10,464,181	10,663,884	8,629,445	7,070,625	5,958,199	-1,126,496	-12.74%
Vitamin A	23,874,074	18,860,654	19,668,632	16,458,484	11,818,899	-3,013,794	-15.31%
Vitamin C	5,490,209	4,567,404	2,659,444	1,898,594	2,154,020	-834,047	-18.43%
Vitamins, Other	23,430,615	22,232,900	21,766,523	19,687,064	15,052,880	-2,094,434	-10.08%

* Some categories are not mutually exclusive, resulting in overlap in reported funding; dollar totals, therefore, exceed 100 percent of the extramural budget.

Table 17. NCI Funding (in Thousands) of Foreign Research Grants in FY2009

(This table reports extramural grants only; intramural grants, training grants, and contracts are excluded.)

Country		Funding Mechanism								Subtotal
		R01	R03	R21	R33	R37	U01	U10	U24	
Australia	Grants	5				1	1		1	**8**
	Funding	1,049				230	479		1,629	**3,387**
Belgium	Grants							1		**1**
	Funding							809		**809**
Canada	Grants	12	1	7		1	2	3	2	**28**
	Funding	3,813	66	910		338	1,292	1,406	3,145	**10,970**
China (Taiwan)	Grants	1								**1**
	Funding	132								**132**
Egypt	Grants		1							**1**
	Funding		54							**54**
France	Grants	2	1				1			**4**
	Funding	898	57				810			**1,765**
Germany	Grants	1								**1**
	Funding	395								**395**
Iceland	Grants	1								**1**
	Funding	197								**197**
India	Grants	1								**1**
	Funding	190								**190**
Ireland	Grants	1								**1**
	Funding	202								**202**
Israel	Grants	5				2	1			**8**
	Funding	952				452	150			**1,554**
Netherlands	Grants						2			**2**
	Funding						220			**220**
Singapore	Grants				1					**1**
	Funding				387					**387**
Spain	Grants	2								**2**
	Funding	408								**408**
Sweden	Grants	1		1						**2**
	Funding	422		120						**542**
Switzerland	Grants	2								**2**
	Funding	369								**369**
United Kingdom	Grants	6		1			1		1	**9**
	Funding	1,419		108			986		310	**2,823**
		R01	**R03**	**R21**	**R33**	**R37**	**U01**	**U10**	**U24**	
Totals	**Grants**	**40**	**3**	**9**	**1**	**4**	**8**	**4**	**4**	**73**
	Funding	**10,446**	**177**	**1,138**	**387**	**1,020**	**3,937**	**2,215**	**5,084**	**24,404**

Table 18. Foreign Components of U.S. Domestic Research Grants in FY2009

(This table reports extramural grants only; intramural grants, training grants, and contracts are excluded.)

Country	Funding Mechanism															Subtotal
	R01	R03	R15	R21	R24	R33	R37	R43	R44	P01	P50	U01	U19	U24	U54	
Africa												1				**1**
Argentina												1		1		**2**
Australia	10	1								2		5		3		**21**
Austria	2													1		**3**
Bangladesh	1															**1**
Barbados	2															**2**
Belgium														1		**1**
Brazil	2	1										2		1		**6**
Cameroon															1	**1**
Canada	28	3		3			2		1	2	1	12		4		**56**
China	17	1					1	1						2		**22**
Colombia														1		**1**
Costa Rica												1				**1**
Czech Republic	3													1		**4**
Denmark	7			1										1		**9**
Dominican Republic	1															**1**
Egypt	5			1										1		**7**
Fiji	1															**1**
Finland	4	1								1				1		**7**
France	5	1												1		**7**
Germany	11				1					1		3		2		**18**
Hungary														2		**2**
Iceland	1															**1**
India	3													1		**4**
Indonesia	1															**1**
Iran														1		**1**
Ireland	2													1		**3**
Israel	6	1					2							2		**11**
Italy	7	1	1	1			1							2		**13**
Japan	8											1	1	1		**11**
Kenya	3											2			1	**6**
Kuwait														1		**1**
Latvia	1															**1**
Malaysia														1		**1**

continued

Table 18. Foreign Components of U.S. Domestic Research Grants in FY2009

(This table reports extramural grants only; intramural grants, training grants, and contracts are excluded.)

Country	Funding Mechanism															Subtotal
	R01	R03	R15	R21	R24	R33	R37	R43	R44	P01	P50	U01	U19	U24	U54	
Mexico	2	1												1		**4**
Moldova							1									**1**
Netherlands	12						1			1		1		1	1	**17**
New Zealand	3			1										2		**6**
Nigeria	1										1				2	**4**
Norway												1				**1**
Pakistan														1		**1**
Panama														1		**1**
Papua New Guinea	2															**2**
Peru															1	**1**
Philippines	1			1												**2**
Poland	1													1		**2**
Portugal														1		**1**
Russia	2													2		**4**
Saudi Arabia														1		**1**
Senegal	3			1												**4**
Singapore	4					1								1		**6**
Slovenia														1		**1**
South Africa	1													2		**3**
South Korea	3													1		**4**
Spain	7											1		2		**10**
Sweden	10			1								1		2		**14**
Switzerland	1													2		**3**
Taiwan	3								1					1		**5**
Thailand				1								1				**2**
Tobago	1															**1**
Turkey	2													1		**3**
Uganda	1					1						2				**4**
United Kingdom	24	2				2	1				2	7		2	1	**41**
Uruguay														1		**1**
Venezuela														1		**1**
Zambia	1			1								1				**3**
	R01	**R03**	**R15**	**R21**	**R24**	**R33**	**R37**	**R43**	**R44**	**P01**	**P50**	**U01**	**U19**	**U24**	**U54**	**382**
Totals	**216**	**13**	**1**	**12**	**1**	**4**	**9**	**1**	**2**	**7**	**4**	**43**	**1**	**61**	**7**	

Table 19. NCI Participation in Trans-NIH ARRA Requests for Applications (RFAs) in FY2009

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office and Center	Issuing NIH-IC
3/4/2009	OD09-003	RC1	Recovery Act Limited Competition: NIH Challenge Grants in Health and Science Research	DCB	NIH/OD
3/23/2009	OD09-004	RC2	Recovery Act Limited Competition for NIH Grants: Research and Research Infrastructure Grand Opportunities	CCT	NIH/OD
3/30/2009	OD09-005	P30	Recovery Act Limited Competition: Supporting New Faculty Recruitment to Enhance Research Resources through Biomedical Research Core Centers	CCT	NIH/OD
4/20/2009	OD09-007	R15	Recovery Act Limited Competition: Academic Research Enhancement Award	DEA*	NIH/OD
6/2/2009	OD09-008	RC3	Recovery Act Limited Competition: Biomedical Research, Development, and Growth to Spur the Acceleration of New Technologies (BRDG-SPAN) Pilot Program	SBIRDC	NIH/OD
6/2/2009	OD09-009	R43	Recovery Act Limited Competition: Small Business Catalyst Awards for Accelerating Innovative Research	SBIRDC	NIH/OD
9/18/2009	OD09-010	RC4	Recovery Act Limited Competition: Building Sustainable Community-Linked Infrastructure to Enable Health Science Research	DCCPS	NIH/OD

*All NCI Divisions, Offices, and Centers may participate.

Table 20. ARRA Solicited Applications Received for Referral by the NCI/DEA in FY2009*

Sorted by Mechanism

Mechanism	Activity Code	Totals by Activity	Total Costs Requested First Year
Physician Scientist Award (Program)	K12	1	$146,149
Research Program Projects	P01	12	$11,421,014
Exploratory Grants	P20	1	$637,819
Center Core Grants	P30	79	$43,325,597
Biotechnology Resource Grant Program	P41	1	$508,512
Specialized Center	P50	15	$7,969,003
Research Project	R01	441	$166,362,627
Small Research Grants	R03	13	$1,684,171
Academic Research Enhancement Awards (AREA)	R15	6	$1,066,840
Exploratory/Developmental Grants	R21	49	$12,794,837
Education Projects	R25	2	$287,447
Exploratory/Developmental Grants Phase II	R33	5	$2,267,551
Method to Extend Research in Time (MERIT) Award	R37	2	$58,614
Small Business Technology Transfer (STTR) Grants—Phase II	R42	1	$280,374
Small Business Innovation Research Grants (SBIR)—Phase I	R43	1	$70,094
Small Business Innovation Research Grants (SBIR)—Phase II	R44	15	$6,844,586
Challenge Grants and Partnerships Program—Phase I	RC1	4,349	$1,986,138,181
High Impact Research and Research Infrastructure—Programs	RC2	603	$829,037,355
Research Enhancement Award	SC1	1	$175,000
Institutional National Research Service Award	T32	4	$448,106
Research Project (Cooperative Agreements)	U01	9	$4,291,614
Research Program (Cooperative Agreements)	U19	1	$935,295
Resource-Related Research Project (Cooperative Agreements)	U24	3	$1,280,785
Specialized Center (Cooperative Agreements)	U54	3	$3,130,954
Overall Totals		**5,617**	**$3,081,162,525**

*Source: IMPAC II.

Table 21. ARRA Solicited Grant and Cooperative Applications Reviewed by the NCI/DEA in FY2009*

Sorted by Mechanism

Mechanism	Activity Code	Totals by Activity	Total Costs Requested First Year
Physician Scientist Award (Program)	K12	1	$146,149
Research Program Projects	P01	11	$11,065,496
Exploratory Grants	P20	1	$637,819
Center Core Grants	P30	75	$40,943,655
Specialized Center	P50	15	$7,969,003
Research Project	R01	7	$2,644,874
Small Research Grants	R03	9	$1,098,888
Exploratory/Developmental Grants	R21	7	$2,646,044
Education Projects	R25	2	$287,447
Exploratory/Developmental Grants Phase II	R33	4	$1,862,605
Research and Research Infrastructure "Grand Opportunities" Programs	RC2	512	$691,760,081
Research Enhancement Award	SC1	1	$175,000
Institutional National Research Service Award	T32	4	$448,106
Research Project (Cooperative Agreements)	U01	6	$2,303,682
Research Program (Cooperative Agreements)	U19	1	$935,295
Resource-Related Research Project (Cooperative Agreements)	U24	3	$1,280,785
Specialized Center (Cooperative Agreements)	U54	3	$3,130,954
Totals		**662**	**$769,335,883**

*Source: IMPAC II. Includes NCI primary and secondary assigned applications and withdrawn applications submitted in response to ARRA initiatives for the September Board.

Table 22. ARRA Funding Opportunity Announcements (FOA) Reviewed by the NCI/DEA in FY2009*

Title of Initiative	FOA Number	Activity Codes	Total Applications	Total Costs Requested First Year
Recovery Act Limited Competition for NIH Grants: Research and Research Infrastructure Grand Opportunities (GO)	OD09-004	RC2	512	$691,760,081
Recovery Act Limited Competition: Supporting New Faculty Recruitment to Enhance Research Resources through Biomedical Research Core Centers	OD09-005	P30	59	$38,399,051
Recovery Act Funds for Competitive Revision Supplement Applications	OD09-058	K12	1	$146,149
		P01	11	$11,065,496
		P20	1	$637,819
		P30	16	$2,544,604
		P50	15	$7,969,003
		T32	4	$448,106
		U01	6	$2,303,682
		U19	1	$935,295
		U24	3	$1,280,785
		U54	3	$3,130,954
NIH Small Research Grant Program (Parent R03)†	PA06-180	R03	4	$420,945
NIH Exploratory Development Research Grant Program (Parent R21)†	PA06-181	R21	6	$2,534,085
		R33	1	$293,449
Research Project Grant (Parent R01)†	PA07-070	R01	7	$2,644,874
		R33	1	$501,487
Small Grants Program for Cancer Epidemiology†	PAR08-237	R03	1	$81,250
Cancer Education Grants Program†	PAR06-511	R25	1	$125,607
	PAR08-120	R25	1	$161,840
Support of Competitive Research (SCORE) Research Advancement Award†	PAR08-026	SC1	1	$175,000
Cancer Prevention Research Small Grant Program†	PAR08-055	R03	4	$596,693
Innovative and Applied Emerging Technologies in Biospecimen Science†	CA09-004	R21	1	$111,959
Application and Use of Transformative Emerging Technologies in Cancer Research†	CA09-007	R33	2	$1,067,669
Totals			**662**	**$769,335,883**

*Source: IMPAC II. Includes NCI primary and secondary assigned applications. Withdrawn applications have been subtracted from the total count.
†Submitted in response to FOA-OD-09-058.

Table 23. NCI ARRA Funding (in Thousands) by Anatomical Site for FY2009

ANATOMICAL SITE	Number of Projects	Relevant Project Dollars
Adrenal	1	15,951
Anus	7	1,513,904
Bladder	35	2,758,393
Bone Marrow	21	1,572,276
Bone, Cartilage	27	2,554,000
Brain	114	31,356,070
Breast	325	85,105,575
Central Nervous System	13	1,265,151
Cervix	71	9,264,764
Childhood Leukemia	29	7,116,016
Colon, Rectum	193	44,383,269
Connective Tissue	18	2,001,059
Embryonic Tissue, Cells	2	308,725
Esophagus	30	3,391,669
Eye	3	360,590
Gastrointestinal Tract	13	2,130,572
Genital System, Female	3	342,812
Genital System, Male	3	349,713
Head and Neck	53	5,549,121
Heart	2	29,320
Hodgkin's Lymphoma	18	1,515,077
Kaposi Sarcoma	34	6,222,844
Kidney	42	2,388,099
Larynx	1	24,557
Leukemia	145	33,648,269
Liver	65	9,039,528
Lung	196	46,243,123
Lymph Node	6	257,863
Lymphatic System	4	454,056

ANATOMICAL SITE	Number of Projects	Relevant Project Dollars
Melanoma	99	17,615,172
Muscle	11	2,145,056
Myeloma	49	4,768,994
Nervous System	11	734,426
Neuroblastoma	27	1,803,363
Non-Hodgkin's Lymphoma	102	13,981,115
Nose, Nasal Passages	1	498
Oral Cavity	14	2,663,295
Ovary	92	15,867,776
Pancreas	79	10,704,316
Penis	3	432,517
Pharynx	8	305,387
Pituitary	1	285,664
Prostate	209	47,019,200
Reticuloendothelial System	11	673,806
Respiratory System	3	387,503
Retinoblastoma	7	851,420
Salivary Glands	1	48,468
Skin	62	8,179,186
Small Intestine	4	488,432
Spleen	2	114,310
Stomach	14	1,214,772
Testis	12	935,372
Thyroid	16	2,209,155
Trachea, Bronchus	2	55,991
Urinary System	1	22,522
Uterus	27	4,623,366
Vascular	20	1,707,510
Wilms Tumor	5	773,974

Table 24. NCI ARRA Dollars by Science Area for FY2009

Science Area	Number of Projects	Total Relevant Dollars
Adoptive Cell Immunotherapy	56	11,188,317
Adv. Manufacturing Technology	4	59,460
Aging	184	22,232,245
AIDS	100	24,200,252
Alternative Medicine, Direct	91	18,104,892
Alternative Medicine, Indirect	15	1,536,773
Alzheimers Dementia	1	12,241
Arthritis	1	2,505
Asbestos	1	384,336
Ataxia Telangiectasia	7	460,052
Automimmune Diseases	10	261,701
Behavior Research	251	49,441,988
Bioengineering	79	23,151,443
Bioinformatics	157	38,212,292
Biological Carcinogenesis, Non-Viral	13	1,301,505
Biologics/Biological Response Modifiers	295	97,622,329
Biomarkers	120	45,249,600
Biomaterials Research	35	4,044,568
Birth Defects	17	1,076,652
Bone Marrow Transplantation	26	3,253,027
Breast Cancer, Detection	113	16,913,065
Breast Cancer, Early Detection	59	9,260,120
Breast Cancer, Education	28	4,191,645
Breast Cancer, Epidemiology	47	13,786,370
Breast Cancer, Genetics	102	22,246,915
Breast Cancer, Prevention	48	3,930,273
Breast Cancer, Rehabilitation	34	2,195,216
Breast Cancer, Screening	39	4,002,965
Breast Cancer, Treatment	138	22,602,653
Breast Cancer, Basic	131	25,734,827
Cancer Survivorship	135	30,644,352
Carcinogenesis, Environmental	251	77,199,080
Cervical Cancer Education	13	989,061
Chemoprevention	115	18,758,148
Chemoprevention, Clinical	12	2,230,467
Chemotherapy	251	87,494,986
Child Health	52	9,325,454
Childhood Cancers	99	27,213,388
Chronic Myeloproliferative Disorders	34	3,641,910
Clinical Trials, Diagnosis	22	10,303,491
Clinical Trials, Other	50	12,104,917
Clinical Trials, Prevention	19	6,112,492
Clinical Trials, Therapy	105	64,859,721
Combination Therapy	143	56,518,748
Cost Effectiveness	44	3,930,534
Diabetes	13	584,949
Diagnosis	343	97,860,613
Diagnostic Imaging	194	47,822,680
Diethylstilbestrol	1	2,505
Dioxin	2	1,500
DNA Repair	125	19,386,243
Drug Development	350	103,579,383
Drug Discovery	74	14,302,361
Drug Resistance	120	20,878,610
Drugs, Natural Products	130	19,360,856
Early Detection	185	37,178,118
Effectiveness Research	53	12,165,595
Endocrinology	148	31,522,740
Energy Balance	33	8,224,313
Epidemiology, Biochemical	136	43,227,272
Epidemiology, Environmental	134	40,975,611
Epigenetics	141	28,950,796
Gene Mapping, Human	112	27,827,660
Gene Mapping, Non-Human	61	6,267,969
Gene Transfer, Clinical	4	763,008
Genetic Testing Research, Human	97	26,200,566
Genomics	202	66,943,258
Health Literacy	34	6,675,227
Health Promotion	126	26,021,188
Healthcare Delivery	85	17,501,879
Helicobacter	8	792,984
Hematology	261	73,486,680
Hematopoietic Stem Cell Research	58	11,085,138
Hormone Replacement Therapy	9	872,973
Hospice	15	980,894
Iatrogenesis	66	8,619,875
Inflammation	95	12,877,376
Information Dissemination	161	39,300,765
Metastasis	269	59,085,250
Mind/Body Research	20	1,717,401
Molecular Disease	812	279,289,636
Molecular Imaging	156	31,928,682
Molecular Targeted Prevention	64	9,139,778

continued

Table 24. NCI ARRA Dollars by Science Area for FY2009

Science Area	Number of Projects	Total Relevant Dollars
Molecular Targeted Therapy	262	69,990,159
Nanotechnology	113	21,795,754
Neurofibromatosis	11	1,667,365
Nursing Research	15	1,583,081
Nutrition	177	40,948,408
Nutrition Monitoring	18	9,541,646
Obesity	66	8,295,155
Occupational Cancer	13	1,118,637
Oncogenes	347	87,079,763
Organ Transplant Research	38	4,719,217
Pain	26	1,318,658
Palliative Care	33	4,376,695
Pap Testing	18	2,180,541
Pediatric Research	97	34,739,937
Personalized Health Care	161	47,122,351
Pesticides	5	216,534
Prevention	251	61,584,265
Proteomics	129	20,137,937
Radiation, Electromagnetic Fields	2	68,770
Radiation, Ionizing	38	2,629,706
Radiation, Ionizing Diagnosis	68	11,717,598
Radiation, Ionizing Radiotherapy	112	26,607,134
Radiation, Low-Level Ionizing	6	609,032
Radiation, Magnetic Resonance Imaging	83	13,523,427
Radiation, Mammography	46	5,471,971
Radiation, Non-Ionizing	58	5,684,544
Radiation, Non-Ionizing Diagnosis	113	20,803,057
Radiation, Non-Ionizing Radiotherapy	40	5,054,843
Radiation, Ultraviolet	50	4,984,855
Radon	3	63,636
Rare Diseases	33	3,031,309
Rehabilitation	45	4,336,013
Rural Populations	34	6,660,514
Sexually Transmitted Diseases	44	6,759,614

Science Area	Number of Projects	Total Relevant Dollars
Small Molecules	74	10,544,800
Smokeless Tobacco	7	126,140
Smoking, Passive	10	369,970
Structural Biology	210	39,462,483
Surgery	60	7,210,846
Taxol	50	5,662,436
Telehealth	86	11,863,002
Therapy	574	213,326,993
Tobacco	69	17,753,008
Tobacco Use Behavior	52	11,164,077
Tropical Diseases	9	391,748
Tumor Markers	162	37,321,597
Underserved Populations	163	46,405,332
Vaccine Development	62	11,349,089
Vaccine Production	3	178,940
Vaccine Research	61	9,515,805
Vaccine Testing	39	3,848,707
Virus Cancer Research	147	35,953,076
Virus, Epstein-Barr	26	4,294,669
Viirus, Genital Herpes	2	326,352
Virus, Hepatitis B	12	1,959,465
Virus, Hepatitis C	15	2,546,167
Virus, Herpes	62	12,065,845
Virus, HHV8	32	6,310,749
Virus, HIV	29	5,001,753
Virus, HTLV-I	9	592,347
Virus, HTLV-II	1	15,225
Virus, Papilloma	51	9,986,804
Virus, Papova	59	11,734,434
Virus, SV40	9	832,913
Vitamin A	24	2,520,392
Vitamin C	10	1,099,194
Vitamin D	11	1,694,983
Vitamins, Other	23	5,397,378

Appendix A: Activities of the National Cancer Advisory Board

Originally established as the National Advisory Cancer Council in 1937, the NCAB consists of 18 members who are appointed by the President and 12 nonvoting *ex officio* members. The NCAB advises, assists, consults with, and makes recommendations to the Secretary, DHHS, and to the NCI Director with respect to the activities carried out by and through the Institute and on policies pertaining to these activities. It is authorized to recommend support for grants and cooperative agreements following technical and scientific peer review. The Director of the DEA serves as Executive Secretary of the NCAB. In fulfilling its role as the locus for second-level review of all peer reviewed applications, the Board reviewed a total of 6,449 applications in 2009 requesting $1,922,261,964 in direct costs with appropriated funds. Additionally, the Board reviewed 5,113 applications requesting $2,007,148,549 in direct costs with ARRA funds.

The Board heard presentations, discussed, and provided advice on a variety of topics and NCI activities in FY2009, such as:

- NCI Director's Report
- President's Cancer Panel Report
- Legislative Update
- Annual Delegations of Authority
- Center for Cancer Research
  - Defining the Functional Cancer Genome Using RNAi Analysis and Screening
  - Application of Genomic Profiling To Identify Factors That Contribute to Cancer Health Disparities
  - Cancer Models: From Insight to Improved Care
- Cancer Centers Subcommittee Report
- Cancer Human Biobank (caHUB)
- NCI's Roadmap to Personalized Medicine in Cancer Treatment
- Applicability of Mouse Models in Translational Research and Personalized Medicine
- Scientific Update on the Centers for Population Health and Health Disparities
  - Multi-Level Factors and Cervical Cancer Risk in Ohio Appalachia
  - Breast Cancer and Social Interactions: Identifying Multiple Environments That Regulate Gene Expression
  - Why Do Men of African Descent Have Unfavorable Prostate Cancer Outcomes?
  - Future Challenges for the Centers for Population Health and Health Disparities
- Annual Report: American Association for Cancer Research (AACR)
- Annual Report: American Society of Clinical Oncology (ASCO)
- Annual Report: Implementation of Clinical Trials and Translational Research Working Group Recommendations (CTWG/TRWG)
- Annual Tobacco Control Update
- NCI Biennial Report: Inclusion of Women and Minorities in Clinical Research
- Update: Center for Cancer Research and Intramural Clinical Research Steering Committee
- Status Report: Office of Communications and Education
- Final Report and Recommendations: Enhancing Peer Review
- Division of Cancer Epidemiology and Genetics Genome-Wide Association Studies
- The Cancer Genome Atlas—Progress To Date
- National Efforts in Blood and Marrow Transplantation
- Lung Cancer Program
- Comparative Effectiveness Research: Overview and an Indication of NCAB's Role
- NCI Global Cancer Health/Research Program
  - China
  - Office of Latin America Cancer Program Development: Partnering for Cancer Research in Latin America
  - NCI's Office of International Affairs: Health Diplomacy and Capacity Building for Global Cancer Control

  - Improving Outcomes From Breast Cancer in Bangladesh: Research and Global Citizenry and Diplomacy
- The Cancer Initiating Cell and Stem Cell Biology
  - Using Human Stem Cells To Understand and Treat Disease
  - Modeling PTEN and P53 Function in Mouse Prostate Cancer Stem Cells
  - Tumor Initiating Cells in Human Squamous Cell Carcinoma

As part of its mandate for oversight of NCI activities, the NCAB receives regular updates from the NCI Director, the NCI Office of Legislation and Congressional Activities, and the President's Cancer Panel.

Another major role of the Board is to monitor the overall advisory and oversight activities of the NCI as a whole. In that regard, it annually reviews the site visit outcomes of intramural review and the extramural RFA and RFP concepts acted on by the BSA. The NCAB also participates in the framing of the annual NCI Bypass Budget and considers the impact of actualized priorities as expressed by the allocation of the annual operating budget.

The full text of recent NCAB meeting summaries is available on the NCI Web Site at: **http://deainfo.nci.nih.gov/advisory/ncabminmenu.htm**.

Appendix B: Activities of the Board of Scientific Advisors

The BSA provides scientific advice on a wide variety of matters concerning scientific program policy, progress, and future direction of NCI's extramural research programs, and concept review of extramural program initiatives.

In addition to approving a number of extramural program initiatives (see below), the BSA also heard presentations on the following in FY2009:

- Report of the NCI Director
- NCI/Congressional Relations
- NIH Stem Cell Policy
- NCI's Functional Platform Toward Highly Personalized Cancer Medicine
- Scientific Progress Update: Transdisciplinary Research on Energetics and Cancer (TREC)
- Update: Clinical Proteomic Technologies for Cancer
- Update: The Cancer Intervention and Surveillance Modeling Network (CISNET)
- Update: Therapeutically Applicable Research to Generate Effective Treatment (TARGET) Program
- Status Report: Community Network Program (CNP)
- Status Report: NCI Communicaty Cancer Centers Program
- Progress Report: Surveillance, Epidemiology, and End Results (SEER) Program
- RNAi-Mediated Epigenetic Control of the Genome
- Dynamics of Cell-Specific Nuclear Receptor Interactions With Regulatory Elements
- Breast Cancer and the Environment Research Centers
- Early Detection Research Network (EDRN) Subcommittee Report

RFA Concepts Approved

Office of the Director

- Phase I: Strengthening Capacity for Research for HIV-Associated Malignancies in Africa

Division of Cancer Prevention

- Common Pathogenetic Mechanisms of Lung Cancer and COPD

Division of Cancer Control and Population Sciences

- State and Community Tobacco Control Policy and Media Research

Division of Cancer Control and Population Sciences/Division of Cancer Biology

- Stress and Tumor Biology

RFA/Cooperative Agreements Approved

Office of the Director

- Physical Sciences – Oncology Center
- Spectral Libraries to Enable Cancer Proteomics

Division of Cancer Biology/Division of Cancer Prevention

- Fundamental Understanding of the Biology of Estrogen Receptor Negative Breast Cancer Among Various Racial and Ethnic Groups

Division of Cancer Treatment and Diagnosis

- Cancer Immunotherapy Trials Network (CITN)

RFP Concepts Approved

Office of the Director

- Developing Necessary Reagents To Enable Translation of TCGA and TARGET Discoveries

Combined RFA/Cooperative Agreements Re-Issuances

Office of the Director

- Comprehensive Minority Institution Cancer Center Partnership (MI/CCP)
- AIDS Malignancy Clinical Trials Consortium
- Community Networks Program—Reducing Disparities Through Outreach, Research and Training (CNR II)
- The Cancer Genome Atlas Network (TCGA): Genome Characterization and Genome Data Analysis Centers (GDACs)
- NCI Alliance for Nanotechnology in Cancer

Division of Cancer Biology

- The Integrative Cancer Biology Program (ICBP): Centers for Cancer Systems Biology (CCSB)

Division of Cancer Control and Population Sciences

- Transdisciplinary Research on Energetics and Cancer (TREC)
- Cancer Intervention and Surveillance Modeling Network (CISNET)
- Breast Cancer and the Environment Research Program (BCERP)

Division of Cancer Prevention

- Early Detection Research Network (EDRN)

Division of Cancer Treatment and Diagnosis

- Support for Human Specimen Banking in NCI-Supported Cancer Clinical Trials (Cooperative Group Banks)

BSA-NCI Listens Session

The BSA voted to discontinue NCI Listens Sessions. Thus, there were no sessions in FY2009.

Appendix C: List of Chartered Committees, FY2009

President's Cancer Panel

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†Deceased, February 2009.

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Cory Abate-Shen, Ph.D. ..... Columbia University College of Physicians and Surgeons
Dafna Bar-Sagi, Ph.D. ..... New York University School of Medicine
Paul D. Bieniasz, Ph.D.* ..... The Rockefeller University
Christine Biron, Ph.D. ..... Brown University
Selina Y. Chen-Kiang, Ph.D. ..... Weill Medical College of Cornell University
Lawrence Corey, M.D.* ..... Fred Hutchinson Cancer Center
Norman Drinkwater, Ph.D.* ..... University of Wisconsin, Madison
Nelson Fausto, M.D. ..... University of Washington School of Medicine
Olivera J. Finn, Ph.D. ..... University of Pittsburgh School of Medicine
Errol Friedberg, M.D.* ..... University of Texas Southwest Medical Center
Michael N. Gould, Ph.D. ..... University of Wisconsin, Madison
James E. Haber, Ph.D. ..... Brandeis University
Thomas A. Hamilton, Ph.D. ..... Cleveland Clinic Foundation
Laurence H. Hurley, Ph.D. ..... Arizona Cancer Center
Chris M. Ireland, Ph.D. ..... University of Utah
Marc K. Jenkins, Ph.D. ..... University of Minnesota Medical School
Michael Karin, Ph.D. ..... University of California, San Diego
Laimonis A. Laimins, Ph.D. ..... Northwestern University
Johnathan D. Licht, M.D.* ..... Northwestern University Feinberg School of Medicine
Wendell A. Lim, Ph.D. ..... University of California, San Francisco
Thomas A. Look, Jr., M.D. ..... Dana-Farber Cancer Institute
Ian G. Macara, Ph.D.* ..... University of Virginia Health Sciences Center
Nita J. Maihle, Ph.D. ..... Yale University School of Medicine
Lynn M. Matrisian, Ph.D. ..... Vanderbilt University School of Medicine
Suzanne Ostrand-Rosenberg, Ph.D.* ..... University of Maryland Baltimore County
Ann Marie Pendergast, Ph.D. ..... Duke University Medical Center
James H. Prestegard, Ph.D. ..... University of Georgia
Leona D. Samson, Ph.D. ..... Massachusetts Institute of Technology
Robert F. Siliciano, M.D., Ph.D. ..... The Johns Hopkins University School of Medicine
Joseph R. Testa, Ph.D. ..... Fox Chase Cancer Center
Paul O. Ts'o, Ph.D. ..... CCC Diagnostics
Jerry L. Workman, Ph.D. ..... Stowers Institute for Medical Research
Ming You, Ph.D. ..... Washington University

Executive Secretary

Florence E. Farber, Ph.D. ..... National Cancer Institute

*Pending.

NCI Director's Consumer Liaison Group

Chair

Gwen E. Darien ..... Samuel Waxman Cancer Research Foundation

Past Chair

Douglas E. Ulman ..... Lance Armstrong Foundation

Vice Chair

Everett E. Dodson ..... Georgetown Lombardi Cancer Center

Past Vice Chair

Beverly L. Laird, Ph.D. ..... 3D Medical Concepts, LLC

Members

Jeffrey Allen, Ph.D.* ..... Friends of Cancer Research
Susan G. Braun, M.S.* ..... Commonweal
William P. Bro ..... Kidney Cancer Association
Grace L. Butler, Ph.D. ..... Hope Through Grace, Inc.
Yvette Colon, M.S.W., A.C.S.W., B.C.D. ..... American Pain Foundation
Kelley L. Cotter, J.D. ..... United Way of Lake County
Marie E. Dahlstrom, M.A. ..... De La Mano Frente Al Cancer: Latino Cancer Coalition
Joyce Wilcox Graff, M.A. ..... VHL Family Alliance
Cheryl Jernigan, C.P.A., F.A.C.H.E. ..... Patient Advocate
Alan M. Kaye ..... Pathnet Esoteric Laboratory Institute
Deborah Morosini, M.D. ..... AstraZeneca
Phyllis Pettit Nassi, M.S.W. ..... Huntsman Cancer Institute University of Utah
Wendy K.D. Selig ..... Melanoma Research Alliance
CPT Arlene B. Wahwasuck (Retired), M.S.W. ..... Four Tribes Women's Wellness Coalition
Max N. Wallace, J.D.* ..... Accelerate Brain Cancer Cure, Inc.

Executive Secretary

Benjamin Carollo, M.P.A. ..... National Cancer Institute

*Pending.

NCI Initial Review Group Scientific Review Committees

Subcommittee A—Cancer Centers

Chair

James Marshall, Ph.D. ..... Roswell Park Cancer Institute

Past Chair

George J. Weiner, M.D. ..... University of Iowa, Holden Comprehensive Cancer Center

Members

Joseph Aisner, M.D. ..... University of Medicine and Dentistry of New Jersey
Robert C. Bast, Jr., M.D. ..... The University of Texas M.D. Anderson Cancer Center
Barbara J. Beckwith, M.A. ..... The Ohio State University Medical Center
Marianne Berwick, Ph.D., M.P.H. ..... University of New Mexico
Edward Chu, M.D. ..... Yale University School of Medicine
Nancy E. Davidson, M.D. ..... University of Pittsburgh
Susan M. Gapstur, Ph.D., M.P.H. ..... Northwestern University
Stanton L. Gerson, M.D. ..... Case Western Reserve University
Robert J. Gillies, Ph.D. ..... H. Lee Moffitt Cancer Center and Research Institute
Barbara J. Graves, Ph.D. ..... University of Utah, Huntsman Cancer Institute
Terry Hyslop, Ph.D. ..... Thomas Jefferson University
Robert B. Jenkins, M.D., Ph.D. ..... Mayo Cancer Center
Richard Jove, Ph.D. ..... City of Hope Comprehensive Cancer Center
Michael Kastan, M.D., Ph.D. ..... St. Jude Children's Research Hospital
Russel E. Kaufman, M.D., F.A.C.S. ..... The Wistar Institute
Hsing-Jien Kung, Ph.D. ..... University of California, Davis Cancer Center
Michelle M. Le Beau, Ph.D. ..... The University of Chicago, Cancer Research Center
Linda Malkas, Ph.D. ..... Indiana University School of Medicine
Motomi Mori, Ph.D. ..... Oregon Health & Science Center
Lynn M. Schuchter, M.D. ..... University of Pennsylvania, Abramson Cancer Center
Ann G. Schwartz, Ph.D., M.P.H. ..... Wayne State University, Karmanos Cancer Institute
Peter G. Shields, M.D. ..... Georgetown University Medical Center
Jill M. Siegfried, Ph.D. ..... University of Pittsburgh, Hillman Cancer Center
Millicent Sims, B.S. ..... African American Cancer Support Group
Kenneth D. Tew, Ph.D., D.Sc. ..... Medical University of South Carolina
Geoffrey R. Weiss, M.D. ..... University of Virginia, Charlottesville

Scientific Review Officer

Gail J. Bryant, M.D. ..... National Cancer Institute

Subcommittee C—Basic and Preclinical

Not active since 2006.

Subcommittee D—Clinical Studies

Not active since 2006.

Subcommittee E—Cancer Epidemiology, Prevention, and Control

Not active since 2006.

Subcommittee F—Manpower and Training

Chair

Mark A. Nelson, Ph.D. ..... The University of Arizona

Past Chair

Gerard M. Doherty, M.D. ..... University of Michigan Health System

Members

Vicki V. Baker, M.D. ..... Independent Consultant
Steven P. Balk, M.D., Ph.D. ..... Harvard Medical School
David L. Bartlett, M.D. ..... University of Pittsburgh School of Medicine
Herbert Chen, M.D. ..... University of Wisconsin
Fong-Fong Chu, Ph.D. ..... Beckman Research Institute of City of Hope
Craig M. Crews, Ph.D. ..... Yale University
Daniel Donoghue, Ph.D. ..... University of California, San Diego
Kimberly E. Foreman, Ph.D. ..... Loyola University of Chicago
Henry S. Friedman, M.D. ..... Duke University Medical Center
Juan Fueyo-Margareto, M.D. ..... The University of Texas M.D. Anderson Cancer Center
David W. Goodrich, Ph.D. ..... Roswell Park Cancer Institute
Annette R. Khaled, Ph.D. ..... University of Central Florida
Richard D. Hichwa, Ph.D. ..... University of Iowa
Barbara E. Kitchell, D.V.M., Ph.D. ..... Michigan State University
James C. Lang, Ph.D. ..... The Ohio State University
Deborah A. Lannigan, Ph.D. ..... University of Virginia
Christopher I. Li, M.D., Ph.D. ..... Fred Hutchinson Cancer Research Center
Jaime F. Modiano, V.M.D., Ph.D. ..... The University of Minnesota
Babatunde O. Oyajobi, M.D., Ph.D. ..... The University of Texas Health Sciences Center, San Antonio
Eric R. Prossnitz, Ph.D. ..... University of New Mexico
J. Sunil Rao, Ph.D. ..... Case Western Reserve University
George P. Studzinski, M.D., Ph.D. ..... New Jersey Medical School
Ming T. Tan, Ph.D. ..... University of Maryland
Mary Beth Terry, Ph.D. ..... Columbia University Mailman School of Public Health
Kenneth S. Zuckerman, M.D. ..... University of South Florida College of Medicine

Scientific Review Officer

Lynn M. Amende, Ph.D. ..... National Cancer Institute

Subcommittee G—Education

Chair

Robert M. Chamberlain, Ph.D. ..... The University of Texas M.D. Anderson Cancer Center

Members

Barbara L. Anderson, Ph.D. ..... The Ohio State University
Deborah J. Bowen, Ph.D. ..... Boston University
John C. Byrd, M.D. ..... The Ohio State University Comprehensive Cancer Center
Raymond J. Carroll, Ph.D. ..... Texas A&M University
Concepcion R. Diaz-Arrastia, M.D. ..... University of Texas Medical Branch
Barbara A. Given, Ph.D., R.N., F.A.A.N. ..... Michigan State University
Marcia L. Grant, R.N., D.N.S.c., F.A.A.N. ..... City of Hope Medical Center
Kenneth R. Hande, M.D. ..... Vanderbilt University School of Medicine
Gail G. Harrison, Ph.D. ..... University of California, Los Angeles
Lynn C. Hartmann, M.D. ..... Mayo Clinic
Chanita A. Hughes-Halbert, Ph.D. ..... The University of Pennsylvania
Aminah Jatoi, M.D. ..... Mayo Clinic
Lovell A. Jones, Ph.D. ..... The University of Texas M.D. Anderson Cancer Center
Arthur M. Michalek, Ph.D. ..... State University of New York at Buffalo
Selma J. Morris, M.Ed. ..... Baylor College of Medicine
Joseph F. O'Donnell, M.D. ..... Dartmouth Medical School
Jamie S. Ostroff, Ph.D. ..... Memorial Sloan-Kettering Cancer Center
Timothy Pearman, Ph.D. ..... Tulane University School of Medicine
William H. Redd, Ph.D. ..... Mount Sinai School of Medicine
Georgia R. Sadler, Ph.D. ..... University of California, San Diego Cancer Center
Edward A. Sausville, M.D., Ph.D. ..... University of Maryland Medical Center
Charles F. Von Gunten, M.D., Ph.D. ..... University of California, San Diego
Richard B. Warnecke, Ph.D. ..... University of Illinois at Chicago

Scientific Review Officer

Jeannette F. Korczak, Ph.D. ..... National Cancer Institute

Subcommittee H—Clinical Trials

Chair

Richard M. Stone, M.D. ..... Harvard Medical School

Past Chair

Stephen L. Graziano, M.D. .....State University of New York

Members

David Avrin, M.D., Ph.D. .....University of California, San Francisco
Karla V. Ballman, Ph.D. .....Mayo Clinic, College of Medicine
Claudia R. Baquet, M.D. ..... University of Maryland School of Medicine
Debra L. Barton, Ph.D., R.N., A.O.C.N. .....Mayo Clinic, College of Medicine
Nancy N. Baxter, M.D., Ph.D. ..... St. Michael's Hospital
Jacqueline K. Benedetti, Ph.D. .....Fred Hutchinson Cancer Research Center
Charles D. Blanke, M.D. .....University of British Columbia
John A. Blessing, Ph.D. ..... Roswell Park Cancer Institute
Jeffery A. Bogart, M.D. .....State University of New York
Carol L. Brown, M.D. .....Memorial Sloan-Kettering Cancer Center
Debra W. Christie, M.B.A. .....University of Mississippi Medical Center
Venus M. Gines, M.A. ..... Baylor College of Medicine
Leonard G. Gomella, M.D. .....Thomas Jefferson University
Ramaswamy Govindan, M.D. ..... Washington University School of Medicine
Stephanie J. Green, Ph.D. .....Pfizer, Inc.
Gregory P. Kalemkerian, M.D. ..... University of Michigan Health System
Merrill S. Kies, M.D. .....The University of Texas M.D. Anderson Cancer Center
Neyssa M. Marina, M.D. .....Stanford University Medical Center
Paul A. Meyers, M.D. .....Memorial Sloan-Kettering Cancer Center
Roy A. Patchell, M.D. .....University of Kentucky Medical Center
Elizabeth Poplin, M.D. .....The Cancer Institute of New Jersey
David I. Quinn, Ph.D. .....University of Southern California, Keck School of Medicine
Denise Reinke, M.S. ..... University of Michigan Comprehensive Cancer Center
William H. Rodgers, M.D., Ph.D. ..... Lenox Hill Hospital
Melanie E. Royce, M.D., Ph.D. ..... University of New Mexico Cancer Research
Mary Scroggins, M.A. ..... In My Sister's Care
Edward G. Shaw, M.D. ..... Wake Forest University School of Medicine
Elin R. Sigurdson, M.D., Ph.D. .....Fox Chase Cancer Center
Vernon K. Sondak, M.D. .....H. Lee Moffitt Cancer Center and Research Institute
Alan P. Venook, M.D. .....University of California, San Francisco
Mark A. Watson, M.D., Ph.D. ..... Washington University School of Medicine
Lari B. Wenzel, Ph.D. ..... University of California, Irvine

Scientific Review Officer

Timothy C. Meeker, M.D. ..... National Cancer Institute

Subcommittee I—Career Development

Chair

James R. Howe V, M.D. ..... University of Iowa College of Medicine

Members

Sujit Basu, M.D., Ph.D. ..... The Ohio State University
Robert K. Bright, Ph.D. ..... Texas Tech University Health Sciences Center
Christine M. Eischen, Ph.D. ..... Vanderbilt University Medical Center
Soldano Ferrone, M.D., Ph.D. ..... University of Pittsburgh Cancer Institute
James M. Ford, M.D. ..... Stanford University School of Medicine
William E. Gillanders, M.D. ..... Washington University School of Medicine
Dale S. Haines, Ph.D. ..... Temple University School of Medicine
Roland G. Henry, Ph.D. ..... University of California, San Francisco
P. Jack Hoopes, Ph.D., D.V.M. ..... Dartmouth Medical School
Jessica J. Kandel, M.D. ..... Columbia University
Susan E. Kane, Ph.D. ..... Beckman Research Institute of City of Hope
Marilyn L.G. Lamm, Ph.D. ..... Northwestern University Feinberg School of Medicine
John M. Lehman, Ph.D. ..... East Carolina University
Leonard Lothstein, Ph.D. ..... University of Tennessee Health Science Center
Kathy D. Miller, M.D. ..... Indiana University School of Medicine
Carlos S. Moreno, Ph.D. ..... Emory University, Winship Cancer Institute
Neil Osheroff, Ph.D. ..... Vanderbilt University School of Medicine
Mauel L. Penichet, Ph.D. ..... University of California, Los Angeles
Russell O. Pieper, Ph.D. .. University of California, San Francisco Comprehensive Cancer Center
Antoni Ribas, M.D. ..... University of California, Los Angeles Medical Center
Richard D. Schulick, M.D. ..... The Johns Hopkins School of Medicine
Protul A. Shrikant, Ph.D. ..... Roswell Park Cancer Institute
Hua Xiao, M.D., Ph.D. ..... Michigan State University

Scientific Review Officer

Robert E. Bird, Ph.D. ..... National Cancer Institute

Former Scientific Review Officer

Sonya Roberson, Ph.D. ..... National Cancer Institute

Subcommittee J—Population and Patient-Oriented Training

Chair

Michael A. Andrykowski, Ph.D. ..... University of Kentucky

Past Chair

Jennifer J. Griggs, M.D., M.P.H. ..... University of Rochester

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Elisa V. Bandera, M.D., Ph.D. ..... University of Medicine and Dentistry of New Jersey
Susan D. Block, M.D. ..... Dana-Farber Cancer Institute
Michael Bouvet, M.D. ..... University of California, San Diego-Moores Cancer Center
Malcolm V. Brock, M.D. ..... The Johns Hopkins Hospital
Mary E. Cooley, Ph.D. ..... Dana-Farber Cancer Institute
Michael E. Hagansee, M.D., Ph.D. ..... Louisiana State University
Wanda E. Hardman, Ph.D. ..... Marshall University School of Medicine
Raymond J. Hohl, M.D., Ph.D. ..... University of Iowa
Shawna V. Hudson, Ph.D. ..... University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School
Paul B. Jacobson, Ph.D. ..... H. Lee Moffitt Cancer Center
Johanna W. Lampe, Ph.D. ..... Fred Hutchinson Cancer Research Center
Christopher H. Lowrey, M.D. ..... Dartmouth College School of Medicine
Frank J. Penedo, Ph.D. ..... University of Miami
Mark J. Ratain, M.D. ..... The University of Chicago
Mary E. Reid, Ph.D., M.S.P.H. ..... Roswell Park Cancer Institute
Yu Shyr, Ph.D. ..... Vanderbilt-Ingram Cancer Institute
Scott A. Waldman, M.D., Ph.D. ..... Thomas Jefferson University
John H. Ward, M.D. ..... University of Utah School of Medicine
Cary A.C. Zahbrock, M.S.W. ..... National Coalition for Cancer Survivorship
Zuo-Feng Zhang, M.D., Ph.D. ..... University of California, Los Angeles School of Public Health

Scientific Review Officer

Ilda M. McKenna, Ph.D. ..... National Cancer Institute

Initial Review Group Subcommittees

Cancer Centers

Career Development

Initial Review Group Subcommittees (continued)

Clinical Trials

Education

Initial Review Group Subcommittees (continued)

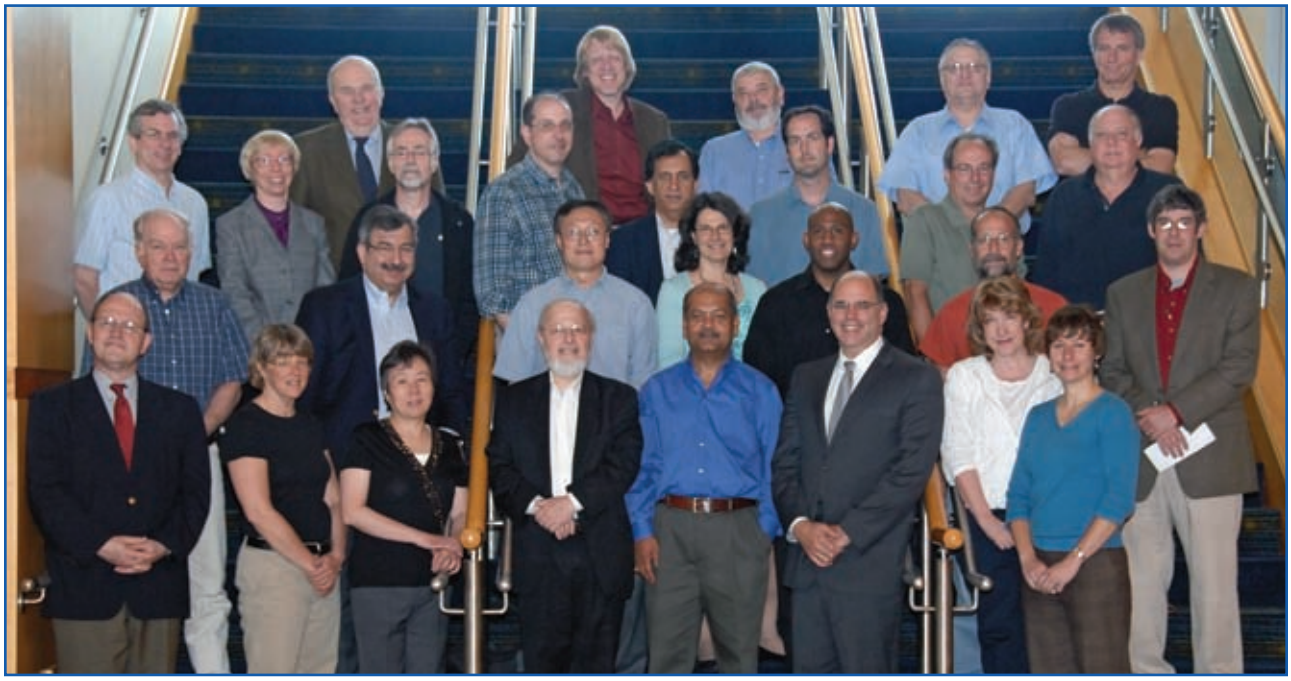
Manpower and Training

Special Emphasis Panels

Integrative Cancer Biology and Tumor Microenvironment

Special Emphasis Panels (continued)

Small Grants for Behavorial Research in Cancer Control



Cellular and Tissue Biology

Special Emphasis Panels (continued)

Clinical Studies

Molecular Oncology

Special Emphasis Panels (continued)

SPORE in Skin and Prostate Cancers

SPORE in Lymphoma and Breast Cancer

Special Emphasis Panels (continued)

Drug Discovery, Chemoprevention and Targeted Therapy

Epidemiology, Prevention, Control and Population Sciences

Appendix D: NCI Initial Review Group Consultants, FY2009

1. Consultants Serving as Temporary Members on IRG Subcommittees in FY2009

A

Ali-Osman, Francis, D.Sc. ..... Duke University
Avrin, David, M.D., Ph.D. ..... University of California, San Francisco

B

Baker, Vicki V., M.D. ..... Independent Consultant
Baquet, Claudia R., M.D. ..... University of Maryland, Baltimore
Basu, Sujit, M.D., Ph.D. ..... The Ohio State University
Baxter, Nancy N., M.D., Ph.D. ..... St. Michael's Hospital
Beckwith, Barbara J., M.A. ..... The Ohio State University
Biegel, Jaclyn A., Ph.D. ..... Children's Hospital of Philadelphia
Blaney, Susan M., M.D. ..... Baylor College of Medicine
Blankenberg, Francis G., M.D. ..... Stanford University
Blessing, John A., Ph.D. ..... Roswell Park Cancer Institute Corporation
Bolwell, Brian J., M.D. ..... Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
Braden, Carrie J., Ph.D., R.N., F.A.A.N. ..... University of Texas Health Science Center, San Antonio
Brewer, Molly A., D.V.M., M.D. ..... The University of Arizona
Brown, Carol L., M.D., F.A.C.O.G., F.A.C.S. ..... Memorial Sloan-Kettering Cancer Center
Buatti, John M., M.D. ..... The University of Iowa
Buchsbaum, Donald J., Ph.D. ..... University of Alabama at Birmingham
Byland, Carma, Ph.D. ..... Sloan-Kettering Institute for Cancer Research

C

Campbell, Marci K., Ph.D., M.P.H., R.D. ..... The University of North Carolina at Chapel Hill
Carson, William E., M.D. ..... The Ohio State University
Chu, Fong-Fong, Ph.D. ..... City of Hope National Medical Center
Cooper, Jonathan A., Ph.D. ..... Fred Hutchinson Cancer Research Center
Costantino, Joseph P., Dr.Ph. ..... University of Pittsburgh
Cronin, Walter M., M.P.H. ..... University of Pittsburgh
Cruz Correa, Marcia R., M.D., Ph.D. ..... University of Puerto Rico
Cullen, Kevin J., M.D. ..... University of Maryland, Baltimore

D

Devine, Susan, C.C.R.P. ..... The Hospital For Sick Chlidren, Toronto
Dreicer, Robert, M.D. ..... Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
Dupont, William D., Ph.D. ..... Vanderbilt University

E

Ebbini, Emad S., Ph.D. ..... The University of Minnesota, Twin Cities
Eisenberger, Mario A., M.D. ..... Johns Hopkins University
Ellis, Matthew J., M.B., Ph.D. ..... Washington University
Elmer, Patricia J., Ph.D. ..... National College of Natural Medicine
El-Rifai, Wael, M.D., Ph.D. ..... Vanderbilt University
El-Serag, Hashem B., M.D., M.P.H. ..... Baylor College of Medicine

F

Ferrone, Soldano, M.D., Ph.D. ..... University of Pittsburgh
Flockhart, David A., M.D., Ph.D. ..... Indiana University-Purdue University at Indianapolis
Foran, James M., M.D. ..... University of Alabama at Birmingham
Ford, James M., M.D. ..... Stanford University

G

Gines, Venus M., M.A. ..... Baylor College of Medicine
Given, Barbara A., Ph.D., R.N., F.A.A.N. ..... Michigan State University
Gomella, Leonard G., M.D. ..... Thomas Jefferson University
Govindan, Ramaswamy, M.D. ..... Washington University
Graham, Michael M., M.D., Ph.D. ..... The University of Iowa
Gralow, Julie R., M.D. ..... University of Washington
Groden, Joanna L., Ph.D. ..... The Ohio State University

H

Hackett, Lauren, M.P.A. ..... New York University
Hagensee, Michael E., M.D., Ph.D. ..... Louisiana State University Health Sciences Center, New Orleans
Halabi, Susan, Ph.D. ..... Duke University
Hardman, Wanda E., Ph.D. ..... Marshall University
Hittelman, Walter N., Ph.D. ..... The University of Texas M.D. Anderson Cancer Center
Hoopes, P. Jack, D.V.M., Ph.D. ..... Dartmouth College
Houlette, Judy K., M.A. ..... Friend for Life Cancer Support Network
Howell, Gillian M., Ph.D. ..... University of Nebraska Medical Center
Hsi, Eric, M.D. ..... Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
Huang, Tim H.M., Ph.D. ..... The Ohio State University
Hudson, Shawna V., Ph.D. ..... University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School

J

Jackson-Grusby, Laurie L., Ph.D. ..... Children's Hospital, Boston
Jagannath, Sundar, M.D. ..... Richmond University Medical Center, Staten Island
Johnson, Katherine A., J.D. ..... Virginia Commonwealth University

K

Kandel, Jessica J., M.D. ..... Columbia University Medical Center
Kane, Madeleine A., M.D., Ph.D. ..... University of Colorado, Denver
Keller, Charles, M.D. ..... University of Texas Health Science Center, San Antonio
Khaled, Annette R., Ph.D. ..... University of Central Florida
Khayat, Anita F., Ph.D. ..... National Childhood Cancer Foundation
Kruh, Gary D., M.D., Ph.D. ..... University of Illinois at Chicago
Kung, Hsing-Jien, Ph.D. ..... University of California, Davis

L

Lachman, Herbert M., M.D. ..... Albert Einstein College of Medicine of Yeshiva University
Lange, Julie R., M.D., Sc.M. ..... Johns Hopkins University
Le Beau, Michelle M., Ph.D. ..... The University of Chicago
Li, King C., M.D., M.B.A. ..... Methodist Hospital Research Institute
Litzow, Mark, M.D. ..... Mayo Clinic College of Medicine, Rochester
Loffredo, Christopher A., Ph.D. ..... Georgetown University
Lorusso, Patricia M., D.O. ..... Wayne State University
Louie, Stan G., Pharm.D., Ph.D., F.A.S.H.P. ..... University of Southern California

M

Macapinlac, Homer A., M.D. ..... Sloan-Kettering Institute for Cancer Research
Marina, Neyssa M., M.D. ..... Stanford University
Martin, Brian J., M.P.A. ..... University of Rochester
Merchant, Nipun B., M.D. ..... Vanderbilt University
Mermelstein, Robin J., Ph.D. ..... University of Illinois at Chicago
Meyers, Craig M., Ph.D. ..... Pennsylvania State Hershey Medical Center
Meyers, Paul A., M.D. ..... Sloan-Kettering Institute for Cancer Research
Meyn, Raymond E., Ph.D. ..... The University of Texas M.D. Anderson Cancer Center
Mishel, Merle H., Ph.D., R.N., F.A.A.N. ..... The University of North Carolina at Chapel Hill
Modiano, Jaime F., V.M.D., Ph.D. ..... The University of Minnesota, Twin Cities
Mullins, C. Daniel, Ph.D. ..... University of Maryland, Baltimore
Murphy, Maureen E., R.N. ..... Ohio Department of Health

N

Nagarkatti, Mitzi, Ph.D. ..... University of South Carolina, Columbia
Nelson, Mark A., Ph.D. ..... The University of Arizona
Ness, Scott A., Ph.D. ..... The University of New Mexico Health Sciences Center

O

O'Donnell, Margaret R., M.D. ..... City of Hope National Medical Center
Oyajobi, Babatunde O., M.B.B.S., Ph.D., M.B.A. ..... University of Texas Health Science Center, San Antonio

P

Passaniti, Antonino, Ph.D. ..... University of Maryland, Baltimore

R

Radivoyevitch, Tomas, Ph.D. ..... Case Western Reserve University
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S

Samet, Jonathan M., M.D., M.S. .....University of Southern California
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Sausville, Edward A., M.D., Ph.D. ..... University of Maryland, Baltimore
Schiller, Joan H., M.D. ..... The University of Texas, Dallas
Schuchter, Lynn M., M.D. .....The University of Pennsylvania
Scroggins, Mary J., M.A. ..... Independent Consultant
Seiden, Michael V., M.D., Ph.D. .....Fox Chase Cancer Center
Shapiro, Charles L., M.D. ..... The Ohio State University
Shyr, Yu, Ph.D. .....Vanderbilt University
Sims, Millicent, B.S. ..... African American Cancer Support Group
Smith, David I., Ph.D. .....Mayo Clinic College of Medicine, Rochester
Smith, Mitchell R., M.D., Ph.D. .....Fox Chase Cancer Center
Snetselaar, Linda G., R.D., Ph.D. .....The University of Iowa
Stampfer, Meir J., J.D., Dr.P.H. ..... Harvard School of Public Health
Stock, Wendy, M.D. .....The University of Chicago

T

Terry, Michael A., B.S. ..... University of Rochester

V

Vannier, Michael W., M.D. .....The University of Chicago
Vanwuyckhuyse, Brian C. ..... University of Rochester
Venook, Alan P., M.D. .....University of California, San Francisco
Voorhees, Peter, M.D. .....The University of North Carolina at Chapel Hill
Vuori, Kristiina, M.D., Ph.D. .....Burnham Institute for Medical Research

W

Wagner, Lynne I., Ph.D. .....Northwestern University
Waller, Edmund K., M.D., Ph.D. .....Emory University
Weinberg, David S., M.D., M.Sc. .....Fox Chase Cancer Center
Weiss, Lawrence M., M.D. .....Beckman Research Institute of City of Hope
Wewers, Mary E., Ph.D. ..... The Ohio State University
Whitewolf, Celeste C., J.D. .....Native People's Circle of Hope
Woychik, Richard P., Ph.D. .....The Jackson Laboratory

X

Xie, Keping, M.D., Ph.D. ..... The University of Texas M.D. Anderson Cancer Center

Z

Zarbl, Helmut, Ph.D. .....University of Washington

Total number of Reviewers: 126

2. Consultants Serving as *Ad Hoc* Committee Members on IRG Site Visit Teams in FY2009

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Zi, Xiaolin, Ph.D., M.Sc. ..... University of California, Irvine
Zientara, Gary P., Ph.D. ..... Brigham and Women's Hospital
Zillich, Alan J., Pharm.D. ..... Purdue University, West Lafayette
Zondlo, Neal J., Ph.D. ..... University of Delaware
Zuna, Rosemary E., M.D. ..... University of Oklahoma Health Sciences Center
Zwick, Michael E., Ph.D. ..... Emory University
Zwick, Michael G., Ph.D. ..... Androbiosys, Inc.

Total number of Reviewers: 1,799

Appendix E: NCI Grant Mechanisms and Descriptions

Below is a brief description of NIH funding mechanisms. Additional information on grants, contracts, and extramural policy notices may be found by viewing the NCI DEA Web page on Grants Guidelines and Descriptions at: **http://deainfo.nci.nih.gov/flash/awards.htm.**

C Series: Research Construction Programs	
C06	**Research Facilities Construction Grants** To provide matching Federal funds, up to 75 percent, for construction or major remodeling to create new research facilities, which in addition to basic research laboratories may include, under certain circumstances, animal facilities and/or limited clinical facilities where they are an integral part of an overall research effort.
D Series: Training Projects	
D43	**International Training Grants in Epidemiology** To improve and expand epidemiologic research and the utilization of epidemiology in clinical trials and prevention research in foreign countries through support of training programs for foreign health professionals, technicians, and other health care workers.
F Series: Fellowship Programs	
F31	**Predoctoral Individual National Research Service Award (NRSA)** To provide predoctoral individuals with supervised research training in specified health and health-related areas leading toward a research degree (e.g., Ph.D.).
F31	**Predoctoral Fellowship—Minority Students** A fellowship award that provides predoctoral minority students with supervised research training in specified health and health-related areas leading toward a research degree (e.g., Ph.D.).
F31	**National Research Service Award for Individual Postdoctoral Fellows** To provide postdoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.
F32	**National Research Service Award for Individual Postdoctoral Fellows** To provide postdoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.
F33	**National Research Service Award for Senior Fellows** To provide opportunities for experienced scientists to make major changes in the direction of research careers, broaden scientific backgrounds, acquire new research capabilities, enlarge command of an allied research field, or take time from regular professional responsibilities to increase capabilities to engage in health-related research.

K Series: Career Development Programs	
K01	**The Howard Temin Award (no longer supported through use of the K01 by the NCI; see the K99/R00)** A previously used NCI-specific variant of the NIH Mentored Research Scientist Development Award that was designed to provide research scientists with an additional period of sponsored research experience as a way to gain expertise in a research area new to the applicant or in an area that would demonstrably enhance the applicant's scientific career.
K01	**Mentored Career Development Award for Underrepresented Minorities** To support scientists committed to research who are in need of both advanced research training and additional experience.
K05	**Established Investigator Award in Cancer Prevention, Control, Behavioral, and Population Research** To support scientists qualified to pursue independent research that would extend the research program of the sponsoring institution, or to direct an essential part of this program.
K07	**Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award** To support the postdoctoral career development of investigators who are committed to academic research careers in cancer prevention, control, behavioral, epidemiological, and/or the population sciences. It supports up to 5 years of combined didactic and supervised (i.e., mentored) research experiences to acquire the methodological and theoretical research skills needed to become an independent scientist. The very broad nature of the prevention, control, and population sciences makes it applicable to those individuals doctorally trained in the basic sciences, medicine, behavioral sciences, and/or public health. The K07 award has been expanded from a scope limited to "preventive oncology" to include the entire spectrum of fields that are of vital importance to cancer prevention and control such as nutrition, epidemiology, and behavioral sciences.
K08	**Mentored Clinical Scientists Development Award** To provide the opportunity for promising medical scientists with demonstrated aptitude to develop into independent investigators, or for faculty members to pursue research in categorical areas applicable to the awarding unit, and to aid in filling the academic faculty gap in specific shortage areas within U.S. health professions institutions.
K08	**Mentored Clinical Scientists Development Award—Minorities in Clinical Oncology** A specialized type of Mentored Clinical Scientist Developmental Award (K08s) that supports the development of outstanding clinical research scientists, with this type being reserved for qualified individuals from underrepresented minority groups. Both types of K08 awards support periods of specialized study for clinically trained professionals who are committed to careers in research and who have the potential to develop into independent investigators. The K08 awards for Minorities in Clinical Oncology are distinct and important because they provide opportunities for promising medical scientists with demonstrated aptitudes who belong to underrepresented minority groups to develop into independent investigators, or for faculty members who belong to underrepresented minority groups to pursue research aspects of categorical areas applicable to the awarding unit(s), and aid in filling the academic faculty gaps in these shortage areas within U.S. health professions institutions.

K12	**Institutional Clinical Oncology Research Career Development Award** To support a newly trained clinician appointed by an institution for development of independent research skills and experience in a fundamental science within the framework of an interdisciplinary research and development program.
K22	**The NCI Transition Career Development Award for Underrepresented Minorities** To provide support to outstanding newly trained basic or clinical investigators to develop their independent research skills through a two-phase program: an initial period involving an intramural appointment at the NIH and a final period of support at an extramural institution. The award is intended to facilitate the establishment of a record of independent research by the investigator to sustain or promote a successful research career.
K22	**The NCI Scholars Program** To provide an opportunity for outstanding new investigators to begin their independent research careers, first within the special environment of the NCI and then at an institution of their choice. Specifically, this Program provides necessary resources to initiate an independent research program of 3 to 4 years at the NCI, followed by an extramural funding mechanism (K22) to support their research program for 2 years at the extramural institution to which they are recruited.
K23	**Mentored Patient-Oriented Research Career Development Award** To provide support for the career development of investigators who have made a commitment to focus their research endeavors on patient-oriented research. This mechanism provides support for a 3-year minimum up to a 5-year period of supervised study and research for clinically trained professionals who have the potential to develop into productive clinical investigators.
K23	**Mentored Patient-Oriented Research Career Development Award for Underrepresented Minorities** To support the career development of investigators who have made a commitment to focus their research on patient-oriented research. This mechanism provides support for a period of supervised study and research for clinically trained professionals who have the potential to develop into productive clinical investigators in patient-oriented research.
K24	**Mid-Career Investigator Award in Patient-Oriented Research** To provide support for clinicians to allow them protected time to devote to patient-oriented research and to act as mentors for beginning clinical investigators. The target candidates are outstanding clinical scientists engaged in patient-oriented research who are within 15 years of their specialty training, who can demonstrate the need for a period of intensive research focus as a means of enhancing their clinical research careers, and who are committed to mentoring the next generation of clinical investigators in patient-oriented research.
K25	**Mentored Quantitative Research Career Development Award** This award allows an independent scientist in a highly technical field of research to identify an appropriate mentor with extensive experience in cancer research and to receive the necessary training and career development required to become involved in multidisciplinary cancer research.

K99/ R00	**NIH Pathway to Independence (PI) Award** The Pathway to Independence Award, which is part of the NIH Roadmap Initiative but is known as the Howard Temin Award within the NCI, will provide up to 5 years of support consisting of two phases. The initial phase will provide 1-2 years of mentored support for highly promising postdoctoral research scientists. This phase will be followed by up to 3 years of independent support contingent on securing an independent research position. Award recipients will be expected to compete successfully for independent R01 support from the NIH during the career transition award period. The PI Award is limited to post-doctoral trainees within 5 years of completion of their training who propose research relevant to the mission of one or more of the participating NIH Institutes and Centers.
P Series: Research Program Projects and Centers	
P01	**Research Program Projects** To support multidisciplinary or multifaceted research programs that have a focused theme. Each component project should be directly related to and contribute to the common theme.
P20	**Exploratory Grants** To support planning for new programs, expansion or modification of existing resources, and feasibility studies to explore various approaches to the development of interdisciplinary programs that offer potential solutions to problems of special significance to the mission of the NIH. These exploratory studies may lead to specialized or comprehensive centers.
P30	**Center Core Grants** To support shared use of resources and facilities for categorical research by investigators from different disciplines who provide a multidisciplinary approach to a joint research effort, or by investigators from the same discipline who focus on a common research problem. The core grant is integrated with the Center's component projects or Program Projects, though funded independently from them. By providing more accessible resources, this support is expected to assure greater productivity than that provided through the separate projects and Program Projects.
P50	**Specialized Center Grants** To support any part of the full range of research and development from very basic to clinical; may involve ancillary supportive activities such as protracted patient care necessary to the primary research or R&D effort. This spectrum of activities comprises a multidisciplinary attack on a specific disease or biomedical problem area. These grants differ from Program Project grants in that they are usually developed in response to an announcement of the programmatic needs of an Institute or Division, and subsequently receive continuous attention from its staff. Centers also may serve as regional or national resources for special research purposes.

R Series: Research Projects	
R01	**Research Project** Grants are awarded to institutions to allow a Principal Investigator to pursue a scientific focus or objective in his or her area of interest and competence. Institutional sponsorship assures the NIH that the institution will provide facilities necessary to conduct the research and will be accountable for the grant funds. Applications are accepted for health-related research and development in all areas within the scope of the NIH's mission.
R03	**Small Research Grants** Small grants provide research support, specifically limited in time and amount, for activities such as pilot projects, testing of new techniques, or feasibility studies of innovative, high-risk research, which would provide a basis for more extended research.
R13	**Conferences** The NIH provides funding for conferences to coordinate, exchange, and disseminate information related to its program interests. Generally, such awards are limited to participation with other organizations in supporting conferences rather than provision of sole support. Costs eligible for support include salaries, consultant services, equipment rental, travel, supplies, conference services, and publications. Prospective applicants are encouraged to inquire in advance concerning possible interest on the part of an awarding Institute/Center (IC), and to obtain more information on application procedures and costs.
R15	**The NIH Academic Research Enhancement Awards (AREA)** To enhance the research environment of educational institutions that have not been traditional recipients of NIH research funds, this award provides limited funds to those institutions' faculty members to develop new research projects or expand ongoing research activities in health sciences and to encourage students to participate in the research activity. As funds are anticipated to continue to be available each year, the NIH is now inviting applications for AREA grants through a standing, ongoing Program Announcement.
R21	**Exploratory/Developmental Grants** To encourage the development of new research activities in categorical program areas. (Support generally is restricted in the level of support and duration.)
R24	**Resource-Related Research Projects** To support research projects that will enhance the capability of resources to serve biomedical research.

R25E	**Cancer Education Grant Program (CEGP)** A flexible, curriculum-driven program aimed at developing and sustaining innovative educational approaches that ultimately will have an impact on reducing cancer incidence, mortality, and morbidity, as well as on improving the quality of life of cancer patients. The CEGP accepts investigator-initiated grant applications that pursue a wide spectrum of objectives ranging from short courses; to the development of new curricula in academic institutions; to national forums and seminar series; to hands-on workshop experiences for the continuing education of health care professionals, biomedical researchers, and the lay community; to structured short-term research experiences designed to motivate high school, college, medical, dental, and other health professional students to pursue careers in cancer research. Education grants can focus on education activities before, during, and after the completion of a doctoral-level degree, as long as they address a need that is not fulfilled adequately by any other grant mechanism available at the NIH, and are dedicated to areas of particular concern to the National Cancer Program.
R25T	**Cancer Education and Career Development Program** To support the development and implementation of curriculum-dependent, team-oriented programs to train predoctoral and postdoctoral candidates in cancer research team settings that are highly interdisciplinary and collaborative. This specialized program is particularly applicable to the behavioral, prevention, control, nutrition, and population sciences but should also be considered by other areas of research (e.g., imaging, pathology) that will require sustained leadership, dedicated faculty time, specialized curriculum development and implementation, interdisciplinary research environments, and more than one mentor per program participant to achieve their education and research career development objectives.
R33	**Exploratory/Developmental Grants, Phase II** To provide a second phase for support of innovative exploratory and developmental research activities initiated under the R21 mechanism. Although only R21 awardees are generally eligible to apply for R33 support, specific program initiatives may establish eligibility criteria under which applications could be accepted from applicants who demonstrate program competency equivalent to that expected under R33.
R37	**Method to Extend Research in Time (MERIT) Award** To 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 cognizant National Advisory Council/Board will identify candidates for the MERIT Award during the course of review of competing research grant applications prepared and submitted in accordance with regular Public Health Service (PHS) requirements.

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs

The NIH welcomes grant applications from small businesses in any biomedical or behavioral research area as described in the solicitations below. Support under the SBIR program is normally provided for 6 months/$100,000 for Phase I, and 2 years/$500,000 for Phase II. However, applicants may propose longer periods of time and greater amounts of funds necessary for completion of the project.

R41	**STTR Grants, Phase I** To support cooperative research and development (R&D) projects between small business concerns and research institutions, limited in time and amount; to establish the technical merit and feasibility of ideas that have potential for commercialization.
R42	**STTR Grants, Phase II** To support in-depth development of cooperative R&D projects between small business concerns and research institutions, limited in time and amount, whose feasibility has been established in Phase I and that have potential for commercial products or services.
R43	**SBIR Grants, Phase I** To support projects, limited in time and amount, to establish the technical merit and feasibility of R&D ideas that may ultimately lead to commercial products or services.
R44	**SBIR Grants, Phase II** To support in-depth development of R&D ideas whose feasibility has been established in Phase I and that are likely to result in commercial products or services.
R55	**James A. Shannon Director's Award** To provide a limited award to investigators to further develop, test, and refine research techniques; perform secondary analysis of available data sets; test the feasibility of innovative and creative approaches; and conduct other discrete projects that can demonstrate their research capabilities and lend additional weight to their already meritorious applications.
R56	**High-Priority, Short-Term Project Award** Begun in FY2005, this grant provides funds for 1- or 2-year high-priority new or competing renewal R01 applications that fall just outside the limits of funding of the participating NIH Institutes and Centers (ICs); recipients of R56 awards will be selected by IC staff from R01 applications that fall at or near the payline margins.

S Series: Research-Related Programs	
SC1	**Research Enhancement Award** Individual investigator-initiated research projects aimed at developing researchers at minority-serving institutions (MSIs) to a stage where they can transition successfully to other extramural support (R01 or equivalent).
SC2	**Pilot Research Project** Individual investigator-initiated pilot research projects for faculty at minority-serving institutions (MSIs) to generate preliminary data for a more ambitious research project.
S06	**Minority Biomedical Research Support (MBRS)** To strengthen the biomedical research and research training capability of ethnic minority institutions, and thus establish a more favorable milieu for increasing the involvement of minority faculty and students in biomedical research.
S07	**Biomedical Research Support Grants (NCRR BRSG)** As an example of this funding mechanism, the NIH issued a Request for Applications (RFA) in FY2004 to provide short-term interim support for institutional activities that will strengthen oversight of human subjects research at institutions that receive significant NIH support for clinical research. Although there is considerable flexibility in the types of activities that could be supported under the BRSG program, that RFA emphasized the importance of efforts to enhance the protection of research subjects by means that would be sustained by the recipient institution after the award period ends. Awardees also are required to collaborate with other institutions conducting human subjects research and are not currently funded under this program, and to share educational resources, computer technologies, best practices, etc. Although all NIH components supporting clinical research (including the NCI) are providing support for this program, it is administered by the National Center for Research Resources (NCRR).
S10	**Biomedical Research Support Shared Instrumentation Grants (NCRR SIG)** The National Center for Research Resources (NCRR) initiated its competitive Shared Instrumentation Grant (SIG) Program in FY1982. Shared Instrumentation Grants provide support for expensive state-of-the-art instruments utilized in both basic and clinical research. This program is designed to meet the special problems of acquisition and updating of expensive shared-use instruments that are not generally available through other NIH funding mechanisms, such as the regular research project, program project, or center grant programs. Applications for funds to design or to advance the design of new instruments are not accepted. The objective of the program is to make available to institutions with a high concentration of NIH-supported biomedical investigators expensive research instruments that can only be justified on a shared-use basis and for which meritorious research projects are described.
S21	**Research and Institutional Resources Health Disparities Endowment Grants—Capacity Building** To strengthen the research and training infrastructure of the institution, while addressing current and emerging needs in minority health and other health disparities research.

T Series: Training Programs	
T15	**Continuing Education Training Grants** To assist professional schools and other public and nonprofit institutions in the establishment, expansion, or improvement of programs of continuing professional education, especially for programs of extensive continuation, extension, or refresher education dealing with new developments in the science and technology of the profession.
T32	**NIH National Research Service Award—Institutional Research Training Grants** To enable institutions to make National Research Service Awards to individuals selected by them for predoctoral and postdoctoral research training in specified shortage areas.
U Series: Cooperative Agreements	
U01	**Research Projects—Cooperative Agreements** To support a discrete, specified, circumscribed project to be performed by the named investigators in an area representing their specific interests and competencies.
U10	**Cooperative Clinical Research—Cooperative Agreements** To support clinical evaluation of various methods of therapy and/or prevention in specific disease areas. These represent cooperative programs between participating institutions and Principal Investigators, and are usually conducted under established protocols.
U13	**Conference—Cooperative Agreements** To coordinate, exchange, and disseminate information related to its program interests, an NIH Institute or Center can use this type of award to provide funding and direction for appropriate scientific conferences. These cooperative agreements allow the NCI to partner with one or more outside organizations to support international, national, or regional meetings, conferences, and workshops that are of value in promoting the goals of the National Cancer Program.
U19	**Research Program—Cooperative Agreements** To support a research program of multiple projects directed toward a specific major objective, basic theme, or program goal, requiring a broadly based, multidisciplinary, and often long-term approach.
U24	**Resource-Related Research Projects—Cooperative Agreements** To support research projects contributing to improvement of the capability of resources to serve biomedical research.

U54	**Specialized Center—Cooperative Agreements** To support any part of the full range of research and development from very basic to clinical; may involve ancillary supportive activities such as protracted patient care necessary to the primary research or R&D effort. The spectrum of activities comprises a multidisciplinary attack on a specific disease entity or biomedical problem area. These differ from program projects in that they are usually developed in response to an announcement of the programmatic needs of an Institute or Division and subsequently receive continual attention from its staff. Centers also may serve as regional or national resources for special research purposes, with assistance from staff of the funding component in identifying appropriate priority needs.
U56	**Exploratory Grants—Cooperative Agreements** To support planning for new programs, expansion or modification of existing resources, and feasibility studies to explore various approaches to the development of interdisciplinary programs that offer potential solutions to problems of special significance to the mission of the NIH. These exploratory studies may lead to specialized or comprehensive centers. Substantial Federal programmatic staff involvement is intended to assist investigators during performance of the research activities, as defined in the terms and conditions of award.

Appendix F: Glossary of Acronyms

AACR	American Association for Cancer Research
ACD	Advisory Committee to the Director
AERIO	Agency Extramural Research Integrity Officer
AHRQ	Agency for Healthcare Research and Quality
AIDS	Acquired Immune Deficiency Syndrome
AISB	Applied Information Systems Branch
ARA	Awaiting Receipt of Application
AREA	Academic Research Enhancement Award
ARRA	American Recovery and Reinvestment Act
ASCO	American Society of Clinical Oncology
ASPO	American Society for Preventive Oncology
BCERP	Breast Cancer and the Environment Research Program
BRSG	Biomedical Research Support Grant
BSA	Board of Scientific Advisors
BSC	Board of Scientific Counselors
C&A	Certification and Accreditation
caHUB	Cancer Human Biobank
CAM	Complementary and Alternative Medicine
CanCORS	Cancer Care Outcomes Research and Surveillance
CATS	Concepts to Award Tracking System
CBIIT	NCI Center for Biomedical Informatics and Information Technology
CCCT	Coordinating Center for Clinical Trials
CCNE	Center of Cancer Nanotechnology Excellence
CCR	Center for Cancer Research
CCSB	Centers for Cancer Systems Biology
CCSG	Cancer Center Support Grant
CCT	Center for Cancer Training
CD	Career Development
CDC	Centers for Disease Control and Prevention
CDRP	Cancer Disparities Research Partnership
CEGP	Cancer Education Grant Program
CECCR	Centers of Excellence in Cancer Communication Research
CGB	Cooperative Group Banks
CISNET	Cancer Intervention and Surveillance Modeling Network
CIT	Center for Information Technology
CITN	Cancer Immunotherapy Trials Network
CMO	Committee Management Office
CNP	Community Network Program
CPHHD	Centers for Population Health and Health Disparities
CRCHD	Center to Reduce Cancer Health Disparities
CSO	Common Scientific Outline
CSR	Center for Scientific Review
CSSI	Center for Strategic Scientific Initiatives
CTAC	Clinical Trials and Translational Research Advisory Committee
CTEP	Clinical Trials Evaluation Program
CTWG	Clinical Trials Working Group
DCB	Division of Cancer Biology
DCCPS	Division of Cancer Control and Population Sciences
DCEG	Division of Cancer Epidemiology and Genetics
DCLG	Director's Consumer Liaison Group
DCP	Division of Cancer Prevention
DCTD	Division of Cancer Treatment and Diagnosis
DEA	Division of Extramural Activities
DEAS	Division of Extramural Activities Support
DHHS	U.S. Department of Health and Human Services (now HHS)
EEC	Electronic Early Concurrence
EDRN	Early Detection Research Network
EEC	Electronic Early Concurrence
EPMC	Extramural Program Management Committee
eQTL	Expression Quantitative Trait Loci
eRA	Electronic Research Administration
ESA	Extramural Support Assistant
ESATTS	Extramural Scientist Administrator Training Tracking System
EUREKA	Exceptional, Unconventional Research Enabling Knowledge Acceleration
FACA	Federal Advisory Committee Act
FCRDC	Frederick Cancer Research and Development Center
FDA	Food and Drug Administration
FDCC	Federal Desktop Core Configuration
FIC	Fogarty International Center
FIRCA-BSS	Fogarty International Research Collaboration-Behavioral and Social Sciences

FLARE	Fiscal Linked Analysis of Research Emphasis
FOA	Funding Opportunity Announcements
FY	Fiscal Year
GEI	Genes, Environment, and Health Initiative
GO	Grant Opportunity
GSA	General Services Administration
GWA	Genome Wide Association
HHS	Department of Health and Human Services (replaces DHHS)
HTS	High Throughput Screening
I2E	IMPAC II Extensions
IC	Institute/Center
ICBP	Integrative Cancer Biology Program
ICMIC	*In Vivo* Cellular and Molecular Imaging Center
ICRP	ICR Partners
IDeA	Institutional Development Award
IMPAC	Information for Management, Planning, Analysis, and Coordination
IRG	Initial Review Group
ISCS	Information Systems and Computer Services
IT	Information Technology
LOI	Letter of Intent
LRP	Loan Repayment Program
MBRS	Minority Biomedical Research Support
MERIT	Method to Extend Research in Time
MI/CCP	Minority Institution Cancer Center Partnership
MLPCN	Molecular Libraries Probe Production Centers Network
MSI	Minority-Serving Institution
NCAB	National Cancer Advisory Board
NCCAM	National Center for Complementary and Alternative Medicine
NCI	National Cancer Institute
NCRR	National Center for Research Resources
NDPA	NIH Director Pioneer Award
NFRP	NCI Funded Research Portfolio
NHGRI	National Human Genome Research Institute
NHLBI	National Heart, Lung and Blood Institute
NIA	National Institute on Aging
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIAID	National Institute of Allergy and Infectious Diseases
NIAMS	National Institute of Arthritis and Musculoskeletal and Skin Diseases
NIBIB	National Institute of Biomedical Imaging and Bioengineering
NICDR	National Institute of Dental and Craniofacial Research
NICHD	*Eunice Kennedy Shriver* National Institute of Child Health and Human Development
NIDA	National Institute on Drug Abuse
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIEHS	National Institute of Environmental Health Sciences
NIGMS	National Institute of General Medical Sciences
NIH	National Institutes of Health
NIMH	National Institute of Mental Health
NINDS	National Institute of Neurological Disorders and Stroke
NINR	National Institute of Nursing Research
NLM	National Library of Medicine
NRSA	National Research Service Award
NTR	Network for Translational Research
OBF	Office of Budget and Finance
OCAM	Office of Complementary and Alternative Medicine
OCTR	Office of Centers, Training and Resources
OD	Office of the Director
OEA	Office of Extramural Applications
OER	Office of Extramural Research
OFACP	Office of Federal Advisory Committee Policy
OHAM	Office of HIV and AIDS Malignancies
OPERA	Office of Policy for Extramural Research Administration
ORRPC	Office of Referral, Review, and Program Coordination
OTIR	Office of Technology and Industrial Relations
PA	Program Announcement
PAR	Reviewed Program Announcement
PCP	President's Cancer Panel
PCRB	Program Coordination and Referral Branch
PFP	Progress for Patients Award
PHS	Public Health Service (HHS)
PI	Principal Investigator
PPTP	Pediatric Preclinical Testing Program
PRG	Progress Review Groups
PROMIS	Patient-Reported Outcomes Measurement Information System
PSL	Pilot-Scale Libraries
RAEB	Research Analysis and Evaluation Branch
RCDC	Research, Condition, and Disease Categorization

R&D	Research and Development
RDCRC	Rare Diseases Clinical Research Consortia
REAP	Research Enhancement Awards Program
RFA	Request for Applications
RFP	Request for Proposals
RIO	Research Integrity Officer
RM	Road Map
RO	Referral Officer
RPG	Research Project Grant
RPRB	Research Programs Review Branch
RTRB	Resources and Training Review Branch
RUG	Review Users Group
SBIR	Small Business Innovation Research
SBIRDC	SBIR Development Center
SCORE	Support of Competitive Research
SEER	Surveillance, Epidemiology, and End Results
SEP	Special Emphasis Panel
SGE	Special Government Employee
SIC	Special Interest Category
SIG	Shared Instrumentation Grant
SITE	Organ Site Codes
SPORE	Specialized Program of Research Excellence
SPRS	Secure Payee Reimbursement System
SREA	Scientific Review and Evaluation Activities
SRLB	Special Review and Logistics Branch
SRO	Scientific Review Officer (formerly Scientific Review Administrator)
STTR	Small Business Technology Transfer Research
TARGET	Therapeutically Applicable Research to Generate Effective Treatments
TCGA	The Cancer Genome Atlas Research Network
T&E	Training and Education
TREC	Transdisciplinary Research on Energetics and Cancer
TRWG	Translational Research Working Group

Appendix G: Cancer Information Sources on the Internet

NCI Web Site

The National Cancer Institute maintains a number of Web sites containing information about the Institute and its programs. All NCI Web sites, including those designed to provide cancer-related information to the general public and physicians, can be reached from the NCI home page at **http://www.cancer.gov/**.

DEA Web Sites

The following Web sites are maintained by the DEA to provide detailed information to researchers and the public about NCI funding opportunities and the Advisory Boards and groups supported by the DEA.

http://deainfo.nci.nih.gov/index.htm
DEA home page links to the individual DEA Web pages listed below; mission of the Division; contact information for DEA staff.

Advisory Boards and Groups

http://deainfo.nci.nih.gov/advisory/Boards.htm
Links to the home page of each NCI Advisory Board, Committee, etc.

http://deainfo.nci.nih.gov/advisory/pcp/pcp.htm
President's Cancer Panel Charter; meeting agendas; meeting minutes; annual reports

http://deainfo.nci.nih.gov/advisory/ncab.htm
Charter of the National Cancer Advisory Board; members of subcommittees; meeting agendas

http://deainfo.nci.nih.gov/advisory/ncabminmenu.htm
NCAB meeting summaries

http://deainfo.nci.nih.gov/advisory/bsa.htm
Charter of the Board of Scientific Advisors; members of subcommittees; meeting agendas

http://deainfo.nci.nih.gov/advisory/bsaminmenu.htm
BSA meeting summaries

http://deainfo.nci.nih.gov/advisory/bsc.htm
Board of Scientific Counselors Charter; members of subcommittees

http://deainfo.nci.nih.gov/advisory/CTAC/CTAC.htm
Charter, minutes, members, and agendas of the Clinical Trials and Translational Research Advisory Committee

http://deainfo.nci.nih.gov/advisory/dclg/dclg.htm
NCI Director's Consumer Liaison Group Charter; meeting schedules, agendas, minutes, and meeting summaries

http://deainfo.nci.nih.gov/advisory/joint.htm
Advisory Committee to the Director Charter; meeting schedules, agendas, and minutes; members of NCI Director's Working Groups, Program Review Working Groups, and Progress Review Working Groups

http://deainfo.nci.nih.gov/advisory/bsa/bsa_program/bsaprgr.htm
Program Review Group reports

http://deainfo.nci.nih.gov/advisory/irg.htm
Initial Review Group Charter; subcommittee members

http://deainfo.nci.nih.gov/advisory/sep.htm
Special Emphasis Panel Charter; rosters of recent meetings

http://deainfo.nci.nih.gov/advisory/pog/progress/index.htm
Function and organization of Progress Review Groups (PRGs); PRG reports and meeting schedules; members of PRGs

Funding Opportunities/Policies

http://deainfo.nci.nih.gov/funding.htm
Comprehensive information about funding for cancer research; lists of active PAs and RFAs; recently cleared concepts; grant policies and guidelines; downloadable application forms.

http://deais.nci.nih.gov/Public/RFA-PA.jsp?nt=P
Active PAs, with links to detailed descriptions.

http://deais.nci.nih.gov/Public/RFA-PA.jsp
Active RFAs, with links to detailed descriptions.

http://deainfo.nci.nih.gov/grantspolicies/index.htm
Links to full-text NCI and NIH policies related to grants and grant review (e.g., Guidelines on the Inclusion of Women and Minorities as Subjects in Clinical Research and Instructions to Reviewers for Evaluating Research Involving Human Subjects in Grant and Cooperative Agreement Applications).

http://deainfo.nci.nih.gov/flash/awards.htm
Grants Guidelines and Descriptions (descriptions of NCI funding mechanisms, with links to PAs, RFAs, guidelines, and supplemental materials).

http://fundedresearch.cancer.gov
NCI Funded Research Portfolio: A visitor can search the database for information about research grant and contract awards made by the NCI. It includes awards for the current and past 5 fiscal years for both intramural and extramural projects. The Web site provides the ability to search the database in various ways, including a text search of the project abstract and a search of the Special Interest Category (SIC) and anatomic site codes assigned to the project.

http://grants.nih.gov/grants/new_investigators/index.htm
New and Early Stage Investigator Policies

http://www.cancer.gov/researchandfunding/cancertraining
The Center for Cancer Training (CCT)

http://report.nih.gov/index.aspx
Research Portfolio Online Reporting Tools (RePORT). Reports, Data, and Analyses of NIH Research Activities

Other NIH Web Sites

http://www.nih.gov
http://grants.nih.gov/grants/ElectronicReceipt/
http://grants1.nih.gov/grants/policy/policy.htm
http://grants.nih.gov/grants/guide/index.html
http://grants.nih.gov/training/extramural.htm
http://report.nih.gov

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