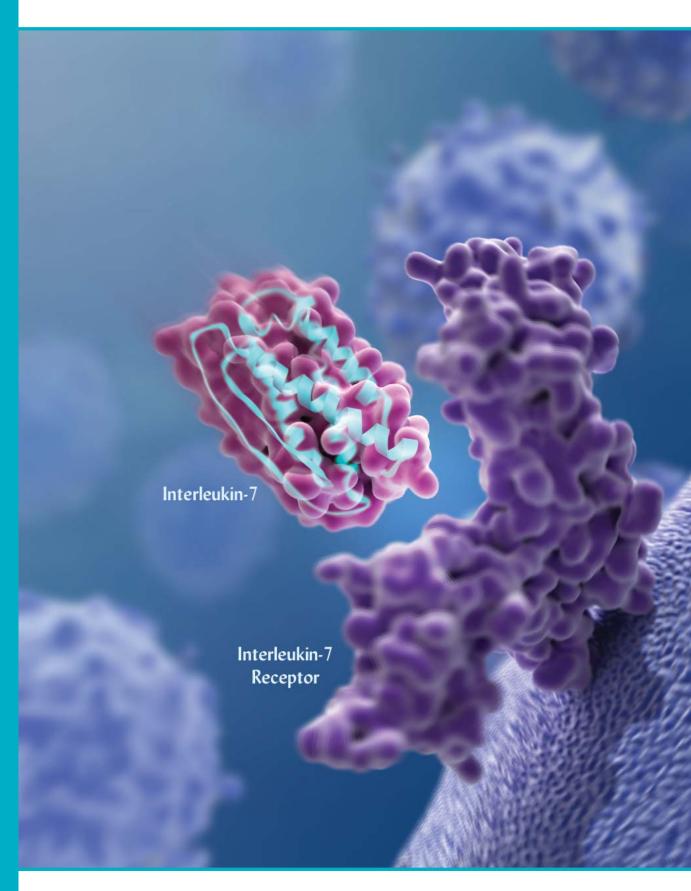
Division of Extramural Activities Annual Report 2007



Identifying Interleukin-7 As a Master Regulator of T Cell Homeostasis: Clinical Implications and New Therapeutic Opportunities

Thymic derived lymphocytes, T cells, are essential elements of the immune system. They directly mediate immune responses to viral infection, cancer and transplanted tissues, and are necessary to generate and maintain immune memory following infection or vaccination. Cancer patients routinely experience depletion of T cells as a result of cancer itself and/or cytotoxic therapies administered to treat cancer. Unlike most blood cells, T cells cannot be efficiently regenerated, leaving many cancer patients with depleted immune systems for years following completion of cancer therapy. Studies conducted over the last 15 years within the NCI Intramural Research Program have elucidated several fundamental concepts that shed light on the mechanisms by which T cells are regenerated in humans, and these have implicated interleukin-7 (IL-7) as a master regulator of T cell homeostasis.

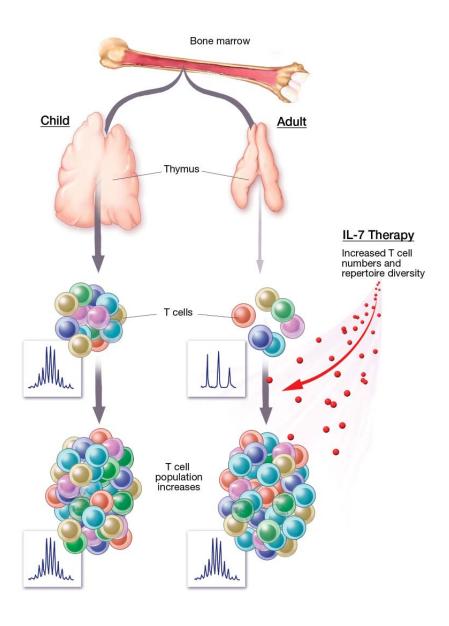
- T cells can be regenerated via thymic-dependent or thymic-independent pathways, with age being the primary determining factor in which pathway is utilized. Children and young adults typically retain thymic function and show full T cell immune reconstitution within 1-2 years of completing therapy. In contrast, most adults show limited thymic function and typically regenerate T cells primarily via thymic-independent pathways. As a result, adults often experience chronically depleted CD4+ T cell numbers, limited diversity of their T cell populations, and diminished immune function for several years following completion of cancer therapy.
- Interleukin-7 is necessary for both thymic-dependent and thymic-independent T cell regeneration. Humans experiencing T cell depletion have elevated levels of interleukin-7 in their tissues and serum, which is strongly inversely correlated with CD4+ counts. The clinical implications of chronically elevated levels of IL-7 remain unknown.
- Elevated interleukin-7 levels, and other less well-characterized changes in immune physiology, occur in response to lymphopenia, and enhance the effectiveness of adoptive cell therapies administered to lymphopenic hosts. Because of this, many immunotherapy trials for cancer currently incorporate a step aimed at depleting lymphocytes prior to adoptive immunotherapy.
- Preclinical and first in human clinical studies have identified interleukin-7 as a promising therapeutic. In animals, interleukin-7 potently augments responses to tumor vaccines. In humans, administration of interleukin-7 induces widespread increases in T cell numbers, preferentially expanding the "youngest" T cells and resulting in an anti-aging effect on T cell populations. IL-7's capacity to increase T cell numbers appears does not appear to be diminished with increasing patient age. Unlike interleukin-2, which can also increase CD4+ T cell numbers, interleukin-7 is virtually non-toxic and does not selectively increase suppressor T cells.

Cover Image: Protein Data Bank Model of IL-7 Engaging the IL7R on the surface of a T cell.

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Division of Extramural Activities Annual Report 2007



Age-Associated Differences in T Cell Regenerative Pathways. Children retain robust thymopoiesis and through this pathway, regenerate diverse T cell repertoires following T cell depletion. Due to age associated thymic involution, adults primarily rely on peripheral pathways to regenerate T cells, but this is associated with restricted repertoires as evidenced by altered spectrotype analyses (insets). Endogenous IL-7 is a primary regulator of peripheral T cell regeneration and IL-7 therapy can augment T cell numbers and repertoire diversity by preferential expansion of recent thymic emigrants.

Images and narrative are courtesy of Crystal Mackall, M.D., and Ronald Gress, M.D., Center for Cancer Research, National Cancer Institute, NIH.

Contents

	n	
	of the Division of Extramural Activities	
Special Activities in the Office of the Director, DEA		
Program Coordination: A Resource for New Funding Initiatives		
	rral: A First Point of Contact for NCI Grant Applicants and Applications	
	v—The Next Step	
NCI Grant	and RFA Funding	19
Supporting	Peer Review Consultants.	21
DEA's Role	in Advisory Activities	22
	Management Activities	
Portfolio Ira	acking and Analysis	32
Information	Resources Management	33 25
Organizatio	nal Structure of the Division of Extramural Activities	33
Tables		
Table 1a.	Requests for Applications (RFAs) Published by the NCI in FY2007,	
Table Ta.	Sorted by Date of Publication	47
Table 1b.	Requests for Applications (RFAs) Published by the NCI in FY2007,	17
Table 10.	Sorted by Division and Office	48
Table 2.	NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2007,	40
14010 2.	Sorted by Date of Publication	49
Table 3a.	Program Announcements (PAs) Published by the NCI in FY2007,	10
Table 5a.	Sorted by Date of Publication	49
Table 3b.	Program Announcements (PAs) Published by the NCI in FY2007,	13
Table 50.	Sorted by Division and Office	51
Table 4.	NCI Participation in Trans-NIH Program Announcements (PAs) in FY2007,	51
Table 4.	Sorted by Date of Publication	53
Table 5.	Applications Received for Referral by the NCI/DEA in FY2007,	55
Table 5.	Sorted by Mechanism	54
Table 6.	Grant and Cooperative Agreement Applications Reviewed by the NCI/DEA	57
Table 0.	in FY2007, Sorted by Mechanism	56
Table 7.	Applications Reviewed by NCI IRG Subcommittees and Special Emphasis Panels	50
Table 7.	(SEPs) in FY2007	58
Table 8.	Summary of Investigator-Initiated P01 Applications Reviewed for Each	50
Table 0.	NCAB Meeting in FY2007	58
Table 9.	Summary of Investigator-Initiated P01 Applications Reviewed by NCI Program	50
rubic 5.	Division/Office in FY2007	58
Table 10.	Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2007	50 59
Table 11.	Program Announcements (PAs) Reviewed by the NCI/DEA in FY2007	61
Table 12.	Requests for Proposals (RFPs) Reviewed by NCI/DEA in FY2007	64
Table 13.	Summary of NCI Grant Awards by Mechanism in FY2007	65
Table 14.	Average Total Cost and Number of Research Project Grant Awards by Division	
14516 1 11	and Office in FY2004-FY2007	68
Table 15.	and Office in FY2004-FY2007	
10010 10.	Annual Percent Change	70
Table 16.	Annual Percent Change	
10010 10.	Annual Percent Change	75
Table 17.	Annual Percent Change	77
Table 18.	Foreign Components of U.S. Domestic Research Grants in FY2007	79
14010 10.	Totalgar Componente of Old Bandoute Recounter Change in 112007 11111111111111111	
Appendixes	;	
Appendix A	A: Activities of the National Cancer Advisory Board	81
Appendix I		83
Appendix (
Appendix I		109
Appendix I	E: NCI Grant Guidelines and Descriptions.	148
Appendix F		
Appendix (160

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.

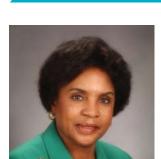


This investment, based on rigorous peer review standards, powers and empowers the engine of cancer research. Our Nation's investment is paying dividends in the number of lives saved, in the greater quality of life for cancer patients, and in cancers prevented.

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 is the organizational component of the National Cancer Institute 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; and (2) the Board of Scientific Advisors (BSA) in its oversight of the extramural program and the approval of NCI-initiated scientific concepts.

As a Division, we evaluate the content of all extramural research funded by the NCI and track the NCI research portfolio of more than 7,100 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

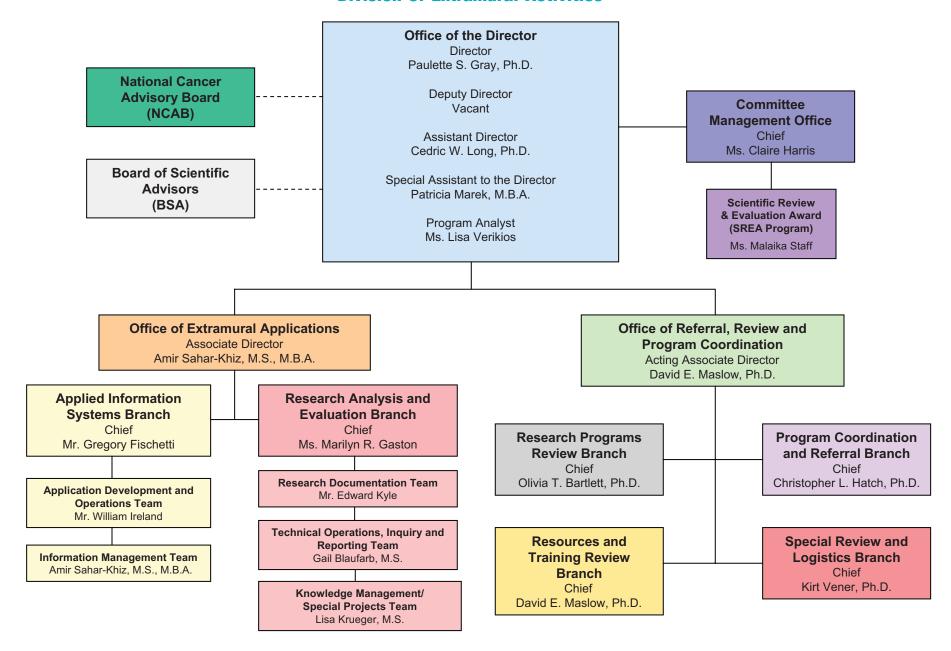
others for reporting and dissemination of the NCI's research portfolio. The DEA monitors budgetary limitations for grant applications; participates in establishing policies to expedite funding; and initiates and implements changes to applications, guidelines, and award processes. The Division also coordinates, for 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 (AERIO) 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 covers Fiscal Year (FY) 2007 (1 October 2006 - 30 September 2007) and provides 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 hundreds of researchers and advocates who have given unselfishly of their time 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 NCI and the scientific community with expert scientific review of the merits of extramural research, procedures, and policies to help the Institute achieve its goal. An important part of DEA's mission is to manage and coordinate the second level of grants review with the National Cancer Advisory Board and the concept review of all new and reissued Request for Applications (RFAs) and research and development (R&D) Request 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 advisory council and a DHHS chartered advisory committee. The CMO ensures 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 CMO supports Institute staff and its clientele by being readily available to provide policy guidance and assistance as needed.

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 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) the management of NCI review activities. Review activities include the organization and management of peer review for all RFAs, research and development RFPs, and Program Announcements with Special Receipt (PARs) using specialized research grant and cooperative

agreement mechanisms and investigator-initiated responses to funding opportunity announcements (FOAs) for Cancer Centers Specialized Programs of Research Excellence (SPOREs), and training and career development awards. 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.

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 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 FY2007, 36 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 NCIsupported research. Thus, 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 FY2007, seven cases of alleged research misconduct involving NCI funding were opened and under investigation by the Office of Research Integrity, DHHS, and referred to the Director, DEA. Seven pending cases from previous years were closed, and two of the cases were found to involve research misconduct.* Other cases from FY2007 and prior years are open, pending resolu-

^{*}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 FOAs, which comprise both Requests for Applications and Program Announcements. 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 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. Thus, 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 FY2007, and Table 2 lists RFAs issued by other NIH institutes or centers that the NCI has joined as a participating partner. Tables 3a and 3b show the variety of PAs issued by the NCI in FY2007, and Table 4 lists PAs issued by other NIH institutes or centers that the NCI has joined as a participating partner.

In late 2005, 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 over at least a 3-year period. 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 provided 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 institutes and centers), both of which contribute to an improved efficiency of service for the NCI's grant applicants and awardees.

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

In FY2007, the NCI received 12,147 grant applications for referral (see 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), Phased Innovation Project (R21/R33), Small Business Technology Transfer (STTR) Grant (R41/42), Small Business Innovation Research (SBIR) Grant (R43/44), and

U-series (Cooperative Agreements) mechanisms. Since 2003, the increase in all applications has been 8.9 percent, while increases in R01, R21, and R03 have been 2.4 percent, 71.1 percent, and 66.5 percent, respectively (see Figure 1).

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. Within the NCI, 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)

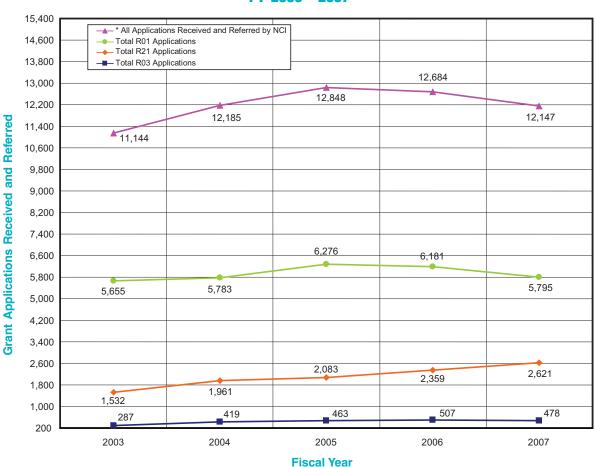


Figure 1. Receipt and Referral of NCI Applications*

FY 2003 - 2007

^{*}Includes NCI Primary and Secondary applications received and referred.

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 (ROs): (1) assign all incoming applications to one of the 45 NCI extramural research program areas; (2) track program acceptance; and (3) whenever necessary, negotiate transfers of grant applications to and from other NIH institutes and centers (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 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 the recipient of Letters of Intent (LOI) from potential applicants for multiproject Program 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 funding opportunity announcements 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 peer review and a quality control 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 of review of grant applications assigned to the NCI is performed by either an NIH CSR study section, a chartered NCI Initial Review Group (IRG) subcommittee, or 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 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 nine NCI IRG specialized review subcommittees; for example: Subcommittee A reviews Cancer Centers; Subcommittee I reviews career development applications; and Subcommittee H reviews Clinical Cooperative Groups. (The membership of NCI chartered subcommittees may be found in Appendix C (pp. 94-109) and at the following Internet address: http://deainfo. nci.nih.gov/advisory/irg.htm.) IRG members are appointed for varying terms of service, which may be up to 4 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 the following Internet address: 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 Scientific Review Officers (SRO) manage the scientific review of applications and contract proposals, including the selection of peer reviewers and the overall administration of the peer review process.

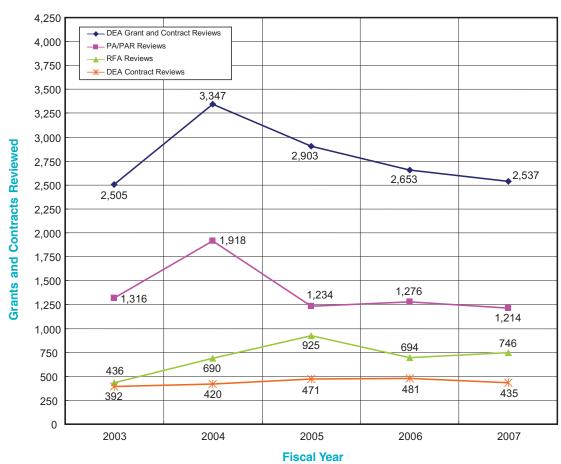
The peer review of grant applications generally occurs in the fall, spring, or summer prior to a February, June, or September NCAB meeting, respectively.

Review Workload

In FY2007, the DEA organized, managed, and reported the review of a total of 2,102 grant and cooperative agreement applications assigned to NCI (see Table 6) and 435 NCI contract proposals (see Table 12). There were 116 fewer grant and contract proposals reviewed in FY2007 compared with FY2006 (see Figure 2). Table 7 provides a summary of the applications reviewed by NCI IRG subcommittees and Special Emphasis Panels (SEPs). Eighteen meetings of the NCI IRG subcommittees and 80 SEPs were convened

to review and evaluate grant applications and contract proposals of various types. In addition, there were 13 site visits and 54 other review associated meetings such as teleconferences, applicant interviews, and fact-finding review panel workgroups. Approximately 1,750 reviewers and consultants served on the parent IRG subcommittees, SEPs, and workgroups in FY2007 (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 2003 - 2007



^{*}Withdrawn applications are not included.

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 nine subcommittees of the NCI IRG or by specially convened SEPs as shown in Table 7.

The Resources and Training Review Branch (RTRB) and the Research Programs Review Branch (RPRB) are primarily responsible for the peer review of a variety of unsolicited multiproject and career development grant applications (see Table 6) and together manage the nine subcommittees of the NCI IRG (see Appendix C). 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 RPRB has primary responsibility for review of unsolicited applications for program project grants (P01s), for Specialized Programs of Research Excellence (SPOREs, P50s) in various organ sites, and for the first NCAB round in 2007, conference grants (R13s). The RPRB also manages the three subcommittees (Subcommittees C, D, and E) of the NCI IRG that traditionally were responsible for final scoring of program project grant applications, although those subcommittees were not convened because of the ongoing pilot of single-tier review of P01 applications (explained in more detail below). The RPRB also managed the NCI R13 Review Committee, which is composed of NCI extramural scientific staff from all four program Divisions and the DEA, during the first part of 2007. Review of R13 applications was subsequently transferred to the Program Coordination and Referral Branch (PCRB) for applications submitted for June and September 2007 NCAB rounds.

The Special Review and Logisitics Branch (SRLB) organizes and manages peer review primarily for grant applications in response to most of NCI's specific RFAs, PARs, and R&D contract proposals submitted in response to Requests for Proposals (RFPs); all of these reviews are conducted by Special Emphasis Panels (SEPs). In addition, the PCRB often collaborates with the review branches to assist in the review of special initiatives and also has responsibility for the review of conference grants (R13s). 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 and the RPRB involve complex, multidisciplinary applications. The review format for some of these applications, including the Cancer Center Support Grants (P30) and Cooperative Clinical Trials Grants (U10), involved 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. Five of the nine 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; in the past, Subcommittees C, D, and E were the "parent committees" for Program Project (P01) grant applications. They did not meet during 2007 due to the pilot of the singletier review process for these 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 Applications (P01)

A significant proportion of the effort of the RPRB during FY2007 was associated with the review of unsolicited P01 applications. The SROs in the RPRB organized and managed the review of 89 new, recompeting, amended, and supplemental P01 applications (see Table 8), a lower P01 workload than the NCI has seen in any of the past 4 years, as shown in Figure 3. Approximately 36 percent of the applications were amended. The 89 applications requested more than \$205 million in total costs for the first year (see Table 9).

During 2007, the RPRB continued a pilot of review of P01 applications in groups of up to 10 applications by a one-tier, "paper only" review process. During the pilot, all review panels are constituted as SEPs. The SEPs include members of NCI IRG subcommittees C, D, and E as well as additional scientists with appropriate expertise for the applications being reviewed. The SEP reviewers evaluate and score projects, cores, and integration, then assign the overall priority score to each application. The five topic areas for the P01 review SEPs are Molecular Biology; Cellular and Tissue Biology; Prevention, Epidemiology, and Control: Discovery and Development; and Clinical Studies. Structured reviewer feedback about this new review process for P01 applications was collected during each review meeting in preparation for a formal evaluation of the P01 review process during 2008. However, by the end of 2007, it was clear that both reviewers and applicants had adapted to the new review format, and that the new review format made very efficient use of reviewers, reviewers' time and effort, and

NCI review and program staff effort without compromising the quality of the review.

Specialized Centers of Research Excellence (P50)

During 2007, the RPRB also had responsibility for 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 2007, the RPRB organized and managed six Special Emphasis Panels for the review of a total of 45 SPORE applications, a considerable increase over the previous 3 years (see Figure 3).

The increase in the number of applications was probably due to a significant change in the Program Announcement for SPOREs that eliminated specific receipt dates for applications addressing particular organ sites and allowed applicants to submit applications addressing any organ site for any receipt date. Therefore, applicants can develop SPOREs and submit new and revised applications when they are ready, rather than on an arbitrary schedule set by the NCI.

The first such "open" receipt date for SPORE applications was September 25, 2006, for review in February 2007 for the June 2007 NCAB meeting. Eighteen applications addressing seven organ sites were received for that receipt date, compared with 14 applications for three organ sites for the February 2007 NCAB round. This trend for a larger number of organ sites per review round and review meeting continued for the September 2007 NCAB round, with 13 applications submitted for research on six organ sites. During 2007, the RPRB organized and managed the peer review of SPORE applications for research in Gastrointestinal (12), Prostate (7), Head and Neck (7), Lymphoma (5), Brain (4), Lung (4), Breast (4), and Skin (2) cancer. These 45 applications included budget requests for a total of more than \$75 million in direct costs for the first year of support.

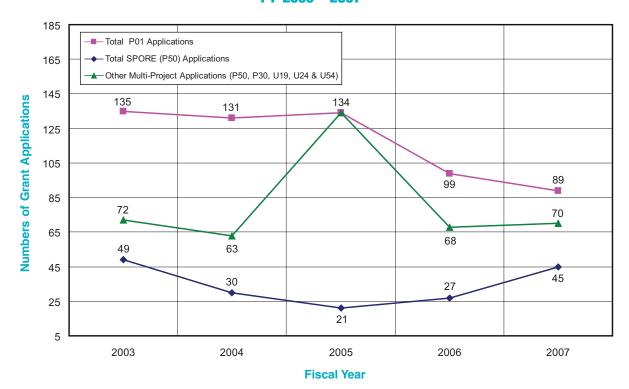


Figure 3. P01, P50 (SPORE), and Other Multi-Project Research Applications Reviewed*

FY 2003 - 2007

Overall, 49 percent of the 45 applications reviewed during FY2007 involved requests for support of new SPOREs, and 51 percent of the applications involved requests for support of continuation of ongoing SPOREs. Interestingly, none of the 14 applications submitted for the February 2007 NCAB round, before implementation of the "open receipt" paradigm, were amended, but 14 (45 percent) of the 31 applications submitted for the June and September 2007 NCAB rounds were amended; the amended applications were evenly distributed between new and competing continuation applications. The increase in both the number of applications, the number of organ sites, and the number of amended applications resulted 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.

Implementation of New Technology for Instantaneous Electronic Scoring To Facilitate Review of P01 Program Project and P50 SPORE Applications

The P50 SPORE and P01 Program Project applications are long and complex, and discussion of one application during the review meeting can take more than 3 hours. Each reviewer has his or her own vote sheet at the end of the discussion, but may not fully remember the range of scores for the various components or have a good appreciation for the "big picture" when it comes to discussing the application as a whole and assigning the final priority score for the application. In

^{*} Withdrawn applications are not included.

addition, the pilot of single-tier review of P01 applications eliminated the P01 "parent committee" meeting in which the committee members used the means and range of scores from the first-tier individual review panels to guide the final overall priority score. Beginning with the October 2006 P01 and SPORE review meetings for the February 2007 NCAB meeting, the RPRB piloted use of a new technology for facilitating review of large, multicomponent applications by providing exactly this type of summary information about each application.

An SRLB SRO first identified a simple and inexpensive technology, the "InterwriteTM Learning PRS" student response system, which was originally designed for test-taking by elementary and middle school students. The system involves a wireless radio frequency receiver connected to a laptop computer and individual hand-held radio frequency transmitters ("clickers") that are about the size of a television remote control for each reviewer. The SRLB SRO and the lead SRO for SPORE review in the RPRB worked together with a DEA contractor to adapt the system for review of multicomponent grant applications. This activity involved developing new software that would interface with the original PRS software to: download application information from the NIH IMPAC II database; add new range and format checks to the "answers" sent by the reviewers, tally the reviewers' responses appropriately for grant review; and save the information in a spreadsheet.

Each component of the application that must be scored becomes a "question" in the PRS system. The system can accommodate both numeric and adjectival scores. Reviewers use the numeric and letter buttons on the hand-held "clickers" to transmit their individual scores for each component of an application after the discussion of the component is complete during the review meeting. The mean and range for each component of the application is displayed on a large poster in the front of the review room in real time as the review proceeds. At the conclusion of the discussion of the individual components of the

application, the poster displays the "group averages" for each component of the application. This provides additional information for the discussion of the overall score for the application as a whole.

Reviewer feedback indicated that the devices are easy to use and facilitate the discussion of the overall application. The reviewers' paper voting sheets are the "gold standard" for the final scores, but the spreadsheets downloaded from the system greatly facilitate data entry and calculation of the "official" scores for each component of the applications after the review meeting. Analysis of the data from the PRS system and the official paper vote sheets showed that the data from the PRS system were accurate to 0.1, although we stress to the reviewers that the data are "approximate," because teleconference reviewers do not have clickers, and some reviewers may miss the window of opportunity for transmitting a score for a particular component of an application. The pilot of the PRS system was so successful that the RPRB adopted the system for routine use in all P01 and SPORE review meetings.

Conference Grants (R13)

The RPRB also continued to conduct the reviews for unsolicited R13 applications for the February 2007 NCAB round of review. R13 applications request NCI support for a wide variety of scientific conferences related to cancer research. The Chief of the RPRB organized the review of 17 applications by the NCI R13 Review Committee, which is composed entirely of NCI extramural staff. This committee used an innovative "virtual review" format to accomplish an accelerated review of the conference grant applications, so that conference organizers could plan more effectively. Reviews of applications for the June and September 2007 NCAB meetings were managed by the PCRB.

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 multi-

disciplinary 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 (2) multi-institutional clinical trial cooperative group-statistical center cooperative agreements (U10s) applications. The review formats generally involve a two-step initial review. The first step of the review 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.

NCI Cancer Centers

The new Cancer Center Support Grant (CCSG) Guidelines, which were approved in September 2004 and became effective with the applications that were received in February 2005, contained a number of new components, such as the DEA prepared documents to assist reviewers in the transition to the new Guidelines, including a list of major changes and a summary of review criteria and their appropriate component for evaluation of consortia and partnerships. RTRB review staff also have prepared, in collaboration with the Cancer Centers Branch, clarification documents

for portions of the Guidelines that were unclear to reviewers. RTRB review staff members have continued to utilize modifications of the review process to reduce the burden on peer reviewers, such as use of poster sessions for shared resource presentations, limited time for program presentations, staff selection of protocols for review, and simplified review of budgets.

One of the new aspects 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 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.

During FY2007, Subcommittee A reviewed 11 CCSG P30 applications, including one using the limited site visit format (see Table 7).

Training and Career Development

The growth in the number of individual career development applications reviewed by the RTRB seen in previous years decreased in FY2007 (see Figure 4). From 2003 to 2006, the number of DEA-reviewed career development applications increased by 43 percent (411 to 588); in 2007, the number reviewed was 556, a decrease of 5.5 percent. Similarly, the number of institutional training grant applications, which had increased from 167 to 185 between 2003 and 2006 (11 percent), was 152 in 2007, a decrease of 18 percent.

Clinical Cooperative Groups

The SRO for Subcommittee H (Clinical Cooperative Groups) manages the review of the NCI Clinical Trials Cooperative Group Program and

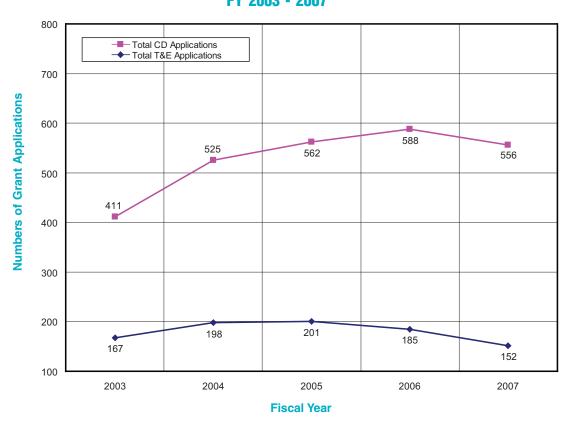


Figure 4. Numbers of Career Development (CD) and Training and Education (T&E)

Applications Reviewed*

FY 2003 - 2007

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.

Steps have been taken to make some minor improvements in the Subcommittee H review process. First, the use of numerical, rather than adjectival scoring was tried and found to be successful. Second, in selected circumstances, site visit reviews of well-functioning Statistics and Data Management Centers (SDMC) will be replaced by evaluations consisting of reverse site visit reviews at a Subcommittee H meet-

ing. Third, the summary statement format has been slightly altered so as to provide applicants with additional information about the range of reviewer opinion expressed in the context of the review process.

During FY2007, one Clinical Cooperative Group was fully reviewed and two Groups competed for supplemental funds. In addition, although not a part of the formal activities of Subcommittee H, a funding request for a Cooperative Groupassociated Phase I clinical trial network was reviewed. Subcommittee H membership was updated in FY2007 with the appointment of six new members.

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

Other RTRB Activities

To assist reviewers in preparing for their participation in peer review, Reviewer Guides were prepared 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, contract proposals submitted in response to specific RFPs, and PARs. The reviews are conducted with SEPs and involve recruiting the appropriate scientific expertise for each review meeting. During FY2007, the DEA reviewed 1,960 applications that were submitted and competed for funding in response to 46 RFAs and 42 PAs and PARs.

Following approval by the NCI Executive Committee and BSA, program staff prepare the 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 an Institute PAR (Institute Reviewed Program Announcement), 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 FY2007. 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. Contract proposals that were submitted in response to RFPs and reviewed by the SRLB and the PCRB during FY2007 are shown in Table 12. A total of 435 contract proposals, which include 355 loan repayment applications, were reviewed.

Technology Research Applications

The NCI-developed R21/R33 phased innovation awards are targeted to the support of innovative exploratory/developmental studies. This grant mechanism allows the rapid transition, if the stated milestones are met, from proof-of-principle research studies to the more extensive developmental studies. This grant mechanism is well suited for technology development, and the number of RFA grant submissions for technology initiatives has greatly expanded in the past 5 years. In FY2007, 423 technology R21/R33 and R0l grant applications were reviewed under five RFAs, which was a growth rate of 107 percent as compared to FY2003 (see Figure 5).

In the Small Business Innovation Research (SBIR) area, five initiatives were reviewed by SRLB staff. These initiatives included: Innovative Technologies for the Molecular Analysis of Cancer (CA07-006/CA07-039); Applications of Emerging Technologies for Cancer Research (CA07-008/CA07-041); Innovations in Cancer Sample Preparation (CA07-010/CA07-043); Circulating Cells in Cancer Detection (CA07-027); and Development of Advanced Genomic Characterization Technologies (CA07-029). These initiatives also were matched with announcements for Small Business Technology Transfer (STTR) grant awards (CA07-007/CA07-041, CA07-009, CA07-011, CA07-028, and CA07-030, respec-

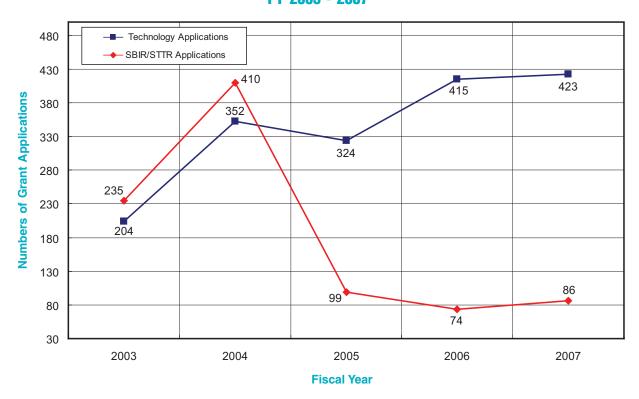


Figure 5. Technology Initiatives
Applications Reviewed*
FY 2003 - 2007

tively). The total number of applications received in 2007 (86) represents a modest increase over the number submitted in 2006 (74).

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 five initiatives that were comprised of multicomponent applications: Cancer Research Network (CA-06-505); Comprehensive Minority Institution/Cancer Center Partnership (CA-07-045); *In vivo* Cellular and Molecular Imaging Centers (PAR-06-406); Advanced Technology Radiation Therapy Clinical Trials Support (ATC) (CA-07-503); and Small Animal Imaging Resource Program (CA-07-004).

Small Grant Programs

Several recurring initiatives are stimulating increased interest in the applicant community. The small grant (R03) PARs include programs in cancer prevention (PAR-06-313); cancer epidemiology (PAR-06-294); and behavior research in cancer control (PAR-06-458). These initiatives support many new investigators and pilot studies. In FY2006, there were 406 applications submitted to the three initiatives (*DEA Annual Report 2006*). In FY2007, those same initiatives attracted 392 applications, a slight decrease. An additional 86 R03 applications were submitted under other Program Announcements in FY2007 and reviewed in CSR.

^{*}Withdrawn applications are not included.

Research and Development Contract Proposals

The DEA reviewed 435 research and development contract proposals (including 355 Loan Repayment Program applications) in response to 22 RFPs. Of those 22 RFPs, 20 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

Table 13 presents a summary for FY2007 of total funding of NCI grant awards by mechanism. 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 FY2004 through FY2007 according to the extramural division 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 FY2007, and Table 18 reports foreign components of U.S. domestic research grants in FY2007. Note: Some grant awards made during a fiscal year may have been for grant applications reviewed in a prior fiscal year.

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 NCIsponsored RFAs. Figures 6 and 7 show total NCI Grant and RFA funding according to scientific concept area in FY2006 and 2007. Figure 8 shows RFA concepts that the BSA approved in FY2006 and 2007 according to the sponsoring NCI Division/Office.

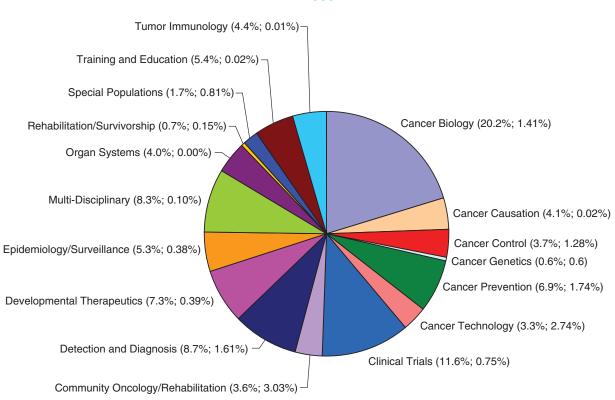
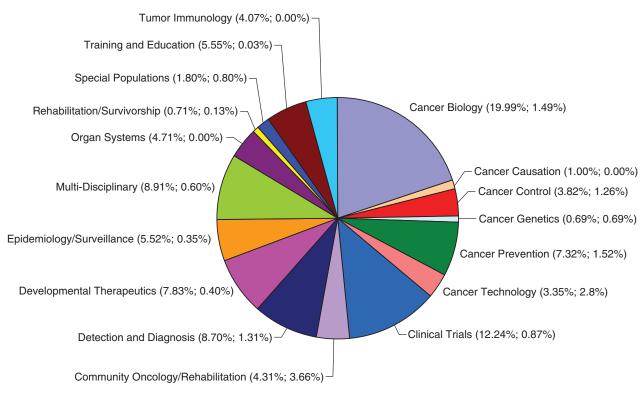


Figure 6. NCI Grant and RFA Funding Percentages by Concept Area **FY2006**

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

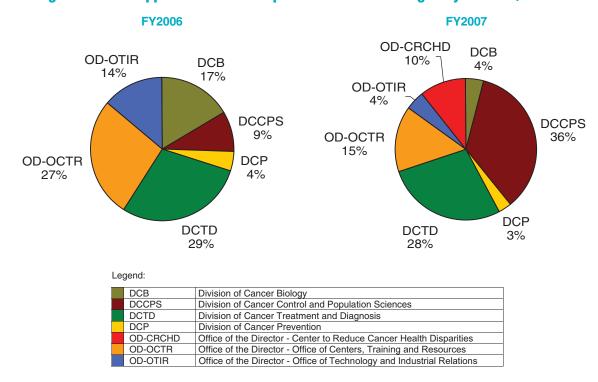
Figure 7. NCI Grant and RFA Funding Percentages by Concept Area FY2007



Percents represent Total Funding and RFA Funding for the Concept Area as a percentage of Total NCI Grants.

Concept Area (% of Total Funding to Total NCI Grants; % of RFA Funding to Total NCI Grants)

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



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 Committee Management Office (CMO), supports the NCI peer review process by compensating consultants for their services on IRG subcommittees or SEPs (see Appendixes C and D) and as a Service Center, also provides SREA services to the National Center for Complementary and Alternative Medicine (NCCAM) for their SEP meetings.

During FY2007, 1,747 peer review consultants were reimbursed flat-rate payments and honoraria for serving at more than 160 peer review meetings (Appendixes C and D). Teleconference meeting costs and airline tickets were paid expeditiously throughout the year, and SREA staff ensured the timely review and approval of 78 hotel contracts. There were 3,610 instances of honoraria and flat-rate payments made to NCI peer review consultants and 460 NCCAM peer review consultants.

The new electronic reviewer reimbursement process was implemented in October 2005 and involves reviewer registration in the Dun and Bradstreet numbering system (DUNS) and U.S. Treasury Central Contractor Registry (CCR). SREA staff members have taken the lead during FY2007 in answering reviewer questions about the registration process and have guided the reviewers through the complexities of this process. In the past year, staff have worked to manage and update the database for tracking reviewer registrations in DUNS and CCR, and have been proactive in ensuring that reviewers renew their CCR registration prior to their annual renewal date by sending e-mail alerts to reviewers 30 days before their CCR registration is due to expire. Additionally, e-mail reminders were sent prior to and after each and every meeting, ensuring that the majority of reviewers who attended meetings are now registered. The total number of NCI peer reviewers who have registered since 2005 is 2,090.

In February 2007, the DEA Director assigned responsibility to the CMO for reviewing, approving, and signing peer review hotel contracts, entering Record of Calls into the NIH Administrative Database (ADB) and requisitions into the NIH Business Systems (NBS), and reviewing hotel invoices. This activity required the development of new processes and procedures for use by review, Division of Extramural Activities Support (DEAS), and SREA staff members as well as training for the SREA administrators. The CMO developed the SREA hotel contract process for Blanket Purchase Agreement (BPA) and non-BPA hotels, NCI SREA Travel Guidelines/Policy, Preand Post-SREA Meeting Activities, and various other SREA procedural documents to effectively provide review staff with the most efficient and effective management of their peer review meetings.

FY2007 also saw the start of a pilot program on the use of a new teleconference company with better features, lower prices, and better customer service. Additionally, staff reformatted the Peer Review Meeting Attendance List and developed an electronic rooming list for review staff to use. These new tools/documents are available for the Division staff to use on the DEA Applications and Reporting Center intranet web site. The SREA administrative function is critical to the success of the peer review system because any error, inconvenience, or delay in reimbursement that reviewers experience is likely to discourage their future service.

DEA's Role in Advisory Activities

Beyond the 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, and cancer advocacy, treatment, cancer control, drug development, prevention, communication, and education, etc. 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. The DEA Director serves as Executive Secretary to the NCAB and to the BSA. (See Appendixes A and B for highlights of the activities of these Boards in FY2007 and Appendix C for a list of chartered committee members.)

Major NCI Advisory Bodies Administered by the DEA

National Cancer Advisory Board. NCI's principal advisory body is the Presidentially appointed NCAB. The Board advises the Department of Health and Human Services (DHHS) 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.

President's Cancer Panel. 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. 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.

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 NCI has established BSA-sponsored "NCI Listens" sessions at national association meetings (see Appendix B). BSA members and NCI staff invite conference participants to join them for these sessions. A brief presentation is given by NCI staff emphasizing the status of grant funding, the

NCI Advisory Boards



John E. Niederhuber, M.D., NCI, and Elias A. Zerhouni, M.D., NIH, attending NCAB



John E. Niederhuber, M.D., NCI, addressing NCAB

NCI Advisory Boards (continued) NCAB Retirees



John E. Niederhuber, M.D., Kenneth Cowan, M.D., Ph.D., Carolyn Runowicz, M.D.



Jean deKernion, M.D.



Moon Chen, Jr., Ph.D., M.P.H.

Bypass Budget, and the status of several new initiatives. The brief presentation is followed by an open question-and-answer period. The NCI is committed to providing a written response to the scientific society hosting the meeting concerning issues raised during the session. The BSA hopes that conference participants will take advantage of this opportunity to present any ideas or concerns that they might have.

Boards of Scientific Counselors 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, 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; Chairs 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. The DCLG advises and makes recommendations to the Director, NCI, from the perspective and viewpoint of cancer consumer advocates on a wide variety of issues, programs, and research priorities. The Group serves as a channel for consumer advocates to voice their views and concerns. The DCLG may assemble *ad hoc* working groups; convene conferences, workshops, and/or other activities; and seek advice from special consultants. The members are consumer advocates who are involved in cancer advocacy and experience, representing the patient and survivor constituency they communicate with on a regular basis.

Clinical Trials Advisory Committee. 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. 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. The IRG, composed of nine subcommittees, reviews grant and cooperative agreement applications for centers, research projects, and research training activities in the areas of cancer cause, diagnosis, treatment, and prevention, as well as contract proposals relating to all facets of cancer. Members may be appointed as standing committee members with overlapping terms of up to 4 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

NCI Advisory Boards (continued) BSA Retirees



John E. Niederhuber, M.D., Margaret Spitz, M.D., M.P.H., Robert Young, M.D.



Mack Roach, III, M.D.



Michael Link, M.D.

NCI Advisory Boards (continued) BSA Retirees



John E. Niederhuber, M.D., Ms. Paula Kim, Robert Young, M.D.



Eric Hunter, Ph.D.



Shelton Earp, III, M.D.

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. The SEPs advise the Director, NCI, and the Director, DEA, regarding research grant and cooperative agreement applications, contract proposals and concept review relating to basic and clinical sciences, and applied research and development programs of special relevance to the NCI. Membership of an 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.

Other Advisory Groups

Program Review Groups. As part of an ongoing process of review and revitalization, the NCI instituted a series of external reviews to guide it in strengthening major research support programs. Program Review Groups, coordinated by the DEA as an activity of the BSA, examine the

NCI extramural programs and their infrastructures to evaluate whether changes are necessary for the Institute to be in a position to effectively guide and administer the needs of the science in the foreseeable future. (See http://deainfo.nci.nih.gov/advisory/bsa/bsa_program/bsaprgr.htm).

Progress Review Groups. As part of its overall responsibilities for committee management functions and coordination of advisory groups, the DEA assists other NCI offices with additional types of oversight activities. Progress Review Groups (PRGs), managed by the Office of Science Planning and Assessment within the OD. NCI, are created to provide their expertise, biomedical research information, and assistance to NCI chartered advisory committees in defining and prioritizing the national research agenda for particular concerns by: (1) identifying new or unmet scientific opportunities; (2) reviewing current research programs; and (3) providing expert opinions to address research opportunities and hasten progress. These groups report to the NCI through a chartered Federal advisory committee (See http://deainfo.nci.nih.gov/advisory/pog/ progress/index.htm).

NCI Advisory Boards (continued)



Retiring NCAB members with Drs. Runowicz (L) and Niederhuber (R)



Retiring BSA members with Drs. Niederhuber (L) and Young (R)

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 DHHS Secretary's Advisory Committee on Genetics, Health, and Society, which is administered through the Office of the Director, 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, DHHS, 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 Office of the Director (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; implements policies and procedures designed to avoid conflicts in the nomination and selection of board members; implements policies and procedures to ensure compliance with DHHS and NIH regulations governing the operation of chartered advisory bodies; advises on issues related to conflicts of interest, selection, and recruitment of viable committee members, and management of committee records; provides logistical support for NCAB and BSA meetings; and facilitates reimbursement of committee member expenses.

Some highlights of FY2007 CMO activities include:

 Participated in various NIH-wide Information for Management, Planning, Analysis, and Coordination (IMPAC II) software application user group meetings, such as the Committee Management (CM) Users Group (CMUG), and provided advice on the modification of the Committee Management Web Module. In FY2007, the CMO continued to provide IMPAC II training to Division staff on Coding Meeting Attendees in IMPAC II and on How To Use the CM Web Module. The CMO continued to use the user-friendly booklet they created that includes screen shots from the CMO Module and step-by-step instructions on how to code the various types of meeting attendees (i.e., mail reviewers, ad hoc reviewers, temporary members, regular members, telephone reviewers). Additionally, the CMO created a quick tip sheet entitled "Coding of Meeting Attendees and Meetings" for use by Division staff. Other training provided by the CMO included training to Division of Extramural Activities Support (DEAS), NIH staff on the proper coding of meeting attendees and meetings in the CM Module. It is important to provide this training regularly to ensure that staff has the appropriate information to properly code meetings and attendees. This ultimately results in the accurate preparation of fiscal and annual Federal advisory committee reports provided to the President, DHHS, GSA, and NIH.

- Provided logistical support for the NCI Town Hall Meeting on Research Condition and Disease Categorization (RCDC) sponsored by the DEA.
- Provided expert advice to the Director, NCCAM, and other senior NCCAM staff and gave an overview of the Federal Advisory Committee Act (FACA) and the use of working groups and subcommittees.
- Provided ongoing advice to the DCTD Rapid Access to Interventions Development

(RAID) program officials on use of SEPs for review.

- Provided guidance to Office of AIDS Research (OAR) staff on the 2008 DCLG nomination slate process and requirements.
- Provided training at the September DCLG Meeting on "Lobbying and Political Activities" pertaining to Special Government Employees.
- Provided guidance to CTAC staff on revisions to the CTAC Charter.

- Responded to requests from senior NCI staff on various non-FACA meetings and working group concerns.
- Provided expert advice on the use of an NCAB working group for the P-4 Chemoprevention Trials Assessment and provided advice to the DEA Director and senior NCI staff in preparation of the meeting.

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 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://deais.nci.nih. gov/Query/). 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, DHHS, Congress, and the public. A critical characteristic of these data is comparability from one fiscal year to the next. Trends in funding between FY2003 and FY2007 for selected SIC Codes and organ sites 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, or Congress.

FY2007 Highlights include:

- Provided information to numerous requesters, notably the National Academy of Sciences and the NCI Office of International Affairs.
- Indexed and coded nearly 9,000 funded and unfunded applications.
- Continued coordination with the NCI Office of Budget and Financial Management (OBFM) to update and align budget reporting categories between DEA and OB reporting systems.
- 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.
- Served as the NCI lead group for the NIH Research, Conditions, and Disease Categorization (RCDC) Initiative.
- Under the direction of the NCI Clinical Trials Working Group, led a pilot study for disease coding of clinical trials in multiproject grants.
- Tracked extramural research by foreign research institutions and extramural NCI research grants with a foreign research component.
 - In FY2007, the NCI allocated \$22.9 million to support 82 grants received by foreign research institutes. These foreign grants are listed by country, mechanism, and total funding support in Table 17.
 - In FY2007, the NCI supported 441 U.S. domestic grants with 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 servers and Web sites; designs, develops, and maintains Division-specific software applications; provides oversight of hardware and connectivity; and serves as a liaison with the NIH Center for Information Technology (CIT) and NCI central computer servicing units. 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 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 FY2007, the following specific AISB accomplishments are highlighted:

System Administration and Desktop Support

- Coordinated the temporary move and return of information technology (IT) equipment of DEA staff between the 8th and 4th floors.
- Coordinated the buildout of the new local area network (LAN) closet on the 8th floor, along with the transfer of network switches and patch panels.
- Coordinated the staging and wiring of 1 GB (1 gigabyte) network cable on the 8th floor.
- Coordinated the installation of three highspeed, high-volume network printers with associated servers.
- Proposed and implemented procedures for ongoing network password conflicts affecting all DEA staff.

- Purchased and configured four new servers and associated storage vaults. Modified and rebuilt five servers.
- Coordinated the installation and the training for two new Rimage CD/DVD duplicators.
- Trained, advised, and guided three new AISB technical staff on DEA's user support and technical operations as well as provided desktop computer troubleshooting and problem-solving support.
- Configured all department laptops with PointSec disk encryption software in compliance with HHS Memorandum ISP-2006-009.
- Purchased and configured more than 40 desktop computers to replace systems with degraded performance and/or failed equipment.
- Purchased and configured 32 electronic radio frequency (RF) scoring devices and helped train DEA staff on the use of the devices.

Major DEA Internet/Intranet Development

- Updated the A-Z Extramural Policies and Related Topics Web Site.
- Introduced and then provided structural revisions to the new NCI Research, Condition and Disease Categorization (RCDC) Web Site.

Application Development Projects

- Updated the ESATTS (Extramural Scientist Administrator Training Tracking System) user interface while incorporating new user and administrative requirements.
- Upgraded the CM Reporting Tools to enhance the various applications and reports specifically designed for the CMO.
- Developed and implemented new procedures for data conversion and quality control for Scientific Review Officer (SRO) supplied scoring data from review meetings to automate the process of uploading scoring data to IMPAC II.

 Performed major developmental and presentation modifications to the annual BSA Report, along with numerous data integrity audits.

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

- Completed enhancements and modifications to the FLARE (Fiscal Linked Application and Research Emphasis) application that included:
 - Office of Budget (OB) Interface Module enhancement
 - Major update of the FLARE application/ environment documentation
 - Planned, coordinated, and implemented technical aspects of end-of-year processing for RAEB reporting to the Financial Management Branch (FMB) on all NIH required budget categories
 - Worked with NCI groups to get final grant dollars for the FY to integrate into the FLARE database
 - Worked with RAEB to create reports/data collections to disseminate FLARE data
- Enhancements and Modifications to the RAEB's Research Condition and Disease Categorization (RCDC) Project included:
 - Development of "FLARE versus KMDC" (Knowledge Management for Disease Coding) Reports module comparison report (added to FLARE application)
 - Designed the process for the download of RCDC Validity Test (VT) data from IMPAC II
 - Implemented the SharePoint collaboration tool for KMDC and other DEA units
- Enhanced and upgraded the system and environment for the NCI Funded Research Portfolio Application.
- Integrated Subproject Coding development in the following:
 - Clinical Trials coding process
 - IMPAC II Subproject Data
 - FLARE application
 - I2E Program Coding application

- Integrated RAEB's NCI historical data (1990 back to 1937) with FLARE to be used for statistical trend analysis of NCI disease coding.
- Evaluated SpotfireTM and InsightTM software applications as search/analytic/visualization tools to assist RAEB with trend analysis and RCDC data.
- AISB staff participated in numerous NIH A-76 Study Workgroups, which resulted in wins for NIH MEOs (Most Efficient Organizations), including:
 - NIH A-76 Study Workgroups
 - Requirements Document for IT End User Support
 - MEO Development for IT End User Support
 - Preliminary Planning for IT Systems Development and Programming
 - Requirements Document for IT Systems Development and Programming
 - Market Analysis Phase for IT Systems Development and Programming
 - MEO Development for IT Systems Development and Programming
- AISB staff were involved with many NCI and NIH information systems and information technology groups and organizations, including:
 - NCI Office of Information Systems and Computer Services
 - NCI Institute Information Systems Advisory Group
 - NCI Change Management Group
 - NCI Research, Condition, and Disease Categorization (RCDC)—Power Users Group
 - NCI Science Management Workspace (formerly Institute Information Systems Advisory Group)
 - NCI Science Management Workspace— Business Information Systems Special Interest Group
 - NCI Science Management Workspace— Help Desk Special Interest Group
 - NIH eRA Technical Coordinators Group
 - NIH Electronic Council Book and Query View Reporting Steering Committee



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 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
Lisa Verikios	Program Analyst
Bernadette Monacelli*	Secretary
Barbara Hider	Secretary
Joshua Rhoderick	Receptionist

^{*}Left in 2007.

Committee Management Office, OD

- Coordinates functionally related advisory committee activities across the Institute and its Client-Institutes. The office manages NCI advisory committees, a DHHS committee, and three National Center on 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 committee management services to the Office of Biotechnology Activities, Office of the Director, NIH, and the NCCAM.
- Provides policy guidance to 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, DHHS, 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 and NCCAM 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 Coleman*	Committee Management Specialist
Natasha Copeland	Committee Management Specialist
Kimberley Hetkowski†	Committee Management Specialist
Hing Lee	Committee Management Specialist
Alonda Lord	Committee Management Specialist
Lisa Rustin	Committee Management Specialist
Linda Southworth	Committee Management Specialist
Malaika Staff	Committee Management Specialist
Mary Williams	Program Analyst

^{*}On detail to ORRPC.

 $^{^\}dagger Joined$ in 2007.

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.

^{*}Retired in 2007. †Joined in 2007. ‡On detail from CMO.

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 PAs) 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
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

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	Prog	ıram	Ass	istant

^{*}Joined in 2007.

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 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 Institutes and Centers.
- 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 45 cancer activity areas (which typically represent program branches in the NCI extramural divisions).
- Semi-electronically 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 Institutes and Centers 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 Institutes and Centers.
- 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.

Organizational Structure of the Division of Extramural Activities

- 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
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

^{*}Joined in 2007.

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 Green	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
Hasnaa Shafik, M.D., 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

^{*}Left in 2007.

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.

David E. Maslow, Ph.D	Chief
Lynn Amende, Ph.D	Scientific Review Officer
Robert Bird, 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
Isla Norwood*	Program Specialist
Sonya Roberson, Ph.D	Scientific Review Officer

^{*}Left in 2007.

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
Tanvan Bailey	Program Analyst

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
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.

Gail Blaufarb, M.S	Lead Biologist/Team Leader
Stacy Harper-Avilla, M.S	Biologist
Clarissa Douglas	Program Specialist

Knowledge Management/Special Projects

- Represents the NCI on new scientific reporting initiatives, such as 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 RCDC Initiative, coordinating the NCI involvement in the creation of new trans-NIH definitions for more than 300 Congressional reporting categories.
- Represents the NCI on several RCDC Working Groups.

Organizational Structure of the Division of Extramural Activities

- 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.
- Chairs the Business Information Systems Special Interest Group, which is a standing subcommittee of the Science Management Workspace.
- Represents the DEA on the trans-NCI Health Disparities Database Committee. This Committee, led by NCI's Center to Reduce Cancer Health Disparities, was formed to create a systematic process to identify, track, and report on cancer health disparities, and minority health-related research.
- Collaborates with staff in DEA Review Branches to assist in finding qualified scientists to serve as reviewers for high-profile RFA reviews, as well as reviews of applications that cover broad areas of research and require a broad spectrum of expertise.
- Works with NCI staff in other Divisions and Offices to uncover needs for new coding and reporting areas as well as to facilitate collaboration and sharing of expertise.
- Represents the DEA as its communications coordinator in the Office of Communications and Education Steering Committee.

Lisa Krueger, M.S	Lead Biologist/Team Leader
Beth Buschling	Biologist
William Clark, M.S.*	Biologist
Michele Vos, M.S	Biologist

^{*}Joined in 2007.

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); 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.

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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
Charles Conley	Information Technology Specialist
Richard Florence*	Information Technology Specialist
Roderick James*	Information Technology Specialist
Teresa Park	Information Technology Specialist

^{*}Joined in 2007.

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.

Amir Sahar-Khiz, M.S., M.B.A. Acting Team Leader
Lorrie Smith...... Information Technology Specialist
Elaine Taylor Computer Scientist

Table 1a. Requests for Applications (RFAs) Published by the NCI in FY2007Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division and Office
10/4/2006	CA07-032	U01	Improved Measures of Diet and Physical Activity for the Genes and Environment Initiative (GEI)	DCCPS
10/16/2006	CA07-503	U24	Advanced Technology Radiation Therapy Clinical Trials Support (ATC) (Limited Competition)	DCTD
10/17/2006	CA07-501	U01	NCI Limited Competition Supplements for Pilot Projects for Community Networks Program to Reduce Cancer Health Disparities	CRCHD
12/12/2006	CA07-031	U01	Early Clinical Trials of New Anti-Cancer Agents with Phase 1 Emphasis	DCTD
4/4/0007	CA07-033	R21	languaging Technologies for Malesules Analysis of Occasion	OTID
1/4/2007	CA07-034	R33	Innovative Technologies for Molecular Analysis of Cancer	OTIR
1///0007	CA07-035	R21	Application of Engageing Tachyologies for Canasa Dassayah	OTID
1/4/2007	CA07-036	R33	Application of Emerging Technologies for Cancer Research	OTIR
1///0007	CA07-037	R21	Innovations in Consex Comple Dyangyation	OTIR
1/4/2007	CA07-038	R33	Innovations in Cancer Sample Preparation	
1/4/2007	CA07-039	R43, R44	Innovative Technologies for Molecular Analysis of Cancer (SBIR/STTR)	OTIR
1/4/2007	CA07-040	R41, R42		OTIIT
1/4/2007	CA07-041	R43, R44	Application of Emerging Technology for Cancer Research (SBIR/STTR)	OTIR
1/4/2007	CA07-042	R41, R42		OTIN
1/4/2007	CA07-043	R43, R44	Innovations in Cancer Sample Preparation (SBIR/STTR)	OTIR
1/4/2007	CA07-044	R41, R42	innovations in Cancer Sample Preparation (SBIT/STTT)	Offit
2/9/2007	CA07-505	U01	The American College of Radiology Imaging Network (ACRIN) (Limited Competition)	DCTD
2/13/2007	CA07-046	R01	Lung Cancer and Inflammation	DCB
2/22/2007	CA07-045	U54	Comprehensive Minority Institution/Cancer Center Partnership	CRCHD
5/25/2007	CA07-048	U10	Community Clinical Oncology Program (U10)	DCP
5/25/2007	CA07-049	U10	Minority-Based Community Clinical Oncology Program	DCP
5/29/2007	CA07-506	U24	A Data Resource for Analyzing Blood and Marrow Transplants (Limited Competition)	DCTD
5/30/2007	CA07-047	R01	Biology of Breast Pre-Malignancies	DCB
8/28/2007	CA08-005	R21	Advanced Genomic Data Analysis and Visualization Methods for the Cancer Genome Atlas (TCGA) Data	OTIR
9/17/2007	CA08-003	F32, F33	Multidisciplinary Fellowships in Cancer Nanotechnology Research	OTIR
9/18/2007	CA08-503	U01	Cooperative Human Tissue Network (CHTN) (Limited Competition)	DCTD

Table 1b. Requests for Applications (RFAs) Published by the NCI in FY2007Sorted by Division and Office

Division and Office	RFA	Mechanism	Title	Date of Publication
CRCHD	CA07-501	U01	NCI Limited Competition Supplements for Pilot Projects for Community Networks Program to Reduce Cancer Health Disparities	10/17/2006
CRCHD	CA07-045	U54	Comprehensive Minority Institution/Cancer Center Partnership	2/22/2007
DCB	CA07-046	R01	Lung Cancer and Inflammation	2/13/2007
DCB	CA07-047	R01	Biology of Breast Pre-Malignancies	5/30/2007
DCCPS	CA07-032	U01	Improved Measures of Diet and Physical Activity for the Genes and Environment Initiative (GEI)	10/4/2006
DCP	CA07-048	U10	Community Clinical Oncology Program	5/25/2007
DCP	CA07-049	U10	Minority-Based Community Clinical Oncology Program	5/25/2007
DCTD	CA07-503	U24	Advanced Technology Radiation Therapy Clinical Trials Support (ATC) (Limited Competition)	10/16/2006
DCTD	CA07-031	U01	Early Clinical Trials of New Anti-Cancer Agents with Phase 1 Emphasis	12/12/2006
DCTD	CA07-505	U01	The American College of Radiology Imaging Network (ACRIN) (Limited Competition)	2/9/2007
DCTD	CA07-506	U24	A Data Resource for Analyzing Blood and Marrow Transplants (Limited Competition)	5/29/2007
DCTD	CA08-503	U01	Cooperative Human Tissue Network (CHTN) (Limited Competition)	9/18/2007
OTID	CA07-033	R21	Innovative Technologica for Malagular Analysis of Conser	1/4/0007
OTIR	CA07-034	R33	Innovative Technologies for Molecular Analysis of Cancer	1/4/2007
OTID	CA07-035	R21	Application of Emerging Technologies for Cancer	1/4/0007
OTIR	CA07-036	R33	Research	1/4/2007
OTIR	CA07-037	R21	Innovations in Conser Cample Proparation	1/4/2007
OTIN	CA07-038	R33	Innovations in Cancer Sample Preparation	1/4/2007
OTIR	CA07-039	R43, R44	Innovative Technologies for Molecular Analysis of Cancer	1/4/2007
OTIN	CA07-040	R41, R42	(SBIR/STTR)	1/4/2007
OTIR	CA07-041	R43, R44	Application of Emerging Technology for Cancer Research	1/4/2007
OTIIT	CA07-042	R41, R42	(SBIR/STTR)	1/4/2001
OTIR	CA07-043	R43, R44	Innovations in Cancer Sample Preparation (SBIR/STTR)	1/4/2007
OTIIT	CA07-044	R41, R42	illiovations in Cancer Cample Freparation (CDIII/OTTA)	1/4/2001
OTIR	CA08-005	R21	Advanced Genomic Data Analysis and Visualization Methods for the Cancer Genome Atlas (TCGA) Data	8/28/2007
OTIR	CA08-003	F32, F33	Multidisciplinary Fellowships in Cancer Nanotechnology Research	9/17/2007

Table 2. NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2007Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division and Office
12/4/2006	DA07-012	U01	The Genes, Environment, and Development Initiative	DCCPS
12/27/2006	AI07-004	U01	Women's Interagency HIV Study (WIHS) IV, Limited Competition	DCTD
5/3/2007	TW08-001	R25	Framework Programs for Global Health	DCCPS
5/30/2007	MD07-003	R24	NCMHD Community-Based Participatory Research (CBPR) Initiative in Reducing and Eliminating Health Disparities: Intervention Research Phase	CRCHD
6/21/2007	NR08-001	P01	NINR Nursing Science Research on Interventions in Chronic Illness	DCP
7/17/2007	AT07-004	R01	Mechanisms of Immune Modulation	DCP
7/17/2007	AT07-005	R21	Mechanisms of immune Modulation	DCP
7/18/2007	AI07-031	R21	U.SIndia Bilateral Collaborative Research Partnerships (CRP) on the Prevention of HIV/AIDS	DCTD
8/9/2007	HG07-012	U01	Genome-wide Association Studies in the Genes, Environment, and Health Initiative—Study Investigators	DCCPS
8/9/2007	HG07-014	U01	Epidemiologic Investigation of Putative Causal Genetic Variants—Study Investigators	DCCPS
8/9/2007	RR07-005	R25	Clinical Research Education and Career Development (CRECD) in Minority Institutions	OCTR
9/5/2007	TW08-003	U01	International Cooperative Biodiversity Groups (ICBG)	DCTD

Table 3a. Program Announcements (PAs) Published by the NCI in FY2007

Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division and Office
11/1/2006	PA07-022	R21	Development, Application, and Evaluation of Prediction Models for Cancer Risk and Prognosis	DCCPS
11/0/0006	PA07-041	R41, R42	Image Cuided Cancer Interventions (CTTD/CDID)	DCTD
11/8/2006	11/8/2006 PA07-042	R43, R44	Image-Guided Cancer Interventions (STTR/SBIR)	DCTD
11/20/2006	PA07-021	R01	Development, Application, and Evaluation of Prediction Models for Cancer Risk and Prognosis	DCCPS
12/1/2006	PA07-100	R01	Prioritizing Molecular Targets for Cancer Prevention with Nutritional Combinations	DCP
12/15/2006	PA07-173	R01	Research on Malignancies in AIDS and Acquired Immune Suppression	DCB
12/15/2006	PA07-174	R01	Testing Tobacco Products Promoted to Reduce Harm	DCCPS
12/15/2006	PA07-175	R01	Diet, Epigenetic Events, and Cancer Prevention	DCP
12/15/2006	PA07-176	R01	Studies of Energy Balance and Cancer in Humans	DCCPS
12/15/2006	PA07-177	R01	Correlative Studies with Specimens from Multi-Site Trials	DCTD

Table 3a. Program Announcements (PAs) Published by the NCI in FY2007Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division and Office
12/15/2006	PA07-178	R01	In Utero Exposure to Bioactive Food Components and Mammary Cancer Risk	DCP
12/15/2006	PA07-179	R01	Protein Biomarkers of Infection-Associated Cancers	DCP
12/18/2006	PA07-186	R01	Diet-Induced Changes in Inflammation as Determinants of Colon Cancer	DCP
12/19/2006	PA07-187	R01	Stem Cells and Cancer	DCB
12/19/2006	PA07-203	R01	Decision Making in Cancer: Single-Event Decisions	DCCPS
12/19/2006	PA07-204	R01	Decision Making in Health: Behavior Maintenance	DCCPS
12/19/2006	PA07-205	R01	Research on the Economics of Diet, Activity, and Energy Balance	DCCPS
12/19/2006	PA07-206	R01	The Effect of Racial and Ethnic Discrimination/Bias on Health Care Delivery	DCCPS
12/19/2006	PA07-207	R01	Exfoliated Cells, Bioactive Food Components, and Cancer	DCP
12/20/2006	PA07-254	R01	Cancer Surveillance Using Health Claims-Based Data	DCCPS
12/20/2006	PA07-255	R01	Memory T Lymphocytes in Cancer Immunology	DCB
12/21/2006	PA07-256	R01	Immunoregulation of Gastrointestinal Carcinogenesis	DCB
12/21/2006	PA07-257	R01	Molecular Approaches to Diet and Pancreatic Cancer Prevention	DCP
12/21/2006	PA07-258	R01	Etiology, Prevention, and Treatment of Hepatocellular Carcinoma	DCB
12/22/2006	PA07-259	R01	Improving Diet and Physical Activity Assessment	DCCPS
12/21/2006	PA07-260	R01	Understanding the Effects of Emerging Cellular, Molecular, and Genomic Technologies on Cancer Health Care Delivery	DCCPS
12/22/2006	PA07-266	R01	Networks and Pathways Collaborative Research Projects	DCP
1/5/2007	PA07-277	R01	Research on Ethical Issues in Human Subjects Research	DCTD
1/8/2007	PA07-279	R01	Bioengineering Research Grants (BRG) (R01)	DCTD
1/16/2007	PA07-298	R01	Epigenetic Approaches in Cancer Epidemiology	DCCPS
1/10/2007	PA07-299	R21	Epigenetic Approaches in Gancer Epidemiology	DOOFS
1/17/2007	PA07-301	R01	Application of Metabolomics for Translational and Biological	DCP
1/17/2007	PA07-302	R21	Research	DOI
2/12/2007	PAR-07-214	R01	Academic-Industrial Partnerships for Development and Validation of <i>In Vivo</i> Imaging Systems and Methods for Cancer Investigations	DCTD
2/22/2007	PAR-07-230	P20	Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership	CRCHD
3/5/2007	PAR-07-245	P50 SUPPLEMENT	AVON-NCI "Progress for Patients" (PFP) Awards for Early Phase Clinical Interventions and Biomarkers in Breast Cancer (competing supplements to P50 SPORE grants)	OCTR
3/3/2007	PAR-07-244	P30 SUPPLEMENT	AVON-NCI "Progress for Patients" (PFP) Awards for Early Phase Clinical Interventions and Biomarkers in Breast Cancer (competing supplements to P30 Cancer Center Support Grants)	OOTH

Table 3a. Program Announcements (PAs) Published by the NCI in FY2007Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division and Office
	PAS-07-240			
3/6/2007	PAS-07-241	R43/R44	Technology Development for the Detection and Evaluation of Chemical and Biological Carcinogens (SBIR)	DCB
	PAS-07-242		Chombal and Biological Caloninggone (CBM)	
4/16/2007	PA07-356	R01	Clinical Cancer Therapy and Prevention Research	DCTD
4/23/2007	PA07-362	R21	Exploratory Cancer Prevention Studies Involving Molecular Targets for Bioactive Food Components	DCP
0/10/0007	PA07-455	R01	Malignanaica in the Context of LIV/AIDC	DCTD
9/13/2007	PA07-454	R21	Malignancies in the Context of HIV/AIDS	DCTD

Table 3b. Program Announcements (PAs) Published by the NCI in FY2007Sorted by Division and Office

Division Date of PA **Mechanism** Title **Publication** and Office Feasibility Studies for Collaborative Interaction for Minority **CRCHD** PAR-07-230 P20 2/22/2007 Institution/Cancer Center Partnership Research on Malignancies in AIDS and Acquired DCB PA07-173 R01 12/15/2006 Immune Suppression **DCB** PA07-187 R01 Stem Cells and Cancer 12/19/2006 **DCB** R01 PA07-255 Memory T Lymphocytes in Cancer Immunology 12/20/2006 DCB PA07-256 R01 Immunoregulation of Gastrointestinal Carcinogenesis 12/21/2006 Etiology, Prevention, and Treatment of Hepatocellular **DCB** R01 12/21/2006 PA07-258 Carcinoma PAS-07-240 Technology Development for the Detection and Evalua-**DCB** PAS-07-241 R43/R44 3/6/2007 tion of Chemical and Biological Carcinogens (SBIR) PAS-07-242 PA07-021 R01 11/20/2006 Development, Application, and Evaluation of Prediction **DCCPS** Models for Cancer Risk and Prognosis PA07-022 R21 11/1/2006 **DCCPS** PA07-174 R01 Testing Tobacco Products Promoted to Reduce Harm 12/15/2006 **DCCPS** PA07-176 R01 Studies of Energy Balance and Cancer in Humans 12/15/2006 PA07-203 **DCCPS** R01 Decision Making in Cancer: Single-Event Decisions 12/19/2006 PA07-204 Research on the Economics of Diet, Activity, and Energy **DCCPS** PA07-205 R01 12/19/2006 Balance The Effect of Racial and Ethnic Discrimination/Bias on **DCCPS** PA07-206 R01 12/19/2006 Healthcare Delivery **DCCPS** PA07-254 R01 Cancer Surveillance Using Health Claims-Based Data 12/20/2006 **DCCPS** PA07-259 R01 Improving Diet and Physical Activity Assessment 12/22/2006

Table 3b. Program Announcements (PAs) Published by the NCI in FY2007Sorted by Division and Office

Division and Office	PA	Mechanism	Title	Date of Publication
DCCPS	PA07-260	R01	Understanding the Effects of Emerging Cellular, Molecular, and Genomic Technologies on Cancer Health Care Delivery	12/21/2006
DCCDC	PA07-298	R01	Enigenetic Approaches in Conser	1/16/0007
DCCPS	PA07-299	R21	Epigenetic Approaches in Cancer	1/16/2007
DCP	PA07-100	R01	Prioritizing Molecular Targets for Cancer Prevention with Nutritional Combinations	12/1/2006
DCP	PA07-175	R01	Diet, Epigenetic Events, and Cancer Prevention	12/15/2006
DCP	PA07-178	R01	In Utero Exposure to Bioactive Food Components and Mammary Cancer Risk	12/15/2006
DCP	PA07-179	R01	Protein Biomarkers of Infection-Associated Cancers	12/15/2006
DCP	PA07-186	R01	Diet-Induced Changes in Inflammation as Determinants of Colon Cancer	12/18/2006
DCP	PA07-207	R01	Exfoliated Cells, Bioactive Food Components, and Cancer	12/19/2006
DCP	PA07-257	R01	Molecular Approaches to Diet and Pancreatic Cancer Prevention	12/21/2006
DCP	PA07-266	R01	Networks and Pathways Collaborative Research Projects	12/22/2006
DCP	PA07-301	R01 R21	Application of Metabolomics for Translational and Biological Research	1/17/2007
DCP	PA07-362	R21	Exploratory Cancer Prevention Studies Involving Molecular Targets for Bioactive Food Components	4/23/2007
DOTE	PA07-041	R41, R42	locate Ocidad Ocean International (OTTP (ODIP)	44/0/0000
DCTD	PA07-042	R43, R44	Image-Guided Cancer Interventions (STTR/SBIR)	11/8/2006
DCTD	PA07-177	R01	Correlative Studies with Specimens from Multi-Site Trials	12/15/2006
DCTD	PA07-277	R01	Research on Ethical Issues in Human Subjects Research	1/5/2007
DCTD	PA07-279	R01	Bioengineering Research Grants (BRG) (R01)	1/8/2007
DCTD	PAR-07-214	R01	Academic-Industrial Partnerships for Development and Validation of <i>In Vivo</i> Imaging Systems and Methods for Cancer Investigations	2/12/2007
DCTD	PA07-356	R01	Clinical Cancer Therapy and Prevention Research	4/16/2007
DOTE	PA07-455	R01	Malignapoing in the Contact of LIV/AIDC	0/10/0007
DCTD	PA07-454	R21	Malignancies in the Context of HIV/AIDS	9/13/2007
OCTR	PAR-07-245	P50 Supplement	AVON-NCI "Progress for Patients" (PFP) Awards for Early Phase Clinical Interventions and Biomarkers in Breast Cancer (competing supplements to P50 SPORE grants)	3/5/2007
OCTR	PAR-07-244	P30 Supplement	AVON-NCI "Progress for Patients" (PFP) Awards for Early Phase Clinical Interventions and Biomarkers in Breast Cancer (competing supplements to P30 Cancer Center Support Grants)	3/5/2007

Table 4. NCI Participation in Trans-NIH Program Announcements (PAs) in FY2007Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division and Office
10/13/2006	PA07-008	R21	Biobehavioral Methods to Improve Outcomes Research	DCCPS
10/13/2006	PA07-009	R21	Symptom Clusters in Cancer and Immune Disorders	DCP
11/20/2006	PA07-007	R01	Basic and Preclinical Research on Complementary and Alternative Medicine (CAM)	DCP
11/20/2006	PA07-013	R01	Research on Improving Health Care for Obese Patients	DCCPS
11/20/2006	PA07-023	R01	Basic Research in the Bladder and Lower Urinary Tract	DCCF3
11/20/2006	PA07-026	R01	Developmental Biology and Regeneration of the Liver	DCP
11/20/2006	PA07-060	R01	Methodology and Measurement in the Behavioral and Social Sciences	DCCPS
11/20/2006	PA07-062	R01	Research on Clinical Decision Making in Life-Threatening Illness	DCCPS
11/20/2006	PA07-069	R01	Mechanisms of Alcohol-Associated Cancers	DCP
11/20/2006	PA07-070	R01	Research Project Grant (Parent R01)	DCB
11/20/2006	PA07-072	R01	Biobehavioral Methods to Improve Outcomes Research	DCCPS
11/20/2006	PA07-074	R01	Symptom Clusters in Cancer and Immune Disorders	DCP
11/21/2006	PA07-045	R01	Social and Cultural Dimensions of Health	DCCPS
11/21/2006	PA07-046	R01	Research on Mind-Body Interactions and Health	DCCPS
11/21/2006	PA07-054	R01	Development of Assays for High Throughput Drug Screening	DCTD
11/22/2006	PA07-083	R01	Basic and Translational Research in Emotion	DCCPS
11/00/0006	PA07-098	R03	_	
11/29/2006	PA07-099	R21	Chronic Illness Self-Management in Children and Adolescents	DCP
11/30/2006	PA07-097	R01		
12/7/2006	PA07-109	R01	Cross-Disciplinary Translational Research at NIH	DCCPS
12/7/2006	PA07-132	R01	Pathophysiology of Bisphosphonates-Associated Osteonecrosis of the Jaw	DCTD
12/12/2006	PA07-106	F31	Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research	OCTR
12/12/2006	PA07-107	F32	Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Postdoctoral Fellows	OCTR
12/14/2006	PA07-165	R01	Pathogenesis and Treatment of Lymphedema and Lymphatic Diseases	DCB
12/15/2006	PA07-172	F33	Ruth L. Kirschstein National Research Service Awards (NRSA) for Individual Senior Fellows	OCTR
12/18/2006	PA07-201	R01	Characterization, Behavior and Plasticity of Pluripotent Stem Cells	DCB
12/20/2006	PA07-253	R01	Structural Biology of Membrane Proteins	DCB
1/4/0007	PA07-272	R01		
1/4/2007	PA07-273	R21	Understanding and Treating Ataxia-Telangiectasia	DCB
1/7/2007	PA07-274	R03		

Table 4. NCI Participation in Trans-NIH Program Announcements (PAs) in FY2007Sorted by Date of Publication

Date of Publication	PA	Mechanism	Title	Division and Office
1/5/2007	PA07-278	R01	The Secretory Pattern of Senescent Cells	DCB
1/8/2007	PA07-282	R01	Mechanisms, Models, Measurement, and Management in Pain Research	DCP
1/11/2007	PA07-292	R01	Research on Social Work Practice and Concepts in Health	DCCPS
1/11/2007	PA07-295	R01	Information Technologies and the Internet in Health Services and Intervention Delivery	DCCPS
1/12/2007	PA07-297	K99, R00	NIH Pathway to Independence (PI) Award	OCTR
1/16/2007	PA07-280	R43, R44	PHS 2007-02 Omnibus Solicitation of the NIH, CDC, and FDA for Small Business Innovation Research Grant Applications	OTIR
1/16/2007	PA07-281	R41, R42	PHS 2007-02 Omnibus Solicitation of the NIH for Small Business Technology Transfer Grant Applications (Parent STTR)	OTIR
1/19/2007	PA07-316	R21	Research on Clinical Decision Making in Life-Threatening Illness	DCCPS
2/14/2007	PA07-218	R01	Diet Composition and Energy Balance	DCP
3/7/2007	PA07-318	R01	Occupational Safety and Health Research	DCCPS
3/19/2007	PA07-320	R01	Development of Assays for High-Throughput Drug Screening (R01)	DCTD
4/13/2007	PA07-354	R01	Bioengineering and Obesity (R01)	DCP
6/29/2007	PA07-391	R21	Reducing Health Disparities Among Minority and Underserved	DOODO
6/29/2007	PA07-392	R01	Children	DCCPS
8/20/2007	PA07-435	R43, R44	Disconsinuación Annucachos to François Delance and Objetit	DOD
8/20/2007	PA07-436	R41, R42	Bioengineering Approaches to Energy Balance and Obesity	DCP

Table 5. Applications Received for Referral by the NCI/DEA in FY2007*Sorted by Mechanism

			Applic	ations by	Board	
Mechanism	Activity Code	Totals by Activity	Feb	June	Sept	Total Costs Requested First Year
International Training Grants in Epidemiology (FIC)	D43	7	0	7	0	\$2,068,867
Individual Predoctoral NRSA for M.D./Ph.D. Fellowships (ADAMHA)	F30	1	1	0	0	-
Predoctoral Individual National Research Service Award	F31	86	0	56	30	-
Postdoctoral Individual National Research Service Award	F32	501	118	199	184	-
National Research Service Award for Senior Fellows	F33	3	1	2	0	-

^{*}Source: IMPACII. Includes NCI Primary and Secondary assigned applications and withdrawn applications. Excludes deleted applications.

Table 5. Applications Received for Referral by the NCI/DEA in FY2007*Sorted by Mechanism

			Applic	ations by	Board	
Mechanism	Activity Code	Totals by Activity	Feb	June	Sept	Total Costs Requested First Year
Research Scientist Development Award - Research and Training	K01	60	36	17	7	\$6,771,098
Research Scientist Award	K05	16	2	12	2	\$2,167,340
Academic/Teacher Award	K07	88	24	29	35	\$11,596,224
Clinical Investigator Award	K08	101	31	44	26	\$13,432,120
Physician Scientist Award (Program)	K12	9	9	0	0	\$5,804,511
Career Transition Award	K22	88	26	29	33	\$12,771,117
Mentored Patient-Oriented Research Development Award	K23	66	25	21	20	\$9,219,095
Midcareer Investigator Award in Patient-Oriented Research	K24	14	6	4	4	\$2,399,119
Mentored Quantitative Research Career Development	K25	29	10	10	9	\$3,792,104
Career Transition Award	K99	169	52	67	50	\$15,658,465
Research Program Projects	P01	98	27	44	27	\$230,741,243
Exploratory Grants	P20	13	0	0	13	\$6,581,541
Center Core Grants†	P30	28	13	2	13	\$83,765,521
Specialized Center†	P50	56	21	18	17	\$122,527,311
Research Project	R01	5,795	1,840	2,018	1,937	\$2,477,584,883
Small Research Grants	R03	478	188	151	139	\$36,070,757
Conferences	R13	116	37	47	32	\$3,394,768
Academic Research Enhancement Awards (AREA)	R15	107	33	41	33	\$21,003,932
Exploratory/Developmental Grants	R21	2,621	871	953	797	\$599,090,347
Resource-Related Research Projects	R24	1	0	1	0	\$3,176,880
Education Projects	R25	62	21	27	14	\$23,036,047
Exploratory/Developmental Grants Phase II	R33	63	22	23	18	\$27,879,088
Method to Extend Research in Time (MERIT) Award	R37	13	4	4	5	\$6,982,832
Small Business Technology Transfer (STTR) Grants - Phase I	R41	214	74	68	72	\$34,269,559
Small Business Technology Transfer (STTR) Grants - Phase II	R42	37	8	16	13	\$11,006,301
Small Business Innovation Research Grants (SBIR) - Phase I	R43	649	193	232	224	\$96,431,994
Small Business Innovation Research Grants (SBIR) - Phase II	R44	192	64	65	63	\$76,014,584

 $^{^{\}dagger} Includes$ Avon Competitive Supplements from August NCAB (P30s = 8; P50s = 4).

Table 5. Applications Received for Referral by the NCI/DEA in FY2007*

Sorted by Mechanism

			Applications by Board			
Mechanism	Activity Code	Totals by Activity	Feb	June	Sept	Total Costs Requested First Year
High-Priority, Short-Term Project Award	R56	29	12	17	0	\$1,013,019
Minority Biomedical Research Support - MBRS	S06	6	5	1	0	\$12,234,660
Research Enhancement Award	SC1	1	0	1	0	\$363,750
Continuing Education Training Program	T15	2	1	1	0	\$167,469
Institutional National Research Service Award	T32	87	33	36	18	\$32,509,209
Research Project (Cooperative Agreements)	U01	139	30	77	32	\$75,507,701
Cooperative Clinical Research (Cooperative Agreements)	U10	46	45	0	1	\$99,745,126
Conference (Cooperative Agreement)	U13	2	0	2	0	\$141,030
Research Program (Cooperative Agreement)	U19	2	1	1	0	\$8,108,640
Resource-Related Research Project (Cooperative Agreements)	U24	35	33	2	0	\$18,377,777
International Training Cooperative Agreement	U2R	1	1	0	0	\$299,133
Specialized Center (Cooperative Agreements)	U54	16	0	0	16	\$25,279,387
Overall Totals		12,147	3,918	4,345	3,884	\$4,218,984,549

Table 6. Grant and Cooperative Agreement Applications Reviewed by the NCI/DEA in FY2007*

Sorted by Mechanism

			Appli	cations by l	Board
Mechanism	Activity Code	Totals by Activity	Feb	June	Sept
Research Scientist Development Award - Research and Training	K01	53	33	13	7
Research Scientist Award	K05	16	2	12	2
Academic/Teacher Award	K07	84	23	28	33
Clinical Investigator Award	K08	81	26	33	22
Physician Scientist Award (Program)	K12	9	9	0	0
Career Transition Award	K22	82	25	29	28
Mentored Patient-Oriented Research Development Award	K23	53	17	18	18
Midcareer Investigator Award in Patient-Oriented Research	K24	13	6	3	4
Mentored Quantitative Research Career Development	K25	23	9	6	8
Career Transition Award	K99	151	47	62	42
Research Program Projects	P01	89	24	41	24

^{*}Source: IMPACII. Includes NCI Primary and Secondary assigned applications and withdrawn applications. Excludes deleted applications.

Table 6. Grant and Cooperative Agreement Applications Reviewed by the NCI/DEA in FY2007*

Sorted by Mechanism

			Appli	cations by E	Board
Mechanism	Activity Code	Totals by Activity	Feb	June	Sept
Exploratory Grants	P20	12	0	0	12
Center Core Grants†	P30	20	5	2	13
Specialized Center†	P50	56	21	18	17
Research Project	R01	91	6	43	42
Small Research Grants	R03	392	162	124	106
Conferences	R13	56	17	19	20
Exploratory/Developmental Grants	R21	313	134	99	80
Education Projects	R25	61	21	26	14
Exploratory/Developmental Grants Phase II	R33	47	19	13	15
Small Business Technology Transfer (STTR) Grants - Phase I	R41	20	5	9	6
Small Business Technology Transfer (STTR) Grants - Phase II	R42	3	0	2	1
Small Business Innovation Research Grants (SBIR) - Phase I	R43	53	23	18	12
Small Business Innovation Research Grants (SBIR) - Phase II	R44	10	2	7	1
Continuing Education Training Program	T15	1	1	0	0
Institutional National Research Service Award	T32	81	28	35	18
Research Project (Cooperative Agreements)	U01	135	29	77	29
Cooperative Clinical Research (Cooperative Agreements)	U10	46	45	0	1
Research Program (Cooperative Agreement)	U19	1	1	0	0
Resource-Related Research Project (Cooperative Agreements)	U24	35	33	2	0
Specialized Center (Cooperative Agreements)	U54	15	0	0	15
Overall Totals		2,102	773	739	590

 $^{^{\}dagger} Includes$ Avon Competitive Supplements from August NCAB (P30s = 8; P50s = 4).

Table 7. Applications Reviewed by NCI IRG Subcommittees and Special Emphasis Panels (SEPs) in FY2007*

			Total Costs
NCI IRG Subcommittee†	Types of Applications Reviewed	Number of Applications	Requested First Year
A - Cancer Centers	P30	11	\$63,644,056
F - Manpower & Training	K01, K99, T32	119	\$24,002,708
G - Education	K01, K05, K12, K24, K99, R25	102	\$30,136,449
H - Clinical Groups	R01, U01, U10	9	\$12,837,272
I - Career Development	K01, K08, K22, K25, T15, T32	192	\$29,653,051
J - Population and Patient-Oriented Trials	K07, K22, K23, K99	147	\$20,089,724
Total-NCI IRG Subcommittees		580	\$180,363,260
Total SEPs‡	K01, K07, K08, K22, K23, K99, P01, P20, P30, P50, R01, R03, R13, R21, R25, R32, R33, R41, R43, R44, T32, U01, U10, U19, U24, U54	1,522	\$777,762,787
Total		2,102	\$958,126,047

^{*}Source: IMPACII. Application count includes secondary assignments. 132 withdrawn applications have been subtracted from total count. †Subcommittees C, D, and E did not meet in FY2007 because of pilot trial of new P01 review. ‡Includes Avon Competitive Supplements from August NCAB (P30s = 8; P50s = 4).

Table 8. Summary of Investigator-Initiated P01 Applications Reviewed for Each NCAB Meeting in FY2007

		Applications by Board					
Type of Application	Februrary 2007	June 2007	September 2007	FY 2007 Total			
New	7	16	5	28			
New Amended	4	6	4	14			
Recompeting	6	13	9	28			
Recompeting Amended	5	5	6	16			
Supplement	1	0	0	1			
Supplement Amended	1	1	0	2			
Total	24	41	24	89			

Table 9. Summary of Investigator-Initiated P01 Applications Reviewed by NCI Program Division/Office in FY2007

		Total Costs				
Program Division	Number of Applications	First Year Requested Total Costs	Total Costs for Requested Period			
Division of Cancer Biology (DCB)	31	\$67,734,756	\$353,674,285			
Division of Cancer Control and Population Sciences (DCCPS)	7	\$18,198,167	\$84,079,994			
Division of Cancer Prevention (DCP)	8	\$18,670,684	\$96,780,958			
Division of Cancer Treatment and Diagnosis (DCTD)	43	\$101,276,785	\$597,141,574			
Total	89	\$205,880,392	\$1,131,676,811			

Table 10. Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2007*

			Applic	cations b	y NCAB I	Round	Total Costs
Title of Initiative	RFA Number	Activity Code	Total	Feb	June	Sept	Requested First Year
Cancer Research Network	CA06-505	U19	1	1	0	0	\$5,258,640
	CA07-001	R21	35	35	0	0	\$9,048,732
	CAU7-001	R33	8	8	0	0	\$3,671,906
Innovative Technologies for Molecular Analysis of Cancer	CA07.006	R43	12	7	5	0	\$1,859,587
	CA07-006	R44	2	0	2	0	\$343,526
	CA07-007	- R41	5	2	2	1	\$685,986
	CA07-040	1141	J			'	Ψ003,300
	CA07-015	- R21	86	0	42	44	\$22,131,489
	CA07-033	1121	00	<u> </u>	72	77	ΨΔΔ, 101, 400
	CA07-016	- R33	12	0	7	5	\$5,470,199
	CA07-034	ทงง	12	0	/	5	φ5,470,198
	CA07-039	R43	5	0	0	5	\$489,980
	CA07-002	R21	57	57	0	0	\$14,381,900
		R33	9	9	0	0	\$3,385,432
	0107.000	R43	19	10	9	0	\$2,199,32
	CA07-008	R44	5	1	4	0	\$1,141,537
	•••	R41	4	1	3	0	\$539,098
Application of Emerging Technologies	CA07-009	R42	1	0	1	0	\$100,000
for Cancer Research	CA07-017						
•	CA07-035	- R21	58	1	35	22	\$16,701,797
	CA07-018						
	CA07-036	- R33	12	0	3	9	\$6,644,155
	CA07-019	R21/ R33	17	0	17	0	\$4,200,755
•	CA07-041	R43	2	0	0	2	\$261,716
Small Animal Imaging Resource Program	CA07-004	U24	33	33	0	0	\$14,864,486
Alliance of Glycobiologists for Detection of Cancer and Cancer Risk	CA07-020	U01	29	29	0	0	\$12,563,232

^{*}Source: IMPACII. Includes NCI Primary and Secondary assigned applications. 69 withdrawn applications have been subtracted from the total count.

Table 10. Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2007*

				cations b	y NCAB F	Round	Total Costs		
Title of Initiative	RFA Number	Activity Code	Total	Feb	June	Sept	Requested First Year		
Development of Novel Genomic Characterization Technologies	CA07-021	R21	27	27	0	0	\$6,599,207		
	CA07-003	R21	14	14	0	0	\$3,242,300		
	CA07-003	R33	2	2	0	0	\$1,021,183		
	CA07.010	R43	5	2	3	0	\$482,810		
Innovations in Cancer Sample Preparation	CA07-010	R44	1	0	1	0	\$227,868		
	0407.044	R41	3	0	3	0	\$393,750		
	CA07-011	R42	1	0	1	0	\$443,111		
	CA07-022	D04	47	0	0	4.4	Φ0 FCC 400		
	CA07-037	- R21	17	0	3	14	\$3,566,438		
	CA07-023	Doo				4	Ф700 000		
	CA07-038	- R33	2	0	1	1	\$738,338		
	0407.004	R21	2	0	2	0	\$562,716		
	CA07-024	R33	2	0	2	0	\$382,444		
	CA07-043	R43	4	0	0	4	\$448,377		
Community Clinical Oncology Program	CA07-025	U10	28	28	0	0	\$83,763,169		
Minority-Based Community Clinical Oncology Program	CA07-026	U10	11	11	0	0	\$6,939,817		
	CA07.007	R43	2	0	1	1	\$230,198		
Exfoliated Cells and Circulating DNA	CA07-027	R44	1	0	0	1	\$598,969		
in Cancer Detection and Diagnosis	0407.000	R41	6	0	1	5	\$607,632		
	CA07-028	R42	1	0	0	1	\$83,590		
	CA07.000	R43	4	4	0	0	\$415,340		
Development of Advanced Genomic Characterization Technologies	CA07-029	R44	1	1	0	0	\$96,775		
Ť	CA07-030	R41	2	2	0	0	\$321,715		
Early Clinical Trials of New Anti-Cancer Agents with Phase 1 Emphasis	CA07-031	U01	23	0	0	23	\$19,120,786		
Improved Measures of Diet and Physical Activity for the Genes and Environment Initiative (GEI)	CA07-032	U01	22	0	22	0	\$11,810,481		

Table 10. Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2007*

			Applications by NCAB Round			Total Costs	
Title of Initiative	RFA Number	Activity Code	Total	Feb	June	Sept	Requested First Year
Comprehensive Minority Institution/ Cancer Center Partnership	CA07-045	U54	15	0	0	15	\$21,005,245
Lung Cancer and Inflammation	CA07-046	R01	41	0	0	41	\$18,357,773
NCI Limited Competition Supplements for Pilot Projects for Community Networks Program to Reduce Cancer Health Disparities	CA07-501	U01	53	0	53	0	\$3,743,330
Pediatric Phase 1/Pilot Consortium	CA07-502	U01	1	0	1	0	\$3,305,000
Advanced Technology Radiation Therapy Clinical Trials Support (ATC) (Limited Competition)	CA07-503	U24	2	0	2	0	\$3,513,301
The American College of Radiology Imaging Network (ACRIN) (Limited Competition U01)	CA07-505	U01	2	0	0	2	\$7,300,000
International Tobacco and Health Research and Capacity Building Program	TW06-006	R01	39	0	39	0	\$14,261,777
Totals			746	285	265	196	\$339,526,914

Table 11. Program Announcements (PAs) Reviewed by the NCI/DEA in FY2007*

			Applications by NCAB Round		Total Costs		
Title of Initiative	PA/PAR Number	Activity Codes	Total	Feb	June	Sept	Requested First Year
Mentored Clinical Scientist Research	PA06-512	Koo	75	24	00	04	¢10,000,070
Career Development Award	PA00-003	75	24	4 30	21	\$10,299,672	
Mentored Patient-Oriented Research Career Development Award	PA00-004	Koo	46	46 15	16	15	ФС БОБ ООС
	PA05-143	K23 K25-143					\$6,595,906
NIH National Research Service Award Institutional Research Training Grants	PA02-109	T32	13	13	0	0	\$3,338,352
Clinical Cancer Therapy and Prevention Research	PA04-046	R01	1	0	1	0	\$683,002
Mid-Career Investigator Award in Patient- Oriented Research	PA04-107	K24	13	6	3	4	\$2,216,599
Etiology, Prevention, and Treatment of Hepatocellular Carcinoma	PA05-138	P01	4	2	1	1	\$7,976,514

^{*}Source: IMPACII. Includes NCI Primary and Secondary assigned applications. 56 withdrawn applications have been subtracted from total count.

Table 11. Program Announcements (PAs) Reviewed by the NCI/DEA in FY2007*

			Applic	Applications by NCAB Round			Total Costs
Title of Initiative	PA/PAR Number	Activity Codes	Total	Feb	June	Sept	Requested First Year
Mentored Research Scientist Development Award	PA06-001	K01	1	1	0	0	\$324,533
NIH Support for Conferences and Scientific Meetings	PA06-041	R13	56	17	19	20	\$1,476,757
Mentored Quantitative Research Development Award	PA06-087	K25	23	9	6	8	\$3,566,988
NIH Pathway to Independence (PI) Award	PA06-133 PA07-297	- K99	149	47	62	40	\$14,142,788
Studies of Energy Balance and Cancer in Humans	PA06-404	R01	1	1	0	0	\$716,874
Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grants	PA06-468	T32	48	0	35	13	\$19,249,303
Research Project Grant (Parent R01)	PA07-070	R01	1	0	0	1	\$490,132
The Howard Temin Award	PAR03-104	K01	27	27	0	0	\$3,099,709
Cancer Education and Career Develop- ment Program	PAR03-148	- R25	21	11	6	4	\$11,395,006
	PAR06-511						
NCI Transition Career Development Award	PAR04-040	K22	62	16	22	24	\$9,748,457
	PAR06-455						
Cancer Prevention, Control, Behavioral and Population Sciences Cancer Development	PAR04-055	- K07	84	23	28	33	\$11,596,224
Award	PAR06-381						
Paul Calabresi Award for Clinical Oncology	PAR04-096 PAR06-449	K12	8	8	0	0	\$5,111,770
NCI Transition Career Development Award to Promote Diversity	PAR05-011	K22	19	8	7	4	\$2,887,660
Cancer Education (R25E) Program	PAR05-065	R25	10	10	0	0	\$3,015,990
Established Investigator Award in Cancer Prevention and Control	PAR05-145	K05	16	2	12	2	\$2,187,340
Specialized Programs of Research Excel-	PAR05-156	P50	45	14	18	13	\$106,756,525
lence (SPOREs) in Human Cancer for the Year 2007	PAR06-505						
NCI Mentored Career Development Award to Promote Diversity (K01)	PAR06-220	K01	25	5	13	7	\$3,255,760
NCI Mentored Clinical Scientist Award to Promote Diversity	PAR06-221	K08	6	2	2	2	\$762,107
Mentored Patient-Oriented Research Award to Promote Diversity	PAR06-222	K23	7	2	2	3	\$1,087,229
Small Grants Program for Cancer Epidemiology	PAR06-294	R03	139	50	49	40	\$11,176,565

Table 11. Program Announcements (PAs) Reviewed by the NCI/DEA in FY2007*

			Applications by NCAB Round				Total Costs
Title of Initiative	PA/PAR Number	Activity Codes	Total	Feb	June	Sept	Requested First Year
Cancer Prevention Research Small Grant Program	PAR06-313	R03	177	78	54	45	\$14,033,615
In Vivo Cellular and Molecular Imaging Centers (ICMICs)†	PAR06-406	P50	7	7	0	0	\$18,789,602
Small Grants for Behavioral Research in Cancer Control	PAR06-458	R03	76	34	21	21	\$6,039,574
Cancer Education Grants Program	PAR06-540	R25	30	0	20	10	\$8,625,051
Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership	PAR07-230	P20	12	0	0	12	\$2,596,308
Avon-NCI "Progress for Patents" (PFP) Awards for Early Phase Clinical Interventions and Biomarkers in Breast Cancer‡	PAR07-244	P30	8	0	0	8	\$1,807,960
	PAR07-245	P50	4	0	0	4	\$907,567
Totals			1,214	432	427	355	\$295,957,439

 $^{^\}dagger PAR\text{-}06\text{-}406\text{:}$ Two P50 applications were awarded as P20s. $^\sharp Includes$ Avon Competitive Supplements from August NCAB (P30s = 8; P50s = 4).

Table 12. Requests for Proposals (RFPs) Reviewed by NCI/DEA in FY2007*

Announcement Number	Announcement Title	Workload Round [†]	No. of Proposals
Topic 213 (Phase II)	Portable E-Technology Tools for Real-Time Energy Balance Research	Feb-07	1
Topic 210 (Phase II)	Using Social Marketing to Disseminate Evidence-Based Energy Balance Intervention Approaches to Worksites	Feb-07	1
Topic 204 (Phase II)	Plant Genomic Models for Establishing Physiological Relevance of Bioactive Components as Cancer Protectants	Feb-07	1
Topic 211 (Phase II)	Developing Item Response Theory Software for Outcomes and Behavioral Measurement	Feb-07	1
Topic 212 (Phase II)	Integrating Patient-Reported Outcomes in Clinical Oncology Practice	Feb-07	2
Topic 210 (Phase II)	Using Social Marketing to Disseminate Evidence-Based Energy Balance Intervention Approaches to Worksites	Jun-07	1
Topic 230 (Phase I: 4) (Phase I & II: 2)	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)	Jun-07	6
Topic 232	Development of Anti-Cancer Agents	Jun-07	10
Topic 229 (Phase I: 9) (Phase I & II: 2)	Development of Molecular Pharmacodynamic Assays for Targeted Therapies	Jun-07	11
Topic 231	Quantitative Assay for O ⁶ – Carboxymethyl Guanine DNA Adducts	Jun-07	1
Topic 233	Development of Software Systems to Facilitate the Use of Electronic Data Records in the Collection of Population-Based Cancer Surveillance Data	Jun-07	5
Topic 234	Develop Automated Methods to Identify Environmental Exposure Patterns in Satellite Imagery Data	Jun-07	3
Topic 235	Home Centered Coordinated Cancer Care System	Jun-07	4
Topic 236	Antibody Array for Cancer Detection	Jun-07	8
Topic 237	Glycan Arrays for Biomarker Discovery and Validation	Jun-07	2
Topic 238 (Phase I: 6) (Phase I & II: 1)	Development of Clinical Automated Multiplex Affinity Capture Technology for Detecting Low Abundance Cancer-related Protein/Peptides	Jun-07	7
Topic 239	Development of Alternative Affinity Capture Reagents for Cancer Proteomics Research	Jun-07	3
Topic 240	Early Diagnostics Using Nanotechnology-Based Imaging and Sensing	Jun-07	3
Topic 241	Multifunctional Therapeutics Based on Nanotechnology	Jun-07	9
PA06-517	Loan Repayment	Sept-07	269
PA06-516	Loan Repayment	Sept-07	86
Topic 196 (Phase II)	Antibody Array for Cancer Detection	Sept-07	1
Totals			435

^{*}NCI reviewed a total of 435 proposals. The proposals were in response to SBIR contract solicitations – Phase I (67) and Fast Track Phase I/II (5), Phase II (8), and the Loan Repayment Program (355).
†National Cancer Advisory Board (NCAB).

Table 13. Summary of NCI Grant Awards by Mechanism in FY2007

			In Thous	ands		ICI Total ants	Competing	Competing	Success
Mecha	nism	Award Count	Dollars	Avg. Cost	Number	Dollars	Requested	Awarded	Rate
Research Project	ct Grants (RPG)								
R01 - Tradi Research (3,849	1,266,622	329	54.2%	39.9%	3,761	790	21.0%
P01 - Prog Grants	ram Project	172	326,968	1,901	2.4%	10.3%	89	31	34.8%
R03 - Sma	II Grants	284	21,640	76	4.0%	0.7%	433	154	35.6%
R21- Explo Developme	ratory/ ntal Grants	437	78,748	180	6.2%	2.5%	1,633	241	14.8%
R33 - Phas Grant (Pha	sed Innovation se 2)	48	16,739	349	0.7%	0.5%	10	0	0.0%
R56 - Bridg	ge Award	2	495	248	0.0%	0.0%	1	1	100.0%
R37 - MER	RIT Award	73	38,232	524	1.0%	1.2%	18	14	77.8%
R15 - Acad Research E Awards (AF	Enhancement	19	4,042	213	0.4%	0.1%	86	19	22.1%
R55 - Shar	nnon Awards	_	-	-	_	-	_	-	_
Program E	valuation (tap)	_	58,721		0.0%	1.8%	_	-	_
	r Applications , R03, R21,	165	59,517	361	2.3%	1.9%	479	45	9.4%
RFA - Coop ments (U01	perative Agree- 1, U19)	120	117,906	983	1.7%	3.7%	52	12	23.1%
Cooperative - not RFA	e Agreements	25	28,507	-	0.4%	0.9%	5	5	100.0%
Subtotal P	ool	5,194	2,018,137	389	73.2%	63.5%	6,567	1,312	20.0%
Small Busin Research (R43, R44)		231	82,313	356	3.3%	2.6%	562	130	23.1%
	ness Technol- er Research - STTR	47	11,364	242	0.7%	0.4%	172	33	19.2%
Subtotal, F	RPG	5,472	2,111,814	386	77.2%	66.5%	7,301	1,475	20.2%
Centers									
P30 - CFAI	R*	0	6,163	_	0.0%	0.2%	0	0	_
P20 - Plani	ning Centers	9	3,091	343	0.1%	0.1%	0	0	_
P30 - Cand	cer Centers	63	258,739	4,107	0.9%	8.1%	20	12	60.0%
P20, P30 -	Core	17	5,191	305	0.2%	0.2%	17	4	23.5%
P50, P20 -	SPORE Grants	62	123,809	1,997	0.9%	3.9%	40	13	32.5%
	cialized Center ve Agreements)	42	74,676	1,778	0.6%	2.4%	34	5	14.7%
Subtotal, C	Centers	193	471,669	2,444	2.7%	14.9%	111	34	30.6%

^{*}Centers for AIDS Research

Table 13. Summary of NCI Grant Awards by Mechanism in FY2007

				% of N	CI Total			
	_	In Thous	ands		ants	Competing	Competing	Success
Mechanism	Award Count	Dollars	Avg. Cost	Number	Dollars	Requested	Awarded	Rate
Other Research (A)								
U13 - Conference (Coop. Agreement)	1	12	12	0.0%	0.0%	-	-	-
D43, R13 - Conference Grants	81	3,464	43	1.1%	0.1%	57	45	78.9%
T15 - Training Conference Grants	7	748	107	0.1%	0.0%	2	2	100.0%
R24, U24 - Research Resource Grant	41	46,321	1,130	0.6%	1.5%	59	9	15.3%
SC1 - Research Enhancement Award	1	366	366	0.0%	0.0%	1	1	100.0%
U10 Clincial Cooperative Group	66	148,193	2,245	0.9%	4.7%	13	12	92.3%
S06 - Minority Biomedical Research Support	-	2,435		0.0%	0.1%	_	-	-
R09, U09 - Scientific Evaluation	-	-	-	-	-	-	-	-
U56 - Exploratory Grants (Coop. Agreement)	15	10,409	694	0.2%	0.3%	8	0	0.0%
Subtotal, Other Research (A)	212	211,948	1,000	2.9%	6.7%	140	69	49.3%
Other Research (B) - Career								
R25 - Cancer Education	89	31,337	352	1.3%	1.0%	58	13	22.4%
K08 - Mentored Clinical Scientist	112	14,119	126	1.6%	0.4%	77	11	14.3%
K07 - Preventive Oncology Award	99	13,269	134	1.4%	0.4%	68	16	23.5%
K12, K14 - Mentored Career Award	16	9,471	592	0.2%	0.3%	10	4	40.0%
K01 - Temin Award	126	17,831	142	1.8%	0.6%	87	21	24.1%
K22 - Clinical Research Track	46	7,113	155	0.6%	0.2%	81	22	27.2%
K23 - Mentored Patient- Oriented Research Career Development Award	51	6,845	134	0.7%	0.2%	44	7	15.9%
K24 - Mid-Career Investi- gator in Patient-Oriented Research Award	16	2,491	156	0.2%	0.1%	12	4	33.3%
K25 - Mentored Quantita- tive Research Career Development Award	17	2,343	138	0.2%	0.1%	17	7	41.2%
K30 - Institutional Curriculum Award	5	1,462	292	0.1%	0.0%	_	_	_

Table 13. Summary of NCI Grant Awards by Mechanism in FY2007

		In Thous	ands		ICI Total ants	Competing	Competing	Success
Mechanism	Award Count	Dollars	Avg. Cost	Number	Dollars	Requested	Awarded	Rate
K05 - Established Investigator in Cance Prevention and Cont		2,266	133	0.2%	0.1%	16	4	25.0%
K99 - Pathway to Independence	20	2,383	119	0.3%	0.1%	162	20	12.3%
Subtotal, Other Research (B) - Care	eer 614	110,930	181	8.6%	3.5%	632	129	20.4%
Subtotal, Other Research (A+B)	826	322,878	391	11.5%	10.2%	772	198	25.6%
Ruth Kirschstein Nationa	al Research Serv	rice Awards (NRSA)					
T32, T34, T35, T36 · NRSA Institutional A		58,457	342	2.4%	1.8%	81	43	53.1%
F31, F32, F33, F34 NRSA Fellowship	232	9,766	42	3.3%	0.3%	380	89	23.4%
NRSA Nanotechnolo Fellowships	gy _	-	-	-	-	-	-	-
Subtotal, NRSA	403	68,223	169	5.7%	2.1%	461	132	28.6%
Cancer Control								
Cancer Prevention a Control	nd 209	200,126	958	2.9%	6.3%	99	49	49.5%
Cancer Control Spece Populations	cial _	_	_	_	_	-	_	_
Subtotal, Cancer C	ontrol 209	200,126	958	2.9%	6.3%	99	49	49.5%
Total, All NCI Grant	s 7,103	3,174,710	447	100.0%	100.0%	8,744	1,888	21.6%

Table 14. Average Total Cost and Number of Research Project Grant Awards by Division and Office in FY2004-FY2007

	FY	2004	F۱	/2005	FY	2006	FY	2007	Percent	Change
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	04- No.	07 Cost
R01 Average Cost of	Award Dat	a								
NCI Overall	3,780	\$338	3,848	\$341	3,909	\$331	3,849	\$329	1.8%	-2.7%
DCB	2,139	\$305	2,132	\$306	2,132	\$300	2,050	\$294	-4.2%	-3.6%
DCP	169	\$412	203	\$418	225	\$394	231	\$392	36.7%	-4.9%
DCTD	1,027	\$314	1,057	\$319	1,087	\$312	1,083	\$308	5.5%	-1.9%
DCCPS	441	\$501	453	\$502	459	\$464	478	\$474	8.4%	-5.4%
OD (CRCHD, OCCAM, OCTR, etc.)	4	N.A.	3	N.A.	6	\$2,148	7	\$1,751	75.0%	N.A.
P01 Average Cost of	Award Dat	a								
NCI Overall	177	\$1,946	176	\$1,924	173	\$1,963	172	\$1,901	-2.8%	-2.3%
DCB	66	\$1,702	67	\$1,717	70	\$1,677	65	\$1,584	-1.5%	-6.9%
DCP	13	\$2,065	15	\$2,047	12	\$2,133	13	\$2,047	0.0%	-0.9%
DCTD	86	\$2,040	84	\$2,027	82	\$2,148	84	\$2,067	-2.3%	1.3%
DCCPS	12	\$2,375	9	\$2,358	8	\$2,270	9	\$2,367	-25.0%	-0.3%
OD (CRCHD, OCCAM, OCTR, etc.)		N.A.	1	\$1,426	1	\$2,349	1	\$2,442	N.A.	N.A.
R03 Average Cost of	Award Dat	ta								
NCI Overall	240	\$75	223	\$76	218	\$76	284	\$76	18.3%	1.3%
DCB	7	\$76	5	\$70	3	\$78	5	\$73	-28.6%	-3.9%
DCP	137	\$74	85	\$76	96	\$76	122	\$77	-10.9%	4.1%
DCTD	5	\$80	5	\$82	3	\$95	8	\$78	60.0%	-2.5%
DCCPS	91	\$76	128	\$76	116	\$75	149	\$76	63.7%	0.0%
OD (CRCHD, OCCAM, OCTR, etc.)		N.A.		N.A.	0	N.A.	0	N.A.	N.A.	N.A.
R21 Average Cost of	Award Dat	ta								
NCI Overall	425	\$183	430	\$178	405	\$174	437	\$180	2.8%	-1.6%
DCB	70	\$157	75	\$150	59	\$145	64	\$161	-8.6%	2.5%
DCP	76	\$151	42	\$176	47	\$166	48	\$163	-36.8%	7.9%
DCTD	241	\$202	240	\$193	228	\$191	250	\$194	3.7%	-4.0%
DCCPS	37	\$177	72	\$153	70	\$150	75	\$158	102.7%	-10.7%
OD (CRCHD, OCCAM, OCTR, etc.)	1	\$277	1	\$455	1	\$239	0	N.A.	-100.0%	N.A.
U01/U19 Average Cos	t of Award	l Data								
NCI Overall	174	\$942	164	\$969	146	\$1,040	145	\$1,010	-16.7%	7.2%
DCB	27	\$748	27	\$782	26	\$840	26	\$850	-3.7%	13.6%
DCP	9	\$907	10	\$831	9	\$696	15	\$469	66.7%	-48.3%

Table 14. Average Total Cost and Number of Research Project Grant Awards by Division and Office in FY2004-FY2007

	FY	2004	FY	2005	FY	2006	FY2	2007	Percent	Change
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	04- No.	07 Cost
DCTD	103	\$952	85	\$1,076	65	\$1,251	61	\$1,293	-40.8%	35.8%
DCCPS	35	\$1,060	42	\$902	45	\$921	43	\$886	22.9%	-16.4%
OD (CRCHD, OCCAM, OCTR, etc.)		N.A.		N.A.	1	\$951	0	N.A.	N.A.	N.A.
R13 Average Cost of	Award Dat	ta								
NCI Overall	112	\$19	99	\$23	85	\$16	81	\$15	-27.7%	-21.1%
DCB	56	\$9	55	\$9	43	\$8	42	\$8	-25.0%	-11.1%
DCP	13	\$13	13	\$14	10	\$11	8	\$18	-38.5%	38.5%
DCTD	22	\$20	13	\$33	14	\$7	16	\$12	-27.3%	-40.0%
DCCPS	15	\$26	10	\$63	13	\$42	10	\$29	-33.3%	11.5%
OD (CRCHD, OCCAM, OCTR, etc.)	6	\$110	8	\$64	5	\$57	5	\$52	-16.7%	-52.7%
U10 Average Cost of	Award Dat	ta – Include	s Cancer	Control						
NCI Overall	139	\$1,785	136	\$1,732	123	\$1,912	138	\$1,728	-0.7%	-3.2%
DCB		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
DCP	74	\$1,258	73	\$1,269	60	\$1,485	72	\$1,250	-2.7%	-0.6%
DCTD	65	\$2,373	63	\$2,266	63	\$2,316	66	\$2,246	1.5%	-5.4%
DCCPS		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
OD (CRCHD, OCCAM, OCTR, etc.)		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
P30 Average Cost of	Award Dat	a – Include	s Cancer	Control						
NCI Overall	63	\$3,798	63	\$3,945	63	\$4,098	63	\$4,229	0.0%	11.3%
DCB		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
DCP	2	\$960	2	\$818	2	\$823		N.A.	-100.0%	N.A.
DCTD		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
DCCPS		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
OD (CRCHD, OCCAM, OCTR, etc.)	61	\$3,834	61	\$3,982	61	\$4,134	63	\$4,141	3.3%	8.0%
P50 Average Cost of	Award Dat	a – Include	s Cancer	Control						
NCI Overall	83	\$2,204	76	\$2,197	75	\$2,138	80	\$1,957	-3.6%	-11.2%
DCB	6	\$2,189		N.A.		N.A.		N.A.	-100.0%	N.A.
DCP		N.A.		N.A.		N.A.		N.A.	N.A.	N.A.
DCTD	7	\$2,249	7	\$1,984	8	\$1,974	9	\$1,591	28.6%	-29.3%
DCCPS	12	\$1,830	12	\$1,868	12	\$1,830	12	\$1,746	0.0%	-4.6%
OD (CRCHD, OCCAM, OCTR, etc.)	58	\$2,278	57	\$2,292	55	\$2,229	59	\$2,056	1.7%	-9.7%

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

Special Interest Categories (SIC) 2003 2004 2005 2005 2006 2006 2006 2006 Average bank bank bank bank bank bank bank bank		Total Special Interest Category Dollars									
Av. Manufacturing Technology 9,841,911 12,662,969 16,171,766 12,137,985 10,801,162 239,813 5,10% Aging 165,960,180 160,302,073 171,633,181 159,035,657 161,216,276 1,185,976 -0,58% AIDS 119,070,648 130,840,621 131,010,836 116,787,294 112,492,187 -1,644,615 -1,13% Alternative Medicine, Direct 57,411,994 62,596,463 59,802,451 65,332,949 72,400,207 3,795,533 6,12% Alternative Medicine, Indirect 28,482,503 33,406,681 25,828,383 21,292,383 12,158,69,393 7,681,646 688,918 2,230,389 7,7614 Arcice Research 4,052,599 3,477,543 1,258,604 874,500 688,918 2,203,839 1,741,746 Abseitos 4,491,877 2,225,176 2,728,981 3,507,819 2,045,502 611,194 -3,038 Asbestos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 -611,594 -1,429% Altaria Elangiedasia	Special Interest Categories (SIC)	2003	2004	2005	2006	2007	Dollar Change per Year	Percent Change per Year			
Aging 165,960,180 160,302,073 171,633,181 159,035,657 161,216,276 -1,185,976 -0.58% AIDS 119,070,648 130,840,821 131,010,836 116,787,294 112,492,187 -1,644,615 -1,138 Alternative Medicine, Direct 57,481,994 62,596,463 59,802,451 65,332,949 72,400,207 3,729,553 6,12% Alternative Medicine, Indirect 28,482,503 33,406,568 25,822,338 21,292,360 19,588,748 -2,205,399 -7,66% Alzheimers Dementia 1,621,994 1,558,393 1,556,040 874,500 688,918 2-230,593 -17,18% Arctic Research 4,052,599 3,477,543 2,227,788 1,559,039 401,216 9-23,60 -227,087 18,358,33 Arthritis 1,584,332 1,515,693 1,007,647 902,084 675,986 -227,087 18,359 -14,29% Alzoin Flangiedasia 6,837,168 4,559,973 4,746,714 4,234,624 3,510,779 -831,597 -14,29% Autoimmune Diseases <th< td=""><td>Adoptive Cell Immunotherapy</td><td>65,348,655</td><td>70,375,002</td><td>70,072,700</td><td>77,231,307</td><td>74,955,015</td><td>2,401,590</td><td>3.63%</td></th<>	Adoptive Cell Immunotherapy	65,348,655	70,375,002	70,072,700	77,231,307	74,955,015	2,401,590	3.63%			
AIDS 119,070,648 130,840,621 131,010,836 116,787,294 112,492,187 -1,644,615 -1,33 Alternative Medicine, Direct 57,481,994 62,596,463 59,802,451 65,332,949 72,400,207 3,729,553 6,12% Alternative Medicine, Indirect 28,482,503 33,406,568 25,822,838 21,292,300 19,658,748 2,205,939 -7,66% Alzheimers Dementia 1,621,994 1,558,931 1,556,040 874,500 688,918 2-23,289 1,71% Arctic Research 4,052,599 3,477,543 2,227,788 1,569,039 401,216 -92,846 -38,338 Arthritis 1,584,332 1,515,893 1,007,647 902,049 675,966 -22,707 18,339 Attain Telengiectasia 6,837,168 4,569,973 1,476,714 4,234,624 3,507,79 -831,597 -14,29% Alutoimmune Diseases 8,666,588 9,998,212 9,007,735 7,998,704 6,680,112 -501,618 5,65% Behavior Research 275,849,766 284,166,605 <td< td=""><td>Adv. Manufacturing Technology</td><td>9,841,911</td><td>12,662,969</td><td>16,171,766</td><td>12,137,985</td><td>10,801,162</td><td>239,813</td><td>5.10%</td></td<>	Adv. Manufacturing Technology	9,841,911	12,662,969	16,171,766	12,137,985	10,801,162	239,813	5.10%			
Alternative Medicine, Direct 57,481,994 62,596,463 59,802,451 65,332,949 72,402,207 3,729,553 612% Alternative Medicine, Indirect 28,482,503 33,406,568 25,822,838 21,292,960 19,658,748 2,205,939 -7,66% Alzheimers Dementia 1,621,994 1,558,931 1,536,040 874,500 688,918 2,32,99 -17,41% Arctic Research 4,052,599 3,477,543 2,227,788 1,569,039 401,216 912,846 -38,53% Arthritis 1,584,332 1,515,693 1,007,647 902,044 675,966 227,077 -10,48% Abselstos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 -611,594 -10,48% Ataxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 -331,597 -14,29% Autorimmune Diseases 8,686,585 9,983,610 299,337,335 7,958,704 6,801,12 501,618 5,658 Behavior Research 275,849,766 284,616,052 29	Aging	165,960,180	160,302,073	171,633,181	159,035,657	161,216,276	-1,185,976	-0.58%			
Alternative Medicine, Indirect 28,482,503 33,406,568 25,822,838 21,292,360 19,658,748 2-205,939 -7,66% Alzheimers Dementia 1,621,994 1,558,931 1,536,040 874,500 688,918 -233,269 -17,41% Arctic Research 4,052,599 3,477,543 2,227,788 1,569,039 401,216 -912,846 -38,588 Arthritis 1,584,332 1,515,693 1,007,647 902,084 675,986 -227,087 -18,358 Absestos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 -611,594 -10,488 Ataxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 -931,597 -14,29% Autoimmune Diseases 8,686,585 9,958,212 9,037,735 7,958,704 6,680,112 -501,618 -5,659 Behavior Research 275,849,766 2841,660 295,139,339 195,518,38 188,957,673 26,425,510 -9,746 Bioinformaticis 104,554,183 124,834,295 147,062,0	AIDS	119,070,648	130,840,621	131,010,836	116,787,294	112,492,187	-1,644,615	-1.13%			
Alzheimers Dementia 1,621,994 1,558,931 1,536,040 874,500 688,918 2-232,699 -17.41% Arctic Research 4,052,599 3,477,543 2,227,788 1,569,039 401,216 -912,846 -38,53% Arthritis 1,584,332 1,515,693 1,007,647 902,048 675,986 -227,087 -18,38% Asbestos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 611,594 -10,48% Atxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 831,597 -14,29% Autoimmune Diseases 8,686,585 9,958,212 9,037,355 7,958,704 6,680,112 501,618 -50,65% Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1,346 Bioingical Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,023 9,893,920 1,010,573 15,006 Bioingical Resporse Modifiers 741,430,361 750,275,261	Alternative Medicine, Direct	57,481,994	62,596,463	59,802,451	65,332,949	72,400,207	3,729,553	6.12%			
Arctic Research 4,052,599 3,477,543 2,227,788 1,599,039 401,216 -912,846 -36,538 Arthritis 1,584,332 1,515,693 1,007,647 902,084 675,986 -227,007 -18,358 Asbestos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 -611,594 -10,488 Atxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 -831,597 -14,298 Autoimmune Diseases 8,686,585 9,958,212 9,037,735 7,958,704 6,680,112 -501,618 -5.656 Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1.34% Bioengineering 294,659,713 293,329,685 207,349,791 195,581,838 188,957,673 -26,425,510 -9.71% Bioingical Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15,00% Biological Response Modifiers 741,430,361 750,272,261	Alternative Medicine, Indirect	28,482,503	33,406,568	25,822,838	21,292,360	19,658,748	-2,205,939	-7.66%			
Arthritis 1,584,332 1,515,693 1,007,647 902,084 675,986 -227,087 -18,385 Asbestos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 -611,594 -10,486 Ataxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 -831,597 -14,298 Autoimmune Diseases 8,686,585 9,958,212 9,037,735 7,958,704 6,680,112 -501,618 -5,656 Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1,34 Bioengineering 294,659,713 293,329,685 207,349,791 195,581,838 188,957,673 -26,425,510 -9,718 Bioinformatics 104,554,183 124,834,295 147,062,040 175,997,02 186,084,187 20,382,501 15,066 Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15,006 Biological Response Modifilers 741,430,361 <td< td=""><td>Alzheimers Dementia</td><td>1,621,994</td><td>1,558,931</td><td>1,536,040</td><td>874,500</td><td>688,918</td><td>-233,269</td><td>-17.41%</td></td<>	Alzheimers Dementia	1,621,994	1,558,931	1,536,040	874,500	688,918	-233,269	-17.41%			
Asbestos 4,491,877 2,255,176 2,728,981 3,507,819 2,045,502 -611,594 -10.48% Ataxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 -831,597 -14.29% Autoimmune Diseases 8,686,585 9,958,212 9,097,735 7,958,704 6,680,112 -501,618 -5,65% Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1,34% Bioinformatics 104,554,183 124,834,295 147,062,040 175,997,702 186,084,187 20,382,501 15,65% Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,72,03 7,500,235 9,839,320 1,010,573 15,00% Biological Response Modifiers 741,430,361 750,275,261 887,217,006 880,071,661 860,970,394 29,885,008 4,122 Birth Defects 8,859,294 8,894,762 9,884,799 28,675,262 1,220,719 2,286 Breast Cancer, Detection 90,193,676 97,766,5	Arctic Research	4,052,599	3,477,543	2,227,788	1,569,039	401,216	-912,846	-38.53%			
Ataxia Telangiectasia 6,837,168 4,569,973 4,746,714 4,234,624 3,510,779 -831,597 -1429% Autoimmune Diseases 8,686,585 9,958,212 9,097,735 7,958,704 6,680,112 501,618 -5,65% Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1,34% Bioinformatics 104,554,183 124,834,295 147,062,040 175,997,702 186,084,187 20,382,501 15,65% Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,567,223 7,509,275 186,084,187 20,382,501 15,06% Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4,128 Birth Defects 8,859,249 8,894,762 9,894,770 9,956,995 12,542,976 90,921 2,586 Breast Cancer, Detection 90,193,676 97,745,7088 49,480,615 52,200,213 55,302,120 1,760,070 2,578 Breast Cancer, Detection	Arthritis	1,584,332	1,515,693	1,007,647	902,084	675,986	-227,087	-18.35%			
Autoimmune Diseases 8,686,585 9,958,212 9,037,735 7,958,704 6,680,112 -501,618 -5,66% Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1,34% Bioengineering 294,659,713 293,329,685 207,349,791 195,581,838 188,957,673 26,425,510 -9,71% Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15,00% Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4,12% Biornaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 28,675,262 1,220,719 -2,86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9,56% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,494 106,172,825 3,994,787 4,316 Breast Cancer, Early Detec	Asbestos	4,491,877	2,255,176	2,728,981	3,507,819	2,045,502	-611,594	-10.48%			
Behavior Research 275,849,766 284,166,605 295,139,435 282,212,112 290,345,827 3,624,015 1,34% Bioengineering 294,659,713 293,329,685 207,349,791 195,581,838 188,957,673 26,425,510 -9,71% Bioinformatics 104,554,183 124,834,295 147,062,040 175,997,022 186,084,187 20,382,501 15,65% Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15,00% Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4,12% Biomaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 28,675,262 -1,220,719 -2.86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9,56% Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2,57% Breast Cancer, Ea	Ataxia Telangiectasia	6,837,168	4,569,973	4,746,714	4,234,624	3,510,779	-831,597	-14.29%			
Bioengineering 294,659,713 293,329,685 207,349,791 195,581,838 188,957,673 26,425,510 9.71% Bioinformatics 104,554,183 124,834,295 147,062,040 175,997,702 186,084,187 20,382,501 15,65% Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15,00% Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4,12% Biomaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 28,675,262 -1,220,719 -2.86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9,56% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4,31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9,85% Breast Cance	Autoimmune Diseases	8,686,585	9,958,212	9,037,735	7,958,704	6,680,112	-501,618	-5.65%			
Bioinformatics 104,554,183 124,834,295 147,062,040 175,997,702 186,084,187 20,382,501 15.65% Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15.00% Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4.12% Biomaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 26,675,262 -1,220,719 -2.86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9.56% Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2.57% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Bre	Behavior Research	275,849,766	284,166,605	295,139,435	282,212,112	290,345,827	3,624,015	1.34%			
Biological Carcinogenesis, Non-Viral 5,797,028 6,128,334 5,956,723 7,500,235 9,839,320 1,010,573 15.00% Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4.12% Biomaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 28,675,262 -1,220,719 -2.86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9.56% Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2.57% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59%	Bioengineering	294,659,713	293,329,685	207,349,791	195,581,838	188,957,673	-26,425,510	-9.71%			
Biological Response Modifiers 741,430,361 750,275,261 887,217,706 880,071,661 860,970,394 29,885,008 4.12% Biomaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 28,675,262 -1,220,719 -2.86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9.56% Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2.57% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4,59% Breas	Bioinformatics	104,554,183	124,834,295	147,062,040	175,997,702	186,084,187	20,382,501	15.65%			
Biomaterials Research 33,558,137 39,745,363 37,785,085 29,846,909 28,675,262 -1,220,719 -2.86% Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9.56% Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2.57% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4,59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5,46% Breast Cancer, Pr	Biological Carcinogenesis, Non-Viral	5,797,028	6,128,334	5,956,723	7,500,235	9,839,320	1,010,573	15.00%			
Birth Defects 8,859,294 8,894,762 9,889,474 9,956,995 12,542,976 920,921 9.56% Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2.57% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Education 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5,46% Breast Cancer, Preven	Biological Response Modifiers	741,430,361	750,275,261	887,217,706	880,071,661	860,970,394	29,885,008	4.12%			
Bone Marrow Transplantation 62,342,401 57,457,088 49,480,615 52,200,213 55,302,120 -1,760,070 -2.57% Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5.46% Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35%	Biomaterials Research	33,558,137	39,745,363	37,785,085	29,846,909	28,675,262	-1,220,719	-2.86%			
Breast Cancer, Detection 90,193,676 97,976,659 101,390,086 111,131,349 106,172,825 3,994,787 4.31% Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5.46% Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% <	Birth Defects	8,859,294	8,894,762	9,889,474	9,956,995	12,542,976	920,921	9.56%			
Breast Cancer, Early Detection 37,243,747 43,101,816 48,551,540 55,723,001 53,629,264 4,096,379 9.85% Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5.46% Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82%	Bone Marrow Transplantation	62,342,401	57,457,088	49,480,615	52,200,213	55,302,120	-1,760,070	-2.57%			
Breast Cancer, Education 16,917,838 19,386,970 19,854,753 18,302,054 18,883,906 491,517 3.09% Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5.46% Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40%	Breast Cancer, Detection	90,193,676	97,976,659	101,390,086	111,131,349	106,172,825	3,994,787	4.31%			
Breast Cancer, Epidemiology 69,296,280 70,470,523 63,832,544 60,364,732 57,226,668 -3,017,403 -4.59% Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5.46% Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Early Detection	37,243,747	43,101,816	48,551,540	55,723,001	53,629,264	4,096,379	9.85%			
Breast Cancer, Genetics 76,659,752 77,442,317 81,815,294 94,109,611 94,230,669 4,392,729 5.46% Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Education	16,917,838	19,386,970	19,854,753	18,302,054	18,883,906	491,517	3.09%			
Breast Cancer, Prevention 34,660,141 32,510,070 32,360,672 33,363,774 33,215,639 -361,126 -1.00% Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Epidemiology	69,296,280	70,470,523	63,832,544	60,364,732	57,226,668	-3,017,403	-4.59%			
Breast Cancer, Rehabilitation 13,111,191 15,549,473 18,220,763 17,438,406 19,165,391 1,513,550 10.35% Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Genetics	76,659,752	77,442,317	81,815,294	94,109,611	94,230,669	4,392,729	5.46%			
Breast Cancer, Screening 27,174,072 26,554,448 25,913,420 26,400,323 23,893,551 -820,130 -3.08% Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Prevention	34,660,141	32,510,070	32,360,672	33,363,774	33,215,639	-361,126	-1.00%			
Breast Cancer, Treatment 151,796,777 155,143,128 154,285,405 152,504,604 156,754,889 1,239,528 0.82% Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Rehabilitation	13,111,191	15,549,473	18,220,763	17,438,406	19,165,391	1,513,550	10.35%			
Breast Cancer, Basic 141,314,873 143,663,931 143,175,326 153,408,211 149,008,004 1,923,283 1.40% Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Screening	27,174,072	26,554,448	25,913,420	26,400,323	23,893,551	-820,130	-3.08%			
Cancer Survivorship 159,528,445 144,326,030 145,043,558 182,562,991 183,385,657 5,964,303 4.32%	Breast Cancer, Treatment	151,796,777	155,143,128	154,285,405	152,504,604	156,754,889	1,239,528	0.82%			
	Breast Cancer, Basic	141,314,873	143,663,931	143,175,326	153,408,211	149,008,004	1,923,283	1.40%			
Carcinogenesis, Environmental 534,983,057 540,898,673 542,772,539 508,632,113 480,503,052 -13,620,001 -2.59%	Cancer Survivorship	159,528,445	144,326,030	145,043,558	182,562,991	183,385,657	5,964,303	4.32%			
	Carcinogenesis, Environmental	534,983,057	540,898,673	542,772,539	508,632,113	480,503,052	-13,620,001	-2.59%			

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

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

		Total S _l	pecial Interest Ca	ategory Dollars			
Special Interest Categories (SIC)	2003	2004	2005	2006	2007	Average Dollar Change per Year (\$)	Average Percent Change per Year (%)
Cervical Cancer Education	449,332	4,271,351	4,178,353	5,056,722	6,182,900	1,433,392	222.93%
Chemoprevention	171,216,267	187,160,162	187,622,217	178,294,664	173,799,362	645,774	0.52%
Chemoprevention, Clinical	64,878,256	61,170,813	63,463,878	62,232,663	52,265,744	-3,153,128	-4.98%
Chemotherapy	440,643,645	465,719,189	479,353,115	492,096,516	511,658,388	17,753,686	3.81%
Child Health	46,876,216	53,727,243	61,887,153	63,340,710	60,378,263	3,375,512	6.87%
Childhood Cancers	145,491,219	155,350,035	159,567,547	162,737,733	154,308,213	2,204,249	1.57%
Chronic Myeloproliferative Disorders	27,032,001	30,942,794	36,959,663	39,593,377	36,332,441	2,325,110	8.20%
Clinical Trials, Diagnosis	130,311,300	125,946,948	113,103,165	102,442,171	81,920,488	-12,097,703	-10.75%
Clinical Trials, Other	15,562,589	24,130,327	54,757,357	69,989,916	81,173,367	16,402,695	56.44%
Clinical Trials, Prevention	79,553,001	71,998,187	68,628,972	69,044,253	69,733,610	-2,454,848	-3.14%
Clinical Trials, Therapy	411,687,228	419,641,529	401,297,009	421,686,177	439,300,266	6,903,260	1.70%
Combined Treatment Modalities	233,777,421	315,475,918	330,666,739	314,506,511	336,391,245	25,653,456	10.46%
Cost Effectiveness	†	†	23,995,438	23,921,107	25,035,865	520,214	2.18%
Diabetes	7,548,368	6,353,949	10,440,254	8,964,992	6,820,800	-181,892	2.61%
Diagnosis	564,021,884	580,801,202	618,317,471	623,326,562	592,320,513	7,074,657	1.32%
Diagnostic Imaging	277,178,915	294,539,520	317,336,979	316,552,835	310,447,316	8,317,100	2.96%
Diethylstilbestrol	1,443,103	1,677,478	2,222,054	1,822,731	1,871,382	107,070	8.35%
Dioxin	1,184,362	1,258,661	194,225	1,211,643	1,143,466	-10,224	109.98%
DNA Repair	153,415,262	163,589,431	157,358,768	152,063,390	151,334,073	-520,297	-0.26%
Drug Development	447,881,008	516,896,095	559,855,963	547,465,176	569,531,767	30,412,690	6.38%
Drug Discovery	46,425,752	54,828,594	66,215,930	70,219,959	81,218,072	8,698,080	15.14%
Drug Resistance	106,373,506	115,298,251	120,398,474	110,355,246	112,906,437	1,633,233	1.70%
Drugs, Natural Products	136,685,224	138,003,587	132,933,883	136,300,671	142,695,237	1,502,503	1.13%
Early Detection	245,520,500	271,300,826	301,025,316	301,289,984	279,983,823	8,615,831	3.62%
Effectiveness Research	†	†	68,702,939	55,680,495	48,982,584	-9,860,178	-15.49%
Endocrinology	186,968,577	178,585,401	183,285,587	179,691,910	169,505,236	-4,365,835	-2.37%
Energy Balance	29,829,583	26,440,260	38,184,297	37,257,614	39,314,259	2,371,169	9.04%
Epidemiology, Biochemical	245,341,226	219,502,809	206,718,733	186,779,069	194,325,396	-12,753,958	-5.49%
Epidemiology, Environmental	218,722,428	215,241,204	218,875,075	189,175,911	186,698,902	-8,005,882	-3.70%
Epigenetics	51,759,530	65,005,515	94,971,910	108,953,373	117,556,094	16,449,141	23.58%
Gene Mapping, Human	247,040,795	217,496,425	182,663,241	156,498,765	136,466,661	-27,643,534	-13.77%
Gene Mapping, Non-Human	94,748,524	80,515,173	67,952,386	62,725,805	55,900,097	-9,712,107	-12.30%

[†]Coding not required or requested.

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

Special Interest Categories (SIG) 2003 2004 2005 2005 2005 2007 Acte apple of Pater of			Total S	pecial Interest C	ategory Dollars			
Genetic Testing Research, Human 225,895,895 191,499,674 196,298,554 195,890,888 175,570,284 1,251,403 5.83° Genomics 14,134,782 16,217,856 24,245,008 63,935,842 90,249,814 19,028,758 67.27° Health Literacy † † 2,001,381 4,490,912 9,043,623 3,521,121 112,88% Health Promotion 214,599,231 211,627,396 238,467,719 223,190,419 222,348,888 1,941,414 1,13° Health Carer Delivery † † † 28,336,001 49,315,592 20,979,951 74,04% Helicobacter 4,242,773 4,423,003 3,815,249 4,831,420 6,991,551 6,971,95 15,479 Hematolopielo Stem Cell Research 95,35,267 99,710,757 105,21,325 123,662,423 4,241,779 467,719 221,102,502 23,114,119,150,209 4,681,411 4,779 Hormone Replacement Rx 13,502,323 12,898,852 14,254,424 11,719,547 10,761,891 4,685,158 4,978 <t< th=""><th>Special Interest Categories (SIC)</th><th>2003</th><th>2004</th><th>2005</th><th>2006</th><th>2007</th><th>Dollar Change per Year</th><th>Percent Change per Year</th></t<>	Special Interest Categories (SIC)	2003	2004	2005	2006	2007	Dollar Change per Year	Percent Change per Year
Genomicis 14,194,782 16,217,856 24,245,008 63,935,842 90,249,814 19,028,758 67.27% Health Literacy † 2,001,381 4,490,912 9,043,623 3,521,121 112,889 Health Promotion 214,599,231 211,627,396 238,467,719 223,190,419 222,364,888 1,941,414 1,136 Healthcape Delivery † † † 28,336,001 49,315,552 20,979,951 74,048 Hematology 445,442,843 447,179,086 450,398,699 448,114,244 413,1195,029 4,681,1 15,002,932 4,264,778 Hormone Replacement Rx 13,502,232 12,859,852 11,252,112,325 123,066,274 11,719,547 10761,691 685,158 4,779 Hormone Replacement Rx 13,502,232 12,859,852 14,254,242 11,719,547 10761,691 685,158 4,779 Hospice 5,429,050 6,272,398 8,671,792 9,281,180 9,486,659 1,014,02 15,766 Iatrogenesis 58,166,401 31,431 216	Gene Transfer Clinical	20,278,841	20,661,840	17,254,725	19,282,015	16,253,425	-1,006,354	-4.64%
Health Literacy † † 2,001,381 4,490,912 9,043,623 3,521,121 112,88% Health Promotion 214,599,231 211,627,936 238,467,719 223,190,419 222,364,888 1,941,414 1,13% Healthcare Delivery † † † 28,336,001 49,315,952 20,979,951 74,04% Hematology 445,442,843 447,179,086 450,388,689 448,191,248 462,367,203 4,231,090 0.95% Hematology 445,442,843 447,179,086 450,388,689 448,191,248 462,367,203 4,231,090 0.95% Hematology 445,442,843 447,179,086 450,388,689 448,191,248 462,367,203 4,231,090 0.95% Hematology 445,442,843 447,179,086 450,388,689 448,111,418 462,367,203 4,241,179 4,77% Horrone Replacement Rx 135,0233 162,289,600 62,723,96 8,671,792 9,281,180 9,486,659 1,014,40 14,75% Hospice 54,89,100 54,89,100 56,013,833 </td <td>Genetic Testing Research, Human</td> <td>225,895,895</td> <td>191,499,674</td> <td>196,298,554</td> <td>195,880,886</td> <td>175,570,284</td> <td>-12,581,403</td> <td>-5.83%</td>	Genetic Testing Research, Human	225,895,895	191,499,674	196,298,554	195,880,886	175,570,284	-12,581,403	-5.83%
Health Promotion 214,599,231 211,627,936 238,467,719 222,190,419 222,364,888 1,941,414 1.13% Healthcare Delivery † † † 28,336,001 49,315,592 20,979,951 74,04% Helicobacter 4,242,773 4,423,309 3,815,249 4,831,420 6,991,551 687,195 15,46% Hematology 445,442,843 447,179,086 450,398,699 448,191,248 462,367,203 4,231,090 0.95% Hematologie Stem Cell Research 95,335,267 99,710,757 105,121,325 123,066,724 113,195,029 4,464,941 4,77% Horspice 5,429,050 6,272,396 8,671,792 99,811,180 9,486,659 1,014,402 15,76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,390 50,524,538 2,072,966 3,62% Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 1,090,702 2,0% Mind Body Research 16,186,181 20,374,850	Genomics	14,134,782	16,217,856	24,245,008	63,935,842	90,249,814	19,028,758	67.27%
Healthcare Delivery † † † 2,33,0001 4,9,315,952 20,979,951 74,04% Helicobacter 4,242,773 4,423,309 3,815,249 4,831,420 6,991,551 687,195 15,46% Hematology 445,442,843 447,179,086 450,398,699 448,191,248 462,367,203 4,231,000 0.95% Hematopoietic Stem Cell Research 95,335,267 99,710,757 105,121,325 123,066,724 113,195,029 4,644,941 4,77% Hormone Replacement Rx 13,502,323 12,859,852 14,254,242 11,719,547 10,761,691 -685,158 -4.97% Hospice 5,429,050 6,272,396 8,671,792 9,281,180 9,486,659 1,014,02 15,76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,380 50,524,538 2,072,966 3,62% Infant Mortality 137,648 131,431 216,858 209,777 157,137 4,872 8,03% Mind Body Research 16,186,181 20,374,850 13,535,171 17,1	Health Literacy	†	†	2,001,381	4,490,912	9,043,623	3,521,121	112.88%
Helicobacter 4,242,773 4,423,309 3,815,249 4,831,420 6,991,551 687,195 15,46% Hematology 445,442,843 447,179,086 450,398,699 448,191,248 462,367,203 4,231,090 0.95% Hematopojetic Stem Cell Research 95,335,267 99,710,757 105,121,325 123,066,724 113,195,029 4,464,941 4,77% Hormone Replacement Rx 13,502,323 12,859,852 14,254,242 11,719,547 10,761,691 -685,158 -4,97% Hospice 5,429,050 6,272,396 8,671,792 9,281,180 9,486,659 1,014,402 15,76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,380 50,524,538 2,072,966 -362% Infant Mortality 137,648 131,431 216,685 209,577 157,137 4,872 8,036 Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 30,074,829 10,903,702 2,909 Metastasis 296,031,487 309,340,607 1	Health Promotion	214,599,231	211,627,936	238,467,719	223,190,419	222,364,888	1,941,414	1.13%
Hematology 445,442,843 447,179,086 450,398,699 448,191,248 462,367,203 4,231,090 0.95% Hematopoietic Stem Cell Research 95,352,67 99,710,757 105,121,325 123,066,724 113,195,029 4,464,941 4.77% Hormone Replacement Rx 13,502,323 12,859,852 14,254,242 11,719,547 10,761,691 -685,158 -4,97% Hospice 5,429,050 6,272,396 8,671,792 9,281,180 9,486,659 1,014,402 15,76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,380 50,524,538 -2,072,966 -3,62% Infant Mortality 137,648 131,431 216,858 209,577 157,137 4,872 8,03% Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 -10,903,702 -2,90% Metastasis 296,031,487 309,340,607 310,478,648 323,687,694 336,636,916 10,151,357 3,28% Mind/Body Research 16,186,181 20,374,85	Healthcare Delivery	†	†	†	28,336,001	49,315,952	20,979,951	74.04%
Hematopoietic Stem Cell Research 95,335,267 99,710,757 105,121,325 123,066,724 113,195,029 4,464,941 4.77% Hormone Replacement Rx 13,502,323 12,859,852 14,254,242 11,719,547 10,761,691 -685,158 -4,97% Hospice 5,429,050 6,272,396 8,671,792 9,281,180 9,486,659 1,014,402 15,76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,380 50,524,538 -2,072,966 -3,62% Infant Mortality 137,648 131,431 216,858 209,577 157,137 4,872 8,03% Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 -10,903,702 -2,90% Metastasis 296,031,487 309,340,607 310,478,648 323,687,694 36,636,916 10,151,357 3,28% Mind/Body Research 1,61,861,81 29,092,349,850 19,535,017 17,114,346 14,909,313 -299,967 -0,76% Molecular Targeted Prevention † <td< td=""><td>Helicobacter</td><td>4,242,773</td><td>4,423,309</td><td>3,815,249</td><td>4,831,420</td><td>6,991,551</td><td>687,195</td><td>15.46%</td></td<>	Helicobacter	4,242,773	4,423,309	3,815,249	4,831,420	6,991,551	687,195	15.46%
Hormone Replacement Rx 13,502,323 12,859,852 14,254,242 11,719,547 10,761,691 685,158 -4,976 Hospice 5,429,050 6,272,396 8,671,792 9,281,180 9,486,659 1,014,402 15,76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,380 50,524,538 -2,072,966 -3,62% Infant Mortality 137,648 131,431 216,858 209,577 157,137 4,872 8,03% Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 10,003,702 -2,90% Metastasis 296,031,487 309,340,607 310,478,648 323,687,694 36,636,916 10,151,357 3,28% Mind/Body Research 1,6186,181 20,374,850 19,535,017 17,114,346 14,909,313 298,967 -0.76% Molecular Targeted Prevention † † † † \$6,676,232 34,903,249 8,036,017 30,026 Molecular Targeted Therapy 57,225,106 86,681,914 <td>Hematology</td> <td>445,442,843</td> <td>447,179,086</td> <td>450,398,699</td> <td>448,191,248</td> <td>462,367,203</td> <td>4,231,090</td> <td>0.95%</td>	Hematology	445,442,843	447,179,086	450,398,699	448,191,248	462,367,203	4,231,090	0.95%
Hospice 5,429,050 6,272,396 8,671,792 9,281,180 9,486,659 1,014,402 15.76% latrogenesis 58,816,401 54,060,109 56,013,837 52,112,380 50,524,538 22,072,966 -3,62% Infant Mortality 137,648 131,431 216,858 209,577 157,137 4,872 8,03% Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 -10,903,702 2-2,90% Metastasis 296,014,87 309,340,607 310,478,648 323,687,694 336,636,916 10,151,357 3,28% Mind/Body Research 16,186,181 20,374,850 19,535,017 17,114,346 14,990,313 -298,967 -0.76% Molecular Targeted Prevention † † † 26,767,232 34,803,249 8,036,017 30,025 Molecular Targeted Therapy 57,225,106 86,881,914 168,524,743 235,736,478 304,259,412 61,758,576 53,71% Numoribromatosis 5,297,104 4,440,584 5,41	Hematopoietic Stem Cell Research	95,335,267	99,710,757	105,121,325	123,066,724	113,195,029	4,464,941	4.77%
Infrart Mortality	Hormone Replacement Rx	13,502,323	12,859,852	14,254,242	11,719,547	10,761,691	-685,158	-4.97%
Infant Mortality 137,648 131,431 216,858 209,577 157,137 4,872 8.03% Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 -10,903,702 -2.90% Metastasis 296,031,487 309,340,607 310,478,648 323,687,694 336,636,916 10,151,357 3.28% Mind/Body Research 16,186,181 20,374,850 19,535,017 17,114,346 14,990,313 -298,967 -0.76% Molecular Disease 1,262,060,208 1,339,620,569 1,432,200,446 1,505,288,239 1,494,763,190 58,175,746 4.37% Molecular Targeted Prevention † † † 26,767,232 34,803,249 8,036,017 30.02% Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nutrition 212,521,117 211,442,59	Hospice	5,429,050	6,272,396	8,671,792	9,281,180	9,486,659	1,014,402	15.76%
Information Dissemination 364,362,635 365,997,428 390,365,620 352,206,158 320,747,829 -10,903,702 -2.90% Metastasis 296,031,487 309,340,607 310,478,648 323,687,694 336,636,916 10,151,357 3.28% Mind/Body Research 16,186,181 20,374,850 19,535,017 17,114,346 14,990,313 -298,967 -0.76% Molecular Disease 1,262,060,208 1,339,620,569 1,432,200,446 1,505,288,239 1,494,763,190 58,175,746 4.37% Molecular Targeted Prevention † † † 26,767,232 34,803,249 8,036,017 30.02% Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,11	latrogenesis	58,816,401	54,060,109	56,013,837	52,112,380	50,524,538	-2,072,966	-3.62%
Metastasis 296,031,487 309,340,607 310,478,648 323,687,694 336,636,916 10,151,357 3.28% Mind/Body Research 16,186,181 20,374,850 19,535,017 17,114,346 14,990,313 -298,967 -0.76% Molecular Disease 1,262,060,208 1,339,620,569 1,432,200,446 1,505,288,239 1,494,763,190 58,175,746 4.37% Molecular Targeted Prevention † † † 26,767,232 34,803,249 8,036,017 30.02% Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,42,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition Fiber 12,613,110	Infant Mortality	137,648	131,431	216,858	209,577	157,137	4,872	8.03%
Mind/Body Research 16,186,181 20,374,850 19,535,017 17,114,346 14,990,313 -298,967 -0.76% Molecular Disease 1,262,060,208 1,339,620,569 1,432,200,446 1,505,288,239 1,494,763,190 58,175,746 4.37% Molecular Targeted Prevention † † † 26,767,232 34,803,249 8,036,017 30.02% Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 2	Information Dissemination	364,362,635	365,997,428	390,365,620	352,206,158	320,747,829	-10,903,702	-2.90%
Molecular Disease 1,262,060,208 1,339,620,569 1,432,200,446 1,505,288,239 1,494,763,190 58,175,746 4.37% Molecular Targeted Prevention † † † † 26,767,232 34,803,249 8,036,017 30.02% Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 <td>Metastasis</td> <td>296,031,487</td> <td>309,340,607</td> <td>310,478,648</td> <td>323,687,694</td> <td>336,636,916</td> <td>10,151,357</td> <td>3.28%</td>	Metastasis	296,031,487	309,340,607	310,478,648	323,687,694	336,636,916	10,151,357	3.28%
Molecular Targeted Prevention † † † 26,767,232 34,803,249 8,036,017 30.02% Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 <t< td=""><td>Mind/Body Research</td><td>16,186,181</td><td>20,374,850</td><td>19,535,017</td><td>17,114,346</td><td>14,990,313</td><td>-298,967</td><td>-0.76%</td></t<>	Mind/Body Research	16,186,181	20,374,850	19,535,017	17,114,346	14,990,313	-298,967	-0.76%
Molecular Targeted Therapy 57,225,106 86,681,914 168,524,743 235,736,478 304,259,412 61,758,576 53.71% Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,	Molecular Disease	1,262,060,208	1,339,620,569	1,432,200,446	1,505,288,239	1,494,763,190	58,175,746	4.37%
Nanotechnology 156,533,223 162,067,173 160,886,764 139,280,697 115,493,360 -10,259,966 -6.93% Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Organ Transplant Research 72,356,860 73,412,458<	Molecular Targeted Prevention	†	†	†	26,767,232	34,803,249	8,036,017	30.02%
Neurofibromatosis 5,297,104 4,440,584 5,441,436 6196638 3,981,414 -328,923 -3.88% Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Osteoporosis 1,168,234 1,141,017 1,65	Molecular Targeted Therapy	57,225,106	86,681,914	168,524,743	235,736,478	304,259,412	61,758,576	53.71%
Nursing Research 11,916,138 12,314,520 12,875,140 14,431,353 15,260,161 836,006 6.43% Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4,93%	Nanotechnology	156,533,223	162,067,173	160,886,764	139,280,697	115,493,360	-10,259,966	-6.93%
Nutrition 212,521,117 211,442,595 225,476,479 209,329,870 223,526,960 2,751,461 1.44% Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4,93%	Neurofibromatosis	5,297,104	4,440,584	5,441,436	6196638	3,981,414	-328,923	-3.88%
Nutrition, Fiber 12,613,110 11,497,589 10,944,448 8,727,644 9,077,551 -883,890 -7.48% Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4,93%	Nursing Research	11,916,138	12,314,520	12,875,140	14,431,353	15,260,161	836,006	6.43%
Nutrition Monitoring 36,098,086 25,273,055 27,724,349 21,030,276 22,761,837 -3,334,062 -9.05% Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4,93%	Nutrition	212,521,117	211,442,595	225,476,479	209,329,870	223,526,960	2,751,461	1.44%
Obesity 31,488,991 29,053,667 47,654,377 47,392,071 51,503,516 5,003,631 16.10% Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4.93%	Nutrition, Fiber	12,613,110	11,497,589	10,944,448	8,727,644	9,077,551	-883,890	-7.48%
Occupational Cancer 15,206,346 11,920,612 12,431,237 12,471,937 10,925,839 -1,070,127 -7.35% Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4.93%	Nutrition Monitoring	36,098,086	25,273,055	27,724,349	21,030,276	22,761,837	-3,334,062	-9.05%
Oncogenes 620,478,436 634,237,576 650,329,143 635,069,232 601,158,227 -4,830,052 -0.73% Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4.93%	Obesity	31,488,991	29,053,667	47,654,377	47,392,071	51,503,516	5,003,631	16.10%
Organ Transplant Research 72,356,860 73,412,458 65,746,345 65,707,332 70,998,100 -339,690 -0.25% Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4.93%	Occupational Cancer	15,206,346	11,920,612	12,431,237	12,471,937	10,925,839	-1,070,127	-7.35%
Osteoporosis 1,168,234 1,141,017 1,657,557 1,536,104 1,291,894 30,915 4.93%	Oncogenes	620,478,436	634,237,576	650,329,143	635,069,232	601,158,227	-4,830,052	-0.73%
	Organ Transplant Research	72,356,860	73,412,458	65,746,345	65,707,332	70,998,100	-339,690	-0.25%
Pain 14,411,836 17,002,607 20,644,937 18,649,226 17,232,485 705,162 5.53%	Osteoporosis	1,168,234	1,141,017	1,657,557	1,536,104	1,291,894	30,915	4.93%
	Pain	14,411,836	17,002,607	20,644,937	18,649,226	17,232,485	705,162	5.53%
Palliative Care 21,296,057 22,501,723 24,483,291 23,757,110 25,370,733 1,018,669 4.57%	Palliative Care	21,296,057	22,501,723	24,483,291	23,757,110	25,370,733	1,018,669	4.57%

 $^{^{\}dagger}$ Coding not required or requested.

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

		Total S	pecial Interest C	Category Dollars			
Special Interest Categories (SIC)	2003	2004	2005	2006	2007	Average Dollar Change per Year (\$)	Average Percent Change per Year (%)
Pap Testing	14,509,718	17,012,637	18,343,787	17,521,998	15,939,640	357,481	2.89%
Pediatric Research	215,691,002	227,132,843	240,263,190	240,581,866	226,000,356	2,577,339	1.29%
Pesticides	4,131,483	3,576,795	2,300,012	2,502,883	2,757,238	-343,561	-7.53%
Prevention, Primary	363,759,578	392,570,979	407,329,290	398,996,283	403,184,059	9,856,120	2.67%
Proteomics	16,447,068	23,290,691	37,141,648	68,071,793	82,439,359	16,498,073	51.37%
Radiation, Electromagnetic Fields	495,945	427,464	580,932	591,341	1,246,146	187,550	33.65%
Radiation, Ionizing	40,875,195	39,238,254	43,059,514	43,805,949	37,278,455	-899,185	-1.86%
Radiation, Ionizing Diagnosis	†	†	31,082,541	36,896,621	45,911,196	7,414,328	21.57%
Radiation, Ionizing Radiotherapy	203,836,509	222,200,058	233,258,022	224,914,720	211,921,221	2,021,178	1.16%
Radiation, Low-Level Ionizing	†	†	11,900,597	9,904,869	6,781,869	-2,559,364	-24.15%
Radiation, Magnetic Resonance Imaging	83,051,490	67,077,228	69,701,604	73,324,083	76,509,175	-1,635,579	-1.45%
Radiation, Mammography	36,033,787	38,427,220	36,724,102	35,098,510	26,506,642	-2,381,786	-6.67%
Radiation, Non-Ionizing	36,893,495	39,381,363	38,469,271	41,765,880	36,518,288	-93,802	0.11%
Radiation, Non-Ionizing Diagnosis	‡	‡	97,126,317	106,677,590	113,743,238	8,308,461	8.23%
Radiation, Non-Ionizing Therapy	‡	‡	10,281,596	19,703,696	20,512,897	5,115,651	47.87%
Radiation, UV	35,021,219	37,662,847	36,599,581	34,863,897	30,248,878	-1,193,085	-3.31%
Radon	2,247,435	311,741	2,064,419	1,877,626	1,928,547	-79,722	117.44%
Rare Diseases	41,841,085	42,994,896	41,827,984	40,951,967	35,970,832	-1,467,563	-3.55%
Rehabilitation	25,558,259	28,124,501	33,264,360	33,023,938	36,343,543	2,696,321	9.41%
Rural Populations	43,782,335	42,209,191	49,888,988	47,378,913	46,608,058	706,431	1.99%
Sexually Transmitted Diseases	46,790,495	49,370,699	53,246,020	49,404,310	46,567,630	-55,716	0.10%
Small Molecules	†	†	72,467,673	75,198,858	75,388,735	1,460,531	2.01%
Smokeless Tobacco	8,052,530	3,235,635	3,157,981	5,455,151	4,915,185	-784,336	0.16%
Smoking and Health	136,772,177	140,691,633	131,902,138	116,460,252	107,599,912	-7,293,066	-5.67%
Smoking Behavior	78,958,064	77,398,392	65,185,509	57,593,749	54,845,966	-6,028,025	-8.54%
Smoking, Passive	6,088,321	6,163,806	5,646,628	5,916,667	4,724,698	-340,906	-5.63%
Structural Biology	341,881,210	370,571,496	382,597,297	373,716,079	350,255,158	2,093,487	0.76%
Surgery	135,887,501	137,281,620	102,248,250	68,506,434	62,186,093	-18,425,352	-16.68%
Taxol	71,638,234	79,061,172	67,584,901	67,818,280	68,614,085	-756,037	-0.66%
Telehealth	136,729,979	137,081,094	122,527,280	114,070,880	109,251,686	-6,869,573	-5.37%
Therapy	1,126,832,535	1,217,391,826	1,272,641,374	1,266,274,256	1,298,039,566	42,801,758	3.65%
Tropical Diseases	11,812,651	10,255,864	11,102,730	11,470,288	8,793,217	-754,859	-6.24%

continued

 $^{\dagger}\text{Coding}$ not required or requested.

[‡]Radiation categories were redefined in 2005.

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

	Total Special Interest Category Dollars									
Special Interest Categories (SIC)	2003	2004	2005	2006	2007	Average Dollar Change per Year (\$)	Average Percent Change per Year (%)			
Tumor Markers	489,114,837	451,794,712	434,204,129	379,942,155	319,696,793	-42,354,511	-9.97%			
Underserved Populations	130,143,998	138,519,933	177,574,214	185,053,103	193,031,767	15,721,942	10.79%			
Vaccine Development	14,453,579	21,617,405	27,059,011	28,477,513	25,921,581	2,867,001	17.75%			
Vaccine Production	774,562	1,976,306	1,693,418	2,554,459	2,813,459	509,724	50.46%			
Vaccine Research	39,445,936	41,596,477	40,521,325	40,811,267	35,338,089	-1,026,962	-2.46%			
Vaccine Testing	43,526,814	44,774,687	45,170,380	41,589,965	42,358,539	-292,069	-0.58%			
Virus Cancer Research	196,287,543	194,880,644	191,052,843	184,005,089	169,548,341	-6,684,801	-3.56%			
Virus, Epstein-Barr	23,278,988	23,134,534	24,534,511	24,823,910	20,885,807	-598,295	-2.31%			
Virus, Genital Herpes	666,153	670,672	507,354	297,627	496,778	-42,344	0.48%			
Virus, Hepatitis B	10,387,770	8,795,216	7,739,861	9,761,386	11,248,067	215,074	3.50%			
Virus, Hepatitis C	4,715,540	4,263,315	4,890,912	5,314,150	6,013,368	324,457	6.74%			
Virus, Herpes	51,778,550	53,522,401	52,021,227	50,636,437	49,617,358	-540,298	-1.03%			
Virus, HHV6	40,917	42,500	51,916	48,840	38,658	-565	-0.19%			
Virus, HHV8	17,787,658	17,648,098	19,069,528	19,444,589	21,063,289	818,908	4.39%			
Virus, HTLV-I	8,443,640	7,369,926	8,734,324	9,255,632	8,125,525	-79,529	-0.11%			
Virus, HTLV-II	15,161	39,299	246,497	180,823	286,731	67,893	179.59%			
Virus, HTLV-Unspecified	69,094	72,443	76,253	72,673	250,500	45,352	62.53%			
Virus, Papilloma	49,870,165	51,897,332	56,846,619	48,746,509	52,204,543	583,595	1.61%			
Virus,Papova	61,875,739	65,462,575	69,718,574	63,010,553	64,028,274	538,134	1.07%			
Virus, Sv40	8,645,371	10,130,358	10,464,181	10,663,884	8,629,445	-3,982	0.83%			
Vitamin A	22,486,845	22,194,566	23,874,074	18,860,654	19,668,632	-704,553	-2.61%			
Vitamin C	6,809,996	5,566,346	5,490,209	4,567,404	2,659,444	-1,037,638	-19.55%			
Vitamins, Other	21,073,817	19,859,860	23,430,615	22,232,900	21,766,523	173,177	1.25%			

Table 16. NCI Organ and Related Site-Specific Dollars for FY2003-2007 – Annual Percent Change*

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

Site Category	2003	2004	2005	2006	2007	Average Dollar Change per Year (\$)	Average Percent Change per Year (%)
Adrenal	3,960,952	2,593,630	2,717,779	2,022,497	1,713,386	-561,892	-17.65%
Anus	4,356,693	6,178,964	6,313,360	1,903,513	2,118,674	-559,505	-3.64%
Bladder	29,375,431	29,192,500	25,392,413	19,803,683	17,371,697	-3,000,934	-11.98%
Bone Marrow	18,738,105	16,859,731	17,969,897	22,465,093	22,451,131	928,257	5.38%
Bone, Cartilage	22,398,965	21,436,315	20,296,744	21,063,492	19,387,491	-752,869	-3.45%
Brain	95,279,466	105,526,751	101,434,991	105,060,878	115,250,618	4,992,788	5.04%
Breast	499,135,321	514,406,565	510,552,531	527,807,370	521,633,567	5,624,562	1.13%
Buccal Cavity	5,622,264	6,480,376	5,494,543	8,081,757	9,150,490	882,057	15.09%
Central Nervous System	18,946,339	20,699,745	17,192,652	14,061,106	12,427,536	-1,629,701	-9.38%
Cervix	72,057,870	72,682,867	75,787,307	73,228,337	72,958,209	225,085	0.35%
Childhood Leukemia	47,389,916	48,088,942	45,113,301	38,504,393	39,602,861	-1,946,764	-4.13%
Colon, Rectum	243,188,189	245,543,444	238,230,314	228,997,550	242,141,015	-261,794	-0.04%
Connective Tissue	7,572,951	7,094,659	7,558,119	11,474,292	10,576,461	750,878	11.05%
Embryonic Tissue, Cells	7,746,541	6,559,473	5,318,429	4,184,399	3,009,363	-1,184,295	-20.91%
Esophagus	19,039,683	19,382,040	20,378,823	18,672,533	19,566,240	131,639	0.84%
Eye	2,432,688	1,513,506	2,465,231	1,689,222	2,107,705	-81,246	4.60%
Gall Bladder	757,328	872,737	899,162	1,186,770	990,701	58,343	8.43%
Gastrointestinal Tract	15,872,991	19,597,757	21,145,926	17,155,752	13,337,106	-633,971	-2.44%
Genital System, Female	1,935,489	5,172,691	4,794,366	2,823,806	2,545,359	152,468	27.24%
Genital System, Male	3,167,731	2,262,682	4,243,858	2,308,078	2,074,914	-273,204	0.82%
Head and Neck	35,716,098	44,167,285	44,641,240	41,555,151	37,581,195	466,274	2.06%
Heart	6,774,839	4,909,069	4,452,774	4,255,232	3,088,826	-921,503	-17.17%
Hodgkin's Lymphoma	15,895,958	16,247,077	16,354,733	19,636,312	15,148,880	-186,770	0.02%
Kaposi Sarcoma	18,753,497	18,688,727	20,071,159	20,133,663	20,075,346	330,462	1.77%
Kidney	23,012,397	22,618,493	24,984,890	22,472,490	22,095,888	-229,127	-0.75%
Larynx	1,239,045	777,411	491,395	353,412	333,234	-226,453	-26.96%
Leukemia	192,741,377	196,638,676	201,052,444	198,818,288	182,882,813	-2,464,641	-1.21%
Liver	54,925,839	54,341,107	52,888,388	53,472,232	58,928,177	1,000,585	1.89%
Lung	254,003,512	253,490,911	245,457,301	220,104,368	205,545,637	-12,114,469	-5.08%
Lymph Node	418,211	1,247,100	4,350,116	3,744,942	4,278,957	965,187	111.84%
Lymphatic System	1,772,709	1,130,650	424,632	718,819	658,665	-278,511	-9.44%
Melanoma	83,252,560	86,725,177	94,558,088	94,920,227	85,849,652	649,273	1.01%

^{*}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 Organ and Related Site-Specific Dollars for FY2003-2007 – Annual Percent Change*

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

Site Category	2003	2004	2005	2006	2007	Average Dollar Change per Year (\$)	Average Percent Change per Year (%)
Muscle	10,585,789	9,961,120	9,250,584	7,605,653	7,437,525	-787,066	-8.26%
Myeloma	23,458,037	21,375,570	25,085,863	27,013,588	27,362,776	976,185	4.36%
Nervous System	2,947,832	2,859,805	2,909,612	3,302,967	4,023,649	268,954	8.52%
Neuroblastoma	23,109,752	22,723,369	22,004,713	19,558,040	15,104,996	-2,001,189	-9.68%
Non-Hodgkin's Lymphoma	87,701,313	91,103,091	94,545,180	98,911,228	99,384,129	2,920,704	3.19%
Nose, Nasal Passages	1,889,287	2,435,202	1,759,357	956,549	762,856	-281,608	-16.18%
Ovary	94,278,381	93,598,684	91,509,918	87,686,822	88,505,726	-1,443,164	-1.55%
Pancreas	40,665,106	50,924,876	64,697,347	70,407,600	69,056,905	7,097,950	14.80%
Parathyroid	103,368	206,013	186,052	187,134	171,823	17,114	20.50%
Penis	570,915	1,007,097	1,777,028	2,938,868	2,720,503	537,397	52.70%
Pharynx	3,496,979	3,610,213	3,405,521	3,703,659	3,924,697	106,930	3.07%
Pituitary	2,223,903	1,958,668	1,904,001	1,726,533	897,516	-331,597	-18.01%
Prostate	282,162,848	283,487,876	281,876,087	262,443,938	269,922,959	-3,059,972	-1.04%
Respiratory System	1,752,342	477,322	447,805	413,800	400,761	-337,895	-22.42%
Reticuloendothelial System	22,633,635	19,752,858	16,748,919	14,526,383	12,410,375	-2,555,815	-13.94%
Retinoblastoma	2,275,980	2,470,155	3,716,422	3,340,918	3,691,685	353,926	14.84%
Salivary Glands	335,590	305,461	247,997	209,785	166,982	-42,152	-15.90%
Skin	60,107,917	63,687,265	63,603,865	59,159,876	55,115,019	-1,248,225	-2.00%
Small Intestine	2,744,882	1,592,051	1,956,314	3,736,917	3,398,526	163,411	15.71%
Spleen	397,133	561,467	314,378	413,583	553,101	38,992	15.67%
Stomach	10,410,995	9,841,719	9,259,931	9,655,711	10,208,137	-50,715	-0.35%
Testis	6,182,273	6,584,671	6,138,620	7,345,304	7,745,565	390,823	6.21%
Thymus	830,245	625,911	1,102,792	1,285,454	1,097,000	66,689	13.37%
Thyroid	4,832,175	5,729,563	6,696,420	9,035,918	7,116,425	571,063	12.28%
Trachea, Bronchus	156,675	256,373	272,569	209,385	256,970	25,074	17.37%
Urinary System	540,930	263,840	360,645	87,407		-151,174	-30.10%
Uterus	24,399,854	24,678,691	29,654,053	17,863,777	15,215,991	-2,295,966	-8.32%
Vagina	542,925	571,670	922,677	405,092	334,452	-52,118	-1.71%
Vascular	49,015,750	44,089,096	35,543,894	30,549,373	23,495,473	-6,380,069	-16.64%
Wilms Tumor	4,773,264	4,243,617	3,394,348	4,070,329	3,551,394	-305,468	-5.99%

Table 17. NCI Funding of Foreign Research Grants in FY2007

This table reports extramural grants only; intramural grants, training grants, and contracts are excluded. Funding is given in thousands of dollars.

Country						Mecha	anism					Subtotal
		R01	R03	R21	R33	R37	K22	U01	U10	U24	F32	
Australia	Grants	5	2			1		2				10
	Funding	1,772	107			230		1,519				3,629
Belgium	Grants								1			1
	Funding								417			417
Canada	Grants	17	2	1	2		1	2	3			28
	Funding	4,970	108	124	356		161	2,316	1,682			9,718
China	Grant	1										1
	Funding	180										180
France	Grants	3	2					1				6
	Funding	1,385	111					812				2,308
Germany	Grants	1									1	2
	Funding	290									50	341
Iceland	Grant	1										1
	Funding	354										354
India	Grant	1										1
	Funding	190										190
Israel	Grants	6		1		2		1				10
	Funding	1,024		137		434		240				1,835
Italy	Grant		1									1
	Funding		52									52
Netherlands	Grants		1					1				2
	Funding		55					180				235
New Zealand	Grant		1									1
	Funding		55									55
Singapore	Grant				1							1
	Funding				217							217
South Africa	Grant	1										1
	Funding	46										46
Spain	Grants	2										2
	Funding	386										386
Sweden	Grants	3										3
	Funding	1,222										1,222

Table 17. NCI Funding of Foreign Research Grants in FY2007

This table reports extramural grants only; intramural grants, training grants, and contracts are excluded. Funding is given in thousands of dollars.

Country						Mecha	anism					Subtotal
		R01	R03	R21	R33	R37	K22	U01	U10	U24	F32	
Switzerland	Grants	2										2
	Funding	332										332
United Kingdom	Grants	5		1						1	2	9
	Funding	1,157		108						44	99	1,408
Totals	Grants	48	9	3	3	3	1	7	4	1	3	82
	Funding	13,308	488	370	573	665	161	5,067	2,100	44	150	22,925

Table 18. Foreign Components of U.S. Domestic Research Grants in FY2007

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

Country	Mechanism										Subtotal					
	R01	R03	R15	R21	R24	R33	R37	R44	R56	P01	P50	U01	U19	U24	U54	
Africa (sic)												1				1
Argentina														1		1
Australia	13	1								2	1	6		2		25
Austria	1													1		2
Bangladesh	1															1
Barbados	1															1
Belgium	1													1		2
Brazil	5	1										3	1	1		11
Cameroon															2	2
Canada	44	2						2	2	7	3	12	1	3	1	77
China	21	5								1	1		1	1		30
Colombia										1				1		2
Costa Rica												1				1
Czech Republic	3													1		4
Denmark	6	1									1			1		9
Dominica													1			1
Egypt	2	1												1		4
Fiji													1			1
Finland	6					1				1				1	1	10
France	9	1		1							1			1	1	14
Germany	15	1	1		1	1				1	1	1		1		23
Guinea				1												1
Hungary														2		2
Iceland	1															1
India	1										2			1		4
Indonesia										1						1
Iran														1		1
Ireland	1													1		2
Israel	7						1			2				2		12
Italy	10	1					1				1			1		14
Japan	6	1										1	1	1		10
Kenya	1											2			1	4
Kuwait														1		1
Latvia	1															1
Malaysia											1			1		2
Mexico	1										1			1		3

Table 18. Foreign Components of U.S. Domestic Research Grants in FY2007

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

Country							M	echanis	sm							Subtotal
	R01	R03	R15	R21	R24	R33	R37	R44	R56	P01	P50	U01	U19	U24	U54	
Moldova							1									1
Netherlands	9						1			1		1		1		13
New Zealand	4									1	1			1		7
Nigeria											1				3	4
Norway	1	1										1			1	4
Pakistan														1		1
Panama														1		1
Papua New Guinea	1												1			2
Peru															2	2
Philippines	1												1			2
Poland	1													1		2
Portugal														1		1
Romania	1															1
Russia	4			1								1		1		7
Saudi Arabia														1		1
Senegal	2															2
Singapore	6					1								1		8
Slovenia														1		1
South Africa	1													1		2
South Korea	1													1		2
Spain	6	1		1								2		1		11
Sri Lanka													1			1
St. Maarten													1			1
Sweden	11											1		1	1	14
Switzerland	1									1				1		3
Taiwan	1							1						1		3
Thailand										1	1	2				4
Tobago	1															1
Turkey										1				1		2
Uganda	1					1						2				4
United Kingdom	26	2		3		1				2	3	6		1	2	46
Uruguay											1			1		2
Venezuela														1		1
Vietnam	1															1
Zambia	1											1				2
Totals	238	19	1	7	1	5	4	3	2	23	20	44	10	49	15	441



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 5,933 applications in 2007 requesting \$1,671,272,614 in direct costs.

The Board heard presentations, discussed, and provided advice on a variety of topics and NCI activities in FY2007, such as:

- NCI Director's Report
- President's Cancer Panel Report
- Legislative Update
- Overview: NCI Activities Within the NIH Clinical Center
- Overview: Phase 0 Trials
- Update: Frederick Cancer Research and Development Center (FCRDC)
- Update: Centers for Cancer Research:
 - Clinical Program
 - Meeting NIH's Mandate for Rare Disease Research
 - Clinical Development of Treatments for Neurofibromatosis Type 1 Associated Tumors
 - Immunology Center of Excellence
 - Preclinical and Clinical Development of rhIL-7: A Potent Immunorestorative and Vaccine Adjuvant
 - IL-15 in the Life and Death of Lymphocytes: Implications for Cancer Therapy and Vaccine Design

- A Promising Candidate To Enhance Vaccine Efficacy Against Cancer and HIV
- Profiling and Gene Regulation
 - Towards Routine Molecular Diagnosis in Clinical Oncology
 - Malignant Gliomas: A Neural Stem Cell Gone Bad. The Biological and Therapeutic Implications of a Changing Paradigm
 - Deciphering the Genetic Barcode of Cancer Susceptibility Using Mouse Models of Astrocytoma, MPNST, and NF1
- Update: Tobacco Legislation
- Annual Tobacco Control Update
- Breast Cancer Stamp Initiative
- Challenges and Opportunities Facing NIH Peer Review: A Vision for Ensuring Its Strategic National Value
- NCI Biennial Report: Inclusion of Women and Minorities in Clinical Research
- Annual Report: Implementation of Clinical Trials Working Group Recommendations
- Annual Report: American Society of Clinical Oncology (ASCO)
- Status Report: The Cancer Genome Atlas Awards
- Status Report: Integrating the Recommendations of the Clinical Trials Working Group and the Translational Research Working Group
- Report: P-4 Chemoprevention Trials Assessment Working Group
- Report: American Association for Cancer Research
- Final Report: Translational Research Working Group
- Reprogramming Metastatic Tumor Cells With Embryonic Microenvironment
- Program Review of Division of Cancer Epidemiology and Genetics: Melding Epidemiology and Genomics
- NCI Best Practices for Biospecimen Resources

Appendix A: Activities of the National Cancer Advisory Board .

- Algorithm Predicts Response to Anticancer Drugs (COXEN)
- Strategic Plan: Medical Oncology Branch, Center for Cancer Research
- Mini-Symposium: Strategic Partnering To Evaluate Cancer Signatures (SPECS) Program
- Mini-Symposium: Future of Imaging in the NCI Programs: From Molecule to Man

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 FY2007:

- Report of the Director
- NCI/Congressional Relations
- BSA at National Meetings Report
- Cancer Centers Directors' Report
- Overview: NIH Foundation
- Annual RFA Concept Report
- Final Report: Translational Research Working Group (TRWG)
- Final Report: NCI Best Practices for Biospecimen Resources
- Nanotechnology Symposium
- Mini-Symposium: Integrated Human and Mouse Systems Genetics
- Mini-Symposium: Biobehavioral Influences on Cancer Biology
- Impact of the Flat Budget
- Cancer From a Global Perspective
- Genetic Profiling of Cancer
- The Genetic Basis of Cancer of the Kidney
- Genes and Environment Initiative
- BSA Subcommittee: The Childhood Cancer Therapeutically Applicable Research to Generate Effective Treatments (TARGET) Initiative
- Centers of Excellence in Cancer Communication Research Initiative: Mid-Course Update
- Update: Interagency Oncology Task Force
- Update: Implementation of the Clinical Trials Working Group (CTWG) Recommendations
- Update: Clinical Development of IL-15
- Update: Clinical Proteomic Technologies for Cancer Initiative

- Update: NCI Community-Based Cancer Centers Pilot Program
- Update: Investigational Drug and Phase III Disease-Specific Steering Committees

RFA Concepts Approved

Division of Cancer Biology

- The Biology of Breast Pre-Malignancy
- Lung Cancer and Inflammation

RFP Concept Approved

Office of Biorepositories and Biospecimen Research

 Biospecimen Research To Enable Molecular Medicine

Combined RFA/Cooperative Agreements Approved

Division of Cancer Treatment and Diagnosis

- Adult Brain Tumor Consortium
- Network for Translational Research in Optical Imaging (NTROI)
- AIDS and Cancer Specimen Resource
- A Data Resource for Analyzing Blood and Marrow Transplants
- Cooperative Human Tissue Network

Division of Cancer Prevention

- Community Clinical Oncology Program
- Minority-Based Clinical Oncology Program

Office of the Director

- Comprehensive Minority Institution/Cancer Center Partnership
- Innovative Molecular Analysis Technologies Program
- Multidisciplinary Career Development Award

Division of Cancer Control and Population Sciences

- Centers of Excellence in Cancer Communication Research
- Cooperative Family Registry for Epidemiologic Studies in Colon Cancer

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



Appendix C: List of Chartered Committees, FY2007

President's Cancer Panel

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LaSalle D. Leffall, Jr., M.D. Howard University College of Medicine

Members

Executive Secretary

National Cancer Advisory Board

Chair

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Anthony Atala, M.D	
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Kenneth H. Cowan, M.D., Ph.D.	University of Nebraska, Eppley Institute for Cancer Research
Jean B. deKernion, M.D	University of California at Los Angeles School of Medicine
Kathryn Giusti, M.B.A	Multiple Myeloma Research Foundation
Robert Ingram*	
Judah M. Folkman, M.D	
	Koch Industries
Diana M. Lopez, Ph.D	
Karen M. Meneses, Ph.D	University of Alabama at Birmingham
Franklyn Prendergast, M.D., Ph.D.	
Lydia G. Ryan, M.S.N., P.N.P	
Daniel Von Hoff, M.D., F.A.C.P	Translational Genomics Research Institute

^{*}Pending.

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John Howard, M.D., M.P.H., J.D., LL.M National Institute for Occupational Safety	y and Health
Stephen L. Johnson	ction Agency
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The Honorable Dr. Michael J. Kussman	erans Affairs
The Honorable John H. Marburger III, Ph.D Office of Science and Techr	nology Policy
Nancy A. Nord	Commission
Ari Patrinos, Ph.D	nt of Energy
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Andrew C. von Eschenbach, M.D	iministration
The Honorable Dr. William Winkwerder, Jr	t of Defense
Elias A. Zerhouni, M.D	es of Health

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T.G. Patel, M.D., M.A.C.P	
Richard Pazdur, M.D	
John F. Potter, M.D	
R. Julian Preston, Ph.D	U.S. Environmental Protection Agency
Dori Reissman, M.D., M.P.H	National Institute for Occupational Safety and Health
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Executive Secretary

NCI Advisory Committee to the Director

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

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Howard University College of Medicine
University of Connecticut Health Center
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Fox Chase Cancer Center

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Alan S. Rabson, M.D.		Cancer	Institute

Executive Secretary

Maureen Johnson, Ph.D.		Cancer	Institute
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NCI Board of Scientific Advisors

Chair

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Robert C. Tourig, Mr.D.	I UA	Cirasc	Carreer	CCIICCI

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Barbara J. Beckwith, M.A. The Ohio State University Medical Center George J. Bosl, M.D. Memorial Sloan-Kettering Cancer Center Marci K. Campbell, Ph.D., M.P.H. University of North Carolina at Chapel Hill Nancy E. Davidson, M.D. The Johns Hopkins University School of Medicine Timothy J. Eberlein, Jr., M.D. Washington University School of Medicine Stanton L. Gerson, M.D. Case Western Reserve University Robert B. Jenkins, M.D., Ph.D. City of Hope Comprehensive Cancer Center Richard Jove, Ph.D. Mayo Cancer Center Michael Kastan, M.D., Ph.D. St. Jude Children's Research Hospital Hsing-Jien Kung, Ph.D. University of California, Davis Cancer Center Michael M. Le Beau, Ph.D. University of Chicago, Cancer Research Center Linda Malkas, Ph.D. Indiana University School of Medicine
George J. Bosl, M.D. Memorial Sloan-Kettering Cancer Center Marci K. Campbell, Ph.D., M.P.H. University of North Carolina at Chapel Hill Nancy E. Davidson, M.D. The Johns Hopkins University School of Medicine Timothy J. Eberlein, Jr., M.D. Washington University School of Medicine Stanton L. Gerson, M.D. Case Western Reserve 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 Hsing-Jien Kung, Ph.D. University of California, Davis Cancer Center Michael M. Le Beau, Ph.D. University of Chicago, Cancer Research Center Linda Malkas, Ph.D. Indiana University School of Medicine
Marci K. Campbell, Ph.D., M.P.H. University of North Carolina at Chapel Hill Nancy E. Davidson, M.D. The Johns Hopkins University School of Medicine Timothy J. Eberlein, Jr., M.D. Washington University School of Medicine Stanton L. Gerson, M.D. Case Western Reserve 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 Hsing-Jien Kung, Ph.D. University of California, Davis Cancer Center Michelle M. Le Beau, Ph.D. University of Chicago, Cancer Research Center Linda Malkas, Ph.D. Indiana University School of Medicine
Nancy E. Davidson, M.D
Timothy J. Eberlein, Jr., M.D. Stanton L. Gerson, M.D. Robert B. Jenkins, M.D., Ph.D. City of Hope Comprehensive Cancer Center Michael Kastan, M.D., Ph.D. City of California, Davis Cancer Center Michael M. Le Beau, Ph.D. University of Chicago, Cancer Research Center Michael Malkas, Ph.D. Indiana University School of Medicine
Stanton L. Gerson, M.D
Robert B. Jenkins, M.D., Ph.D. Richard Jove, Ph.D. City of Hope Comprehensive Cancer Center Michael Kastan, M.D., Ph.D. St. Jude Children's Research Hospital Hsing-Jien Kung, Ph.D. University of California, Davis Cancer Center Michelle M. Le Beau, Ph.D. University of Chicago, Cancer Research Center Linda Malkas, Ph.D. Indiana University School of Medicine
Richard Jove, Ph.D. City of Hope Comprehensive Cancer Center Michael Kastan, M.D., Ph.D. St. Jude Children's Research Hospital Hsing-Jien Kung, Ph.D. University of California, Davis Cancer Center Michelle M. Le Beau, Ph.D. University of Chicago, Cancer Research Center Linda Malkas, Ph.D. Indiana University School of Medicine
Michael Kastan, M.D., Ph.D
Hsing-Jien Kung, Ph.D
Michelle M. Le Beau, Ph.D
Linda Malkas, Ph.D
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I D. Marshall Dh. D.
James R. Marshall, Ph.D
Motomi Mori, Ph.D
Orhan Nalcioglu, Ph.D.*
Peggy L. Porter, M.DFred Hutchinson Cancer Research Center
Lillouise Rogers*
Lynn M. Schuchter, M.D
Ann G. Schwartz, Ph.D., M.P.H
Peter G. Shields, M.DGeorgetown University Medical Center
Jill M. Siegfried, Ph.D
Millicent Sims
David W. Speicher, Ph.D

Scientific Review Officer

Past Scientific Review Officer

^{*}Resigned in 2007.

Subcommittee C—Basic and Preclinical

Chair

TBN

Past Chair

Members

Hamid Band, M.D., Ph.D.	. Feinberg School of Medicine, Northwestern University
John L. Cleveland, Ph.D	St. Jude Children's Research Hospital
Robert H. Getzenberg, Ph.D	
Amato J. Giaccia, M.D.	Stanford University Medical School
Warren D. Heston, Ph.D.	Lerner Research Institute
Scott W. Hiebert, Ph.D	
Dave S. Hoon, Ph.D.	John Wayne Cancer Institute
Lucia R. Languino, Ph.D	University of Massachusetts Medical School
Salvatore V. Pizzo, M.D., Ph.D	Duke University
	Albany Medical College
Nancy J. Raab-Traub, Ph.D	
Kathleen M. Rundell, Ph.D	Northwestern University Cancer Center
Walter J. Storkus, Ph.D	
Kenneth D. Tew, Ph.D.	Medical University of South Carolina
Timothy J. Triche, M.D., Ph.D	

Scientific Review Officer

Subcommittee D—Clinical Studies

Chair

Members

Francis Ali-Osman, D.Sc., Ph.D	Duke University Medical Center
Matthew M. Ames, Ph.D	Mayo Clinic College of Medicine
Ennio A. Chiocca, M.D., Ph.D	The Ohio State University Medical Center
Curt I. Civin, M.D.	The Johns Hopkins University School of Medicine
James L.M. Ferrara, M.D	
Soldano Ferrone, M.D., Ph.D	
Stanton L. Gerson, M.D	Case Western Reserve University School of Medicine
Louise Barnett Grochow, M.D	AstraZeneca
Carl H. June, M.D.	
Fei-Fei Liu, M.D.	University of Toronto
Lawrence G. Lum, M.D., D.Sc	
Herbert K. Lyerly, M.D	Duke University Medical Center
William H. McBride, D.Sc., Ph.D	
Nancy L. Oleinick, Ph.D	Case Western Reserve University School of Medicine
Gina R. Petroni, Ph.D.	University of Virginia Health System
Donald L. Trump, M.D.	

Scientific Review Officer

Past Scientific Review Officer

Subcommittee E—Cancer Epidemiology, Prevention, and Control

Chair

Barbara C. Pence, Ph.D.Texas Tech University Health Sciences Center

Past Chair

Members

Howard H. Bailey, M.DUn	iversity of Wisconsin Comprehensive Cancer Center
Leslie Bernstein, Ph.DKeck School of	of Medicine of the University of Southern California
Marianne Berwick, Ph.D	
William J. Blot, Ph.D.	International Epidemiology Institute
Susan L. Butler	Ovarian Cancer National Alliance
Gary P. Chow, M.P.H.	
John R. Finnegan, Jr., Ph.D.	University of Minnesota School of Public Health
Christina Anne Meyers, Ph.D.	University of Texas, M.D.Anderson Cancer Center
Douglas E. Peterson, D.M.D., Ph.D	
John M. Pezzuto, Ph.D	University of Hawaii
	Roberson Consulting International
Marjorie Romkes, Ph.D.	University of Pittsburgh at Pittsburgh
Susan R. Sturgeon, Dr.P.H	University of Massachusetts at Amherst
Tor D. Tosteson, Sc.D.	
Michael W. Vannier, M.D	
Chung S. Yang, Ph.D.	Rutgers University College of Pharmacy

Scientific Review Officer

Past Scientific Review Officer

Subcommittee F—Manpower and Training

Member and Chair

Members

Vicki V. Baker, M.D.	West Virginia University Health Sciences
David L. Bartlett, M.D	University of Pittsburgh School of Medicine
Amy H. Bouton, Ph.D.	University of Virginia School of Medicine
Marila Cordeiro-Stone, Ph.D	University of North Carolina
Weimin Fan, M.D., M.P.H.	Medical University of South Carolina
Kimberly E. Foreman, Ph.D	Loyola University of Chicago
David W. Goodrich, Ph.D	
	University of Iowa
Richard D. Hichwa, Ph.D.	Holden Comprehensive Cancer Center
Barbara E. Kitchell, D.V.M., Ph.D.	Michigan State University
James C. Lang, Ph.D.	
	University of Virginia
	Washington University School of Medicine
Steven B. McMahon, Ph.D.	The Wistar Institute
Jaime F. Modiano, V.M.D., Ph.D	University of Colorado Health Sciences Center
Mark A. Nelson, Ph.D.	University of Arizona College of Medicine
Christopher A. Pennell, Ph.D	University of Minnesota Cancer Center
Eric R. Prossnitz, Ph.D.	University of New Mexico
Sunil J. Rao, Ph.D.	Case Western Reserve University
Thais P. Salazar-Mather, Ph.D	Brown University
	New Jersey Medical School
Ming T. Tan, Ph.D.	University of Maryland
Kenneth S. Zuckerman, M.D	. University of South Florida College of Medicine

Scientific Review Officer

Subcommittee G—Education

Chair

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

Past Chair

Members

Deborah J. Bowen, Ph.D.	Boston University
Raymond J. Carroll, Ph.D	Texas A&M University
Robert M. Chamberlain, Ph.D	University of Texas M.D. Anderson Cancer Center
Kenneth R. Hande, M.D.	
	University of California at Los Angeles
Chanita A. Hughes-Halbert, Ph.D	
Arthur M. Michalek, Ph.D	University of Pennsylvania
Selma J. Morris, M.Ed	
Patricia Dolan Mullen, Dr.P.H U	Jniversity of Texas Health Science Center at Houston
Joseph F. O'Donnell, M.D	
Timothy Pearman, Ph.D.	
William H. Redd, Ph.D	
Georgia R. Sadler, Ph.D.	University of California, San Diego Cancer Center
Linda G. Snetselaar, Ph.D	University of Iowa College of Public Health
Cameron K. Tebbi, M.D.	St. Joseph's Children's Hospital of Tampa
John T. Vetto, M.D.	
Charles F. Von Gunten, M.D., Ph.D	
Richard B. Warnecke, Ph.D	University of Illinois at Chicago

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Subcommittee H—Clinical Trials

Chair

Past Chair

Members

Nancy N. Baxter, M.D., Ph.D. Jacqueline K. Benedetti, Ph.D. Charles D. Blanke, M.D. Jeffery A. Bogart, M.D. Carol L. Brown, M.D. Debra W. Christie, M.B.A. Darlene J. Demanincor, Ph.D.	
•	
Stephen L. Graziano, M.D	Dia de La Mujer Latina, IncState University of New YorkPfizer, Inc.
-	
• •	
Juanita Lyle	Consultant
Deborah B. McGuire, Ph.D., F.A.A.N.	University of Maryland
	University of Michigan Comprehensive Cancer Center
	University of Medicine and Dentistry of New Jersey
-	o State University College of Medicine and Public Health
	University of Southern California Keck School of Medicine
· · · · · · · · · · · · · · · · · · ·	
	Fox Chase Cancer Center
· · · · · · · · · · · · · · · · · · ·	California at San Francisco, Comprehensive Cancer Center
	Harvard Medical School
Laii D. Wenzei, Fn.D	University of California at Irvine

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Subcommittee I—Career Development

Chair

Members

cas Tech University Health Sciences Center
iversity of Pennsylvania School of Medicine
Vanderbilt University Medical Center
Wayne State University School of Medicine
Temple University School of Medicine
University of California at San Francisco
Dartmouth Medical School
University of Iowa College of Medicine
City of Hope/Beckman Research Institute
ern University Feinberg School of Medicine
exas Health Science Center at San Antonio
nns Hopkins University School of Medicine
versity of Tennessee Health Science Center
Washington University School of Medicine
Georgetown University School of Medicine
Vanderbilt University School of Medicine
an Francisco, Comprehensive Cancer Center
of California, Los Angeles Medical Center
Michigan State University

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Subcommittee J—Population and Patient-Oriented Training

Chair

Past Chair

Members

Michael A. Andrykowski, Ph.D	
Elisa V. Bandera, M.D., Ph.DUnive	ersity of Medicine and Dentistry of New Jersey
Susan D. Block, M.D.	Dana-Farber Cancer Institute
Michael Bouvet, M.D.	
Malcolm V. Brock, M.D.	
Wanda E. Hardman, Ph.D	Marshall University School of Medicine
Raymond J. Hohl, M.D., Ph.D.	University of Iowa
Joel B. Mason, M.D.	Tufts University
Kevin T. McDonagh, M.D.	
Ana Natale-Pereira, M.D., M.P.H.	UMDNJ - New Jersey Medical School
Unyime Nseyo, M.D.	
Sara H. Olson, Ph.D.	
Deborah M. Parra-Medina, Ph.D., M.P.H	University of South Carolina
Frank J. Penedo, Ph.D.	University of Miami
Mark J. Ratain, M.D.	
Mary E. Reid, Ph.D., M.S.P.H.	
Suzanne C. Segerstrom, Ph.D	
Debra C. Thaler-Demers, R.N.	National Coalition for Cancer Survivorship
John H. Ward, M.D.	University of Utah School of Medicine
Sandra E. Ward, Ph.DUnivers	sity of Wisconsin at Madison School of Nursing

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Initial Review Group Subcommittees



Manpower and Training



Education

Initial Review Group Subcommittees (continued)



Clinical Groups



Career Development

Initial Review Group Subcommittees (continued)



Population and Patient-Oriented Training



Cancer Centers

Special Emphasis Panels



Network for Translational Research (NTR): Optical Imaging in Multimodal Platforms



Prevention, Control, and Population Sciences

Special Emphasis Panels (continued)



Molecular and Cellular Oncology



Discovery and Development

Special Emphasis Panels (continued)



Clinical Studies P01



Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership

Special Emphasis Panels (continued)



SPORE in Prostate, Breast, Ovarian, Pancreatic, and Gastrointestinal Cancers



SPORE in Lymphoma and Lung Cancer



Appendix D: NCI Initial Review Group Consultants, FY2007

1. Consultants Serving as Temporary Members on IRG Subcommittees in FY2007

A		
	Aisner, Joseph, M.D. Altorki, Nasser K., M.D. Andreeff, Michael W., M.D., Ph.D. Andrykowski, Michael A., Ph.D. Arber, Daniel A., M.D. Augenlicht, Leonard H., Ph.D. August, David A., M.D.	
B		
	Bastia, Deepak, Ph.D. Batchelor, Tracy T., M.D., M.P.H. Bear, Harry D., M.D., Ph.D. Belk, Bonnie F., M.A., M.P.A. Berry, Donna L., Ph.D., R.N. Bilchik, Anton J., M.D., Ph.D. Blankenberg, Francis G., M.D. Bogart, Jeffrey A., M.D. Brawley, Otis W., M.D. Breeden, Linda L., Ph.D. Brownson, Ross C., Ph.D. Buchsbaum, Donald J., Ph.D.	Beth Israel Deaconess Medical Center Medical University of South Carolina Massachusetts General Hospital Virginia Commonwealth University Private Practice Oncology Nursing Society John Wayne Cancer Institute Stanford University Upstate Medical University Emory University Fred Hutchinson Cancer Research Center Saint Louis University University of Alabama at Birmingham University of North Carolina at Chapel Hill
C		
D	Choi, Won S., Ph.D., M.P.H. Christie, Debra W., M.B.A. Cohen, Michael B., M.D. Cooley, Mary E., Ph.D., R.N.	University of Texas M.D. Anderson Cancer CenterUniversity of Kansas Medical CenterUniversity of Mississippi Medical CenterUniversity of Iowa
D		

E		
	Elmore, Lynne W., Ph.D Erickson, Leonard C., Ph.D	
F		
G	Ferrone, Soldano, M.D., Ph.D. Fisher, Joy D., M.A. Fishman, David A., M.D. Flaherty, Lawrence E., M.D. Fleming, William H., M.D., Ph.D. Flint, Jonathan, M.D. Freeman, Michael L., Ph.D.	
Н	Gewirtz, David A., Ph.D. Ginns, Leo C., M.D. Giralt, Sergio A., M.D. Gonen, Mithat, Ph.D. Goodlett, David Robinson, Ph.D. Gore, Steven D., M.D., Ph.D. Gottschalk, Stephen, M.D. Grannis, Frederic W., M.D. Grunberg, Steven M., M.D.	Case Western Reserve University Virginia Commonwealth University Massachusetts General Hospital University of Texas M.D. Anderson Cancer Center Sloan-Kettering Institute for Cancer Research University of Washington The Johns Hopkins University Baylor College of Medicine City of Hope Comprehensive Cancer Center University of Vermont and State Agricultural College University of Michigan at Ann Arbor
	Hazan, Rachel B., Ph.D. Hegel, Mark T., Ph.D. Hennrikus, Deborah J., Ph.D. Henry, Roland G., Ph.D. Ho, Peter T.C., M.D., Ph.D. Houlette, Judy Kasey, M.A. Hundahl, Scott A., M.D. Hurley, Sheilah K., M.A.	

I		
	Izumi, Kenneth M., Ph.D.	University of Texas Health Science Center, San Antonio
J		
J		
	Johnson Candace S. Ph. D.	
K		
	Kahn, Charles E., M.D.	Medical College of Wisconsin
		The Johns Hopkins University
	Kies, Merrill S., M.D.	University of Texas M.D. Anderson Cancer Center
	C, C,	
	Krupinski, Elizabeth A., Ph.D	
Ĺ		
	Lawrence Marilane I. C. Dla D.	Nambaara II. in air Chiana
	,	
		Fred Hutchinson Cancer Research Center
		East Carolina University
	Liu, Pingyu, Ph.D.	Fred Hutchinson Cancer Research Center
	Lockhart, James, M.D.	
		University of Michigan at Ann Arbor
	London, Cheryl A., D.V.M., Ph.D	
		University of Tennessee Health Science Center
		Dartmouth College
	Luo, Xu, Ph.D.	University of Nebraska Medical Center
M		
	•	
		Pennsylvania State University Hershey Medical Center
	Montgomery, Guy H., Ph.D	Mount Sinai School of Medicine of New York University

N	
	Nishimura, Michael I., Ph.D
0	
	O'Donnell, Anne E., M.D
P	
	Parsa, Andrew T., M.D., Ph.D. Patchell, Roy A., M.D. Patchell, Roy A., M.D. University of Kentucky Medical Center Paulovich, Amanda G., M.D., Ph.D. Pearson, Andrew, Ph.D. Penedo, Frank J., Ph.D. Petros, William, B.S. Petrylak, Daniel, M.D. Columbia Presbyterian Medical Center Phillips, Janice M., Ph.D. University of Chicago Platanias, Leonidas C., M.D., Ph.D. University of Medicine and Dentistry of New Jersey Porter, Peggy L., M.D. Fred Hutchinson Cancer Research Center
Q	
	Qualman, Stephen J., M.D
R	
	Radich, Jerry P., M.D
S	
	Sadler, Georgia Robins, Ph.D

T	tal number of Paviouers, 150	
Z		
-	Yee, Cassian, M.D.	Fred Hutchinson Cancer Research Center
Y		
W	Walker, Eleanor, M.D. Washington, Mary K., M.D., Ph.D. Weiner, Ronald E., Ph.D. Weiner, Susan L., Ph.D. Weitzel, Jeffrey N., M.D. Weng, Andrew P., M.D., Ph.D. Wenzel, Lari B., Ph.D. Wewers, Mary Ellen, Ph.D., R.N. Wilding, George, M.D.	
V	Vassal Gilles Ph D	Gustave Roussy Institute
T	Terry, Michael A., B.S. Tew, Kenneth D., Ph.D., D.Sc. Troxel, Andrea B., Sc.D.	
	Spangler, John G., M.D., M.P.H	H. Lee Moffitt Cancer Center & Research Institute

2. Consultants Serving as *Ad Hoc* Committee Members on IRG Site Visit Teams in FY 2007

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	Adjei, Alex A., M.D., Ph.D. Ahles, Tim A., Ph.D. Aisner, Joseph, M.D. Arreola, Mona Jean, Ph.D. Arteaga, Carlos L., M.D.	
B		
	Bast, Robert C., M.D. Bastia, Deepak, Ph.D. Beckerle, Mary C., Ph.D. Beckwith, Barbara J., M.A. Belk, Bonnie F., M.A., M.P.A. Benedetti, Jacqueline, Ph.D. Benovic, Jeffrey L., Ph.D. Bhatia, Ravi, M.D. Bond, Jeffrey P., Ph.D. Boyd, Douglas D., Ph.D. Brautigan, David L., Ph.D. Brinckerhoff, Constance E., Ph.D. Buchsbaum, Donald J., Ph.D. Buettner, Garry R., Ph.D. Burns, Charles P., M.D.	
C		
	Capen, Charles C., D.V.M., Ph.D. Carroll, William L., M.D. Carson, Dennis A., M.D. Chaillet, J. Richard, M.D., Ph.D. Chang, Alfred E., M.D. Chapman, Robert A., M.D. Chellappan, Srikumar P., Ph.D. Christie, Debra W., M.B.A. Chung, Leland W., Ph.D. Civin, Curt I., M.D.	

	Collawn, James F., Ph.D. Cooney, Kathleen A., M.D. Cote, Richard J., M.D. Cress, Anne E., Ph.D.	University of Vermont and State Agricultural College
D		
	Dambrosio, Steven M., Ph.D. Davidson, Nancy E., M.D. Davis, Jerry K., D.V.M., Ph.D. Dedon, Peter C., M.D., Ph.D. Demark-Wahnefried, Wendy, Ph.D. Demayo, Francesco, Ph.D. Disaia, Philip J., M.D. Doetsch, Paul W., Ph.D. Dorr, Robert T., Ph.D. Dritschilo, Anatoly, M.D., M.S.	Columbia University Health Sciences Ohio State University Johns Hopkins University Purdue University U.S. Public Health Service Public Advisory Groups University of Texas M.D. Anderson Cancer Center Baylor College of Medicine University of California at Irvine Emory University University of Arizona Georgetown University School of Medicine Hauptman-Woodward Medical Research Institute
E	Eckhart, Walter, Ph.D. Economou, James S., M.D., Ph.D. El-Rifai, Wael, M.D., Ph.D. Emanuel, Linda L., M.D., Ph.D. Emanuel, Peter D., M.D.	
F		
	Fisher, Richard I., M.D., Ph.D	
G	Gelmann Edward P. M.D.	
	Gerrity, Lauretta W., D.V.M., Ph.D Gerson, Stanton L., M.D Gewirtz, David A., Ph.D Girotti, Albert W., Ph.D Glanz, Karen, Ph.D Goodfellow, Paul J., Ph.D	University of Alabama at Birmingham Case Western Reserve University Virginia Commonwealth University Medical College of Wisconsin Emory University Washington University University of Miami School of Medicine

н		
	Halabi, Susan, Ph.D. Hansen, Marc F., Ph.D. Harrison, Anita L., M.P.A. Havill-Ryan, Diana, B.A. Hazle, John D., Ph.D. Hecht, Nanette Kleinman, D.V.M. Hegel, Mark T., Ph.D. Hilsenbeck, Susan G., Ph.D. Hockenbery, David M., M.D. Hoopes, P. Jack, D.V.M., Ph.D. Hromas, Robert A., M.D., M.S. Hsu, Edward W., Ph.D. Hu, Jennifer J., Ph.D. Hurley, Sheilah K., M.A.	Beth Israel Deaconess Medical Center Duke University University of Connecticut School of Medicine and Dentistry Eastern Virginia Medical School University of Chicago Pritzker School of Medicine University of Texas M.D. Anderson Cancer Center Case Western Reserve University Dartmouth College Baylor College of Medicine Fred Hutchinson Cancer Research Center Dartmouth College University of New Mexico, Albuquerque University of Utah University of Miami School of Medicine University of Minnesota Thomas Jefferson University
J	Jenkins, Robert B., M.D., Ph.D Johnson, Candace S., Ph.D Jones, David A., Ph.D	
K		
	Kato, Ikuko, M.D., Ph.D. Kersey, John H., M.D. Kibbe, Warren A., Ph.D. Kim, Jae Ho, M.D., Ph.D. Klaunig, James E., Ph.D.	St. Jude Children's Research Hospital Wayne State University University of Minnesota, Twin Cities Northwestern University Henry Ford Hospital Indiana University-Purdue University at Indianapolis University of California at Davis
L		
	Lenkinski, Robert E., Ph.D Leyland-Jones, Brian, M.D., Ph.D. Liggitt, H. Denny, D.V.M., Ph.D London, Jack W., Ph.D	

M

	Malkas, Linda H., Ph.D. Mao, Li, M.D. Marks, Jeffrey R., Ph.D. Marshall, James, Ph.D. Martin, Brian Jay, M.P.A. McCarthy, James B., Ph.D. McGlave, Philip, M.D. McTiernan, Anne M., M.D., Ph.D. Mehta, Minesh P., M.D. Meyn, Raymond E., Ph.D. Morgan, William F., Ph.D. Mori, Motomi, Ph.D. Mukhtar, Hasan, Ph.D.	Brigham and Women's Hospital Indiana University, Indianapolis University of Texas M.D. Anderson Cancer Center Duke University Roswell Park Cancer Institute University of Rochester University of Minnesota, Twin Cities University of Minnesota, Twin Cities Fred Hutchinson Cancer Research Center University of Wisconsin, Madison University of Texas M.D. Anderson Cancer Center University of Maryland, Baltimore Oregon Health & Science University University of Wisconsin, Madison H. Lee Moffitt Cancer Center & Research Institute
N	N	
	Neugut, Alfred I., M.D., Ph.D.	
0	0	
	Olopade, Olufunmilayo I., M.B.B.S.	
P	P	
	Porter, Peggy L., M.D. Powell, Robert S., M.Ed.	
Q	Q	
	Quesenberry, Peter J., M.D.	Rhode Island Hospital, Providence
R	R	
	Ratliff, Timothy L., Ph.D. Ritz, Jerome, M.D. Roti Roti, Joseph L., Ph.D. Royce, Melanie E., M.D., Ph.D.	
S	Sandri-Goldin, Rozanne M., Ph.D Sartor, Carolyn I., M.D	University of California at IrvineUniversity of North Carolina at Chapel HillUniversity of Pennsylvania

	Sellers, Thomas A., Ph.D. Shea, Thomas C., M.D. Sherman, Simon, Ph.D. Shields, Anthony F., M.D., Ph.D. Shields, Peter G., M.D. Showe, Louise C., Ph.D. Siegfried, Jill M., Ph.D. Sims, Millicent, B.S. Speicher, David W., Ph.D. Stauffacher, Cynthia Vianne, Ph.D. Stein, Gary S., Ph.D. Storkus, Walter J., Ph.D.	
т		
	Taylor, Jeremy, Ph.D. Tepper, Joel E., M.D. Terry, Michael A., B.S. Tew, Kenneth D., Ph.D. Trump, Donald L., M.D.	
V	Vail, David M., D.V.M., M.S	University of Wisconsin, Madison
W		
	Wilding, George, M.D., M.S	
Z		
	Zahrbock, Cary A.C., M.S.W	
Tot	al number of Reviewers: 167	

3. Consultants Serving on Special Emphasis Panels (SEPs) in FY 2007

A

Abdel-Meguid, Sherin S., Ph.D.	
	State University of New York
Abrams, Annah N., M.D.	
Abrams, Judith, M.D., Ph.D.	Wayne State University
Adams, Alyce S., Ph.D.	Harvard University
Adams-Campbell, Lucile L., Ph.D	Howard University
Adeyeye, Moji Christianah, Ph.D	Duquesne University
Afshari, Cindy A., Ph.D.	Amgen, Inc.
Agarwal, Ram P., Ph.D.	
Aguirre-Ghiso, Julio A., Ph.D.	State University of New York at Albany
Ahles, Tim A., Ph.D.	Sloan-Kettering Institute for Cancer Research
Ahn, Chul W., Ph.D.	University of Texas Health Sciences Center
Ahrens, Eric T., Ph.D.	
Ahsan, Habibul, M.D.	
Ailion, David C., Ph.D.	
Aisner, Joseph, M.D.	New Jersey Medical School
Akman, Steven A., M.D.	
Akporiaye, Emmanuel T., Ph.D	University of Arizona
,	University of Pennsylvania
Alexandrow, Mark G., Ph.D.	H. Lee Moffitt Cancer Center & Research Institute
Ali-Osman, Francis, Ph.D.	Duke University
Altieri, Dario C., M.DUni	versity of Massachusetts Medical School, Worcester
Ambinder, Richard F., M.D., Ph.D	Johns Hopkins University
	University of Washington
Anasetti, Claudio, M.D.	H. Lee Moffitt Cancer Center & Research Institute
Andersen, M. Robyn, Ph.D	Fred Hutchinson Cancer Research Center
Anderson, Garth R., Ph.D.	
Andreev, Oleg A., Ph.D.	University of Rhode Island
	New York University School of Medicine
Argiris, Athanassios, M.D.	University of Pittsburgh at Pittsburgh
Armitage, Bruce A., Ph.D.	Carnegie-Mellon University
Armstrong, Deborah K., M.D.	Johns Hopkins University
Ascher, Susan M., M.D.	Georgetown University
	Purdue University, West Lafayette
	University of Vermont and St. Agric College
Au, Jessie L.S., M.D., Ph.D.	Ohio State University
	University of Toronto
	Feinstein Institute for Medical Research
	Montefiore Medical Center, Bronx, NY
Armin David M.D. Dh.D.	University of Utah

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	State University of New York at Buffalo
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Bertics, Paul J., Ph.D.	University of Wisconsin, Madison
Berwick, Marianne, Ph.D	University of New Mexico, Albuquerque
Bhatia, Smita, M.D.	City of Hope/Beckman Research Institute
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Bickell, Nina A., M.D	Mount Sinai School of Medicine of New York University
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Bogler, Oliver, Ph.D.	University of Texas M.D. Anderson Cancer Center
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Borch, Richard F., M.D., Ph.D	Purdue University, West Lafayette
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Byrns, Patricia J., M.D	University of North Carolina at Chapel Hill
Coffrey Michael S. Ph.D.	
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Champlin, Richard E., M.D	
Chan, Wing C., M.D	
Chang, Chawnshang, Ph.D	
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Chaurand, Pierre, Ph.D	
	Fred Hutchinson Cancer Research Center
	University of Texas Southwest Medical Center, Dallas
, , ,	
, , ,	Yale University
Chen, Suzie, Ph.D	Rutgers, The State University of New Jersey, New Brunswick

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Chen Wen-Tien Ph D	Vitatex, Inc.
, , ,	
	H. Lee Moffitt Cancer Center & Research Institute
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, , , ,	Inova Fairfax Hospital
	University of Mississippi Medical Center
Church, Timothy S., M.D., Ph.D	Lousiana State University Pennington Biomedical
	Research Center
,	versity of Connecticut School of Medicine and Dentistry
, ,	
	Pennsylvania State University Hershey Medical Center
	University of Texas M.D. Anderson Cancer Center
	Oklahoma University Health Sciences Center
Cleveland, John L., Ph.D	
Close, David R., M.D.	Joe Arrington Cancer Center
Coburn, Josh, M.P.H.	Interactive Performance Technologies
Cochran, Brent H., Ph.D.	Tufts University, Boston
Cohen, Edward P., M.D.	
Cohen, Michael B., M.D	University of Iowa
Cohen, Pinchas, M.D.	
Cohen, Susan M., Ph.D., F.A.A.N	University of Pittsburgh at Pittsburgh
Cohn, Susan L., M.D.	
Cole, Ronald A., Ph.D.	
Collins, Scott D., Ph.D.	University of Maine, Orono
	University of Pittsburgh at Pittsburgh
· · · · · · · · · · · · · · · · · · ·	University of Michigan at Ann Arbor
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	University of Texas M.D. Anderson Cancer Center
	. University of California, Lawrence Berkeley Laboratory
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	Burnham Institute for Medical Research
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Crawford, Susan E., M.D., Ph.D	

Cruz, Tess, Ph.D.	University of Southern California
Culbertson, Michael R., Ph.D.	University of Wisconsin, Madison
Cullis, Christopher A., Ph.D.	
Cummings, Richard D., Ph.D.	Emory University
Cunningham, John M., M.D.	University of Chicago
Curiel, David T., M.D., Ph.D.	University of Alabama at Birmingham
Cyrus-David, Mfon S., M.D.	Baylor College of Medicine

D

Dalton, Madeline A., Ph.D.	Dartmouth College
	olorado River Head and Neck Cancer Support Group
	St. Jude Children's Research Hospital
	University of Illinois at Urbana-Champaign
Darnell, James E., M.D., Ph.D.	Rockefeller University
Das Gupta, Abhijit, Ph.D.	Thomas Jefferson University
Davey, Diane D., M.D.	
Davis, Faith B., M.D., Ph.D.	Central Brain Tumor Registry of the United States
Davis, Roger J., Ph.D.	University of Massachusetts Medical School, Worcester
	Purdue University, West Lafayette
	University of Pittsburgh at Pittsburgh
Daynard, Richard A., Ph.D., J.D	Northeastern University
	Mayo Clinic College of Medicine, Rochester
De Brabander, Jef Karel, Ph.D	University of Texas Southwestern Medical Center
Deeg, H. Joachim, M.D	Fred Hutchinson Cancer Research Center
Deisseroth, Albert B., D.D.S., M.D., Ph.D.	Sidney Kimmel Cancer Center
De Leon, Daisy D., Ph.D	Loma Linda University
De Marzo, Angelo M., M.D., Ph.D	Johns Hopkins University
Demayo, Francesco, Ph.D	Baylor College of Medicine
Descour, Michael R., Ph.D	University of Arizona
	University of California at Davis
Dhodapkar, Madhav V., M.D	
Diamond, Alan M., Ph.D	University of Illinois at Chicago
Dias, Jerry R., Ph.D.	
	Baylor College of Medicine
Di Cristofano, Antonio, Ph.D	Fox Chase Cancer Center
Dignan, Mark B., Ph.D.	
	Henry Ford Health System
	H. Lee Moffitt Cancer Center & Research Institute
· · · · · · · · · · · · · · · · · · ·	
	Oak Ridge National Laboratory
	University of Nebraska, Kearney
	University of Oklahoma Health Science Center
	Integral Molecular
Doyle, Michael P., Ph.D	

	Drabkin, Harry A., M.D	Medical University of South Carolina
	Drake, Richard R., Ph.D.	Eastern Virginia Medical School
	, ,	
	,	Duke University
	· · · · · · · · · · · · · · · · · · ·	University of Texas Health Sciences Center, San Antonio
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	, ,	Loyola University, Chicago
	Durazo-Arvizu, Ramon Anger, Fir.D.	Loyota Offiversity, Chicago
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	Eckhart, Walter M., Ph.D.	Salk Institute for Biological Studies
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		Drexel University
	Evers, Bernard M., M.D	University of Texas, Medical Branch at Galveston
	Eyre, David, Ph.D.	
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	· · · · · · · · · · · · · · · · · · ·	Hunter College
		University of California at Irvine
	Farkas, Daniel L., Ph.D	
	Feigal, David W., M.D	Elan Pharmaceuticals
	Feingold, Eleanor, Ph.D.	University of Pittsburgh at Pittsburgh
	Felsher, Dean W., M.D., Ph.D.	Stanford University
	Fero, Matthew L., M.D.	Fred Hutchinson Cancer Research Center
	,	

Ferrone, Soldano, M.D., Ph.D	
	St. Joseph's Hospital and Medical Center
Fingeroth, Joyce D., M.D	Beth Israel Deaconess Medical Center
Finkelstein, Dianne M., Ph.D	
Finkelstein, Jacob N., Ph.D	
Firestone, Gary L., Ph.D	
Fisher, Paul B., Ph.D.	
Fishman, Paul A., Ph.D	The Center for Health Studies
Fitzgerald, Thomas J., M.D	University of Massachusetts Medical School, Worcester
Fleming, Jason B., M.D	
Flores, Sonia C., Ph.D	University of Colorado, Denver/Health Sciences Center, Denver
Flynn, Brian S., Sc.D.	
Fodor, Imola K., Ph.D	
Fonseca, Rafael, M.D	Mayo Clinic College of Medicine, Mayo Clinic, Arizona
Foon, Kenneth A., M.D., Ph.D	
Ford, James M., M.D	Stanford University
Foreman, Kimberly E., Ph.D	Loyola University, Chicago
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Fortina, Paolo M., M.D., Ph.D	
Foster, David A., Ph.D	City University of New York, Hunter College
	University of Michigan at Ann Arbor
Fraker, Douglas L., M.D	
	Tri-County Family Medicine
Frank-Kamenetskii, Maxim D., Pl	h.D. Boston University
, , ,	Scripps Research Institute
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	Princeton University
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Fuller, Crystal M., Ph.D	
Gaiewski Thomas F M D Dh F	D
Canapaun, Ram IV., I II.D	Case Western Reserve University
	Case Western Reserve University

G

Garg, Pradeep K., Ph.D.	
	Brigham and Women's Hospital
Gascoyne, Peter R., Ph.D	
* '	University of Colorado System
	Beth Israel Deaconess Medical Center
Gates, Kent S., Ph.D.	University of Missouri, Columbia
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	\mathbf{p}_{i} \mathbf{M}_{i} , \mathbf{H}_{i} , \mathbf{H}_{i}
-	Princess Margaret Hospital
	Fred Hutchinson Cancer Research Center
Graveley, Brenton R., Ph.D	University of Connecticut School of Medicine and Dentistry
Graves, David J., Sc.D	
Grdina, David J., Ph.D	
Greco, William R., Ph.D	State University of New York at Buffalo
Green, Stephanie J., Ph.D	Pfizer, Inc.
	University of Connecticut School of Medicine and Dentistry
	University of New Mexico, Albuquerque
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	AstraZeneca R&D
· · · · · · · · · · · · · · · · · · ·	State University New York, Stony Brook
	University of Alabama at Birmingham
Θ,	
· · · · · · · · · · · · · · · · · · ·	University of California at Los Angeles
er e e	Texas A&M University
	University of Pittsburgh at Pittsburgh
Guthold, Martin, Ph.D	
H 1 D :1D MD	
	Beth Israel Deaconess Medical Center
	Temple University
· · · · · · · · · · · · · · · · · · ·	Yale University
,	Yeshiva University
Hall, Walter A., M.D	
Haluska, Frank G., M.D., Ph.D	
Hamelburg, Manny	
Hamilton, Thomas C., Ph.D	Fox Chase Cancer Center
Hammons, George J., Ph.D	Philander Smith College
Han, Sang M., Ph.D.	University of New Mexico, Albuquerque
	Vanderbilt University
	University of Connecticut School of Medicine and Dentistry
* '	Ohio State University
11a1115, Randall L., W.D., H.D	Olio state Oliveisity

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Herberman, Ronald B., M.D., Ph.I	DUniversity of Pittsburgh at Pittsburgh
Herlyn, Meenhard, D.Sc., D.V.M.	
Herman, James G., M.D	
Hermiston, Terry W., Ph.D	Bayer Health Care, Pharmaceuticals
Hernandez, Brenda Y., Ph.D	University of Hawaii at Manoa
Herschman, Harvey R., Ph.D	University of California at Los Angeles
Herscovics, Annette A., Ph.D	McGill University
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Hichwa, Richard D., Ph.D	
Hickey, Matthew S., Ph.D	
Hickey, Robert J., Ph.D.	Indiana University-Purdue University at Indianapolis
Hiebert, Scott W., Ph.D	
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Hill, David E., Ph.D.	
,	Feinstein Institute for Medical Research
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	Jniversity of Colorado, Denver/Health Sciences Center, Aurora
TIOOU, LIIZAUCUI E., III.D	

Hoon, Dave S.B., Ph.D.	John Wayne Cancer Institute
Hoopes, P Jack, D.V.M., Ph.D	Dartmouth College
Hoque, Ashraful, M.D., Ph.D	University of Texas M.D. Anderson Cancer Center
	University of Maryland
Houghton, Janet, Ph.D.	St. Jude Children's Research Hospital
	Friend for Life Cancer Support Network
	University of Alabama at Birmingham
,	San Diego State University
	University of Nebraska Medical Center
· · · · · · · · · · · · · · · · · · ·	Providence Portland Medical Center
·	New York University School of Medicine
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	University of Texas M.D. Anderson Cancer Center
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Tryfies, Richard O., Fli.D.	
Iglehart James D. M.D.	Dana-Farber Cancer Institute
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ip, Edward Hassing, Hi.D.	
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	Case Western Reserve University
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Jay, Michael, Ph.D.	

J

Jensen, Roy A., M.D.	
Jewell, William R., M.D	
Jimenez, Leslie S., Ph.D	Rutgers, The State University of New Jersey
Jin, Rong, Ph.D.	Michigan State University
Jones, Joshua D., M.D.	
Jones, Lovell A., Ph.D	University of Texas M.D. Anderson Cancer Center
Jones, Stephen N., Ph.D	University of Massachusetts Medical School, Worcester
Ju, Jingfang, Ph.D	
Jurisson, Silvia S., Ph.D.	
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Kaufman, Nancy J., R.N.	
Kaul, Karen L., M.D., Ph.D.	Evanston Northwestern Healthcare
Kay, Brian K., Ph.D.	
Keegan, Achsah D., Ph.D.	University of Maryland, Baltimore
Keim, Nancy L., Ph.D.	
Keku, Temitope O., Ph.D.	
Kelavkar, Uddhav P., Ph.D.	University of Pittsburgh at Pittsburgh
Keller, Evan T., D.V.M., Ph.D.	University of Michigan at Ann Arbor
Kelley, George A., Ph.D.	
	John Wayne Cancer Institute
· · · · · · · · · · · · · · · · · · ·	University of Toronto
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Labhasetwar, Vinod D., Ph.D	
	University of Pittsburgh at Pittsburgh
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	Fred Hutchinson Cancer Research Center
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	University of Massachusetts Medical School, Worcester
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	Alliance for Lung Cancer Advocacy, Support and Education
	University of Texas Health Sciences Center, San Antonio
	Purdue University, West Lafayette
Lechner, Suzanne C., Ph.D	
Lee, Cheng S., Ph.D.	
Lee, David W., Ph.D.	
Lee, Donald H., M.D	London Health Sciences Center
Lee, Elisa, Ph.D.	
Lee, Jae K., Ph.D.	University of Virginia, Charlottesville
Lee, Ji-Hyun, Ph.D.	
Lee, Philip J., Ph.D.	
Lee, Vivian S., M.D., Ph.D.	
	University of Massachusetts Medical School, Worcester
	State University New York, Stony Brook
	iversity of Colorado, Denver/Health Sciences Center, Aurora
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	Fred Hutchinson Cancer Research Center
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Lin, Ming-rong, Ph.D.	

	Lin. P. Charles, Ph.D.	Vanderbilt University
	,	University of California at Irvine
	* '	Emory University
	1 , 1 ,	Yeshiva University
	• •	Rutgers, The State University of New Jersey, New Brunswick
	,	University of Toronto
	,	Baylor College of Medicine
		Fred Hutchinson Cancer Research Center
	, 0, ,	Pennsylvania State University, University Park
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	Mackey, Michael A., Ph.D	University of Iowa
		Tulane University
	Magun, Bruce E., Ph.D	
	Maibach, Edward, Ph.D	George Washington University
	,	
	Malkas, Linda H., Ph.D	Indiana University, Indianapolis
	Malone, Ruth E., Ph.D., R.N., F.A	A.A.N
		Massachusetts Institute of Technology
	Mandal, Diptasri M., Ph.DL	ouisiana State University Health Sciences Center, New Orleans

Manne, Upender, Ph.D.	University of Alabama at Birmingham
Markert, James M., M.D., Ph.D	University of Alabama at Birmingham
Marla, Sudhakar S., Ph.D	
, ,	
	University of California at Irvine
, ,	Virginia Commonwealth University
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	tgers, The State University of New Jersey, New Brunswick
	Pennsylvania State University Hershey Medical Center
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Marrial Davidson C MD Db D	Hairraites of Manufact Daleinson
	Oregon Health & Science University
	Education Network to Advance Cancer
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	Loyola University, Chicago
Mikkelsen, Ross B., Ph.D	Virginia Commonwealth University
Milam, Joel E., Ph.D	University of Southern California
Miller, Alexandra, Ph.D	
Miller, Jeffrey S., M.D.	
Miller, Mark J.S., Ph.D.	
· · · · · · · · · · · · · · · · · · ·	Sloan-Kettering Institute for Cancer Research
	Rutgers, The State University of New Jersey, New Brunswick
	Georgetown University
,	
	Thomas Jefferson University
, ,	Loma Linda University
Momand, Jamil A., Ph.D	
Monks, Terrence J., Ph.D	University of Arizona
Montalto, Michael C., Ph.D	Brigham and Women's Hospital
Mooberry, Susan L., Ph.D	Southwest Foundation for Biomedical Research
, ,	
· · · · · · · · · · · · · · · · · · ·	
	Oregon Health & Science University
	•
,	Grady Health System, Inc.
	University of Wisconsin, Madison
Mukherji, Bijay, M.D	University of Connecticut School of Medicine and Dentistry
Mukhtar, Hasan, Ph.D	University of Wisconsin, Madison
	H. Lee Moffitt Cancer Center & Research Institute
· · · · · · · · · · · · · · · · · · ·	Lankenau Institute for Medical Research
	Children's Hospital Medical Center, Cincinnati
- · · · · · · · · · · · · · · · · · · ·	Brigham and Women's Hospital
	Dana-Farber Cancer Institute
	Temple University
	University of Rochester
Myers, Robert R., Ph.D	

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Nadeau Joseph H. Ph.D.	
· · · · · · · · · · · · · · · · · · ·	
• .	
,	University of Texas Health Sciences Center, San Antonio
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	Stanford University
9 ,	Johns Hopkins University
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	University of Arizona
	Arizona State University, Tempe Campus
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· · · · · · · · · · · · · · · · · · ·	Fred Hutchinson Cancer Research Center
	Baptist Hospital East
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	Merrimack Pharmaceuticals, Inc.
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	St. Jude Children's Research Hospital
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Nucifora, Giuseppina, Ph.D	
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Ochs, Michael F., Ph.D.	
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Oury, Tim D., M.D., Ph.D.	
Owens, Scott G., Ph.D	

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Pallavicini, Maria G., Ph.D	University of California at Merced
Pan, Wei, Ph.D.	
Panin, Vladislav M., Ph.D	Texas A&M University System
Pankow, James F., Ph.D.	Oregon Health & Science University
Pardo, Francisco S., M.D.	San Diego State University
Paris, Pamela L., Ph.D.	
Parker, David C., Ph.D.	
Parker, Patricia A., Ph.D.	University of Texas M.D. Anderson Cancer Center
Parsons, Ramon E., M.D., Ph.D	
Pasa-Tolic, Ljiljana, Ph.D	Battelle Pacific Northwest Laboratories
Paskett, Electra D., Ph.D	Ohio State University
Pastel, Mary, Ph.DNat	ional Institute of Biomedical Imaging and Bioengineering
Patel, Divya A., Ph.D.	University of Michigan at Ann Arbor
, , ,	University of Southern California
· · · · · · · · · · · · · · · · · · ·	Fred Hutchinson Cancer Research Center
Paulsen, Keith D., Ph.D.	Dartmouth College
Pearman, Timothy P., Ph.D	Tulane University of Louisiana
	Royal Marsden Hospital
Pease, Larry R., Ph.D.	
	Stanford University School of Medicine
	Texas Technology University Health Science Center
Pennell, Christopher A., Ph.D	
Pereira, Deidre B., Ph.D.	
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,	University of Alabama at Birmingham
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	University of Connecticut Health Center
	University of Virginia, Charlottesville
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	University of Michigan at Ann Arbor
	Immunotope, Inc.
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	Stanford University
	University of Alabama at Birmingham
	Duke University
9	Dartmouth College
Polverini, Peter J., D.D.S	University of Michigan at Ann Arbor

Pomper, Martin G, M.D., Ph.D. Johns Hopkins University Ponto, Laura Lynn Boles, Ph.D. University of Iowa Hospitals & Clinics Porter, Peggy L., M.D. Fred Hutchinson Cancer Research Center Porteus, Matthew H., M.D., Ph.D. University of Texas Southwest Medical Center, Dallas Posner, Marshall R., M.D. Beth Israel Deaconess Medical Center Potchen, Edward J., M.D. Michigan State University Powell, Charles A., M.D. Columbia University Health Sciences Powell, Douglas A., D.V.M. SSC Large Business-California Powers, Scott, Ph.D. Cold Spring Harbor Laboratory Primack, Brian A., M.D. University of Pittsburgh at Pittsburgh Prossnitz, Eric R., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. University of New Mexico, Albuquerque Quan, Zoe S., Ph.D. University of New Mexico, Albuquerque Quan, Zoe S., Ph.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Rajski, Scott R., Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ranakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ranakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ranakri
Porter, Peggy L., M.D. Fred Hutchinson Cancer Research Center Porteus, Matthew H., M.D., Ph.D. University of Texas Southwest Medical Center, Dallas Posner, Marshall R., M.D. Beth Israel Deaconess Medical Center Potchen, Edward J., M.D. Michigan State University Powell, Charles A., M.D. Columbia University Health Sciences Powell, Douglas A., D.V.M. SSC Large Business-California Powers, Scott, Ph.D. Cold Spring Harbor Laboratory Primack, Brian A., M.D. University of Pittsburgh at Pittsburgh Prossnitz, Eric R., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. University of South Florida Quan, Zoe S., Ph.D. Qingchu Thinking, LLC Quaranta, Vito, M.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wirelinia Commonwealth University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. University of Virginia Commonwealth University Reader, Steven, Ph.D. University of Florida Redmond, Carol K., Ph.D. University of Pennsylvania State University Park Reich, Nancy C., Ph.D. Pennsylvania State University Park Reich, Nancy C., Ph.D. Michigan State University Reid, Gavin E., Ph.D. Michigan State University Reid, Gavin E., Ph.D. Michigan State University Reid, Gavin E., Ph.D. Michiga
Porteus, Matthew H., M.D., Ph.D. Porteus, Marshall R., M.D. Posner, Marshall R., M.D. Beth Israel Deaconess Medical Center Potchen, Edward J., M.D. Michigan State University Powell, Charles A., M.D. Powell, Charles A., M.D. SSC Large Business-California Powers, Scott, Ph.D. Powers, Scott, Ph.D. Cold Spring Harbor Laboratory Primack, Brian A., M.D. Primack, Brian A., M.D. Primack, Brian A., M.D. Pumiglia, Kevin M., Ph.D. Qian, Wei, Ph.D. Quan, Zoe S., Ph.D. Quaranta, Vito, M.D. Raab, Stephen S., M.D. Raab, Stephen
Posner, Marshall R., M.D. Potchen, Edward J., M.D. Michigan State University Powell, Charles A., M.D. Powell, Charles A., M.D. SSC Large Business-California Powers, Scott, Ph.D. Powers, Scott,
Potchen, Edward J., M.D
Powell, Charles A., M.D
Powell, Douglas A., D.V.M. Powers, Scott, Ph.D. Cold Spring Harbor Laboratory Primack, Brian A., M.D. Primack, Brian A., M.D. Primack, Brian A., M.D. University of Pittsburgh at Pittsburgh Prossnitz, Eric R., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. Qian, Wei, Ph.D. Qian, Wei, Ph.D. Quaranta, Vito, M.D. Raab, Stephen S., M.D. Raab, Stephen S., M.D. Rabinowich, Hannah, Ph.D. Raison, Charles L., M.D. Raison, Charles L., M.D. Ramakrishnan, Viswanathan, Ph.D. Ramakrishnan, Viswanathan, Ph.D. Rangekar, Vivek M., Ph.D. Rao, J Sunil, Ph.D. Ratliff, Timothy L., Ph.D. Ratliff, Timothy L., Ph.D. Ravichandran, Kodi S., Ph.D. Ravichandran, Kodi S., Ph.D. Ravichandran, Kodi S., Ph.D. Reader, Steven, Ph.D. Reader, Steven, Ph.D. Reader, Steven, Ph.D. Reader, Steven, Ph.D. Pennsylvania State University, University Park Reich, Nancy C., Ph.D. Pennsylvania State University Park Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. State University of New York Reid, Gavin E., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Powers, Scott, Ph.D
Primack, Brian A., M.D. University of Pittsburgh at Pittsburgh Prossnitz, Eric R., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. University of South Florida Quan, Zoe S., Ph.D. Qingchu Thinking, LL.C Quaranta, Vito, M.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. University of Wisconsin, Madison Rangnekar, Vivek M., Ph.D. University of Kentucky Rao, J Sunil, Ph.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. Washington University Reader, Steven, Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. University of Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Pennsylvania State University University Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Michigan State Unive
Prossnitz, Eric R., Ph.D. University of New Mexico, Albuquerque Pumiglia, Kevin M., Ph.D. Albany Medical College Qian, Wei, Ph.D. Qingchu Thinking, LLC Quaranta, Vito, M.D. Vanderbilt University R Raab, Stephen S., M.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. Emory University Rajski, Scott R., Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. Virginia Commonwealth University Rangnekar, Vivek M., Ph.D. University of Kentucky Rao, J Sunil, Ph.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. University of South Florida Redmond, Carol K., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. Pennsylvania State University Diviersity Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Qian, Wei, Ph.D. University of South Florida Quan, Zoe S., Ph.D. Qingchu Thinking, LLC Quaranta, Vito, M.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. Emory University Rajski, Scott R., Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. Virginia Commonwealth University Rangnekar, Vivek M., Ph.D. University of Kentucky Rao, J Sunil, Ph.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. University of South Florida Redmond, Carol K., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. University of Pittsburgh at Pittsburgh Reich, Daniel H., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Qian, Wei, Ph.D. University of South Florida Quan, Zoe S., Ph.D. Qingchu Thinking, LLC Quaranta, Vito, M.D. Vanderbilt University Raab, Stephen S., M.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Rajski, Scott R., Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. Virginia Commonwealth University Rangnekar, Vivek M., Ph.D. University of Kentucky Rao, J Sunil, Ph.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. University of South Florida Redmond, Carol K., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. Pennsylvania State University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
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Quan, Zoe S., Ph.D. Qingchu Thinking, LLC Quaranta, Vito, M.D. Vanderbilt University Raab, Stephen S., M.D. University of Pittsburgh at Pittsburgh Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. Emory University Rajski, Scott R., Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. Virginia Commonwealth University Rangnekar, Vivek M., Ph.D. University of Kentucky Rao, J Sunil, Ph.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. Washington University Reader, Steven, Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. University of Pittsburgh at Pittsburgh Reich, Daniel H., Ph.D. Pennsylvania State University, University Park Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Raab, Stephen S., M.D. Raab, Stephen S., M.D. Raab, Stephen S., M.D. Raison, Charles L., M.D. Rajski, Scott R., Ph.D. Randerbilt University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. Ramakrishnan, Viswanathan, Ph.D. Rangnekar, Vivek M., Ph.D. Rangnekar, Vivek M., Ph.D. Ratliff, Timothy L., Ph.D. Raubitschek, Andrew A., M.D. Raubitschek, Andrew A., M.D. Raubitschek, Andrew A., M.D. Ravichandran, Kodi S., Ph.D. Ray, Ranjit, Ph.D. Reader, Steven, Ph.D. Resee, Joseph C., Ph.D. Pennsylvania State University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Raab, Stephen S., M.D. Raab, Stephen S., M.D. Rabinowich, Hannah, Ph.D. Raison, Charles L., M.D. Rajski, Scott R., Ph.D. Rangnekar, Vivek M., Ph.D. Ratliff, Timothy L., Ph.D. Raubitschek, Andrew A., M.D. Ravichandran, Kodi S., Ph.D. Ray, Ranjit, Ph.D. Ray, Ranjit, Ph.D. Reader, Steven, Ph.D. Resee, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Pensylvania State University, New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Raab, Stephen S., M.D
Raab, Stephen S., M.D
Rabinowich, Hannah, Ph.D. University of Pittsburgh at Pittsburgh Raison, Charles L., M.D. Emory University Rajski, Scott R., Ph.D. University of Wisconsin, Madison Ramakrishnan, Viswanathan, Ph.D. Virginia Commonwealth University Rangnekar, Vivek M., Ph.D. University of Kentucky Rao, J Sunil, Ph.D. Case Western Reserve University Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. Washington University Reader, Steven, Ph.D. University of South Florida Redmond, Carol K., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reich, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Raison, Charles L., M.D
Rajski, Scott R., Ph.D. Ramakrishnan, Viswanathan, Ph.D. Ramakrishnan, Viswanathan, Ph.D. Ramakrishnan, Viswanathan, Ph.D. Rangnekar, Vivek M., Ph.D. Rao, J Sunil, Ph.D. Ratliff, Timothy L., Ph.D. Raubitschek, Andrew A., M.D. Ravichandran, Kodi S., Ph.D. Ravichandran, Kodi S., Ph.D. Ray, Ranjit, Ph.D. Reader, Steven, Ph.D. Reader, Steven, Ph.D. Reese, Joseph C., Ph.D. Reese, Joseph C., Ph.D. Reich, Daniel H., Ph.D. Reich, Nancy C., Ph.D. Reich, Case Western Reserve University Reich, Mary E., Ph.D. University of Wisconsin, Madison Virginia Commonwealth University Rese Western Reserve University Reser Virginia, Charlottesville Rubitschek, Andrew A., M.D. Luniversity of Virginia, Charlottesville Rubitschek, City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Rubitschek, Ph.D. University of Pittsburgh at Pittsburgh Reser, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Ramakrishnan, Viswanathan, Ph.D. Ramgnekar, Vivek M., Ph.D. Rangnekar, Vivek M., Ph.D. University of Virginia, Charlottesville Parkuer Virginia, Charlottesville Pa
Rangnekar, Vivek M., Ph.D. Rao, J Sunil, Ph.D. Ratliff, Timothy L., Ph.D. Raubitschek, Andrew A., M.D. Ravichandran, Kodi S., Ph.D. Reader, Steven, Ph.D. Reedmond, Carol K., Ph.D. Reese, Joseph C., Ph.D. Reich, Daniel H., Ph.D. Reich, Nancy C., Ph.D. Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation Case Western Reserve University Reserve University Rest Lafayette City of Hope National Medical Center Ruvichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. University of South Florida Redmond, Carol K., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Rao, J Sunil, Ph.D
Ratliff, Timothy L., Ph.D. Purdue University, West Lafayette Raubitschek, Andrew A., M.D. City of Hope National Medical Center Ravichandran, Kodi S., Ph.D. University of Virginia, Charlottesville Ray, Ranjit, Ph.D. Washington University Reader, Steven, Ph.D. University of South Florida Redmond, Carol K., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Johns Hopkins University Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Raubitschek, Andrew A., M.D. Ravichandran, Kodi S., Ph.D. Ray, Ranjit, Ph.D. Reader, Steven, Ph.D. Redmond, Carol K., Ph.D. Reese, Joseph C., Ph.D. Reich, Daniel H., Ph.D. Reich, Nancy C., Ph.D. Reid, Gavin E., Ph.D. Raubitschek, Andrew A., M.D. City of Hope National Medical Center University of Virginia, Charlottesville Nanjerity of Virginia, Charlottesville Nanjerity of Virginia, Charlottesville Nanjerity of South Florida University of South Florida Redmond, Carol K., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Ravichandran, Kodi S., Ph.D. Ray, Ranjit, Ph.D. Reader, Steven, Ph.D. Redmond, Carol K., Ph.D. Reese, Joseph C., Ph.D. Reich, Daniel H., Ph.D. Reich, Nancy C., Ph.D. Reid, Gavin E., Ph.D. Ray, Ranjit, Ph.D. Reader, Steven, Washington University University of South Florida Pennsylvania State University, University Park Reich, Daniel H., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Ray, Ranjit, Ph.D. Washington University Reader, Steven, Ph.D. University of South Florida Redmond, Carol K., Ph.D. University of Pittsburgh at Pittsburgh Reese, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Johns Hopkins University Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Reader, Steven, Ph.D. Redmond, Carol K., Ph.D. Reese, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Redmond, Carol K., Ph.D. Reese, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Johns Hopkins University Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Reese, Joseph C., Ph.D. Pennsylvania State University, University Park Reich, Daniel H., Ph.D. Johns Hopkins University Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Reich, Daniel H., Ph.D. Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Roswell Park Cancer Institute Corporation
Reich, Nancy C., Ph.D. State University of New York Reid, Gavin E., Ph.D. Michigan State University Reid, Mary E., Ph.D. Roswell Park Cancer Institute Corporation
Reid, Gavin E., Ph.D
Reid, Mary E., Ph.D
Resing, Katheryn A., Ph.D
Rice, Michael J., M.S.N. Advocate
Richards, Nigel G.J., Ph.D
Richardson, Micheler Ricardo, Ph.D
Richman, Carol M., M.D
Richmond, Ann, Ph.D
Risica, Patricia Markham, Ph.D
Ritchie, Marylyn D., Ph.D

Roberson, Noma L., Ph.D	Roberson Consulting International
Roberson, Paula K., Ph.D.	
Roberts, Charles T., Ph.D.	
Robey, Ellen A., Ph.D.	
Robison, Leslie L., Ph.D.	St. Jude Children's Research Hospital
Rodi, Diane J., Ph.D	University of Chicago
Rom, William N., M.D.	New York University School of Medicine
Romano, Louis J., Ph.D.	Wayne State University
Romkes, Marjorie, Ph.D.	University of Pittsburgh at Pittsburgh
Rosen, Steven M., Ph.D.	
Rosenberg, Carol L., M.D.	Boston University Medical Center Hospital
Rosenman, Julian G., M.D., Ph.D.	
Rosenthal, Dean, Ph.D.	Georgetown University
Ross, A. Catherine, Ph.D	
Rothstein, Jay L., Ph.D.	9 ,
Roy-Burman, Pradip, Ph.D	
Rui, Hallgeir, M.D., Ph.D.	
Rumpler, William V., Ph.D	1 0
Rundell, M Kathleen, Ph.D.	
Ruppert, John M., M.D., Ph.D	
Russo, Irma H., M.D.	
Russo, Jose, M.D.	
Ruth, Thomas J., Ph.D.	·
Rutter, Carolyn M., Ph.D.	
Sadar, Marianne D., Ph.D	British Columbia Cancer Agency
Sadar, Marianne D., Ph.D	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.DIndia	ana University-Purdue University at IndianapolisUniversity of California at Los Angeles
Safa, Ahmad R., Ph.D	ana University-Purdue University at IndianapolisUniversity of California at Los AngelesBrown UniversityUniversity of Chicago
Safa, Ahmad R., Ph.D	ana University-Purdue University at IndianapolisUniversity of California at Los AngelesBrown UniversityUniversity of Chicago
Safa, Ahmad R., Ph.D	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.D	ana University-Purdue University at Indianapolis
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Safa, Ahmad R., Ph.D	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.D	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.D. India Sakamoto, Kathleen Miho, M.D., Ph.D. Salazar-Mather, Thais P., Ph.D. Salgia, Ravi, M.D., Ph.D. Saloner, David A., Ph.D. Saltz, Joel H., M.D., Ph.D. Samet, Jonathan M., M.D. Sarkar, Susanta K., Ph.D. Sarkaria, Jann N., M.D. Sartell, Karen, M.A. Satia, Jessie A., Ph.D. Savran, Cagri, Ph.D.	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.D. India Sakamoto, Kathleen Miho, M.D., Ph.D. Salazar-Mather, Thais P., Ph.D. Salgia, Ravi, M.D., Ph.D. Saloner, David A., Ph.D. Saltz, Joel H., M.D., Ph.D. Samet, Jonathan M., M.D. Sarkar, Susanta K., Ph.D. Sarkaria, Jann N., M.D. Sartell, Karen, M.A. Satia, Jessie A., Ph.D. Savran, Cagri, Ph.D. Sayre, James W., Ph.D.	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.D. India Sakamoto, Kathleen Miho, M.D., Ph.D. Salazar-Mather, Thais P., Ph.D. Salgia, Ravi, M.D., Ph.D. Saloner, David A., Ph.D. Saltz, Joel H., M.D., Ph.D. Samet, Jonathan M., M.D. Sarkar, Susanta K., Ph.D. Sarkaria, Jann N., M.D. Sartell, Karen, M.A. Satia, Jessie A., Ph.D. Savran, Cagri, Ph.D. Sayre, James W., Ph.D. Scardino, Peter T., M.D.	ana University-Purdue University at Indianapolis
Safa, Ahmad R., Ph.D. India Sakamoto, Kathleen Miho, M.D., Ph.D. Salazar-Mather, Thais P., Ph.D. Salgia, Ravi, M.D., Ph.D. Saloner, David A., Ph.D. Saltz, Joel H., M.D., Ph.D. Samet, Jonathan M., M.D. Sarkar, Susanta K., Ph.D. Sarkaria, Jann N., M.D. Sartell, Karen, M.A. Satia, Jessie A., Ph.D. Savran, Cagri, Ph.D. Sayre, James W., Ph.D. Scardino, Peter T., M.D. Scarpinato, Karin Drotschmann, Ph.D.	ana University-Purdue University at Indianapolis
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	Duke University
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	Dartmouth-Hitchcock Medical Center
	University of Illinois at Chicago
Scully, Ralph, Ph.D.	Beth Israel Deaconess Medical Center
Sebastiani, Paola, Ph.D.	Boston University Medical Campus
Segall, Jeffrey E., Ph.D.	Yeshiva University
Sehgal, Chandra M., Ph.D.	
9 /	Duke University
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	Queens University
	Oregon Health & Science University
, ,	New York University School of Medicine
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, 1	Boston University Medical Campus
Sharp, Phillip A., Ph.D.	
Sheikh, M. Saeed, M.D., Ph.D	
Shelby, Jane, Ph.D.	Bacterin International, Inc.
Shen, Michael M., Ph.D.	
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Shive, Steven E., Ph.D.	East Stroudsburg University
Short, Thomas H., Ph.D	Indiana University
Shoureshi, Rahmat A., Ph.D	
Showe, Louise C., Ph.D.	
Shreve, Paul D., M.D.	
	Sciences Center, Aurora
Shwarak Nicholas W M D Ph D	Dartmouth College
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	University of Southern California
Silver, Robert B., Ph.D.	
Simon, M. Celeste, Ph.D.	

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	Public Health Research Institute
*	Johns Hopkins University
	St. Jude Children's Research Hospital
	University of Texas Health Center at Tyler
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Stange, Kurt C., M.D., Ph.D	
	Yeshiva University
St. Claire, Marisa C., D.V.M	Bioqual, Inc.
Steck, Susan E., Ph.D.	
Steffen, Martin A., M.D., Ph.D	Boston University Medical Campus
Stephenson, James L., Ph.D	
Stern, David F., Ph.D.	
Sternick, Edward S., Ph.D	Tufts-New England Medical Center
Stevens, June, Ph.D.	University of North Carolina at Chapel Hill
Stewart, Clinton F., M.D.	St. Jude Children's Research Hospital
Stewart, John H., M.D	
Stick, Roberta S., J.D	Leukemia and Lymphoma Society
Stock, Wendy, M.D.	
	Vanderbilt University
	Ohio State University
	University of Pittsburgh at Pittsburgh
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Struck, Robert F., Ph.D	Southern Research Institute

Stryker, Jo Ellen, Ph.D	Emory University
	New Jersey-New Jersey Medical School
Sturgeon, Susan R., Ph.D	
Suman, Vera Jean, Ph.D	
Sun, Luzhe, Ph.D.	University of Texas Health Sciences Center, San Antonio
Sung, Janet H., M.D.	Windsong Radiology Group, PC
Sutcliffe, Julie L., Ph.D	
Sutherland, Garnette, M.D	
Swanson, Basil I., M.D., Ph.D	Los Alamos National Laboratory
Swartz, Harold M., M.D., Ph.D	
Swede, Helen, Ph.DU	University of Connecticut School of Medicine and Dentistry
Sweeney, Christopher J., M.B.B.S	Indiana University-Purdue University at Indianapolis
Syfrett, Judith Ebbert, M.P.H., R.N.	
Szmacinski, Henryk, Ph.D	

T

Takimoto, Chris H., M.D., Ph.D	
Tan, Ming T., Ph.D.	
Taneja, Samir S., M.D.	New York University School of Medicine
Tang, Careen K., Ph.D.	Georgetown University
Tannenbaum, Charles S., Ph.D	
Tao, Lianhui, M.D., Ph.D.	
Taylor, Maureen, Ph.D	
Teh, Bin T., M.D., Ph.D	
Tempany, Clare M., M.D.	Brigham and Women's Hospital
Tenniswood, Martin P., Ph.D	
Terry, Michael A., B.S.	
Terry-Koroma, Barbara, Ph.D	
	Thomas Jefferson University
Thiagalingam, Sam, Ph.D.	Boston University Medical Campus
Thomas, Thresia, Ph.D.	Robert Wood Johnson Medical School
Thorsen, Todd A., Ph.D.	
Threadgill, David W., Ph.D	University of North Carolina at Chapel Hill
Timmermann, Barbara, Ph.D	
Timperman, Aaron, Ph.D	
Tockman, Melvyn S., M.D., Ph.D	H. Lee Moffitt Cancer Center & Research Institute
Tofilon, Philip, Ph.D.	University of Texas M.D. Anderson Cancer Center
Toker, Alex, Ph.D.	Beth Israel Deaconess Medical Center
	Southern Illinois University, Carbondale
Tosteson, Tor Devin, Ph.D	Dartmouth College
Towner, Rheal A., Ph.D.	Oklahoma Medical Research Foundation
Trauth, Jeanette Marie, Ph.D	University of Pittsburgh at Pittsburgh

Trimble, Cornelia L., M.D. Triozzi, Pierre L., M.D. Trost, Stewart G., Ph.D. Troy, Carol M., M.D., Ph.D. Truitt, Robert L., Ph.D. Tsao, Ming Sound, M.D. Tsoh, Janice Y., Ph.D. Tsourkas, Andrew, Ph.D. Turchi, John J., Ph.D. Turesky, Robert J., Ph.D. Turner, Stephen Whitfield, Ph.D.	
Vanbrocklin, Henry F., Ph.D. Van Dyke, Terry A., Ph.D. Vannier, Michael W., M.D. Vassal, Gilles, Ph.D. Vaughan, Andrew T., Ph.D. Velie, Ellen M., Ph.D. Ventura, Stephen J., Ph.D. Verderame, Michael F., Ph.D. VerLee, Donald, Ph.D. Vidrine, Damon J., Ph.D. Vidrine, Jennifer Irvin, Ph.D. Vieweg, Johannes W.G., M.D. Vincek, Vladimir, M.D., Ph.D. Visuri, Steven R., Ph.D. Vohra, Yogesh K., Ph.D. Von Andrian, Ulrich H., M.D., Ph.D.	Solmap Pharmaceuticals, Inc. University of California at San Francisco University of North Carolina at Chapel Hill University of Chicago Gustave Roussy Institute Loyola University, Chicago Michigan State University University of Wisconsin, Madison Pennsylvania State University Hershey Medical Center Abbott Laboratories, Hospital Products Division University of Texas M.D. Anderson Cancer Center University of Texas M.D. Anderson Cancer Center University of Texas M.D. Anderson Cancer Center University of Miami School of Medicine University of Miami School of Medicine University of Minnesota, Twin Cities Prodesse, Inc. University of Alabama at Birmingham Harvard University East Carolina University
Wali, Ramesh K., Ph.D. Walker, Eleanor, M.D. Waller, Edmund K., M.D., Ph.D. Wang, Binghe, Ph.D. Wang, Fen, Ph.D. Wang, Kenneth K., M.D. Wang, Peng George, Ph.D. Wang, Shaomeng, Ph.D.	University of California at San Diego Evanston Northwestern Healthcare Henry Ford Health System Emory University Georgia State University Texas A&M University Health Science Center Mayo Clinic College of Medicine, Rochester Ohio State University University of Michigan at Ann Arbor University of Michigan at Ann Arbor

W

V

Wang, Yue, Ph.D.	Virginia Polytechnic Institute and State University
Ward, Pamela, Ph.D.	University of California at Irvine
Washburn, Michael P., Ph.D	Stowers Institute for Medical Research
Washington, Mary K., M.D., Ph.D	Vanderbilt University
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·	Michigan State University
	International Development Research Centre
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	University of Wisconsin, Madison
	University of California, Lawrence Berkeley Laboratory
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,	Baylor College of Medicine
	University of North Carolina at Chapel Hill
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	Washington University
, 9	Virginia Commonwealth University
,	Sidney Kimmel Cancer Center
,	Inova Fair Oaks Hospital
	Temple University
* *	Northern California Cancer Center
,	University of North Carolina at Chapel Hill
	University of Wisconsin, Madison
	Mayo Clinic College of Medicine, Rochester
	Drexel University
	University of Medicine and Dentistry of
, , ,	New Jersey-New Jersey Medical School
Wiener, Erik C., Ph.D.	University of Pittsburgh at Pittsburgh
	People Living With Cancer
	On the Wings of Angels
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	Louisiana State University Health Sciences
, , , , , , , , , , , , , , , , , , , ,	Center, New Orleans

	Williams, John R., Ph.D.	Temple University
	Williamson, John S., Ph.D.	
	Wilson, Brian C., Ph.D.	University of Toronto
	Wilson, Glenn L., Ph.D.	University of South Alabama
	Wilson, Keith T., M.D.	Vanderbilt University
	Wing, Rena R., Ph.D.	Miriam Hospital
		University of Pittsburgh at Pittsburgh
		Johns Hopkins University
		University of California at Davis
		Baylor College of Medicine
		Scott and White Memorial Hospital
		Oregon Health & Science University
		University of Vermont and St. Agric College
		University of New Mexico, Albuquerque
		St. Jude Children's Research Hospital
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		Childhood Brain Tumor Foundation
		Ralph H. Johnson VA Medical Center
		University of Texas M.D. Anderson Cancer Center
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Z

Zagzag, David, M.D., Ph.D.	New York University School of Medicine
Zaia, Joseph, Ph.D.	Boston University Medical Campus
Zanzonico, Pat B., Ph.D.	
Zaren, Howard A., M.D.	John H. Stroger Jr. Hospital-Cook County
Zebala, John A., M.D., Ph.D.	Syntrix Biosystems, Inc.
Zeleznik-Le, Nancy J., Ph.D	
Zeller, Mitchell, Ph.D.	
Zeng, Gang, Ph.D.	
Zhan, F. Benjamin, Ph.D	
Zhang, David Y., M.D., Ph.D Mount S.	
Zhang, Peilin, M.D., Ph.D	
Zhang, Wei, Ph.DU1	
Zheng, Tongzhang, M.D., Sc.D.	
Zhou, Jin-Rong, Ph.D.	
Zientara, Gary P., Ph.D.	
Zinser, Michael C., Ph.D University of Co	
Zou, Weiping, M.D., Ph.D.	
Zuna, Rosemary E., M.D.	University of Oklahoma Health Sciences Center

Total number of Reviewers: 1,273

Appendix E: NCI Grant Guidelines 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 | Predoctoral Fellowship—Students with Disabilities

A fellowship award that provides predoctoral students with disabilities with supervised research training in specified health and health-related areas leading toward a research degree (e.g., Ph.D.).

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 Awards (K08s) that support 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 postdoctoral 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 that are likely to result in commercial products or services.
R55	James A. Shannon Director's Awards; Guidelines 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 Beginning in FY2005, this grant will fund, for 1 or 2 years, 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. (Investigators may not apply for an R56 grant.)

S Seri	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.			

T Ser	ies: 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 Ser	ies: 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	DCEG	Division of Cancer Epidemiology and
701011	Research	DOLG	Genetics
ACD	Advisory Committee to the Director	DCLG	Director's Consumer Liaison Group
ACRIN	American College of Radiology Imaging	DCP	Division of Cancer Prevention
	Network	DCTD	Division of Cancer Treatment and
ADB	NIH Administrative Database		Diagnosis
AHRQ	Agency for Healthcare Research and	DEA	Division of Extramural Activities
	Quality	DEAS	Division of Extramural Activities
AISB	Applied Information Systems Branch		Support
ARA	Awaiting Receipt of Application	DHHS	U.S. Department of Health and Human
AREA	Academic Research Enhancement		Services
	Award	EC	Executive Committee (NCI)
ASCO	American Society of Clinical Oncology	EPMC	Extramural Program Management
BPA	Blanket Purchase Agreement		Committee
BRG	Bioengineering Research Grant	eRA	Electronic Research Administration
BRSG	Biomedical Research Support Grant	ESATTS	Extramural Scientist Administrator
BSA	Board of Scientific Advisors		Training Tracking System
BSC	Board of Scientific Counselors	FACA	Federal Advisory Committee Act
CAM	Complementary and Alternative	FCRDC	Frederick Cancer Research and
	Medicine		Development Center
CBPR	Community-Based Participatory	FLARE	Fiscal Linked Analysis of Research
	Research		Emphasis
CCR	Center for Cancer Research	FMB	Financial Management Branch
CCR	Central Contractor Registry	FOA	Funding Opportunity Announcements
CCSG	Cancer Center Support Grant	FY	Fiscal Year
CD	Career Development	GEI	Genes and Environment Initiative
CDC	Centers for Disease Control and	GSA	General Services Administration
	Prevention	IC	Institute/Center
CEGP	Cancer Education Grant Program	ICBG	International Cooperative Biodiversity
CHTN	Cooperative Human Tissue Network		Group
CIT	Center for Information Technology	ICMIC	In Vivo Cellular and Molecular Imaging
CM	Committee Management		Center
CMO	Committee Management Office	IDeA	Institutional Development Award
CMUG	Committee Management Users Group	IMPAC	Information for Management, Planning,
CRCHD	Center to Reduce Cancer Health		Analysis, and Coordination
	Disparities	IRG	Initial Review Group
CRECD	Clinical Research Education and Career	IRM	Information Resources Management
	Development	ISCS	Information Systems and Computer
CSR	Center for Scientific Review		Services
CTAC	Clinical Trials Advisory Committee	IT	Information Technology
CTEP	Clinical Trials Evaluation Program	LAN	Local Area Network
CTWG	Clinical Trials Working Group	LOI	Letter of Intent
DCB	Division of Cancer Biology	KMDC	Knowledge Management for Disease
DCCPS	Division of Cancer Control and Popu-		Coding
	lation Sciences	MBRS	Minority Biomedical Research Support

MEO	Most Efficient Organization	RCDC	Research, Condition, and Disease
MERIT	Method to Extend Research in Time		Categorization
MSI	Minority-Serving Institution	R&D	Research and Development
NBS	NIH Business Systems	REAP	Research Enhancement Awards
NCAB	National Cancer Advisory Board		Program
NCCAM	National Center for Complementary	RFA	Request for Applications
	and Alternative Medicine	RFP	Request for Proposals
NCI	National Cancer Institute	RIO	Research Integrity Officer
NCRR	National Center for Research Resources	RO	Referral Officer
NIH	National Institutes of Health	RPRB	Research Programs Review Branch
NRSA	National Research Service Award	RTRB	Resources and Training Review Branch
OAR	Office of AIDS Research	SBIR	Small Business Innovation Research
OCTR	Office of Centers, Training and	SDMC	Statistics and Data Management
	Resources		Centers
OD	Office of the Director	SEP	Special Emphasis Panel
OEA	Office of Extramural Applications	SIC	Special Interest Category
OER	Office of Extramural Research	SIG	Shared Instrumentation Grant
OPERA	Office of Policy for Extramural	SPECS	Strategic Partnering to Evaluate Cancer
	Research Administration		Signatures
ORRPC	Office of Referral, Review, and Program	SPORE	Specialized Program of Research
	Coordination	OF OTTE	Excellence
OTIR	Office of Technology and Industrial	SREA	Scientific Review and Evaluation
	Relations	SILA	Award
PA	Program Announcement	SRLB	
PAR	Reviewed Program Announcement	SRO	Special Review and Logistics Branch
PCP	President's Cancer Panel	Shu	Scientific Review Officer (formerly
PCRB	Program Coordination and Referral	OTTD	Scientific Review Administrator)
	Branch	STTR	Small Business Technology Transfer
PFP	Progress for Patients Award		Research
PHS	Public Health Service (DHHS)	TARGET	Therapeutically Applicable Research to
PRG	Progress Review Group		Generate Effective Treatments
RAEB	Research Analysis and Evaluation	TCGA	The Cancer Genome Atlas
	Branch	T&E	Training and Education
RAID	Rapid Access to Interventions	TRWG	Translational Research Working Group
	Development	VT	Validity Test

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: 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 pages of NCI's Advisory Boards.

http://deainfo.nci.nih.gov/advisory/pcp/pcp.htm

Charter of the President's Cancer Panel; 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

Full text of 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

Full text of BSA meeting summaries.

http://deainfo.nci.nih.gov/advisory/bsa/bsa_program/bsaprgr.htm

Program Review Group reports.

http://deainfo.nci.nih.gov/advisory/bsc.htm

Charter of the Board of Scientific Counselors; members of subcommittees.

http://deainfo.nci.nih.gov/advisory/irg.htm

Charter of the Initial Review Group; members of subcommittees.

http://deainfo.nci.nih.gov/advisory/sep.htm

Charter of the Special Emphasis Panel; rosters of recent meetings.

http://deainfo.nci.nih.gov/advisory/joint.htm

Charter of the Advisory Committee to the Director; 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/pog/progress/index.htm

Function and organization of Progress Review Groups (PRGs); PRG reports and meeting schedules; members of PRGs.

http://deainfo.nci.nih.gov/advisory/dclg/dclg.htm

Charter of the NCI Director's Consumer Liaison Group; meeting schedules, agendas, minutes, and meeting summaries.

Funding Opportunities

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://deais.nci.nih.gov/Query/

A visitor can search the database for information about research grant and contract awards made by the National Cancer Institute. It includes awards for the current and past 5 fiscal years. 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.

NIH Web Sites

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

An electronic version of this document can be viewed and downloaded from the Internet at http://deainfo.nci.nih.gov/



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