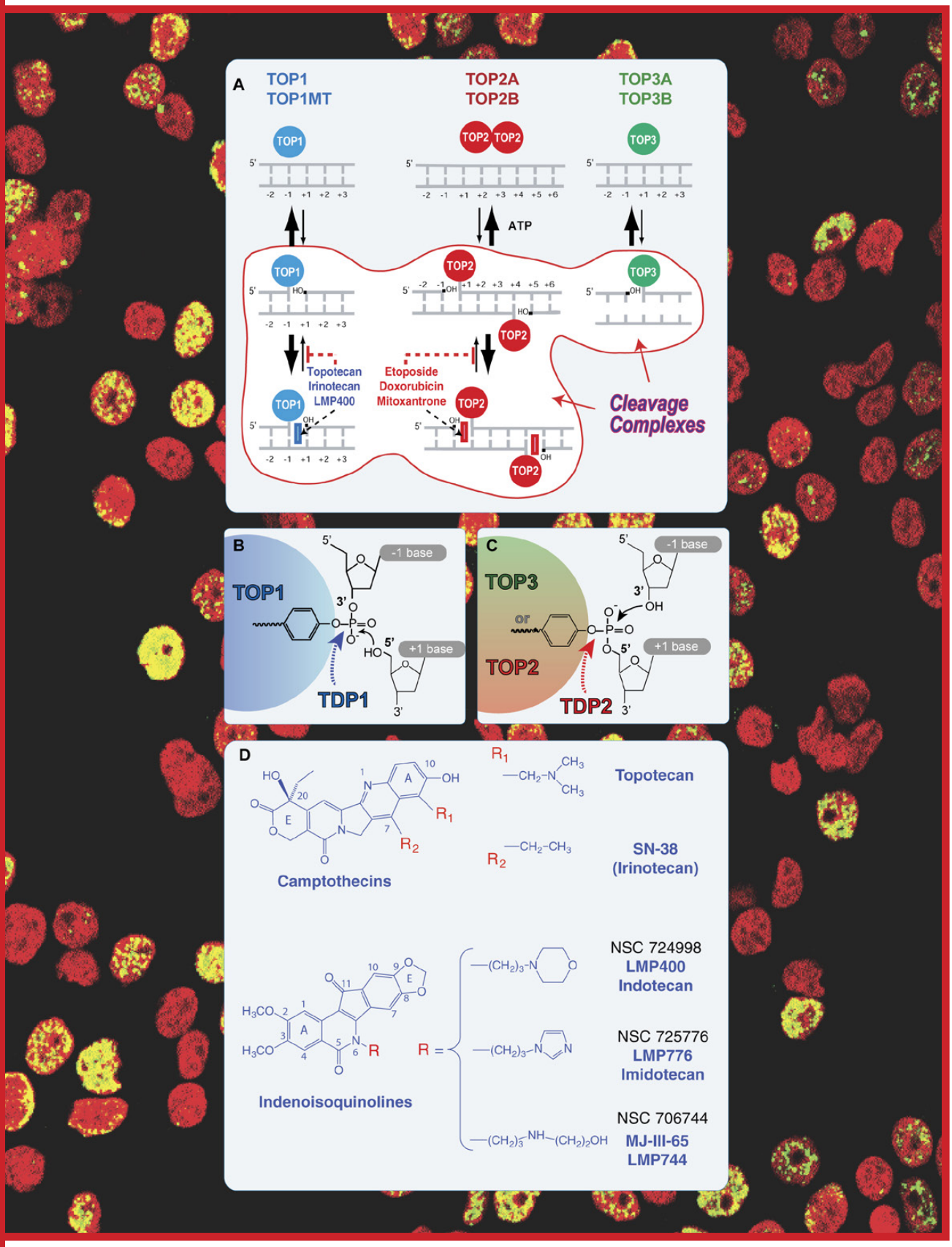
National Cancer Institute

Division of Extramural Activities

Annual Report 2016



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

The Highjacking of Topoisomerases by Anticancer Drugs

Topoisomerases exist in all forms of life where long DNA and RNA polymers are susceptible to get tangled and need to be tightly packaged, accessible in interphase, and separated during mitosis. Topoisomerases are present in all cellular compartments containing DNA and RNA (the nucleus, mitochondria, cytoplasm).[1] The human nuclear genome encodes six topoisomerases: two Type IB enzymes: TOP1 and TOP1MT; two type IIA: TOP2α and TOP2β; and two type IA: TOP3α and TOP3β. Type I enzymes (TOP1, TOP1MT, TOP3α, and TOP3β) change DNA topology by making transient DNA single-strand breaks through the covalent linkage of their enzyme catalytic tyrosine to one end of the DNA break. These catalytic intermediates are commonly referred to as ***cleavage complexes***. The cleavage complexes for TOP2α and TOP2β are DNA double-strand breaks covalently linked to enzyme homodimers (Cover Page, Figure A).

TOP1, TOP2α, and TOP2β are the targets of widely used anticancer drugs[2,3], which act as ***interfacial inhibitors*** by binding at the topoisomerase-DNA interfaces and blocking the reversal of the cleavage complexes.[4] Consequently, topoisomerase inhibitors block the catalytic cycle of their topoisomerase target enzymes. The anticancer activity of clinical topoisomerase inhibitors is due to the trapping of the cleavage complexes rather than catalytic inhibition. The DNA breaks created by topoisomerase inhibitors produce readily detectable histone gH2AX DNA damage foci (yellow dots in the red nuclei of cancer cells treated with LMP776; cover background). gH2AX has been developed as a pharmacodynamics biomarker in close collaboration between the Developmental Therapeutics Branch and Laboratory of Molecular Pharmacology of the NCI Intramural Program (CCR) and the NCI Developmental Therapeutics Program (DTP, DCTD).[5,6]

TOP1 is the unique target of topotecan and irinotecan. Both drugs are water-soluble derivatives of the alkaloid camptothecin.[7] In addition to camptothecins, TOP1 can be targeted by a different chemical class, the indenoisoquinolines[8], which have been developed with the support of the NCI Developmental Therapeutics Program (DTP) (Cover Page, Figure D). Three derivatives have moved to Phase I clinical trials: LMP400 (indotecan), LMP776 (imidotecan), and LMP744. In addition, TOP2α and TOP2β are both the targets of several chemical classes including the epipodophyllotoxin derivatives (etoposide and teniposide), anthracyclines (doxorubicin, daunorubicin, idarubicin, and epirubicin), and mitoxantrone (Cover Page, Figure D). In addition, topoisomerase cleavage complexes are repaired by a novel class of enzymes, the tyrosyl-DNA-phosphodiesterases TDP1 and TDP2, which hydrolyze the tyrosyl-DNA cleavage intermediates (Cover Page, Figures B/C).

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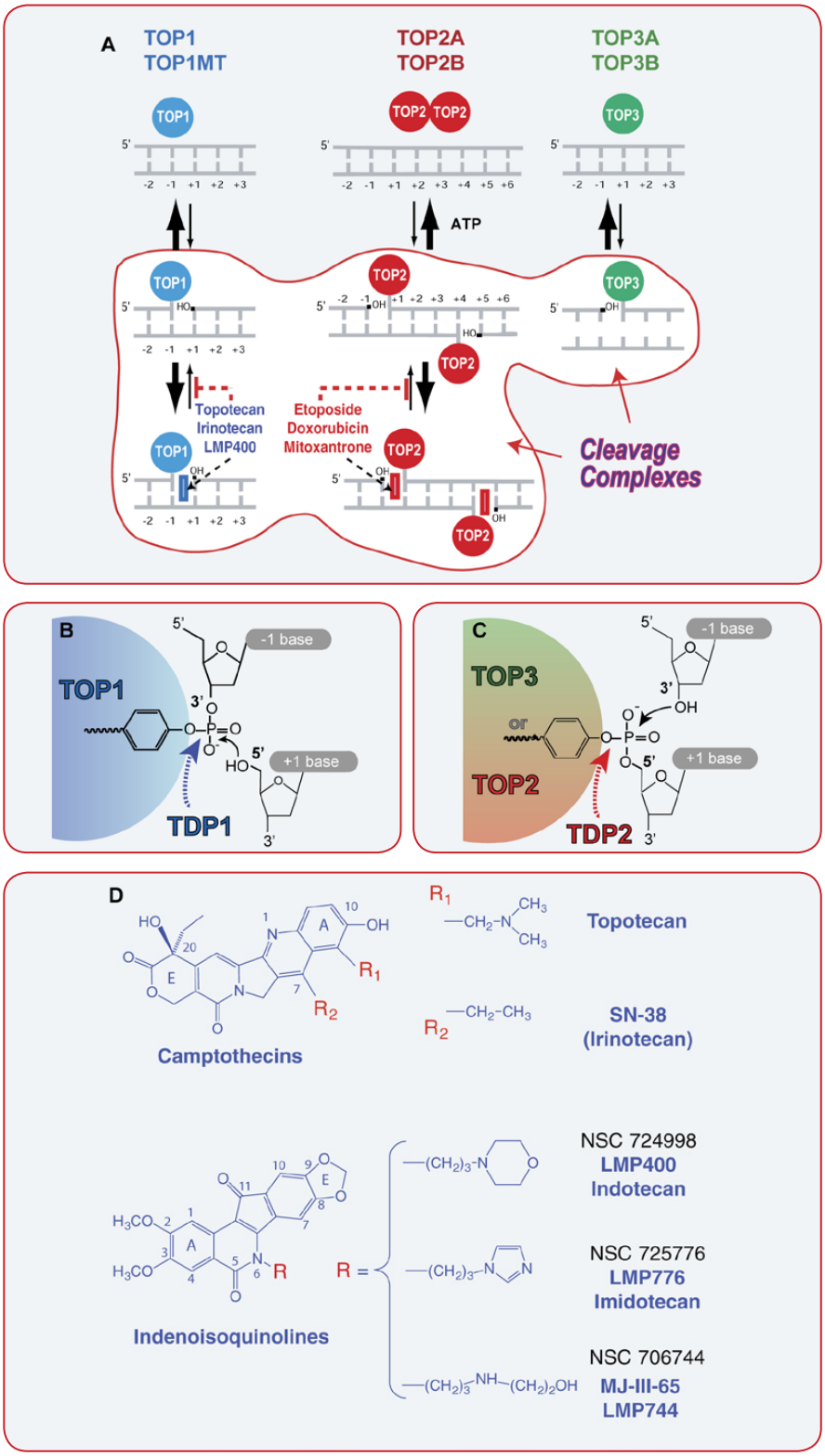

Images and narrative are the courtesy of Dr. Yves Pommier, Chief, Developmental Therapeutics Branch and Laboratory of Molecular Pharmacology, Center for Cancer Research, NCI.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Introduction

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

DEA coordinates the activities of: (1) the National Cancer Advisory Board (NCAB), which consists of members appointed by the U.S. President, conducts the second-level review of grants and cooperative agreements and advises the NCI Director, on policy for the conduct of the National Cancer Program; (2) the Board of Scientific Advisors (BSA), which is composed of distinguished scientists from outside the NCI and representatives from the advocacy community who advise the NCI leadership on the progress and future direction of the NCI extramural program, evaluates NCI extramural programs and reviews NCI-initiated research concepts; (3) the Frederick National Laboratory Advisory Committee (FNLAC), which reviews the state of research at the Frederick National Laboratory of Cancer Research (FNLCR); and (4) extramural training opportunities for NCI Program and Review staff.

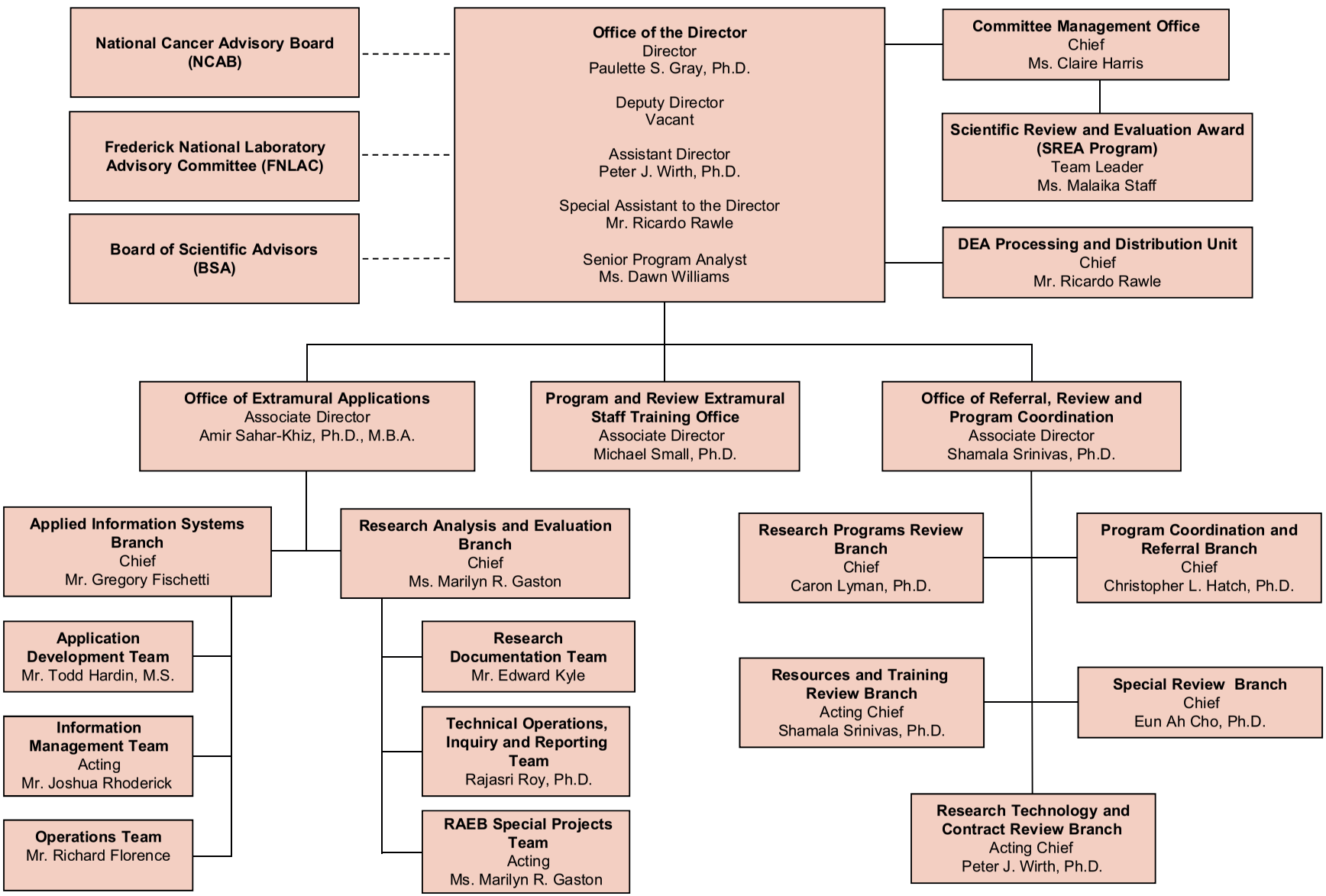
As a Division, we evaluate the content of all extramural research funded by the NCI and annually track the NCI research portfolio of more than 6,000 research and training awards by using consistent budget-linked scientific information to provide a basis for budget projections; maintain extensive records 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. DEA monitors budgetary limitations for grant applications, participates in establishing policies to expedite funding, initiates and implements changes to applications, guidelines, and award processes. Also, the Division: coordinates 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 to and coordinates requests from the NIH Office of Extramural Research's Agency Extramural Research Integrity Officer (RIO) 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 role of DEA in support of NCI's mission and the research funding process. A comprehensive look at each of the major areas of responsibility within the Division is provided. The data presented cover Fiscal Year (FY) 2016 (1 October 2015 – 30 September 2016) and provide data comparison with previous years.

To implement a biomedical research program of the highest quality, the NCI draws on the national pool of scientists actively engaged in research for assistance in selecting the best research and training projects. We sincerely want to thank the more than 2,600 researchers, clinicians, and advocates who devoted unselfishly of their time in FY2016 and 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 on humankind. Among the most important contributors to this base are the outstanding extramurally funded scientists supported by the NCI through grants, cooperative agreements, and contracts. DEA was established within the NCI to provide the Institute and the scientific community with expert scientific review of the merits of extramural research. Also, an important part of DEA's mission is to manage and coordinate the second level of grant review by the National Cancer Advisory Board (NCAB); concept review of all new and reissue Requests for Applications (RFAs) and Research and Development (R&D) Requests for Proposals (RFPs) by the Board of Scientific Advisors (BSA), and activities of the Frederick National Laboratory Advisory Committee (FNLAC), which reviews the state of research at the Frederick National Laboratory of Cancer Research (FNLCR). DEA also provides effective and timely coordination of program initiatives from the initial concept stage through publication of RFAs, RFPs, Program Announcements (PAs), and notices.

The **Committee Management Office** (CMO) provides oversight of all NCI-chartered advisory boards and committees, subcommittees, working groups, task forces, and chartered review groups. The CMO also serves as an NIH service center for the National Institutes of Health (NIH) Advisory Committee to the Director (ACD), Recombinant DNA Advisory Committee (RAC), Council of Councils (CoC), and the National Institute on Alcohol Abuse and Alcoholism (NIAAA). In addition, the CMO provides policy guidance and assistance to ensure that the NCI and client NIH Institutes, Centers, and Offices operate within the appropriate Federal Advisory Committee Act (FACA), the Government in Sunshine Act, and various other policies, procedures, and guidelines.

The **Office of Referral, Review, and Program Coordination** (ORRPC), which consists of four review branches and a program coordination and referral branch, provides: (1) coordination of development and issuance of NCI program initiatives; (2) execution of grant receipt and referral; and (3) management of NCI peer review activities. Review activities include the organization and management of peer review for applications and proposals received in response to RFAs, PAs, PAs with Special Receipt (PARs), multi-component grant and cooperative agreement initiatives, and R&D RFPs. The program coordination responsibilities of DEA, in cooperation with NCI extramural program Divisions, Offices, and Centers, extend to the development of all new extramural program guidelines and funding opportunity announcements (FOAs).

Another program coordination activity includes 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 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) is the contact for scientific information on NCI supported research. The RAEB supplies quick, accurate, and reliable cancer research information for NCI grants, cooperative agreements and contracts to NCI staff and the broader NIH community. The branch reviews funded applications and assigns a percent relevance to sites and scientific research areas of interest to the Institute. In doing so, the NCI has the capability of responding expeditiously to congressional and other inquiries. In addition, the RAEB has historical budget-linked portfolio data from the beginning of the NCI to the present.

Importantly, 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 NCI staff, advisory groups, and applicants. To facilitate this evaluation, the DEA **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 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 accessible 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. Also, 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. In 2015, an NIH inclusion policy was implemented requiring applicants and grantees to include children (as defined as an individual less than 18 years of age) in clinical research, unless there is strong justification for their exclusion. Administrative procedures allow NCI staff to resolve inclusion problems after initial review of grant applications that are otherwise highly meritorious. In the event an applicant believes the proposed study does not warrant or require inclusion of women, children, or persons from minority or medically underserved population 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 FY2016, 15 applications with preliminary bars to award were received by the DEA. Through corrective action, working with the applicants and NCI program directors, all bars-to-award were brought into compliance before awards 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 Director and designees work to address concerns about extramural research misconduct, misuse of human and animal research subjects, financial mismanagement, and financial conflict of interest involving NCI-supported research. The DEA Director functions as the NCI Research Integrity Officer (RIO) and receives from the appropriate sources all documents related to research misconduct for transmittal and reporting to relevant sources. In FY2016, eight cases of alleged research misconduct involving NCI funding were opened and under investigation by the Office of Research Integrity, HHS, and referred to the DEA Director. Six cases were closed and one case was found to involve research misconduct. Cases found to involve research misconduct are published in the *Federal Register* and *DHHS Office of Research Integrity* and are marked in the Query, View, Report (QVR) module of the Electronic Research Administration (eRA).

Extramural Staff Training

Program and Review Extramural Staff Training Office (PRESTO)

The Program and Review Extramural Staff Training Office (PRESTO), which resides in the DEA OD, develops and coordinates the training of NCI Program, Review, and other extramural staff members. The mission of PRESTO is to increase the knowledge base of new and experienced staff members and optimize their effectiveness in supporting the goals of the NCI. To accomplish this mission, PRESTO: (1) designs and implements a broad-based curriculum for Program and Review staff; (2) provides training on specialized topics related to understanding of and compliance with NIH policies; and (3) identifies and develops resources to facilitate individual learning and performance. Finally, PRESTO tracks the participation of extramural staff in NIH- and NCI-sponsored training activities as well as continuously evaluates the efficacy of these activities.

During FY2016, new PRESTO activities included:

- An Electronic Tools Workshop Series specifically designed for new Program Officials to enhance their knowledge and skills related to the use of Workbench, Query View Report (QVR), the Concept to Award Tracking System (CATS), and various portfolio analysis applications.
- PRESTO-sponsored training focused on administrative, scientific, and research resource topics including Grant Application Receipt and Referral, Extramural-Intramural Collaborative Research at the NIH Clinical Center, Cancer Biomarkers, and the Developmental Therapeutics Program Resource for Molecular Characterization of the NCI-60 Tumor Cell Line Panel.
- A Project Management Seminar Series featuring five project management professionals addressing various issues of interest to NCI extramural staff.
- Development of a Scientific Review Officer Bootcamp providing new SROs with the fundamentals of managing peer review.
- Participation as faculty in the NCI Office of Grants Administration (OGA) "Intro to the Grants Lifecycle."

During FY2017, PRESTO will continue to offer a variety of training opportunities, with a focus on new and emerging topics of broad interest to NCI extramural staff. PRESTO plans to restructure the Project Management Seminar Series into a half-day seminar with multiple speakers and will implement the Scientific Review Officer SRO Bootcamp for new extramural staff. Various information technology tools will be employed to enhance the effectiveness of PRESTO-sponsored training activities.

Program Coordination: A Resource for New Funding Initiatives

DEA performs critical functions in the development of new strategic funding initiatives at the NCI and in the coordination of their publication as Funding Opportunity Announcements (FOAs), which comprise both RFAs and PAs. Members of the **Program Coordination and Referral Branch** (PCRB) provide expert assistance to NCI Program staff to develop and publish new (or reissue) FOAs. PCRB staff members disseminate various operating policies and procedures pertaining to extramural funding programs. To maintain consistency and completeness, all new and reissued NCI FOAs, Notices, and associated guidelines are reviewed, edited as needed, and cleared through the DEA under PCRB coordination, before being forwarded to the NIH Office of Extramural Research (OER) for approval and publication in the *NIH Guide for Grants and Contracts*. In these steps, the 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. The 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 RFAs issued by the NCI in FY2016 and **Table 2** lists RFAs issued by other NIH Institutes or Centers (ICs) that the NCI has joined as a participating partner. **Tables 3a** and **3b** show the variety of PAs issued by the NCI in FY2016, and **Table 4** lists PAs issued by other NIH ICs that the NCI has joined as a participating partner.

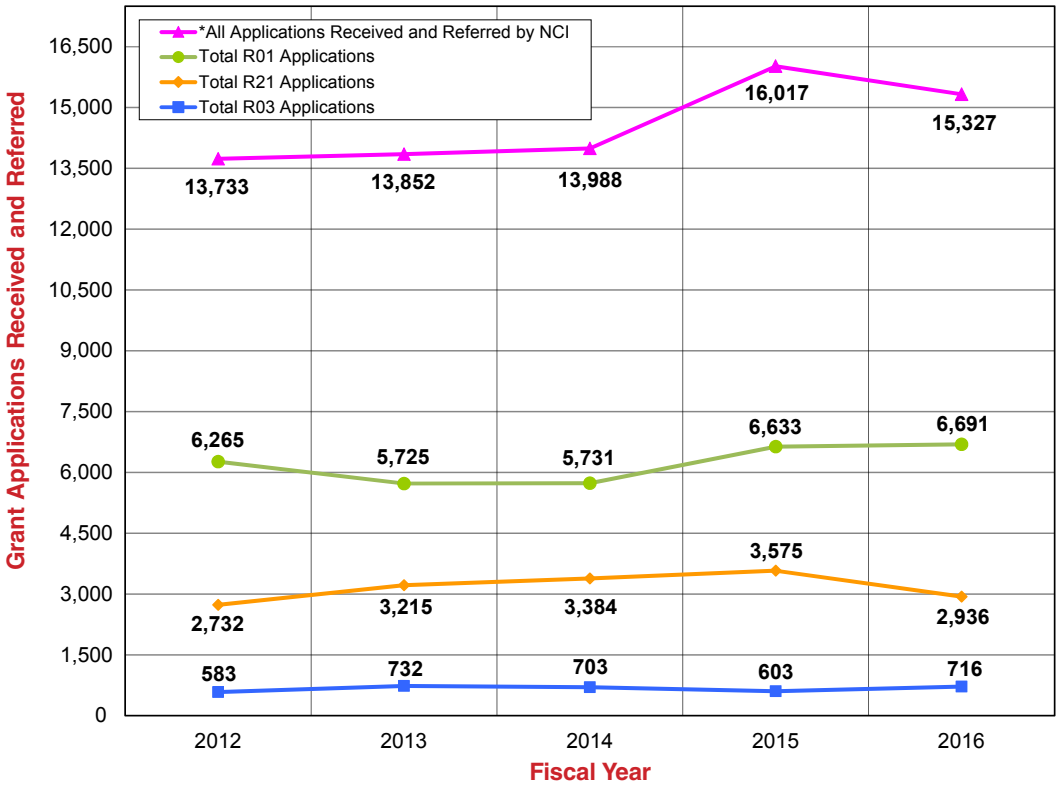
The Referral Officers (ROs) in the PCRB still collaborated with NCI information technology staff members and their contractors to examine and improve the business systems used for grant application receipt and referral, which contributes to an improved efficiency of use by NCI staff members and quality of service for the NCI's grant applicants and awardees. In addition to performing their program coordination and referral responsibilities, PCRB Health Scientist Administrators also served as Scientific Review Officers (SROs) in managing the reviews of 383 student loan repayment program (LRP) contract proposals as well as of R13 conference grant applications and a variety of other proposals in FY2016.

Grant Referral: A Primary Contact for NCI Grant Applicants and Receipt of Applications

In FY2016, a total of 15,327 grant and cooperative agreement applications were submitted to the NCI for funding with appropriated funds (see Figure 1 and Table 5). Applications and proposals encompassed 72 different types of award mechanisms (Appendix F), including investigator-initiated Research Project (R01), Career Development (K series), Research Program Project (P01), Cancer Center Support (P30), Specialized Program of Research Excellence (SPORE, P50), Small Research Project (R03), Exploratory/Developmental Project (R21), Exploratory/Developmental Phase II Project (R33), Research Specialist Award (R50), Small Business Technology Transfer (STTR) (R41/R42), Small Business Innovation Research (SBIR) (R43/R44), and Cooperative Agreement (U-series) activity codes.

All applications seeking NIH support are initially submitted to the NIH Center for Scientific Review (CSR) Division of Receipt and Referral (DRR), which assigns each application to a specific NIH funding Institute or Center (IC) and the locus of review for the application, i.e., either to a CSR Study Section or within a specific IC. The ICs, in turn, have well-defined processes in place for the internal assignment and review of submitted applications. Upon receipt of applications from the CSR, the NCI Referral Officers: (1) assign all incoming applications to one of the 54 NCI extramural research program areas; (2) track program acceptance of the applications; and (3) if necessary, negotiate transfers of grant applications to and from the NCI to other NIH ICs, and even other HHS research funding agencies, such as the Agency

Figure 1. Receipt and Referral of NCI Grant Applications* FY2012 – 2016



*Includes NCI Primary and Secondary applications received and referred

for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA).

The first point of contact for applicants seeking NCI support for their research is often a PCRB Referral Officer who provides the investigators with information related to funding opportunities, peer review policies and process, and contact information of an NCI Program staff member who can provide guidance through the application process. In addition, the RO assists members of the extramural community in navigating NIH and NCI Web pages to obtain current information, forms, and guidelines. The PCRB also serves as the information and coordinating center at the NCI 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 support.

For certain FOAs, in particular Program Projects and specialized initiatives, applicants are encouraged to submit a Letter of Intent (LOI) to the PCRB prior to the submission of their application. The LOI typically provides the name of the contact principal investigator and other participating key investigators, a listing of the specific aims of the application and a brief description of the research, an approximate cost and years of support to be requested, and any additional information requested in the FOA. In most instances, the LOI is not mandatory or binding but provides the Institute with an estimate of the number of applications that might be submitted in response to a specific FOA.

All applications requesting $500,000 or more in direct costs in any year require prior agreement by NIH staff to accept the assignment of that application to that IC unless stated otherwise in the FOA. This is accomplished by the applicant contacting Program staff well in advance of the anticipated submission date. If the Program agrees to accept the application, the Program must submit an Awaiting Receipt of Applications (ARA) "form" through the NIH electronic Research Administration (eRA) ARA system to CSR DRR. ARAs are also used to facilitate requests for assignments from ICs and other information that need to be connected to specific applications. For additional guidance on this process, refer to NOT-OD-02-004, "Revised Policy on the Acceptance for Review of Unsolicited Applications That Request $500,000 or More in Direct Costs."

Peer Review—The Next Step

Once an application is referred to the NCI and assigned to the appropriate program, it must be reviewed. The high caliber of NCI-sponsored research is maintained through a rigorous peer review process in which established experts in the appropriate scientific fields evaluate the scientific and technical merit of research grant applications, cooperative agreements, and contract proposals. The peer review process helps to ensure that the NCI uses its resources wisely and supports highly meritorious research that has the potential to make a significant contribution and impact in 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 and development (R&D) contracts also are subjected to peer review, including contract-supported projects conducted within the intramural research program.

The NIH peer review process consists of two sequential levels of review mandated by statute and regulation. The first level of review is managed by Scientific Review Officers (SROs) who serve as the designated federal officials (DFOs) and is conducted in either an NIH CSR study section, a chartered NCI Initial Review Group (IRG), or an NCI Special Emphasis Panel (SEP). The purpose of this initial review is to evaluate the potential scientific impact, budget, and/or administrative issues of the applications or cooperative agreements under review. The second level of review, which is not a re-review of scientific merit but a validation of the initial review and an evaluation of program relevance, is conducted by the National Cancer Advisory Board (NCAB).

Most investigators are familiar with the functions of an NIH CSR study section, which has the primary responsibility for the peer review of most investigator-initiated Research Project Grants (RPGs) (R01) and Fellowship (F) applications. What is less widely known, however, is that grant applications requesting more than 50 percent of the NCI's overall extramural budget are reviewed by chartered NCI IRGs and by SEPs that are conducted within DEA. The locus of the peer review, whether at CSR or at DEA, is usually determined by the type of grant mechanism of the application under review.

Although the NCI has no direct input into the selection of CSR study section reviewers, members of NCI-managed IRGs and SEPs are selected by DEA review staff with suggestions from NCI Program staff members. NCI IRGs and SEPs provide advice on the scientific and technical merit of: applications for research, research training, education, and career development, cooperative agreements, and contract proposals.

All chartered NCI IRG Subcommittee members are approved by the DEA Director, based on their knowledge and demonstrated expertise in various disciplines and fields related to cancer. The NCI currently has four specialized IRG Subcommittees. Subcommittee A reviews Cancer Center Support Grant (CCSG) applications. Subcommittee F reviews Institutional Training and Education applications. Subcommittee I reviews Transition to Independence applications, and Subcommittee J reviews Career Development applications. NCI IRG members are appointed for varying terms of service, which may be up to 6 years. DEA-managed SEPs are selected *ad hoc* on a one-time, as-needed basis to review specific grant and cooperative agreement applications received in response to RFAs, PAs, PARs and other FOAs, or R&D contract proposals received in response to RFPs.

The peer review of grant applications and contract proposals generally occurs in the fall, winter, and spring prior to the January, May, and October NCAB meetings, respectively. The membership of NCI-chartered subcommittees may be found in **Appendix C** and at **https://deainfo.nci.nih.gov/advisory/irg/irg.htm**, and information about NCI SEPs can be accessed at **https://deainfo.nci.nih.gov/advisory/sep/sep.htm**.

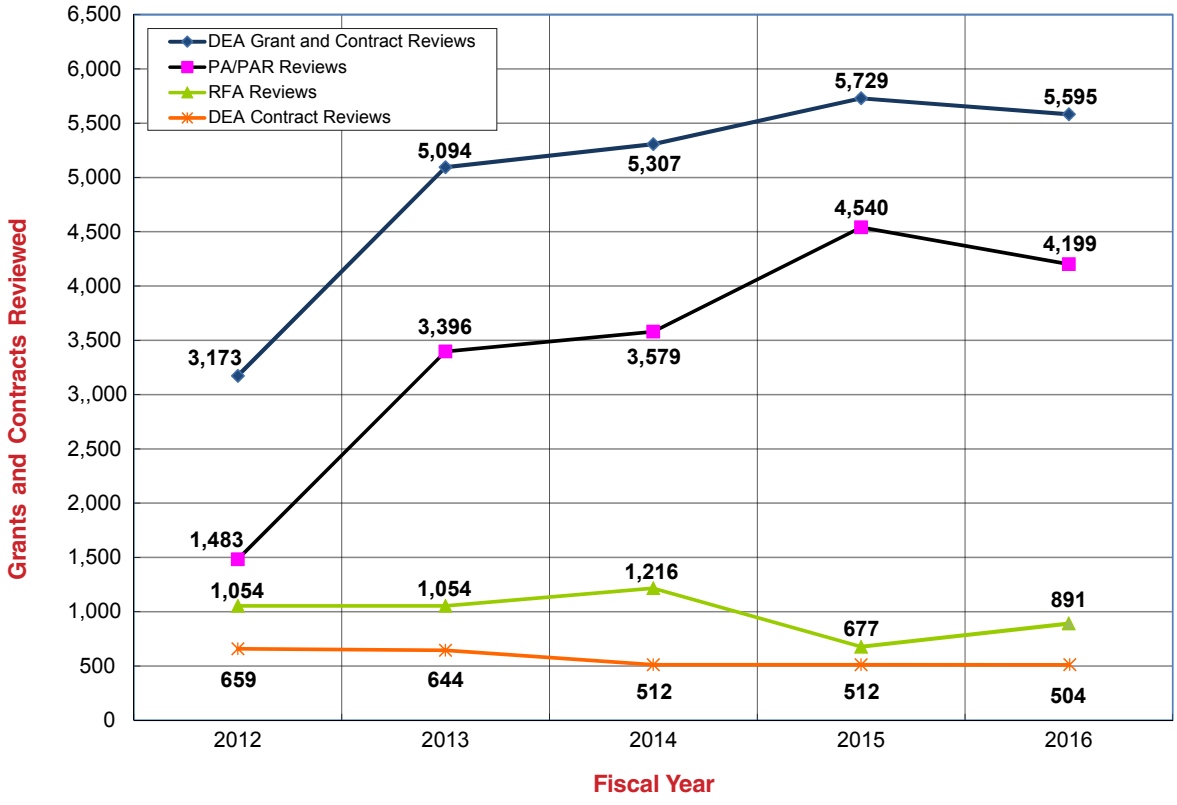
Review Workload

In FY2016, DEA organized, managed, and reported the review of a total of 5,091 research grant and cooperative agreement applications (Table 6) and 504 contract proposals (Table 12) assigned to the NCI for funding with appropriated dollars of $1,945,086,380. The total number of grant applications, cooperative agreements, and contract proposals reviewed in FY2016 was **5,595** (Figure 2). In addition, the DEA conducted 14 Cancer Center site visits, 12 IRG Subcommittee review meetings, 152 SEPs to review grant applications and contract proposals, and 55 other review-associated meetings, such as orientation teleconferences. Tables 7 and 12 provide a summary of the applications and proposals reviewed by NCI IRG Subcommittees and SEPs. Approximately 2,600 peer reviewers served on the NCI DEA-managed IRG Subcommittees, SEPs, and workgroups in FY2016. Members were selected on the basis of their demonstrated experience and expertise in relevant fields of biomedical research or their informed consumer perspectives.

Peer Review Functions

The **Office of Referral, Review, and Program Coordination** (ORRPC) is responsible for the coordination and management of the review of NCI grant applications, cooperative agreements, and contract proposals. The ORRPC is composed of four review branches, a coordination and referral branch, and the Office of the Associate Director. The individual review branches are responsible for organizing, managing, and reporting the results of scientific peer review of grant and cooperative applications or proposals for a wide variety of grant mechanisms and topics. Reviews of grant applications are conducted by either one of four NCI IRG Subcommittees or by specially convened SEPs as shown in Table 7. Contract proposals and Small Business Innovation Research (SBIR) Special Topics shown in Table 12 are reviewed by SEPs.

**Figure 2. DEA Review Workload*
FY2012 – 2016**



*Includes NCI Primary and Secondary applications received and referred

The **Resources and Training Review Branch** (RTRB) is primarily responsible for the peer review of multicomponent (*aka* "complex") Cancer Center Support as well as single component Training, Education, and Career Development grant applications (see **Table 6**). The RTRB also has responsibility for the management of the four NCI IRG Subcommittees (see **Appendix E**).

The **Research Programs Review Branch** (RPRB) has primary responsibility for review of unsolicited multicomponent Program Project (P01) and Specialized Programs of Research Excellence (SPORE) (P50) translational research applications focused on various disease sites.

The **Special Review Branch** (SRB) is primarily responsible for the management and peer review of grant applications submitted in response to NCI issued RFAs (e.g., NCI Provocative Questions) and PAs/PARs (e.g., NCI R03/R21) as well as other special initiatives.

The **Research Technology and Contract Review Branch** (RTCRB) is primarily responsible for the peer review of Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) grant applications and Special Topics proposals, technology-related applications, and R&D contract proposals submitted in response to Request for Proposals (RFPs).

The **Program Coordination and Referral Branch** (PCRB) is primarily responsible for the management and peer review of grant applications submitted in response to the NIH Parent Conference Grant R13 PA and assigned to the NCI as well as for the management and peer review of proposals submitted to the NIH Loan Repayment Program (LRP) (L30, L40) solicitation and assigned to the NCI.

All review meetings managed by RPRB, SRB, and RTCRB are conducted using SEPs.

Resources and Training Review Branch (RTRB)

The RTRB has primary responsibility for review of Cancer Center Support, Training and Education, and Career Development applications. RTRB is also responsible for the management of the four NCI IRG Subcommittees: A, F, I, and J (**Appendix E**).

The review of Cancer Center Support Grant (CCSG) applications involves a two-tier initial peer review process. The first tier of the review involves a site visit to the applicant's institution by a non-FACA working group review panel. Site visit reviewers serve as a fact-finding body of experts to obtain updated information and/or clarification of any issues identified in the written application through an onsite face-to-face discussion with the Cancer Center investigators with focus on addressing CCSG-specific review criteria. The site visit committee prepares a site visit review report that is presented, along with the written CCSG application, to the NCI IRG Subcommittee A for discussion, evaluation, and final impact scoring of the application. Final impact scoring by Subcommittee A provides a more uniform evaluation of the individual CCSG applications than scoring based solely on the initial site visit review group. In FY2014, new guidelines were implemented in which Cancer Centers may elect not to have a site visit. In this case, the review will be based only on the information provided in the written application (i.e., "paper" review) with final evaluation and impact scoring by NCI Subcommittee A. During FY2016, Subcommittee A reviewed 14 CCSG applications.

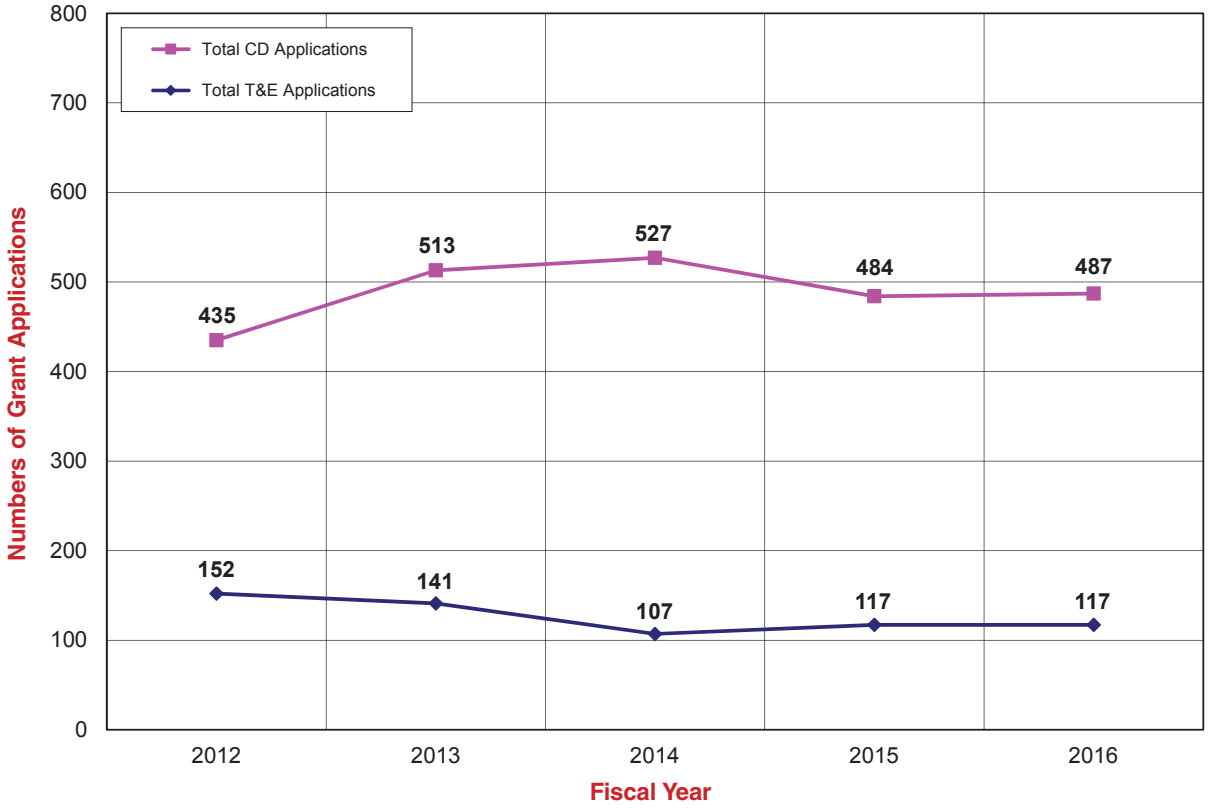
Training and Career Development

Career Development and Training and Education grant applications are reviewed by IRG Subcommittees F, I, and J. The number of Career Development applications increased to 527 in 2014, and decreased slightly to 487 in 2016. The number of Training and Education grant applications has remained fairly constant from 2012 (152) to 117 applications in 2015 and 2016 (**Figure 3**).

Other RTRB Activities

To assist reviewers in their participation for RTRB peer review, Reviewer Guides are maintained for the different types of applications reviewed by the RTRB. Reviewer Guides are regularly updated for the newly reissued FOAs and for the electronic submission of grant applications. Reviewer Guides

Figure 3. Numbers of Career Development (CD) and Training and Education (T&E) Applications Reviewed FY2012 – 2016



also contain general information on peer review and NIH policies regarding the use of human subjects in research as well as specific instructions for each of the mechanisms to be reviewed. These mechanism-specific guides have been completed for all Training, Education, and Career Development and Cancer Center Support applications. This resource is especially helpful for IRG Subcommittee members who often participate in the review of single component Training, Education, and Career Development grant applications or multicomponent CCSG grant applications, each with their own specific review criteria.

Research Programs Review Branch (RPRB)

Program Project (P01) Applications

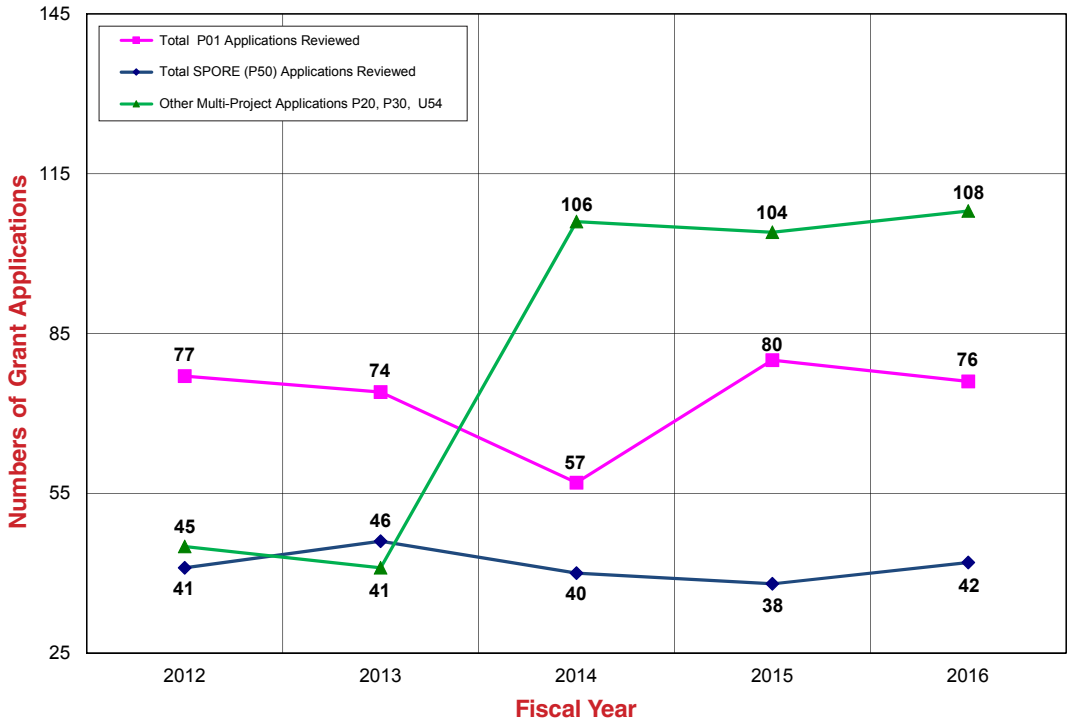
A significant effort of RPRB during FY2016 was the review of unsolicited Program Project (P01) applications. These are multi-project, collaborative programs with a well-defined unifying cancer research theme. The applications are grouped based on their scientific focus and typically clustered into groups of up to ten applications in each group. The applications often represent a continuum of research from basic through translational to preclinical and clinical studies. All P01 review panels are constituted as SEPs, with reviewers recruited based on the scientific expertise needed for the applications being reviewed. The SEP review committees evaluate the potential impact of the individual projects and technical merit of the supporting core resources, determine the level of program integration and leadership, and then assign an overall impact score to each application. During FY2016, RPRB managed the review of 76 new, renewal (competing), resubmitted (amended), and revised (competitive supplement) P01 applications (Figure 4 and Table 8). Forty-seven (62%) of the applications proposed new multidisciplinary research programs, 22 (14 were new and 8 were renewals) (29%) of the applications were resubmitted (Table 8), and 26 (34%) included multiple Principal Investigators (PIs). Thirty-one (41%) of

the 76 applications were referred to the NCI's Division of Cancer Biology (DCB), and 30 applications (39%) were referred to the Division of Cancer Treatment and Diagnosis (DCTD) (see Table 9). The 76 applications requested $181,889,799 in total costs for the first year (see Tables 6 and 9) and $913,792,133 in total costs for 5 years.

Specialized Programs of Research Excellence (SPORE, P50)

Another major responsibility of RPRB is the review of NCI Specialized Programs of Research Excellence (SPORE) P50 applications. These complex, multi-project, multidisciplinary, translational applications focus on research that is directly applicable to human disease in specific organ sites or that focuses on a common biological mechanism critical for promoting tumorigenesis and/or cancer progression. All SPORE review panels are constituted as SEPs, with reviewers recruited based on the scientific expertise needed for the applications being reviewed. SEP review committees evaluate and assign scores to the individual components of the applications (projects, cores, and developmental programs), and then assign an overall impact score to the SPORE application as a whole. In FY2016, the RPRB organized and managed six SEPs for the review of 42 SPORE applications (Figure 4). The applications addressed multiple organ sites with the following distribution of applications: Brain (3); Breast (8); Gastrointestinal (4); Head and Neck (5); Hepatobiliary (1); Kidney (2); Leukemia (1); Lung (2); Lymphoma (1); Melanoma (2); Myeloma (1); Ovarian (3); Pancreas (3); Prostate (4); Sarcoma (1); and Uterine (1). Overall, 30 (71%) of the 42 applications were submitted for new SPOREs, and 12 (29%) were competitive renewal applications. The disease sites addressed in the SPORE applications vary from round to round. Eight applications addressing six different disease sites were reviewed for the February 2016 NCAB cycle; 19 applications addressing 11 disease sites were reviewed for the June 2016 NCAB cycle, and 15 applications addressing 10 disease sites were reviewed for the September 2016 NCAB meeting. The applications requested $98,728,506 in total costs for the first year of support (Tables 6 and 11).

Figure 4. Program Project (P01), SPORE, and Other Multi-Project Research Applications Reviewed FY2012 – 2016



Other RPRB Activities

Potential applicants for P01 and P50 grant submissions are strongly encouraged to participate in a pre-submission discussion with appropriate NCI Program and DEA Review staff members so that they can fully understand the guidelines, requirements, and goals of these complex applications. SROs from the RPRB routinely participate in these pre-submission conferences to assist the applicants in understanding the review process, the special review criteria, and the scoring paradigms for these applications. In 2016, RPRB SROs attended 68 of these pre-submission meetings. Additionally, the RPRB manages review of investigator-initiated R01 applications proposing multi-center clinical trials. Of the 24 applications reviewed in FY2016, 13 (54%) were referred to the Division of Cancer Prevention (DCP), five (21%) were referred to the Division of Cancer Treatment and Diagnosis (DCTD) and four (17%) were referred to the Division of Cancer Control and Population Sciences (DCCPS). As needed, RPRB SROs also manage review of applications submitted to DEA in response to other initiatives. In FY2016, this included coordinating review of R03, R21, R25, SI2/R00, and U01 applications.

Special Review Branch (SRB)

The SRB organizes and manages the peer review of applications submitted in response to NCI-issued RFAs, PAs, and PARs. Following approval of RFA concepts by the NCI Scientific Program Leaders (SPL) and the Board of Scientific Advisors (BSA), NCI Program staff prepares RFAs for publication in the *NIH Guide for Grants and Contracts*. In an RFA, a specific, published dollar amount is set aside by the Institute, whereas for a PA/PAR, there is no dollar set-aside and no requirement for BSA review. Table 10 summarizes the number of applications submitted for the RFAs and Table 11 summarizes the number of applications submitted in response to PAs or PARs to be reviewed by DEA. During FY2016, the SRB with the assistance of the three other DEA review branches (RPRB, RTCRB, and RTRB) peer reviewed a total of 891 applications received in response to 25 RFAs (Table 10) and 4,199 applications in response to 60 PAs/PARs (Table 11). All the peer review meetings were conducted as SEPs.

Research Answers to NCI's Provocative Questions (PQ)

Following input from the scientific community through focus groups, forums, and online postings, grant applications were solicited to respond 12 perplexing scientific questions were identified: (1) For tumors that arise from a pre-malignant field, what properties of cells in this field can be used to design strategies to inhibit the development of future tumors? (2) What molecular mechanisms influence disease penetrance in individuals who inherit a cancer susceptibility gene? (3) How do variations in tumor-associated immune responses contribute to differences in cancer risk, incidence, or progression? (4) Why do some closely related tissues exhibit dramatically different cancer incidence? (5) How does mitochondrial heterogeneity influence tumorigenesis or progression? (6) What are the underlying molecular mechanisms that are responsible for the functional differences between benign proliferative diseases and premalignant states? (7) What *in vivo* imaging methods can be developed to determine and record the identity, quantity, and location of each of the different cell types that contribute to the heterogeneity of a tumor and its microenvironment? (8) What cancer models or other approaches can be developed to study clinically stable disease and the subsequent transition to progressive disease? (9) What cancer models or other approaches can be developed to study clinically stable disease and the subsequent transition to progressive disease? (10) How do microbiota affect the response to cancer therapies? (11) What mechanisms of action of standard-of-care cytotoxic, radiologic, or targeted therapies affect the efficacy of immunotherapy? (12) What methods and approaches induce physicians and health systems to abandon ineffective interventions or discourage adoption of unproven interventions? There were 203 R01 Research Project and 103 R21 Exploratory/Developmental applications submitted in response to four RFAs (Table 10). These

applications were peer reviewed in SEP review meetings to assess the scientific and technical merit and the overall impact.

Exploratory/Developmental Research

In FY2016, the DEA reviewed 1,884 R21 applications submitted for the NCI Omnibus Exploratory/Developmental Research Grant Program (Table 11). The applications were initially grouped based on their scientific focus; the groupings varied depending on the number of applications received and the science proposed. The applications represented a continuum of research from basic through translational to preclinical and clinical studies. The Omnibus applications were reviewed in a total of 55 SEPs over the two review cycles in FY2016.

Small Grant Programs

The small grant (R03) PAR program initiative in the NCI Omnibus R03 for cancer research (PAR14-007) stimulated again increased interest in the applicants' community. In FY2016, 559 applications were submitted and reviewed by the DEA in response to this FOA.

Research Technology and Contract Review Branch (RTCRB)

The RTCRB organizes and manages the peer review of SBIR/STTR grant applications, SBIR Special Topics contract proposals, technology-related applications, and R&D contract proposals submitted in response to RFPs. The majority of technology research initiatives use either the R21 Exploratory/Developmental or the R33 Exploratory/Developmental Phase II award mechanism. The R21 mechanism is intended to encourage exploratory/developmental research by providing support for exploratory pilot projects in the early stages of project development. The R33 mechanism is suitable for projects where "proof-of-principle" of the proposed technology or methodology already has been established and supportive preliminary data are available. Both of these mechanisms are well suited for technology development. In 2016, 268 technology applications (Figure 5) for Exploratory/Developmental Phase I (R21) grants and Exploratory/Developmental Phase II (R33) grants were reviewed for Innovative Molecular Analysis for Cancer Research (RFA-CA15-002[R21]); Advanced Development and Validation of Emerging Technologies for Cancer Research (RFA-CA15-003 [R33]); Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (RFA-CA16-001 [R21]); Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (RFA-CA16-002 [R33]); Innovative Technologies for Cancer-Relevant Biospecimen Science (RFA-CA15-004 and CA16-003 [R21]); and Advanced Development and Validation of Emerging Technologies for Cancer-Relevant Biospecimen Science (RFA-CA15-005 and CA16-004 [R33]) (Table 10).

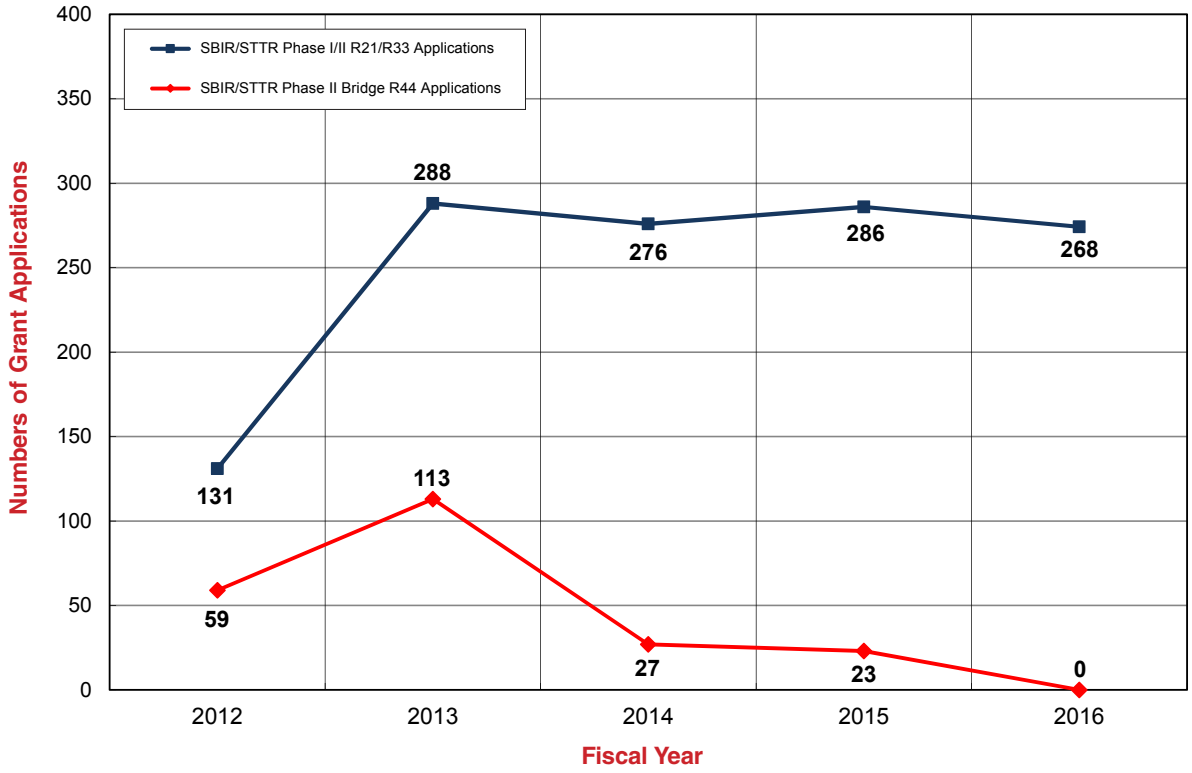
Research and Development (R&D) Contract Proposals

In FY2016, the RTCRB received and reviewed 504 contract proposals, including 383 Loan Repayment L30 and L40 proposals, in response to four RFPs (Table 12). During review, specific elements of each proposal are individually evaluated and scored with the combined score indicating the overall merit. After negotiations, contract awards are made for the specific RFP solicitation. Phase II SBIR proposals are submitted to the Topics and are openly announced in a Broad Agency Agreement Announcement.

Other RTCRB Activities

In FY2016, members of the branch also assisted in the review of applications for initiatives that were coordinated by the SRB, including the NCI Provocative Questions Initiative, the NCI Omnibus Exploratory (R21) Grant program, and the Small Grant (R03) program.

Figure 5. Technology Initiatives Applications Reviewed* FY2012 – 2016



* Withdrawn applications are not included.

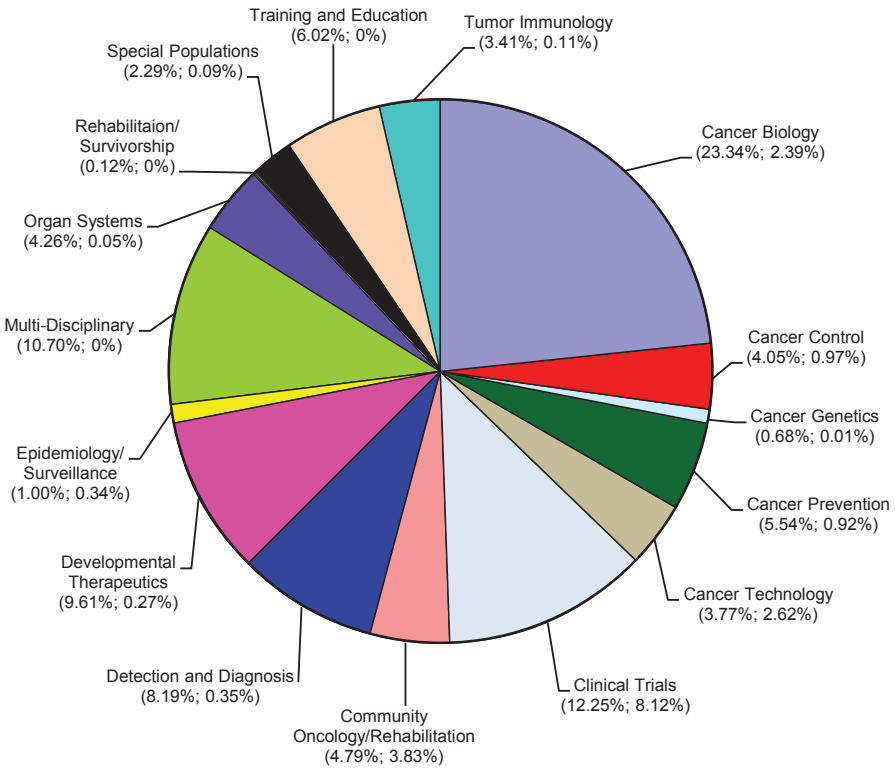
NCI Grant and RFA Funding

The Board of Scientific Advisors (BSA) is responsible for advising the NCI Director on the extramural program and the future direction and funding of each Division's extramural research. As such, the BSA provides concept review for NCI-sponsored RFAs. Figures 6 and 7 show total NCI Grant and RFA funding according to scientific concept area in FY2015 and FY2016. Figure 8 shows RFA concepts that the BSA approved from FY2013 through FY2016 according to the sponsoring NCI Division, Office, or Center.

Table 13 presents a summary of total funding of NCI grant awards by mechanism for FY2016. In Table 14, a comparison is made of the average cost and number of NCI R01, P01, R03, R13, R21, R35, R56, P30, R50, P50, DP2, U01, U10/ U19, and U54 grants and cooperative agreements awarded in FY2012 through FY2016 based on information received from the extramural Divisions, Offices, and Centers.

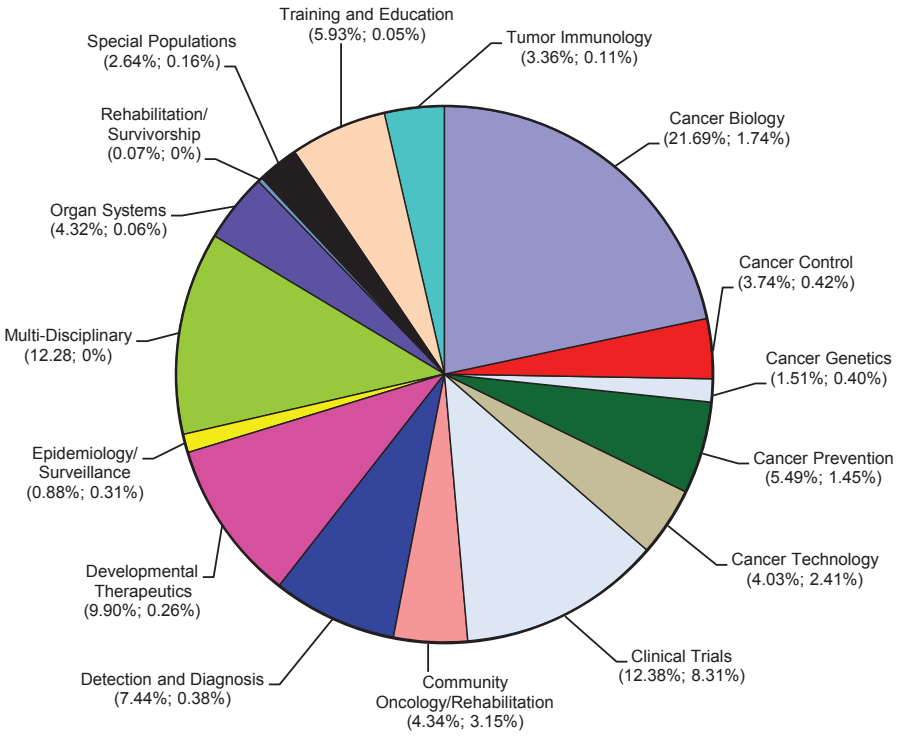
Trends in grant funding according to scientific discipline and organ site are provided in Tables 15 and 16. Table 17 reports NCI's funding of foreign research grants in FY2016, and Table 18 reports foreign components of U.S. domestic research grants in FY2016.

Figure 6. NCI Grant and RFA Funding Percentages by Concept Area FY2015



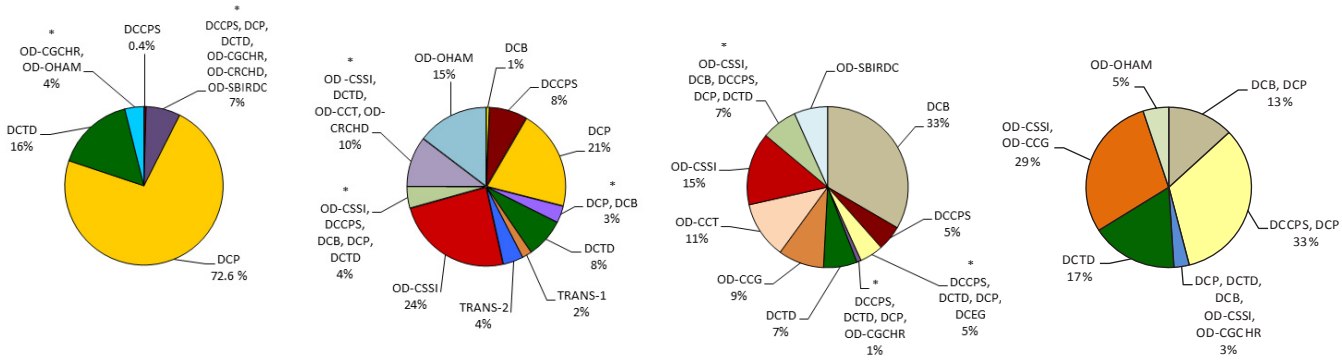
Concepts Area (% of Total Funding to Total NCI Grants; % of RFA Funding to Total NCI Grants)
Percentages represent Total Funding and RFA Funding for the Concept Area as a percentage of Total NCI Grants.

Figure 7. NCI Grant and RFA Funding Percentages by Concept Area FY2016



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

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



Legend:

DCB	Division of Cancer Biology
DCCPS	Division of Cancer Control and Population Sciences
DCP	Division of Cancer Prevention
DCEG	Division of Cancer Epidemiology and Genetics
DCTD	Division of Cancer Treatment and Diagnosis
OD-CCG	Office of the Director – Center for Cancer Genomics
OD-CCT	Office of the Director – Center for Cancer Training
OD-CGCHR	Office of the Director – Center for Global Cancer Health Research
OD-CRCHD	Office of the Director – Center to Reduce Cancer Heath Disparities
OD-OHAM	Office of the Director – Office of HIV and AIDS Malignancy
OD-CSSI	Office of the Director – Center for Strategic Scientific Initiatives
OD-SBIRDC	Office of the Director – Small Business Innovation Research Development Center
TRANS-1	NCI (DCCPS, DCB), Trans-NIH
TRANS-2	NCI (DCCPS, DCP), Trans-NIH

* Indicates co-funding among NCI Divisions/Offices

Supporting Peer Review Consultants

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

The NCI SREA program is a multi-million-dollar venture. The CMO staff members continue to effectively oversee the successful reconciliation of peer review costs charged against the SREA account, identify erroneous charges, and keep an extensive tracking sheet on all costs related to approximately 183 peer review associated meetings to successfully manage the budget. The CMO is able to provide the DEA Director with a clear picture of funds spent against the SREA budget throughout the year to ensure there are enough funds to cover all NCI peer review activities.

During FY2016, 2,526 consultants were reimbursed with honoraria and flat rate payments for serving at more than 183 peer review meetings (**Appendix E**). There were 3,670 instances of honoraria and flat rate payments to NCI peer review consultants. SREA staff works diligently to ensure reviewers are reimbursed in a timely manner and when appropriate and contacts those reviewers with an unpaid or returned reimbursements status. The SROs have expressed their gratitude to the members of the SREA team for tracking the reviewers' payments and when necessary, assisting reviewers complete their Secure Payee Registration System (SPRS) registration. Due to these proactive efforts by the SREA staff, only nine out of the 3,670 instances of honoraria and flat rate payments to NCI peer review consultants were not paid out in FY2016.

Throughout the year, SREA staff also ensure the timely review and submission of hotel contracts for processing to secure lodging and meeting room space for face-to-face peer review meetings. In FY2016, 99 hotel contracts were processed by the SREA staff. SREA is also responsible for ensuring all meeting logistic invoices, i.e., hotels, World Travel Service, and teleconference services charges, are accurate and valid before all invoices are processed for payment. All discrepancies are immediately addressed with the appropriate vendor and a revised invoice is requested. A total of 97 hotel invoices and 65 consultant travel invoices were reviewed and submitted for payment in FY2016.

In addition, SREA staff collaborates with the DEA Assistant Director, Associate Director, ORRPC, DEA Branch Chiefs, CMO, and Scientific Review Officers on the development of NCI SREA policies and procedures. On an ongoing basis, they monitor and evaluate current SREA activities and initiate changes and improvements, when warranted.

Also, CMO and SREA staff were presenters at an NCI DEA review staff Brown Bag session, where they discussed the Department of Health and Human Services Waiver Policy and peer review meeting reimbursements. Some of main points of discussion included:

- DHHS membership policy for IRG Temporary and SEP members.
- Waiver request procedures, i.e. SRO responsibilities, processes, and timelines.
- Policies and components of a reviewer's reimbursement.
- Secure Payee Registration System (SPRS).
- Reviewer's travel exception requests.
- Submission of meeting Attendance Lists.

All CMO and SREA documents related to peer review meeting activities are sent to PRESTO to be posted on the "NCI/DEA Peer Review Reference Guide for Staff Assistants" page on the PRESTO website. These documents are utilized by NCI DEA SROs and SAs. Finally, these training tools are imperative to the peer review process and the integrity of NCI's mission.

DEA's Role in Advisory Activities

Beyond its central role in coordinating the referral of grants and peer review, perhaps the most far-reaching role that DEA plays across the NCI is the coordination and administration of NCI's nine chartered Federal Advisory Committees. The memberships and activities 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 DEA is coordination of the activities of the **National Cancer Advisory Board (NCAB)** whose members are appointed by the US President and whose responsibilities include the second-level review of grant and cooperative agreement applications as well as advising the NCI Director on policy for the conduct of the National Cancer Program. 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, and the **Frederick National Laboratory Advisory Committee (FNLAC)**, which reviews research activities of the **Frederick National Laboratory for Cancer Research (FNLCR)**. Under the various chartered committees, working groups are formed to address and make recommendations on important areas of cancer research related to basic science, clinical trials, diverse populations, cancer advocacy, treatment, cancer control, drug development, prevention, communication, education, etc. As such, DEA plays a major role in the development and issuance of PAs, PARs, and RFAs, the major extramural program initiatives used by the NCI to fund extramural research. The DEA Director serves as an Executive Secretary to the NCAB and the BSA. (See Appendices A and B for highlights of the activities of these Boards in FY2016 and Appendix D for a list of current chartered committee members.)

Major NCI Advisory Bodies Administered by the DEA

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

President's Cancer Panel (PCP). The PCP consists of three members appointed by the US 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 patient advocate. The Panel monitors the development and execution of the activities of the National Cancer Program and reports directly to the US President. Any delays or hindrances in the rapid execution of the Program are immediately brought to the attention of the President.

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

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

Frederick National Laboratory Advisory Council (FNLAC). The FNLAC provides advice and makes recommendations to the Director, NCI, and the Associate Director, NCI-Frederick, on the optimal use of the NCI-Frederick facility to rapidly meet the most urgent needs of the Institute. The NCI facility in Frederick, Maryland, was established in 1972 as a government-owned, contractor-operated facility. In 1975, the facility was designated as a Federally Funded Research and Development Center (FFRDC) to provide a unique national resource for the development of new technologies and the translation of basic science discoveries into novel agents for the prevention, diagnosis, and treatment of cancer and AIDS. Consequently, the FFRDC has been renamed as the Frederick National Laboratory for Cancer Research (FNLCR). FNLAC reviews new projects proposed to be performed at NCI-Frederick and advises the Director, NCI, and the Associate Director, NCI-Frederick, about the intrinsic merit of the projects and about whether they should be performed at the Frederick facility (Appendix C).

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

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

NCI Initial Review Groups (IRGs). The NCI IRGs, composed of four active subcommittees, review grant applications for Cancer Centers, research projects, and Training, Education, and Career Development activities in the areas of cancer cause, prevention, diagnosis, treatment, and control. IRG members may be appointed as standing committee members with overlapping terms of up to 6 years, or as "temporary" *ad hoc* members. *Ad hoc* members have all of the rights and obligations of IRG 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 to provide information or advice. These individuals generally serve on site visit groups or work groups providing critical information to the chartered advisory subcommittees responsible for initial peer review.

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

Committee Management Activities

The **NCI Committee Management Office** (CMO) is critical to the continued success of all NCI Federal advisory committee activities, including Boards, Advisory Committees, subcommittees, working groups, blue ribbon panels and review panels, etc. The CMO is located in the Office of the Director, DEA, NCI. This office continues to provide expert advice to, the NCI Director and Deputy Directors, DEA Director, and other senior level Institute/Center/Client staff on all rules, regulations, guidelines, policies, and other procedures, governing the Federal Advisory Committee Act (FACA). The Committee Management Office is also an established Service Center for the management of other Institutes' Federal Advisory Committees. Currently, the CMO serves as the Service Center for the NIH Council of Councils (CoC), located in the Division of Program Coordination, Planning, and Strategic Initiatives, Office of the Director, National Institutes of Health and the National Institute on Alcohol Abuse and Alcoholism (NIAAA). NIAAA has seven Federal Advisory Committees, which includes an Advisory Council, BSC, four IRG Subcommittees, and a SEP. In 2016, the CMO entered into two additional intra-Agency agreements to provide support to the ACD and the NIH Recombinant DNA Advisory Committee (RAC), located in the Office of Science Policy, Office of the Director, NIH.

In all, the CMO successfully manages 23 Federal advisory committees and numerous subcommittees and working groups. Importantly, the Office is responsible for providing logistical planning and support of the following: four National Cancer Advisory Board meetings, three Board of Scientific Advisors meetings, and three Frederick National Laboratory Advisory Committee meetings as well as numerous subcommittees and working groups. Meetings are held via videoconference, Webinar, teleconference, or face to face. The Office also provides logistical support for three NIAAA Council meetings each year. Another important responsibility of the Office is the management of the Division's SREA Program, which includes reimbursement of thousands of peer review consultants, processing and payment of hotel contracts, teleconferences, and reconciliation of the SREA budget.

As a Service Center, the Committee Management Office continued to provide exceptional service to these Client-Institutes on the management of their Federal advisory committees. In addition, the CMO effectively managed a comprehensive ethics program in support of CoC, ACD, and RAC. Ethics services include analysis and review of Special Government Employee OGE-450s and Foreign Activity Questionnaire, and preparation of recusal lists and waivers of current members. Additionally, the CMO prepares charter renewals, analyzes potential nominees, and prepares nomination slates, issuances of waivers for membership requirements, Federal Register notices, and annual and fiscal year reports for its Service Center clients.

Highlights of CMO activities in FY2016 include the following:

- A large part of FY2016 in CMO was dedicated to working closely with NCI senior staff on the NCAB Blue Ribbon Panel (BRP) Working Group. The CMO provided logistical support for the following 2016 BRP meetings: April 11; April 18; June 13; and July 20. A requirement was that all meetings be set up expeditiously which required a quick turnaround on obtaining hotel lodging, conference room meeting space and preparation of travel authorizations and Professional Services Contracts (PSCs). Additionally, there were seven sub-Working Groups that were formed and each meet between three and six times over the course of five months. All Working Group and sub-Working Group meetings have been captured in the CM IMPAC II module along with the rosters of all meeting attendees.
- Continued to serve monthly on the OFACP HHS Venture Working Group to Digitize Human Resources (HR) documents for

Special Government Employees (SGE). Met with NIH HR staff, OPM staff, NCI IT Staff, and ORS IT staff to provide business rules for SGEs to access the USAJobs website for the completion of their HR paperwork. The testing of these new SGE business rules is almost complete. The focus now is designing the SGE Portal website that will be used by all newly nominated SGEs. The idea is to provide a one-stop-shop website for new members' access and complete all the required HR and conflict of interest/ethics paperwork electronically.

- Finalized the BSA/NCAB SPORE Working Group report for presentation at the December, 2016 joint BSA/NCAB meeting.
- Provided ongoing advice to NCI Senior staff on the re-compete of the FFRDC agenda topic at the May FNLAC meeting.
- Successfully planned the first site visit of the FNLCR and RAS Initiative in the November 2015 FNLAC Meeting.
- Continued to provide ongoing guidance to NCI staff on the creation of the FNLAC Cryo-EM Subcommittee and Working Group.
- Provided business rules to the NIH Ethics Office (NEO) and OFACP on the NEES OGE 450 system for the support of newly nominated members to utilize this database to complete their required OGE 450 submitted electronically.
- Met with the Executive Secretary, RAC, and OD staff to discuss their December 2015 meeting, quorum concerns, and OGE 450 concerns and go over FACA rules and regulations.
- Worked with the NCI DEA Director on the establishment of a BSA Working Group of External Experts.
- Continued to provide oversight of the NCI DEA SREA multi-million-dollar program and successfully closed out the FY2016 budget.
- Oversaw travel authorizations and vouchering of over 200 SGE travel instances, many of which are complex and require negotiating with the board member.
- Continued to evaluate the current CM IMPAC II database and provide feedback to the Committee Management Users Group Representative on potential modifications to the Module.

The following training sessions were given by CMO to various Federal audiences over the course of the year:

- Brown Bag Presentation to SRO and administrative staff on NCI DEA peer review committees, FACA, and the NCI DEA CMO/SREA Program.
- FACA Training to the new Executive Secretary of the NIH Recombinant DNA Advisory Committee.
- Working Group Overview and Training to the newly assigned Designated Federal Officer (DFO) of the Environmental Influences on Child Health Outcome (ECHO) Program Working Group of the NIH Council of Councils.
- Responded to requests from senior NCI and Client staff on various non-FACA meetings and working groups.

Portfolio Tracking and Analysis

DEA's **Research Analysis and Evaluation Branch** (RAEB) is the officially designated contact for scientific information on NCI-supported research. The NCI needs to collect and maintain consistent budget-linked scientific information across all of its scientific programs to analyze the Institute's research funding portfolio, make budget projections, and disseminate information about cancer. DEA conducts analyses to project future NCI research expenditures and to provide budget justifications to the U.S. Congress. The work of the RAEB allows 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. 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 members analyze grant applications to classify each project for its degree of relevance to Special Interest Category (SIC) and Organ Site Codes (SITE). SIC Codes are meant to describe in a consistent way the major scientific disciplines that are of stated or growing interest to the NIH, HHS, the U.S. Congress, and the public. A critical characteristic of these data is comparability from one fiscal year to the next.

Trends in funding from FY2012 through FY2016 for selected organ sites and SIC Codes are presented in **Tables 15** and **16**. In addition, RAEB staff members serve as DEA or NCI representatives on NCI or NIH-wide scientific reporting initiatives. These groups and committees deal with various aspects of NIH grants and contracts or tracking and reporting on areas of special interest to the NIH, NCI, and/or U.S. Congress.

In FY2016, the RAEB provided numerous portfolio analyses, including:

- NCI Office of Budget and Finance (OBF): FY2016 Immunotherapy grants in response to FY2016 NCI "Moonshot" activities.
- NCI Office of Budget and Finance and NCI's Center to Reduce Cancer Health Disparities (CRCHD): FY2016 Minority and Health Disparities projects for NIH reporting requirements.
- NCI Office of HIV and AIDS Malignancy (OHAM), the Office of Extramural Finance and Information Analysis and DEA's Applied Information Systems Branch (AISB): developed an automated system for monitoring NCI AIDS grant applications through NIH's Office of AIDS Research (OAR) approval, funding and AIDS specific indexing.
- Center for Research Strategy: FY2015 Small Cell Lung Cancer and Pancreatic Cancer projects.
- NCI Program Directors: FY2015 grant information, including DCIS, Pediatric CNS, and Rural Populations.
- NCI Center for Global Health: Supplied information on foreign grants, contracts, and foreign countries collaborating on research with U.S. institutions, FY2016
- Supported the International Cancer Research Partners (ICRP), a group of international cancer funding organizations, by coding NCI extramural projects and cancer grants funded by other NIH Institutes to the Common Scientific Outline (CSO) and by participating in the ICRP.
- Continued coordination with the NCI Office of Budget and Finance to update and align budget reporting categories.
- Chaired the NCI Accrual Working Group for biennial reporting of NCI compliance with Congressional Health Disparities reporting requirements.
- Served as NCI subject matter expert on the NIH Inclusion Operating Procedures Working Group.
- Served as DEA representative to the NCI Communications Committee.
- Served as DEA representative to the NCI Planning and Evaluation Special Interest Group (SIG).

Extramural Research by Foreign Research Institutions and Extramural NCI Research Grants with a Foreign Research Component

In FY2016, the NCI allocated $20.5 million to support 41 grants and contracts received by foreign research institutions. These foreign grants are listed by country, mechanism, disease area, and total funding support in Table 17. Canadian institutions received the most funding from the NCI, with 12 grants and one contract adding up $8.3 million. R01s were the most common mechanisms funded with 14 grants receiving $4.3 million. Disease areas receiving the most NCI funding to foreign institutions were Cervix ($6 million), Breast ($1.4 million), and Not Site Specific ($5.5 million).

FY2016 Funding of Foreign Institutions

(See Table 17 for more information.)

Country	Grants & Contracts #	Funding $
Canada	13	8,378,954
Costa Rica	2	5,108,153
France	7	2,483,133
Australia	2	1,263,241
Germany	3	1,006,289
South Africa	3	577,952
United Kingdom	2	427,762
Switzerland	2	274,758
Mexico	1	247,164
Botswana	1	239,056
Israel	1	199,020
Japan	1	157,967
Italy	2	119,532
Korea	1	10,000
Totals	**41**	**20,492,981**

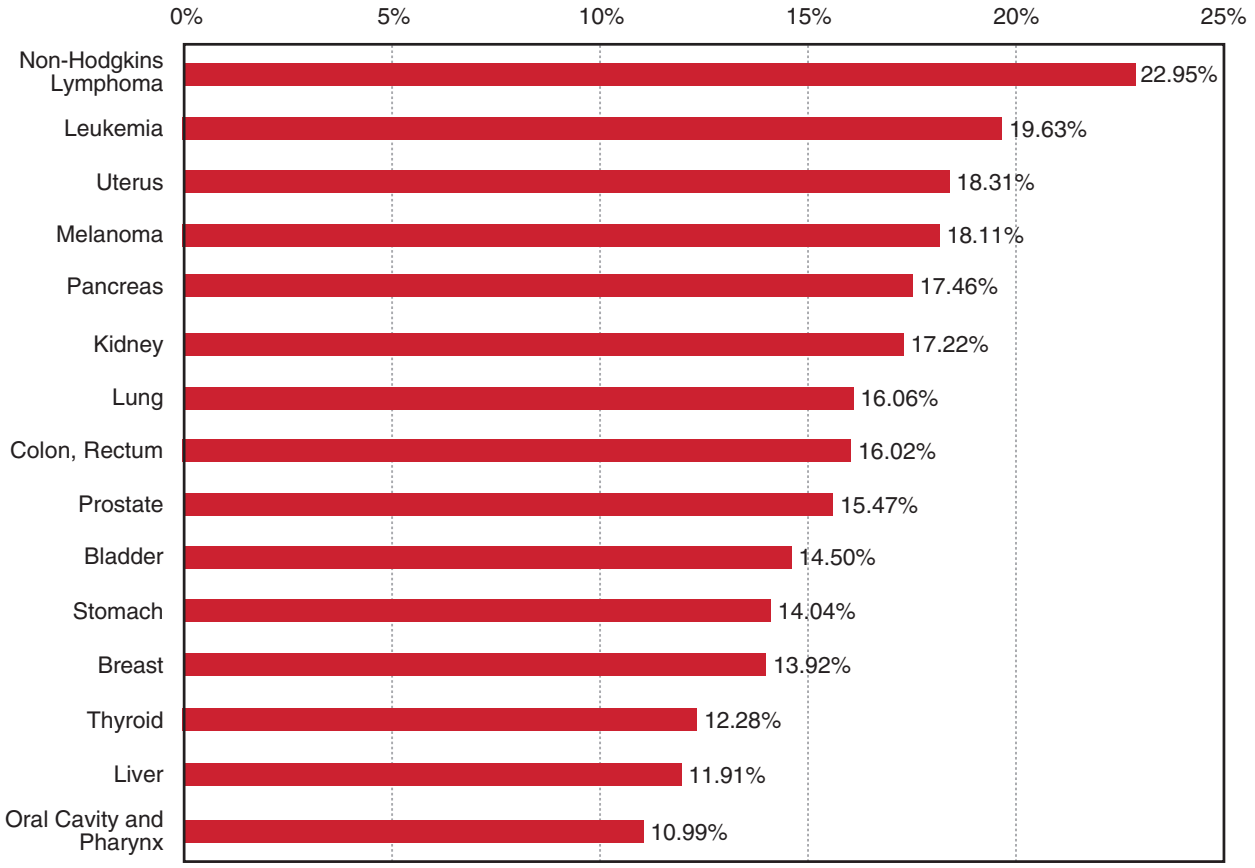
In FY2016, the NCI supported 253 U.S. domestic grants with 401 foreign components. These grants are listed in Table 18 by country, mechanism, and number of grants. Because many grants have multiple foreign contributors, the total count is greater than the total number of grants. Institutions in Canada (61 grants), the United Kingdom (33 grants), Germany (32 grants), China (22 grants), and Australia (20 grants) were the NCI's most frequent collaborators. The R01 is the most common funding mechanism used for collaborations with 217 grants, followed by U24 (45 grants) and U01 (42 grants).

Success Rates of Extramural Science Categories

The RAEB assigns scientific indexing to both funded and unfunded applications, so it is possible to calculate success rates for funding in scientific categories. For example, the following graphs and tables illustrate FY2016 success rates for high incidence cancers (Figure 9) and for selected Special Interest Categories (SIC) (Figure 10). The highest incidence cancer rankings are from the SEER rank of top 15 cancer sites, 2004–2008, age-adjusted incidence for all races and sexes. Success rates were calculated by dividing the total number of newly funded applications in 2016 (Type 1 and 2 grants) for that research category (SIC or Organ Site) by the total number of applications for that research category (see Figures 9 and 10).

Figure 9. FY2016 Success Rates for Applications in High Incidence Cancers*

Sorted by Success Rate

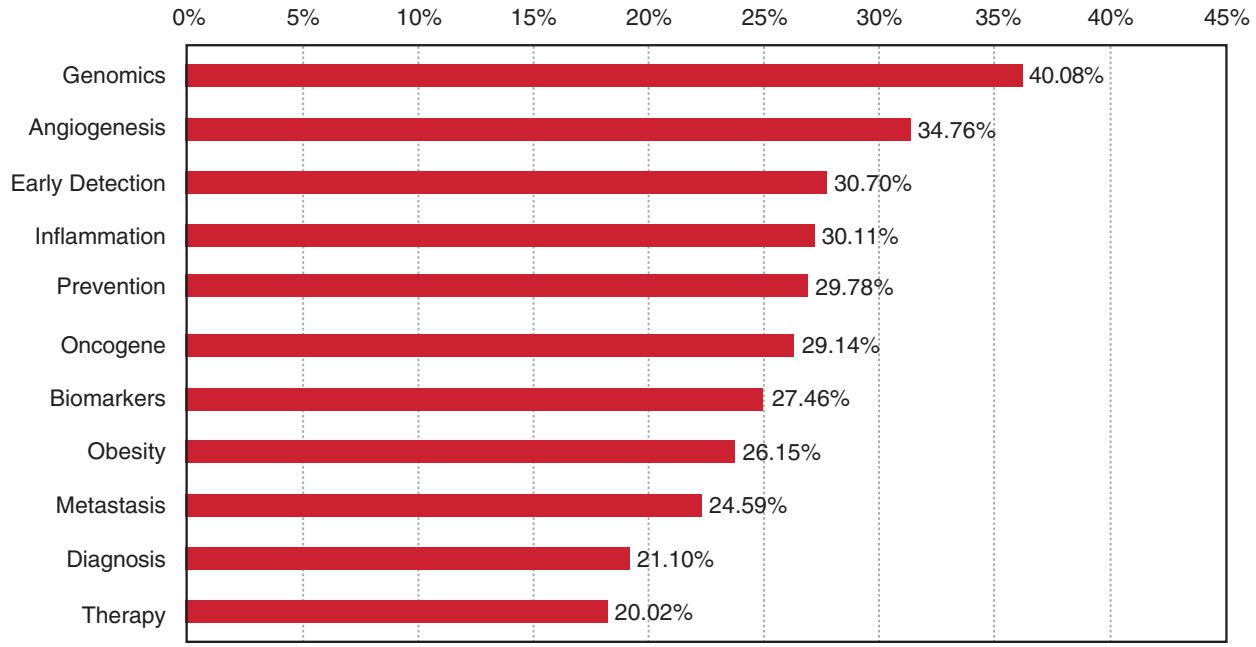


Selected Oncology Sites	SEER Rank*	Types 1 & 2 Funded in 2016 for This Site	Total Applications Received in 2016 for This Site	2016 Success Rate (%) for This Site	Total Funding for Types 1 & 2 in 2016 for This Site
Non-Hodgkins Lymphoma	5	70	305	22.95	$23,078,769
Leukemia	9	139	708	19.63	$44,068,387
Uterus	15	13	71	18.31	$5,708,277
Melanoma	4	115	635	18.11	$30,442,584
Pancreas	10	129	739	17.46	$44,863,298
Kidney	7	31	180	17.22	$8,968,187
Lung	2	210	1308	16.06	$76,640,703
Colon, Rectum	3	140	874	16.02	$48,816,830
Prostate	1	161	1041	15.47	$52,651,842
Bladder	14	19	131	14.50	$4,701,765
Stomach	13	8	57	14.04	$2,245,788
Breast	6	373	2680	13.92	$118,505,392
Thyroid	8	7	57	12.28	$2,516,010
Liver	12	48	403	11.91	$15,721,347
Oral cavity & pharynx	11	10	91	10.99	$1,695,881

*SEER rank of top 15 cancer sites 2009–2013 age adjusted incidence for all races and sexes.

Figure 10. FY2016 Success Rates for Applications in Selected Special Interest Categories (SIC)

Sorted by Success Rate



Special Interest Category	Types 1 & 2 Funded in 2016 for This SIC	Total Applications Received in 2016 for This SIC	2016 Success Rate (%) for This SIC	Total Funding for Types 1 & 2 in 2016 for This SIC
Genomics	317	1108	40.08	$115,105,105
Angiogenesis	65	252	34.76	$12,536,111
Early Detection	175	745	30.70	$78,008,588
Inflammation	131	566	30.11	$31,807,471
Prevention	187	815	29.78	$58,929,083
Oncogene	292	1294	29.14	$88,726,073
Biomarkers	383	1778	27.46	$127,911,966
Obesity	51	246	26.15	$14,072,297
Metastasis	394	1996	24.59	$105,724,066
Diagnosis	357	2049	21.10	$145,147,498
Therapy	1006	6031	20.02	$353,109,361

Information Resources Management

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

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

For FY2016, specific AISB accomplishments are highlighted below.

Systems Infrastructure and Service Support

Security Implementation, Auditing, and Reporting – Maintained and augmented the real-time security configurations and upkeep of Division IT assets, from mobile and desktop to server and database; performed DEA Information System (DEAIS) Security and Assurance review; Fiscal Linked Analysis of Research Emphasis (FLARE) independent security assessment and annual filing, including item-by-item controls update; and the following documentation for both DEAIS and FLARE: Contingency Plan (CP), CP Testing, CP Training; Configuration Management Policy; Audit Policy and Procedures; Risk Assessment; Annual Assessment; System Security Plan; and E-Authentication (FIPS-199 Standards for Security Categorization of Federal Information and Information Systems Assessment).

Infrastructure Migration – Completed physical migration of all DEA servers from NCI at Frederick: Advanced Technology Research Facility (ATRF) to the NCI Shady Grove data center with minimal service interruption. The multi-phased migration effort involved significant planning and coordination with various teams within NCI and Frederick ATRF. As one of the first co-location customers to the NCI Shady Grove data center, DEA identified critical processes that provided valuable information that became a roadmap for CBIIT's similar migrations.

Desktop and Mobile Support – Provided various desktop support for the 120 DEA staff, resolved 1,044 desktop support issues; upgraded about 45 percent of the DEA desktops and monitors; participated in NCI desktop OS pilot (Win10); migrated the mobile phone system from a legacy device to more reliable and functionally robust equipment; coordinated with CBIIT and CIT to provide virtual meetings in support of NCI advisory boards; and streamlined the process of replacing paper with use of tablet computers in advisory board meetings.

Application Development Projects

- CATS (Concept to Awards Tracking System) – Initiated major update to the user interface; incorporated new framework technology; finalized a module for Reviewed Program Announcement (PAR) annual review.
- NGRAD (NCI Grant-Related Activities Directory) – Released first production; developed and published set of training materials for business owner and users; provided orientation and training; and upgraded to full operating status.
- FNLCR (Frederick National Laboratory Cancer Research) Web portal – Implemented existing technology for rapid turnaround Web

portal for document sharing in support of the NCI Frederick National Lab Advisory Board.
- FOAs (Funding Opportunity Announcements) – Initiated and completed a reporting module that interrogates data systems to assist in the development of reviewer rosters.
- DPDU (DEA Processing Distribution Unit) – Coordinated revision of application and API to accommodate new FedEx international shipping requirements.
- Board Presentations – Revised user interface and upgraded search selections for more efficient access to presentation materials of past NCI advisory board meetings.
- Program Coding – Worked with Office of Extramural Finance and Information Analysis (OEFIA) and Office of HIV and AIDS Malignancies (OHAM) to establish and implement HIV coding schema.
- Cleared Concepts – Re-engineered and updated technology and interface.
- Extramural Glossary – Re-engineered the application framework, updated user interface, and improved navigation.
- Overall there were 80 production releases of 27 different applications as well as 16 application component updates. Additionally, required security updates and infrastructure platform updates were regularly made.

User Training

- Participated in DEA's Brown Bag forums and presented various IT-related topics; DEA Applications and Reports Center website; government policies; and new technologies.
- Led training for NCI Office of Training and Education on various technologies for creation of scientific presentations and posters.
- Participated in the in the NIH Office of the Chief Information Officer (OCIO) Show & Tell program and presented DEA's CATS application to the NIH audience.
- Co-led or participated in DEA's Program and Review Extramural Staff Training Office (PRESTO) and provided training for Roster Reports and CATS applications.
- Provided training for users of Roster Reports and NGRAD applications; demonstrated Program Coding application for OHAM use in HIV coding grants.

DEA Website Development

- Collaborated with PRESTO on enhancing and adding new features for their intranet website.
- Enhanced DEA Internet and Intranet websites.

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

FLARE (Fiscal Linked Analysis Research Emphasis) Project

- To increase application access security, data push model was implemented instead of the original data pull; eliminating external access to FLARE. Under the new model, FLARE data is transferred to the NCI's I2E environment to be utilized by the NCI authorized staff.
- Initiated planning and development of specific FLARE "bridge" tables for downloading grant data from NIH OLTP (On-Line Transaction Processing) due to IRDB (IMPAC-II Reporting Database) scheduled subset.
- Developed a prototype data analytics and business intelligence application using QlikView.
- Migrated classic coding rules to PL/SQL (Procedural Language/Structured Query Language).
- Numerous enhancements were made to FLARE indexing module, including a dynamic toolbar, instant coding rule feedback, simplified workflow tracking, ergonomic improvements, and user interface adjustments.
- Presented FLARE Indexing to RAEB, provided training, and solicited feedback in preparation for migration.
- Began phased deprecation of the classic FLARE user interface and reporting tools in favor of FLARE new indexing and QlikView.

- Performed major database schema cleanup and reorganization to improve security, efficiency, and administration.
- Upgraded multiple production and development servers.

RAEB Online

- Presented application at the NCI Scientific Program Leader (SPL) and DEA Brown Bag forum.
- Entered NCI-wide extended beta version with access limited to NCI staff.

AISB Staff Involvement

AISB staff represented the needs and concerns of DEA staff through active participation in the following groups: Frederick Security Team, CBIIT Process Improvement Team, NCI Computer Upgrade Project – Technology Refresh Program, NIH Mobile Device Policy Team, various NCI Special Interest Groups (SIG), NCI Division IT Contacts Meeting, NCI Informatics and IT Advisory Group (IITAG), DEA Brown Bag seminars, International Cancer Research Portfolio (ICRP) Data Meetings, NCI BAD (Basic and Applied) Codes Working Group, NCI Coding QA/QC Team, NIH eRA Technical Users Group (eTUG), and the Shady Grove IT and Server Consolidation Planning Team.

Maintained and enhanced IT collaboration with the NCI CIIT on testing the Windows 10 platform; improving the usability of iPads in replacing paper documents during advisory board meetings; piloting new Office 365 software for DEA; collaborating for NCI Board virtual meetings. Improved working relationships between DEA and several CBIIT Operation Teams who support Server Management, Equipment Imagining, Service Now Team, etc.; and desktop support operations.

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, contract review, referral and program coordination of FOAs.
- Directly coordinates and manages the NCAB, BSA, and FNLAC activities.
- 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.
- Coordinates, develops, and implements extramural policy.
- Implements NCI policies regarding extramural research integrity and serves as the NCI Research Integrity Office.
- Advises the Scientific Program Leadership (SPL) 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-wide Extramural Program Management Committee (EPMC) with responsibility for development of extramural policy and procedures across all NIH Institutes and Centers.
- Oversees inclusion of genders, minorities, and children.
- Serves as the NCI Research Integrity Office.
- Coordinates, develops, and implements extramural policy.

Paulette Gray, Ph.D. ..... Director
Vacant ..... Deputy Director
Peter Wirth, Ph.D. ..... Assistant Director
Ricardo Rawle ..... Special Assistant to the Director
Kathy Tiong ..... Program Analyst

DEA Processing and Distribution Unit (DPDU)

- Provides services to DEA staff, including the coordination, consolidation, purchasing of supplies, tracking of expenditures, and preparation of meeting folders, Board book and orientation documents, and annual reports.

Ricardo Rawle ..... Lead Program Analyst
Clara Murphy ..... Program Specialist
Adrian Bishop ..... Staff Specialist
Sanjeeb Choudhry ..... File Clerk
Robert Kruth ..... Mail Assistant

Committee Management Office, OD

- Coordinates functionally related Federal advisory committee activities across the Institute and its client-Institutes. The office manages NCI advisory committees, and serves as an NIH Service Center for the NIH Council of Councils (CoC), Advisory Committee to the Director, NIH (ACD), Recombinant DNA Advisory committee (RAC) and to seven National Institute on Alcohol Abuse and Alcoholism (NIAAA) Advisory Committees to ensure that appropriate policies and procedures are in place to conduct the designated mission of each committee.
- Acts as a Service Center to provide advisory committee policy and management services to the Division of Program Coordination, Planning, and Strategic Initiatives, Office of Science Policy, Office of the Director, National Institutes of Health and NIAAA.
- Provides policy guidance to the NCI and client-Institute staff on administrative and technical aspects of Federal Advisory Committees; coordinates activities with all other NCI Advisory Committees; implements policies and procedures designed to avoid conflicts in the nomination, selection, and recruitment of board members; develops CM Module business rules; 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, GSA, HHS, and NIH; provides logistical support for the NCAB, FNLAC, and BSA meetings, subcommittees, and work groups; and facilitates NCAB, FNLAC, and BSA committee-related travel.
- Researches and evaluates financial interests, covered relationships and foreign activities issues for client-Institutes and provides advice on resolutions affecting advisory committee members serving as special government employees.
- Provides administrative support for the peer review system by compensating consultants for their services on NCI IRG subcommittees and SEPs, reimbursing consultants for travel and other expenses, and approving and processing payments for other activities related to review such as hotel contracts and teleconferencing.

Claire L. Harris ..... **Committee Management Officer**
Joy Wiszneauckas ..... **Deputy Committee Management Officer**
Etsegenet Abebe ..... **Committee Management Specialist**
Natasha Copeland* ..... **Senior Committee Management Specialist**
Darnetta King* ..... **Committee Management Specialist**
Ron Livingston† ..... **Senior Committee Management Specialist**
Alonda Lord ..... **Committee Management Specialist**
Rosalind Niamke ..... **Committee Management Specialist**
Kenny Nock‡ ..... **Committee Management Specialist**
Sondra Sheriff† ..... **Senior Committee Management Specialist**
Malaika Staff ..... **Senior Committee Management Specialist**
Margaret Vardanian ..... **Contractor**

*Left in October 2015.
†Joined in November 2015.
‡Joined in January 2016.

Program and Review Extramural Staff Training Office

- Develops and implements both broad-based and focused curricula for NCI Program and Review staff.
- Coordinates training for other extramural staff upon request.
- Identifies and develops resources (electronic and human) to facilitate learning and optimal individual, group, and organizational performance.
- Collaborates with NCI Divisions, Offices, Centers, and groups both internal and external to the NCI to provide customized job-related training and career development opportunities.
- Tracks participation of extramural staff in NIH- and NCI-sponsored training activities.

Michael Small, Ph.D. ..... **Chief**
Scot Chen, Ph.D. ..... **Health Scientist Administrator**
Ivan Ding, M.D. ..... **Health Scientist Administrator**
Gregory Jones ..... **Program Analyst**
Denise Santeufemio ..... **Program Analyst**
Janet Craigie ..... **Program Analyst**
Sheila Hester ..... **Program Analyst**
Lauren McLaughlin ..... **Program Staff Assistant**

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 RTRB, RPRB, SRB, RTCRB, and PCRB.

Shamala Srinivas, Ph.D. ..... **Associate Director**
Catherine Battistone ..... **Program Analyst**
Linda Brown ..... **Secretary**

Special Review Branch (SRB)

- Plans, manages, and assists in the scientific and technical review of grant and cooperative agreement applications received in response to RFAs, PAs, and PARs
- Identifies and recommends appropriate review committee members as required for the review of assigned applications.
- Provides the SROs and other support staff to manage the technical review committees.
- Serves as the information and coordination center for all grant applications and cooperative agreements pending review by the Branch.
- Provides input and advice on grant review policy and procedures, application patterns, research trends, and other related information, as required.

Eun Ah Cho, Ph. D.	**Chief**
Dona Love, Ph.D.	**Scientific Review Officer**
Cliff Schweinfest, Ph.D.	**Scientific Review Officer**
Jennifer Schiltz, Ph.D.*	**Scientific Review Officer**
Viatcheslav Soldatenkov, Ph.D.	**Scientific Review Officer**
Denise Stredrick, Ph.D.†	**Scientific Review Officer**
Yisong Wang, Ph.D.	**Scientific Review Officer**
Thomas Winters, Ph.D.	**Scientific Review Officer**
Zhiqiang Zou, Ph.D.	**Scientific Review Officer**
Thu Nguyen	**Program Analyst**
Tonya Miller‡	**Lead Staff Assistant**
Ezelle Wooden§	**Lead Staff Assistant**
Imela Gradington-Jones	**Staff Assistant**
Danny Prince II‡	**Staff Assistant**
Micah Traurig	**Staff Assistant**

*Joined in October 2015.
†Joined in October 2015.
‡Left in February 2016.

Research Technology and Contract Review Branch (RTCRB)

- Plans, manages, and assists in the scientific and technical merit review of grant and cooperative agreement applications received in response to RFAs and PARs and contract proposals received in response to RFPs.
- Identifies and recommends appropriate review committee members 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 technology-related 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.

Peter J. Wirth, Ph. D. ..... Acting Chief
Kenneth Bielat, Ph.D. ..... Scientific Review Officer
Jeffrey DeClue, Ph.D. ..... Scientific Review Officer
Reed Graves, Ph.D. ..... Scientific Review Officer
Nicholas Kenney, Ph. D.* ..... Scientific Review Officer
Gerard Lacourciere, Ph. D.† ..... Scientific Review Officer
Gerald Lovinger, Ph.D. ..... Scientific Review Officer
Paul Gallourakis ..... Program Analyst
Alisha Craig ..... Staff Assistant
Hanh "Julie" Hoang ..... Staff Assistant
Kimberly Milner ..... Staff Assistant

*Left in July 2016.
†Left in August 2016.

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.
- Refers all NCI-assigned applications to the appropriate cancer activity area(s) according to the NCI Internal Referral Guidelines that define the program interests of each of the 54 cancer activity areas (which typically represent program branches in the NCI extramural divisions).
- Serves as the primary point of contact and provides assistance at the NCI for applicants who want to apply for Program Project (P01), conference grant (R13), Academic Research Enhancement Award (R15), and most large budget grant applications.
- 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.
- 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.

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

Research Programs Review Branch

- Plans, coordinates, and manages the scientific review of program project grants, specialized centers, and other grant mechanisms, as necessary, by Special Emphasis Panels.
- Identifies and recommends appropriate review committee members 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/Offices/Centers and other DEA Branches.

Caron A. Lyman, Ph.D. ..... Chief
Robert Bird, Ph.D.* ..... Special Assistant
Shakeel Ahmad, Ph.D. ..... Scientific Review Officer
Sanita Bharti, Ph. D. ‡ ..... Scientific Review Officer
Caterina Bianco Ph.D. ..... Scientific Review Officer
Majed Hamawy, Ph.D., M.B.A..... Scientific Review Officer
Wlodek Lopaczynski, M.D., Ph.D. ..... Scientific Review Officer
Klaus Piontek, Ph.D. ‡ ..... Scientific Review Officer
David Ransom, Ph.D. ..... Scientific Review Officer**
Delia Tang, M.D. ..... Scientific Review Officer**
Charles Choi..... Program Analyst
Deneen Mattocks ..... Lead Staff Assistant
Shannon Harley ..... Staff Assistant
Kenneth Nock† ..... Staff Assistant
Stefanie Powell ..... Staff Assistant
Cameron Stansbury ..... Staff Assistant

*Moved from the RTRB in January 2016.
**Moved to the RTRB in January 2016.
†Moved to the CMO in January 2016.
‡Joined in April 2016.

Resources and Training Review Branch

- Plans, coordinates, and manages the scientific merit review of cancer center, training, education, and career development grant and cooperative agreement applications by chartered IRG committees and Special Emphasis Panels.
- Arranges for and participates in onsite assessments (site visits) of the research capabilities and facilities of selected applicants (i.e., Cancer Centers).
- 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/Offices/Centers, other DEA Branches, and the Center for Scientific Review.

Shamala Srinivas, Ph.D.	**Acting Chief**
Robert Bird, Ph.D.*	**Chief**
Tushar Deb, Ph.D.	**Scientific Review Officer**
Byeong-Chel Lee, Ph.D.**	**Scientific Review Officer**
Timothy Meeker, M.D.	**Scientific Review Officer**
David Ransom, Ph. D. †	**Scientific Review Officer**
Adriana Stoica, Ph.D.	**Scientific Review Officer**
Delia Tang, M.D. †	**Scientific Review Officer**
Donnell Wilson	**Program Analyst**
Gelia Holloway	**Lead Staff Assistant**
Linda Edwards	**Staff Assistant**
Leslie Kinney	**Staff Assistant**
Bridgette Wilson	**Staff Assistant**

*Moved to the RPRB in January 2016.
**Joined in March 2016.
†Moved from the RPRB in January 2016.

Office of Extramural Applications

- Coordinates activities of the Research Analysis and Evaluation Branch (RAEB) and the Applied Information Systems Branch (AISB).
- Provides budget-linked research portfolio data and coordinates the information management of extramural NCI-supported research.

Amir Sahar-Khiz, Ph.D., M.B.A., PMP .....Associate Director
Justin Rhoderick ..... Program Analyst

Research Analysis and Evaluation Branch (RAEB)

- 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..... Chief
Edward Kyle..... Deputy Chief

Research Documentation

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

Edward Kyle..... Lead Biologist/Team Leader
Beth Buschling ..... Biologist
Me Hei ..... Health Specialist
Bernard Whitfield ..... Biologist
Tyrone Wilson..... Biologist

Technical Operations, Inquiry, and Reporting

- Provides specialized data querying, archiving, and reporting functions for 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 the U.S. 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 (Fiscal Linked Analysis Research Emphasis) grants documentation and indexing database, ensuring reliability and completeness of its contents.
- Maintains and updates archival document files.
- Works with contractors and the AISB to refine RAEB's computer applications to meet the Branch's needs and resolve FLARE computer application problems for the Branch.
- Represents the DEA as its communications coordinator in the Office of Communications and Education Steering Committee.

Vacant ..... **Lead Biologist/Team Leader**
William Clark, M.S. ..... **Biologist**
Rajasri Roy, Ph.D. ..... **Epidemiologist**

Applied Information Systems Branch (AISB)

- Fulfills the information technology (IT) requirements of the Division by coordinating information resources management (IRM) activities with other relevant NCI and NIH units, and by providing 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 and deployment of specialized software and databases systems required for the conduct of review, referral, coding, advisory, and other extramural-related operations.
- Serves as the liaison with the NCI Center for Biomedical Informatics and Information Technology (CBIIT) 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 the DEA Internet and Intranet websites and applications.
- Establishes, administers and monitors IT support contracts to provide design, development, and maintenance for various information storage and retrieval systems that are not covered by CBIIT.
- Formulates and establishes the DEA-specific office automation policy.
- Provides desktop support for the Division and conducts training for the DEA IT applications.
- Coordinates general user support and training with NCI and NIH services.
- Provides Division-specific video teleconferencing, audiovisual services, and application support for review and NCAB activities.
- Reviews user-created applications and/or recommends design changes to improve efficiency and effectiveness.

Gregory Fischetti.....Chief

Application Development Team

- Analyzes and coordinates life-cycle software development for the Division.
- Develops and designs applications to support the Division's business processes.
- Conducts and coordinates security assessment and authorization for the Division's information systems.
- Develops, administers and monitors contracts for acquisition, support, and maintenance of database systems.
- Formulates system development policy, and oversees eRA/IMPAC II operations for the Division.
- Coordinates internal user groups and training for specific DEA applications.

Todd Hardin.....Acting Team Leader
Teresa Park.....Information Technology Specialist
Vivien Yeh .....Information Technology Specialist

Information Management Team

- Designs and maintains the Division's Intranet and Internet websites, identifies documents to be placed on the NCI website, and ensures compliance with relevant federal Web standards, policies, and guidelines.
- Works with DEA staff to ensure accurate and latest information postings and linkages across the DEA Websites.
- Coordinates security assessment and authorization for systems and applications developed and implemented for the Research Analysis and Evaluation Branch (RAEB).
- 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 RAEB 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.

Joshua Rhoderick.....**Team Leader**
Michael Hu.....**Information Technology Specialist**
Lorrie Smith.....**Information Technology Specialist**
Vacant.....**Information Technology Specialist**

Operations Team

- Administers and maintains the Division's server infrastructure in support of DEA applications, databases, and websites.
- Conducts security configuration management in accordance with Federal policies and regulations.
- Implements the Division's operational level security assessment and authorization policies in coordination with CBIIT and NIH.
- Coordinates network connectivity for the Division with CBIIT.
- Researches and recommends IT-related equipment, service and support for the Division.
- Provides end-to-end technical service and end-user support for desktop and laptop computers, mobility solutions, office automation products, and licensed software applications.
- Acquires and administers the Division's computer hardware, software, IT maintenance and supplies.
- Maintains and is accountable for IT equipment inventory for the Division.
- Implements and maintains federal policies for the use of office automation technology.

Richard Florence.....**Team Leader**
Roderick James.....**Information Technology Specialist**
Raymond Vidal.....**Information Technology Specialist**

Table 1a. Requests for Applications (RFAs) Published by the NCI in FY2016

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center
10/8/2015	CA15-024	UG3, UH3	Cancer Detection, Diagnosis, and Treatment Technologies for Global Health	CGH
10/22/2015	CA15-019	U24	Genomic Data Analysis Network: Visualization Genomic Data Center	CSSI
	CA15-020		Genomic Data Analysis Network: Specialized Genomic Data Center	
	CA15-018		Genomic Data Analysis Network: Processing Genomic Data Center	
11/2/2015	CA15-022	U01	Proteogenomic Translational Research for Clinical Proteomic Tumor Analysis Consortium	CSSI
	CA15-021	U24	Proteome Characterization Centers for Clinical Proteomic Tumor Analysis Consortium	
	CA15-023	U24	Proteogenomic Data Analysis Centers for Clinical Proteomic Tumor Analysis Consortium	
12/9/2015	CA16-001	R21	Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research	CSSI
	CA16-003	R21	Innovative Technologies for Cancer-Relevant Biospecimen Science	OD-NCI
	CA16-002	R33	Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research	
	CA16-004	R33	Advanced Development and Validation of Emerging Technologies for Cancer-Relevant Biospecimen Science	
12/21/2015	CA16-005	F99, K00	The NCI Predoctoral to Postdoctoral Fellow Transition Award	CCT
2/17/2016	CA16-008	R44	SBIR Phase II Bridge Awards to Accelerate the Development of Cancer Therapeutics, Imaging Technologies, Interventional Devices, Diagnostics, and Prognostics toward Commercialization	SBIRDC
3/17/2016	CA16-006	U54	Research Centers for Barretts Esophagus Translational Research Network (BETRNet)	DCB
	CA16-007	U24	Coordinating Center for Barrett's Esophagus Translational Research Network (BETRNet)	
	CA16-009	U01	The Early Detection Research Network: Biomarker Developmental Laboratories	DCP
3/29/2016	CA16-013	P01	Revisions to Add Provocative Question-Relevant Research to Active Research Projects	CSSI
	CA16-012	P50	Revisions Applications to P50 Awards for Research on NCI's Provocative Questions	
	CA16-010	R01	Revision Applications to R01 Awards for Research on the NCI's Provocative Questions	
	CA16-011	U01	Revision Applications to U01 Awards for Research on the NCI's Provocative Questions	
7/15/2016	CA16-014	U01	Cancer Target Discovery and Development Network	OCG
8/4/2016	CA16-015	R21	U.S.-Russia Bilateral Collaborative Research Partnerships on Cancer	CGH
9/30/2016	CA16-502	U24	Limited Competition: The Chernobyl Tissue Bank - Coordinating Center	DCB

Source: Office of Referral, Review and Program Coordination.

Table 1b. Requests for Applications (RFAs) Published by the NCI in FY2016

Sorted by Division, Office, and Center

Division, Office, and Center	RFA	Mechanism	Title	Date of Publication
CCT	CA16-005	F99, K00	The NCI Predoctoral to Postdoctoral Fellow Transition Award	12/21/2015
CGH	CA15-024	UG3, UH3	Cancer Detection, Diagnosis, and Treatment Technologies for Global Health	10/8/2015
	CA16-015	R21	U.S.-Russia Bilateral Collaborative Research Partnerships on Cancer	8/4/2016
CSSI	CA15-019	U24	Genomic Data Analysis Network: Visualization Genomic Data Center	10/22/2015
	CA15-020	U24	Genomic Data Analysis Network: Specialized Genomic Data Center	10/22/2015
	CA15-018	U24	Genomic Data Analysis Network: Processing Genomic Data Center	10/22/2015
	CA15-022	U01	Proteogenomic Translational Research for Clinical Proteomic Tumor Analysis Consortium	11/2/2015
	CA15-021	U24	Proteome Characterization Centers for Clinical Proteomic Tumor Analysis Consortium	11/2/2015
	CA15-023	U24	Proteogenomic Data Analysis Centers for Clinical Proteomic Tumor Analysis Consortium	11/2/2015
	CA16-001	R21	Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research	12/9/2015
	CA16-013	P01	Revisions to Add Provocative Question-Relevant Research to Active Research Projects	3/29/2016
	CA16-012	P50	Revisions Applications to P50 Awards for Research on NCI's Provocative Questions	3/29/2016
	CA16-010	R01	Revision Applications to R01 Awards for Research on the NCI's Provocative Questions	3/29/2016
	CA16-011	U01	Revision Applications to U01 Awards for Research on the NCI's Provocative Questions	3/29/2016
DCB	CA16-006	U54	Research Centers for Barretts Esophagus Translational Research Network (BETRNet)	3/17/2016
	CA16-007	U24	Coordinating Center for Barrett's Esophagus Translational Research Network (BETRNet)	3/17/2016
	CA16-502	U24	Limited Competition: The Chernobyl Tissue Bank - Coordinating Center	9/30/2016
DCP	CA16-009	U01	The Early Detection Research Network: Biomarker Developmental Laboratories	3/17/2016
OCG	CA16-014	U01	Cancer Target Discovery and Development Network	7/15/2016
OD-NCI	CA16-003	R21	Innovative Technologies for Cancer-Relevant Biospecimen Science	12/9/2015
	CA16-002	R33	Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research	12/9/2015
	CA16-004	R33	Advanced Development and Validation of Emerging Technologies for Cancer-Relevant Biospecimen Science	12/9/2015
SBIRDC	CA16-008	R44	SBIR Phase II Bridge Awards to Accelerate the Development of Cancer Therapeutics, Imaging Technologies, Interventional Devices, Diagnostics, and Prognostics toward Commercialization	2/17/2016

Source: Office of Referral, Review and Program Coordination.

Table 2. NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2016

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
10/2/2015	HL16-012	UM1	Household Air Pollution (HAP) Health Outcomes Trial	DCCPS	NIH
10/7/2015	RM15-016	UM1	Limited Competition: Knockout Mouse Phenotyping Project Database	All Divisions	NIH-RM
	RM15-017		Limited Competition: Knockout Mouse Production and Phenotyping Project		
10/8/2015	RM15-014	U24	Molecular Transducers of Physical Activity Consortium Coordinating Center (CCC)	All Divisions	NIH-RM
	RM15-010		Molecular Transducers of Physical Activity Genomics, Epigenomics and Transcriptomics Chemical Analysis Sites		
	RM15-011		Molecular Transducers of Physical Activity Metabolomics and Proteomics Chemical Analysis Sites		
	RM15-012		Molecular Transducers of Physical Activity Bioinformatics Center		
	RM15-015	U01	Molecular Transducers of Physical Activity Clinical Centers		
	RM15-013		Molecular Transducers of Physical Activity Preclinical Animal Study Sites		
10/20/2015	RM15-006	DP5	NIH Director's Early Independence Awards	All Divisions	NIH-RM
10/21/2015	AG16-021	U2C	Collaborative Aging (in Place) Research Using Technology (CART)	All Divisions	NIH
10/30/2015	RM15-021	R03	Metabolomics Data Analysis (R03)	All Divisions	NIH-RM
11/2/2015	AG16-020	UH2/UH3	Impact of Aging on Currently Employed Animal Models of Disease and Chronic Conditions: Demonstration Projects	DCB	NIH
11/5/2015	ES15-017	R21	Breast Cancer and the Environment Communication Research Initiative	DCCPS	NIH
	ES15-015	R03			
11/16/2015	RM15-020	OT2	Limited Competition – Stimulating Peripheral Activity to Relieve Conditions (SPARC): Foundational Functional Mapping of Neuroanatomy and Neurobiology of Organs	All Divisions	NIH-RM
	RM15-018				
	PM16-003	U24	Precision Medicine Initiative Cohort Program Participant Technologies Center	OD	NIH-PM
	PM16-004		Precision Medicine Initiative Cohort Program Biobank		
	RM15-003	OT1	Pre-application: Stimulating Peripheral Activity to Relieve Conditions (SPARC): Comprehensive Functional Mapping of Neuroanatomy and Neurobiology of Organs	All Divisions	NIH-RM
	PM16-001	U2C	Precision Medicine Initiative Cohort Program Coordinating Center		NIH-PM
	PM16-002	UG3/UH3	Precision Medicine Initiative Cohort Program Healthcare Provider Organization Enrollment Centers		

continued

Source: Office of Referral, Review and Program Coordination.

Table 2 (cont'd). NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2016

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
12/7/2015	OD16-002	U24	Data Coordinating and Operations Center for the IDeA States Pediatric Clinical Trials Network	All Divisions	NIH
	OD16-003	U24	Environmental Influences on Child Health Outcomes: Patient Reported Outcomes Research Resource Center Core (ECHO PRO Core)		
	OD16-004	UG3/UH3	Environmental Influences on Child Health Outcomes (ECHO) Pediatric Cohorts		
	OD16-005	U24	Environmental Influences on Child Health Outcomes (ECHO) Data Analysis Center		
	OD16-006	U2C	Environmental Influences on Child Health Outcomes (ECHO) Coordinating Center		
	OD16-001	UG1	Clinical Sites for the IDeA States Pediatric Clinical Trials Network		
12/11/2015	AI16-006	R01	U.S.-China Program for Biomedical Collaborative Research	CGH	NIH
1/13/2016	RM16-001	U24	Genome Sequencing Center for the Gabriella Miller Kids First Pediatric Research Program	All Divisions	NIH-RM
2/8/2016	RM16-002	OT1	Pre-application: Stimulating Peripheral Activity to Relieve Conditions (SPARC): Technologies to Understand the Control of Organ Function by the Peripheral Nervous System	All Divisions	NIH-RM
	RM16-003	OT2	Limited Competition – Stimulating Peripheral Activity to Relieve Conditions (SPARC): Technologies to Understand the Control of Organ Function by the Peripheral Nervous System		
2/25/2016	RM16-009	U18	Stimulating Peripheral Activity to Relieve Conditions (SPARC): Pre-clinical Development of Existing Market-approved Devices to Support New Market Indications	All Divisions	NIH-RM
3/9/2016	RM16-006	DP5	NIH Director's Early Independence Awards	All Divisions	NIH-RM
4/1/2016	RM16-007	R01	NIH Director's Transformative Research Awards	All Divisions	NIH-RM
	RM16-004	DP2	NIH Director's New Innovator Award Program		
	RM16-005	DP1	NIH Pioneer Award Program		
5/4/2016	ES16-003	K22	BD2K Mentored Career Development Award in Biomedical Big Data Science for Intramural Investigators	CCT	NIH
5/4/2016	ES16-002	K01	BD2K Mentored Career Development Award in Biomedical Big Data Science for Clinicians and Doctorally Prepared Scientists	CCT	NIH
5/6/2016	HG16-010	U01	Clinical Sequencing Evidence-Generating Research (CSER2) - Clinical Sites	DCCPS	NIH
	HG16-011		Clinical Sequencing Evidence-Generating Research (CSER2) - Clinical Sites with Enhanced Diversity		
5/9/2016	LM16-002	T32	BD2K Predoctoral Training in Biomedical Big Data Science	CCT	NIH

continued

Source: Office of Referral, Review and Program Coordination.

Table 2 (cont'd). NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2016

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
5/11/2016	AI16-040	U01	Revision Applications for U.S-South Africa Program for Collaborative Biomedical Research	OHAM	NIH
	AI16-039	R01	Revision Applications for U.S-South Africa Program for Collaborative Biomedical Research		
5/18/2016	HG16-016	R25	BD2K Open Educational Resources for Skills Development in Biomedical Big Data Science	CCT	NIH
6/21/2016	AA17-006	R01	U.S.-Russia Bilateral Collaborative Research Partnerships (CRP) on the Prevention and Treatment of HIV/AIDS and HIV-Associated Comorbidities	OHAM	NIH
7/11/2016	TW16-003	R01	International Tobacco, and Health Research and Capacity Building Program	DCCPS	NIH
7/14/2016	OD16-013	K12	Building Interdisciplinary Research Careers in Women's Health	CCT	NIH
	RM16-010	U2C	Development of the Gabriella Miller Kids First Pediatric Data Resource Center	All Divisions	NIH-RM
8/8/2016	MD16-002	R25	NIH Big Data to Knowledge (BD2K) Enhancing Diversity in Biomedical Data Science	CCT	NIH
8/9/2016	RM16-017	U24	Human Heredity and Health in Africa (H3Africa): Coordinating Center	All Divisions	NIH-RM
	RM16-016	U54	Human Heredity and Health in Africa (H3 Africa): Collaborative Centers		
	RM16-012	U2R	Human Heredity and Health in Africa (H3Africa): Global Health Bioinformatics Research Training Program		
	RM16-015	U01	Human Heredity and Health in Africa (H3Africa): Research Projects		
	RM16-014	U54	Human Heredity and Health in Africa (H3Africa): Ethical, Legal, and Societal Issues (ELSI) Collaborative Centers		
	RM16-013	U01	Human Heredity and Health in Africa (H3Africa): Ethical, Legal, and Societal Issues (ELSI) Research Program		
	RM16-011	U24	Human Heredity and Health in Africa (H3Africa): Informatics Network		
8/10/2016	ES16-011	R25	BD2K Research Education Curriculum Development: Data Science Overview for Biomedical Scientists	CCT	NIH
8/16/2016	ES16-010	R24	Big Data to Knowledge (BD2K) Community-based Data and Metadata Standards Efforts	All Divisions	
8/19/2016	HL17-018	UG1	Core Clinical Centers for the Blood and Marrow Transplant Clinical Trials Network	DCTD	NIH
	HL17-019	U24	Limited Competition: Data Coordinating Center for the Blood and Marrow Transplant Clinical Trials Network		

continued

Source: Office of Referral, Review and Program Coordination.

Table 2 (cont'd). NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2016

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
8/24/2016	LM17-001	U01	Big Data to Knowledge (BD2K) Enhancing the Efficiency and Effectiveness of Digital Curation for Biomedical Big Data	All Divisions	NIH
9/16/2016	RM16-022		Novel and Innovative Tools to Facilitate Identification, Tracking, Manipulation, and Analysis of Glycans and their Functions	All Divisions	NIH-RM
	RM16-021		Data Integration and Analysis Tools: Accessible Resources for Integration and Analysis of Carbohydrate and Glycoconjugate Data in the Context of Comparable Gene, Protein, and Lipid Data		
	RM16-020		Facile Methods and Technologies for Synthesis of Biomedically Relevant Carbohydrates		
	RM16-023		Innovative Adaptations to Simplify Existing Technologies for Manipulation and Analysis of Glycans	DCP	

Source: Office of Referral, Review and Program Coordination.

Table 3a. Program Announcements (PAs) Published by the NCI in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
10/23/2015	PA16-011	R21	Examination of Survivorship Care Planning Efficacy and Impact	DCCPS
	PA16-012	R01		
10/28/2015	PA16-019	333	Innovation Corps (I-Corps) at NIH Program for NIH and CDC Phase I Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Grantees (Admin Supp)	SBIRDC
11/2/2015	PAR16-025	R50	NCI Research Specialist Award	DCB
11/17/2015	PA16-035	R01	Improving Outcomes in Cancer Treatment-Related Cardiotoxicity	DCCPS
	PA16-036	R21		
11/24/2015	PAR16-044	R01	Image-guided Drug Delivery	DCTD
12/7/2015	PAR16-050	U24	Small Cell Lung Cancer (SCLC) Consortium: Coordinating Center	DCTD
	PAR16-049	U01	Small-Cell Lung Cancer (SCLC) Consortium: Therapeutic Development and Mechanisms of Resistance	
	PAR16-051		Small-Cell Lung Cancer (SCLC) Consortium: Innovative Approaches to the Prevention and Early Detection of Small Cell Lung Cancer	DCP
12/10/2015	PAR16-056	U10	Revision Applications for Assay Validation For High Quality Markers For NCI-Supported Clinical Trials	DCCPS
12/11/2015	PAR16-058	R01	Collaborative Research Projects to Enhance Applicability of Mammalian Models for Translational Research (Collaborative R01)	DCB
	PAR16-059		Research Projects to Enhance Applicability of Mammalian Models for Translational Research	
1/14/2016	PAR16-084	P20	Feasibility Studies to Build Collaborative Partnerships in Cancer Research	CRCHD
1/19/2016	PA16-086	333	Supplements to Promote Clinical Research Studies on Pediatric Burkitt Lymphoma in Low- and Middle-Income Countries (Admin Supp)	CGH
1/25/2016	PAR16-089	U01	Imaging and Biomarkers for Early Cancer Detection	DCTD
2/19/2016	PAR16-105	U01	Cancer Tissue Engineering Collaborative: Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research	DCP
2/23/2016	PAR16-111	U01	Cooperative Agreement to Develop Targeted Agents for Use with Systemic Agents Plus Radiotherapy	DCTD
3/9/2016	PAR16-123	R21	Physical Activity and Weight Control Interventions Among Cancer Survivors: Effects on Biomarkers of Prognosis and Survival	DCP
	PAR16-122	R01		
3/11/2016	PAR16-131	U01	Emerging Questions in Cancer Systems Biology	DCCPS
3/17/2016	PAR16-139	R25	Cancer Research Education Grants Program to Promote Diversity – Courses for Skills Development	CCT
	PAR16-138		Cancer Research Education Grants Program to Promote Diversity – Research Experiences	
4/5/2016	PAR16-166	U01	Integrating Biospecimen Science into Clinical Assay Development	DCTD

continued

Source: Office of Referral, Review and Program Coordination.

Table 3a (cont'd). Program Announcements (PAs) Published by the NCI in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
4/8/2016	PA16-177	R21	Pilot and Feasibility Studies Evaluating the Role of RNA Modifications (the 'epitranscriptome') in Cancer Biology	DCB
	PAR16-176		NCI Clinical and Translational Exploratory/Developmental Studies	DCTD
	PA16-175		Exploratory Grants in Cancer Epidemiology and Genomics Research	DCCPS
4/14/201 6	PAR16-189	K12	Paul Calabresi Career Development Award for Clinical Oncology	CCT
4/18/2016	PAR16-201	R21	Improving Smoking Cessation in Socioeconomically Disadvantaged Populations via Scalable Interventions	DCCPS
	PAR16-202	R01		DCCPS
4/21/2016	PAR16-212	R01	Leveraging Cognitive Neuroscience Research to Improve Assessment of Cancer Treatment Related Cognitive Impairment	DCCPS
	PAR16-213	R21	Leveraging Cognitive Neuroscience to Improve Assessment of Cancer Treatment-Related Cognitive Impairment	DCCPS
4/26/2016	PAR16-218	R01	Research Answers to NCIs Pediatric Provocative Questions	CSSI
4/27/2016	PAR16-217	R21	Research Answers to NCIs Pediatric Provocative Questions	CSSI
5/5/2016	PAR16-227	R01	The Role of Mobile Genetic Elements in Cancer	DCB
	PAR16-226	R21		
5/6/2016	PAR16-228	R01	Metabolic Reprogramming to Improve Immunotherapy	DCB
	PAR16-229	R21		
5/9/2016	PAR16-246	R21	Neural Regulation of Cancer	DCB
	PAR16-245	R01		
5/10/2016	PAR16-252	R21	Gene Fusions in Pediatric Sarcomas	DCB
	PAR16-251	R01		
	PA16-251	R01		
	PA16-252	R21		
	PAR16-236	R21	Dissemination and Implementation Research in Health	DCCPS
	PAR16-237	R03		
	PAR16-238	R01		
	PAR16-249		Innovative Approaches to Studying Cancer Communication in the New Media Environment	
	PAR16-248	R21		
5/11/2016	PAR16-256	R01	Cancer-related Behavioral Research through Integrating Existing Data	DCCPS
	PAR16-255	R21		
	PAR16-257		Predicting Behavioral Responses to Population-Level Cancer Control Strategies	
5/16/2016	PA16-258	R21	Mechanisms of Cancer and Treatment-related Symptoms and Toxicities	DCP
5/23/2016	PAR16-276	R01	Program to Assess the Rigor and Reproducibility of Exosome-Derived Analytes for Cancer Detection	DCP
	PAR16-277	R21		

Source: Office of Referral, Review and Program Coordination.

Table 3a (cont'd). Program Announcements (PAs) Published by the NCI in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
5/25/2016	PAR16-278	R21	Stimulating Innovations in Behavioral Intervention Research for Cancer Prevention and Control	DCCPS
	PAR16-284	K07	Cancer Prevention, Control, Behavioral Sciences, and Population Sciences Career Development Award	CCT
5/26/2016	PAR16-293	K22	The NCI Transition Career Development Award	CCT
6/8/2016	PAR16-318	R21	Intervening with Cancer Caregivers to Improve Patient Health Outcomes and Optimize Health Care Utilization	DCCPS
	PAR16-317	R01		DCCPS
6/16/2016	PAR16-336	R21	Linking the Provider Recommendation to Adolescent HPV Vaccine Uptake	DCCPS
	PAR16-337	R03		
	PAR16-338	R01		
6/24/2016	PAR16-344	U01	Biological Comparisons in Patient-Derived Models of Cancer	DCB CRCHD
6/29/2016	PAR16-349	UG3 UH3	New Informatics Tools and Methods to Enhance US Cancer Surveillance and Research	DCCPS
7/29/2016	PAR16-380	R01	Fundamental Mechanisms of Affective and Decisional Processes in Cancer Control	DCCPS
8/5/2016	PAR16-385	U24	Oncology Co-Clinical Imaging Research Resources to Encourage Consensus on Quantitative Imaging Methods and Precision Medicine	DCTD, DCB DCP
8/11/2016	PAR16-400	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity	CCT
	PAR16-399	K23	NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity	
	PAR16-401	K01	NCI Mentored Research Scientist Development Award to Promote Diversity	
8/17/2016	PAR16-411	R35	NCI Outstanding Investigator Award	DCB
8/25/2016	PA16-414	333	Innovation Corps (I-Corps) at NIH Program for NIH and CDC Phase I Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Grantees (Admin Supp)	SBIRDC
8/26/2016	PAR16-416	R03	NCI Small Grants Program for Cancer Research (NCI Omnibus R03)	All Divisions
9/7/2016	PA16-426	R01	"High" or "Medium" Priority AIDS Research on Non-AIDS-defining or AIDS-defining Cancers	DCCPS
	PA16-425	R21		

Source: Office of Referral, Review and Program Coordination.

Table 3b. Program Announcements (PAs) Published by the NCI in FY2016

Sorted by Division, Office, and Center

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
ALL DIVISIONS	PAR16-416	R03	NCI Small Grants Program for Cancer Research (NCI Omnibus R03)	8/26/2016
CCT	PAR16-139	R25	Cancer Research Education Grants Program to Promote Diversity – Courses for Skills Development	3/17/2016
	PAR16-138		Cancer Research Education Grants Program to Promote Diversity – Research Experiences	3/17/2016
	PAR16-189	K12	Paul Calabresi Career Development Award for Clinical Oncology	4/14/2016
	PAR16-284	K07	Cancer Prevention, Control, Behavioral Sciences, and Population Sciences Career Development Award	5/25/2016
	PAR16-293	K22	The NCI Transition Career Development Award	
	PAR16-400	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity	8/11/2016
	PAR16-399	K23	NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity	
	PAR16-401	K01	NCI Mentored Research Scientist Development Award to Promote Diversity	
CGH	PA16-086	333	Supplements to Promote Clinical Research Studies on Pediatric Burkitt Lymphoma in Low- and Middle-Income Countries (Admin Supp)	1/19/2016
CRCHD	PAR16-084	P20	Feasibility Studies to Build Collaborative Partnerships in Cancer Research	1/14/2016
CSSI	PAR16-218	R01	Research Answers to NCI's Pediatric Provocative Questions	4/26/2016
	PAR16-217	R21		4/27/2016
DCB	PAR16-025	R50	NCI Research Specialist Award	11/2/2015
	PAR16-058	R01	Collaborative Research Projects to Enhance Applicability of Mammalian Models for Translational Research (Collaborative R01)	12/11/2015
	PAR16-059		Research Projects to Enhance Applicability of Mammalian Models for Translational Research	
	PA16-177	R21	Pilot and Feasibility Studies Evaluating the Role of RNA Modifications (the "epitranscriptome") in Cancer Biology	4/8/2016
	PAR16-227	R01	The Role of Mobile Genetic Elements in Cancer	5/5/2016
	PAR16-226	R21		
	PAR16-228	R01	Metabolic Reprogramming to Improve Immunotherapy	5/6/2016
	PAR16-229	R21		
	PAR16-246		Neural Regulation of Cancer	5/9/2016
	PAR16-245	R01		
	PAR16-252	R21	Gene Fusions in Pediatric Sarcomas	5/10/2016
	PAR16-251	R01		
	PA16-251			
	PA16-252	R21		
	PAR16-411	R35	NCI Outstanding Investigator Award	8/17/2016

continued

Source: Office of Referral, Review and Program Coordination.

Table 3b (cont'd). Program Announcements (PAs) Published by the NCI in FY2016

Sorted by Division, Office, and Center

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
DCB CRCHD	PAR16-344	U01	Biological Comparisons in Patient-Derived Models of Cancer	6/24/2016
DCCPS	PA16-011	R21	Examination of Survivorship Care Planning Efficacy and Impact	10/23/2015
	PA16-012	R01		
	PA16-035		Improving Outcomes in Cancer Treatment-Related Cardiotoxicity	11/17/2015
	PA16-036	R21		
	PAR16-056	U10	Revision Applications for Assay Validation for High Quality Markers for NCI-Supported Clinical Trials	12/10/2015
	PAR16-131	U01	Emerging Questions in Cancer Systems Biology	3/11/2016
	PA16-175	R21	Exploratory Grants in Cancer Epidemiology and Genomics Research	4/8/2016
	PAR16-201		Improving Smoking Cessation in Socioeconomically Disadvantaged Populations via Scalable Interventions	4/18/2016
	PAR16-202	R01	Improving Smoking Cessation in Socioeconomically Disadvantaged Populations via Scalable Interventions	4/18/2016
	PAR16-212		Leveraging Cognitive Neuroscience Research to Improve Assessment of Cancer Treatment Related Cognitive Impairment	4/21/2016
	PAR16-213	R21		
	PAR16-236		Dissemination and Implementation Research in Health	5/10/2016
	PAR16-237	R03		
	PAR16-238	R01		
	PAR16-249		Innovative Approaches to Studying Cancer Communication in the New Media Environment	
	PAR16-248	R21		
	PAR16-255		Cancer-related Behavioral Research through Integrating Existing Data	
	PAR16-256	R01		5/11/2016
	PAR16-257	R21	Predicting Behavioral Responses to Population-Level Cancer Control Strategies	
	PAR16-278		Stimulating Innovations in Behavioral Intervention Research for Cancer Prevention and Control	5/23/2016
	PAR16-318		Intervening with Cancer Caregivers to Improve Patient Health Outcomes and Optimize Health Care Utilization	6/8/2016
	PAR16-317	R01		
	PAR16-336	R21	Linking the Provider Recommendation to Adolescent HPV Vaccine Uptake	6/16/2016
	PAR16-337	R03		
	PAR16-338	R01		
	PAR16-349	UG3 UH3	New Informatics Tools and Methods to Enhance US Cancer Surveillance and Research	6/29/2016
	PAR16-380	R01	Fundamental Mechanisms of Affective and Decisional Processes in Cancer Control	7/29/2016
	PA16-426	R01	"High" or "Medium" Priority AIDS Research on Non-AIDS-defining or AIDS-defining Cancers	9/7/2016
	PA16-425	R21		

continued

Source: Office of Referral, Review and Program Coordination.

Table 3b (cont'd). Program Announcements (PAs) Published by the NCI in FY2016

Sorted by Division, Office, and Center

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
DCP	PAR16-051	U01	Small-Cell Lung Cancer (SCLC) Consortium: Innovative Approaches to the Prevention and Early Detection of Small Cell Lung Cancer	12/7/2015
	PAR16-105		Cancer Tissue Engineering Collaborative: Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research	2/19/2016
	PAR16-123	R21	Physical Activity and Weight Control Interventions Among Cancer Survivors: Effects on Biomarkers of Prognosis and Survival	3/9/2016
	PAR16-122	R01		
	PA16-258	R21	Mechanisms of Cancer and Treatment-related Symptoms and Toxicities	5/16/2016
	PAR16-276	R01	Program to Assess the Rigor and Reproducibility of Exosome-Derived Analytes for Cancer Detection	5/23/2016
	PAR16-277	R21		
DCTD	PAR16-044	R01	Image-guided Drug Delivery	11/24/2015
	PAR16-050	U24	Small Cell Lung Cancer (SCLC) Consortium: Coordinating Center	12/7/2015
	PAR16-049	U01	Small-Cell Lung Cancer (SCLC) Consortium: Therapeutic Development and Mechanisms of Resistance	
	PAR16-089		Imaging and Biomarkers for Early Cancer Detection	1/25/2016
	PAR16-111		Cooperative Agreement to Develop Targeted Agents for Use with Systemic Agents Plus Radiotherapy	2/23/2016
	PAR16-166		Integrating Biospecimen Science into Clinical Assay Development	4/5/2016
	PAR16-176	R21	NCI Clinical and Translational Exploratory/Developmental Studies	4/8/2016
DCTD/DCB DCP	PAR16-385	U24	Oncology Co-Clinical Imaging Research Resources to Encourage Consensus on Quantitative Imaging Methods and Precision Medicine	8/5/2016
SBIRDC	PA16-019	333	Innovation Corps (I-Corps) at NIH Program for NIH and CDC Phase I Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Grantees (Admin Supp)	10/28/2015
	PA16-414			8/25/2016

Source: Office of Referral, Review and Program Coordination.

Table 4. NCI Participation in Trans-NIH Program Announcements (PA/PARs) in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
10/9/2015	PA16-005	333	Collaborative Activities to Promote Metabolomics Research (Admin Supp)	DCB	NIH
11/20/2015	PA16-040	R21	Exploratory/Developmental Bioengineering Research Grants (EBRG)	DCTD	NIH
11/24/2015	PA16-043	R01	Revision Applications for Validation of Mobile/Wireless Health Tools for Measurement and Intervention	OD	NIH
12/4/2015	PA16-048	333	Administrative Supplements to NIH Awards for Validation Studies of Analytical Methods for Natural Products (Admin Supp)	DCP	NIH
12/9/2015	PAR16-052	R21	Global Noncommunicable Diseases and Injury Across the Lifespan: Exploratory Research	DCCPS	NIH
1/5/2016	PA16-066	333	Administrative Supplements for Research on Sex/Gender Differences (Admin Supp)		NIH
1/8/2016	PA16-077	K99 R00	NIH Pathway to Independence Award	CCT	NIH
1/12/2016	PAR16-079	R03	Education and Health: New Frontiers	DCCPS	NIH
	PAR16-078	R21			
	PAR16-080	R01			
2/11/2016	PAR16-095	R21	Basic Biopsychosocial Mechanisms and Processes in the Management of Chronic Conditions	DCCPS	NIH
3/2/2016	PAR16-116	U01	Bioengineering Research Partnerships	All Divisions	NIH
3/22/2016	PA16-146	R01	Population Health Interventions: Integrating Individual and Group Level Evidence	DCCPS	NIH
	PA16-147	R21			
3/24/2016	PAR16-150	X01	Discovery of the Genetic Basis of Childhood Cancers and of Structural Birth Defects: Gabriella Miller Kids First Pediatric Research Program	DCTD	NIH
3/25/2016	PA16-152	T32	Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grant	CCT	NIH
3/31/2016	PA16-160	R01	NIH Research Project Grant	All Divisions	NIH
4/4/2016	PA16-165	R01	Obesity Policy Evaluation Research	DCCPS	NIH
4/6/2016	PA16-167	R01	Diet and Physical Activity Assessment Methodology	DCCPS	NIH
4/14/2016	PA16-187	R21	Mechanisms, Models, Measurement, and Management in Pain Research	DCP	NIH
	PA16-188	R01			

continued

Source: Office of Referral, Review and Program Coordination.

Table 4 (cont'd). NCI Participation in Trans-NIH Program Announcements (PA/PARs) in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
4/15/2016	PA16-198	K23	Mentored Patient-Oriented Research Career Development Award	CCT	NIH
	PA16-193	K99 R00	NIH Pathway to Independence Award		
	PA16-191	K08	Mentored Clinical Scientist Research Career Development Award		
	PA16-186	R43 R44	Tools for Cell Line Identification	SBIRDC	
4/18/2016	PA16-200	R15	Academic Research Enhancement Award	All Divisions	NIH
	PAR16-203	R00 SI2	Lasker Clinical Research Scholars Program	CCT	
5/10/2016	PAR16-242	R01	Bioengineering Research Grants (BRG)	All Divisions	NIH
	PAR16-234	R01	Accelerating the Pace of Drug Abuse Research Using Existing Data	DCCPS	
5/16/2016	PAR16-260	R01	Methodology and Measurement in the Behavioral and Social Sciences	DCCPS	NIH
	PAR16-261	R21			
5/19/2016	PAR16-275	R01	Serious Adverse Drug Reaction Research	DCTD	NIH
	PAR16-274	R21			
5/23/2016	PAR16-279	D43	Fogarty HIV Research Training Program for Low-and Middle-Income Country Institutions	OHAM	NIH
5/24/2016	PA16-289	333	Research Supplements to Promote Re-Entry into Biomedical and Behavioral Research Careers (Admin Supp)	All Divisions	NIH
	PA16-287	333	Administrative Supplements to Existing NIH Grants and Cooperative Agreements (Admin Supp)		
	PA16-286	666	Successor-in-Interest (Type 6 Parent)		
	PA16-285	777	Change of Grantee Organization (Type 7 Parent)		
5/25/2016	PA16-288	333	Research Supplements to Promote Diversity in Health-Related Research (Admin Supp)	All Divisions	NIH/CDC NIOSH
5/26/2016	PA16-294	R13	NIH Support for Conferences and Scientific Meetings (Parent R13)	All Divisions	NIH
	PAR16-291	R21 R33	Integrative Research on Polysubstance Abuse and Addiction	DCCPS	
	PAR16-292	R21	Mobile Health: Technology and Outcomes in Low and Middle Income Countries	CGH	
5/27/2016	PAR16-297	S06	Native American Research Centers for Health (NARCH)	CRCHD	NIH

continued

Source: Office of Referral, Review and Program Coordination.

Table 4 (cont'd). NCI Participation in Trans-NIH Program Announcements (PA/PARs) in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
6/3/2016	PA16-309	F31	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship	CCT	NIH
	PA16-308	F31	Ruth L. Kirschstein National Research Service Award Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research		
	PA16-307	F32	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship		
	PA16-303	R41 R42	PHS 2016-02 Omnibus Solicitation of the NIH for Small Business Technology Transfer Grant Applications	SBIRDC	NIH
	PA16-305	F30	Ruth L. Kirschstein National Research Service Award (NRSA) Fellowship for Students at Institutions With NIH-Funded Institutional Predoctoral Dual-Degree Training Programs	CCT	NIH
	PA16-306	F30	Ruth L. Kirschstein National Research Service Award (NRSA) Fellowship for Students at Institutions Without NIH-Funded Institutional Predoctoral Dual-Degree Training Programs		
	PA16-310	F33	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Senior Fellowship		
	PA16-302	R43 R44	PHS 2016-02 Omnibus Solicitation of the NIH, CDC, FDA and ACF for Small Business Innovation Research Grant Applications (Parent SBIR	SBIRDC	NIH/CDC FDA/ACF
6/9/2016	PA16-319	333	Administrative Supplements for Research on Dietary Supplements (Admin Supp)	DCP	NIH
6/13/2016	PAR16-326	UG3 UH3	Advancing Basic Behavioral and Social Research on Resilience: An Integrative Science Approach	DCCPS	NIH
6/15/2016	PA16-332	R01	Nutrigenetics and Nutrigenomics Approaches for Nutrition Research	DCP	NIH
6/16/2016	PA16-334	333	Science of Behavior Change: Use-inspired Basic Research to Optimize Behavior Change Interventions and Outcomes (Admin Supp)	DCP	NIH
6/29/2016	PAR16-348	R03	Small Research Grants for Analyses of Data for the Gabriella Miller Kids First Data Resource	DCTD	NIH
6/30/2016	PAR16-350	R25	Clinical Research Education and Career Development (CRECD) Program	CCT	NIH
7/1/2016	PAR16-353	R21 R33	Target Assessment, Engagement and Data Replicability to Improve Substance Use Disorders Treatment Outcomes	DCCPS	NIH
	PAR16-352	R33			
7/7/2016	PAR16-355	R01	Social Epigenomics Research Focused on Minority Health and Health Disparities	DCCPS	NIH
	PAR16-356	R21			
7/13/2016	PAR16-368	R33	Advanced-Stage Development and Utilization of Research Infrastructure for Interdisciplinary Aging Studies	DCCPS	NIH
	PAR16-367	R21 R33	Research Infrastructure Development for Interdisciplinary Aging Studies		

continued

Source: Office of Referral, Review and Program Coordination.

Table 4 (cont'd). NCI Participation in Trans-NIH Program Announcements (PA/PARs) in FY2016

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH-IC
8/5/2016	PAR16-392	R21	Exploratory/Developmental Surgical Disparities Research	DCCPS	NIH
	PAR16-391	R01	Surgical Disparities Research		
8/10/2016	PA16-395	R01	Secondary Analyses of Alcohol and Chronic Disease	DCCPS	NIH
9/21/2016	PAR16-439	SC1	Support of Competitive Research (SCORE) Research Advancement Award	CRCHD	NIH
	PAR16-438	SC2	Support of Competitive Research (SCORE) Pilot Project Award		
9/30/2016	PAR16-455	R01	Multi-Site Studies for System-Level Implementation of Substance Use Prevention and Treatment Services	DCCPS	NIH

Source: Office of Referral, Review and Program Coordination.

Table 5. Applications Received for Referral by the NCI/DEA in FY2016

Sorted by Activity Code

Applications	Activity Code	Total by Activity	Applications by NCAB			Total Costs Requested First Year
			Feb	June	Sept	
International Training Grants in Epidemiology (FIC)	D43	2	2	0	0	$460,573
NIH Director's Pioneer Award (NDPA)	DP1	1	0	1	0	$3,500,000
NIH Director's New Innovator Awards	DP2	3	0	3	0	$4,500,000
Individual Predoctoral NRSA for M.D./Ph.D. Fellowships (ADAMHA)	F30	179	49	67	63	$0
Predoctoral Individual National Research Service Award	F31	378	108	142	128	$0
Postdoctoral Individual National Research Service Award	F32	268	66	121	81	$0
National Research Service Award for Senior Fellows	F33	2	2	0	0	$0
Pre-doc to Post-doc Transition Award	F99	76	0	0	76	$0
Research Scientist Development Award-Research and Training	K01	28	6	9	13	$4,011,029
Academic/Teacher Award	K07	74	24	18	32	$11,282,879
Clinical Investigator Award	K08	69	22	25	22	$11,204,566
Physician Scientist Award (Program)	K12	9	9	0	0	$5,548,424
Career Transition Award	K22	99	33	31	35	$16,559,490
Mentored Patient-Oriented Research Devel Award	K23	33	11	13	9	$5,535,640
Mid-Career Investigator Award in Patient-Oriented Research	K24	10	4	1	5	$1,578,557
Mentored Quantitative Research Career Development	K25	28	12	8	8	$4,140,703
International Research Career Development Award	K43	3	0	3	0	$180,073
Career Transition Award	K99	182	64	57	61	$22,265,084
Research Program Projects	P01	76	20	27	29	$181,889,799
Exploratory Grants	P20	46	0	38	8	$12,493,148
Center Core Grants	P30	16	5	6	5	$35,565,216
Specialized Center	P50	42	8	19	15	$98,728,506
Research Project	R01	6,691	2,235	2,322	2,134	$3,364,441,977
Small Research Grants	R03	716	189	168	359	$62,913,442
Conferences	R13	131	49	40	42	$4,513,688
Academic Research Enhancement Awards (AREA)	R15	329	88	127	114	$140,368,696
Exploratory/Developmental Grants	R21	2,936	1,170	1,449	317	$664,255,555
Education Projects	R25	43	21	19	3	$9,778,134
Exploratory/Developmental Grants — Phase II	R33	95	27	29	39	$40,980,406

continued

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 416 withdrawn applications that have been subtracted from the total count.

Table 5 (cont'd). Applications Received for Referral by the NCI/DEA in FY2016

Sorted by Activity Code

Applications	Activity Code	Total by Activity	Applications by NCAB			Total Costs Requested First Year
			Feb	June	Sept	
Outstanding Investigator Award	R35	166	0	166	0	$160,433,289
Small Business Technology Transfer (STTR) Grants — Phase I	R41	264	102	74	88	$62,446,308
Small Business Technology Transfer (STTR) Grants — Phase II	R42	35	15	10	10	$18,397,533
Small Business Innovation Research Grants (SBIR) — Phase I	R43	743	263	214	266	$167,126,772
Small Business Innovation Research Grants (SBIR) — Phase II	R44	331	114	116	101	$215,147,367
Research Specialist Award	R50	219	0	0	219	$36,246,690
High Priority, Short Term Project Award	R56	8	3	5	0	$423,750
Research Project with Complex Structure	RM1	1	1	0	0	$3,709,701
Commercialization Readiness Program	SB1	3	0	2	1	$981,311
Research Enhancement Award	SC1	11	8	0	3	$3,935,132
Pilot Resarch Project	SC2	22	19	0	3	$3,117,951
Intramural Clinical Scholar Research Award	SI2	5	5	0	0	$0
Institutional National Research Service Award	T32	121	57	35	29	$52,685,190
Research Project (Cooperative Agreements)	U01	501	127	223	151	$396,300,626
Conference (Cooperative Agreement)	U13	3	1	2	0	$54,305
Resource-Related Research Project (Cooperative Agreements)	U24	115	19	28	68	$99,879,444
Resource-Related Research Multi-Component Projects and Centers Cooperative Agreements	U2C	5	0	0	5	$8,784,625
Biotechnology Resource (Cooperative Agreements)	U41	2	0	1	1	$4,500,346
Specialized Center (Cooperative Agreements)	U54	49	1	36	12	$107,923,647
Phase 1 Exploratory/Developmental Cooperative Agreement	UG3	33	0	0	33	$14,664,716
Exploratory/Developmental Cooperative Agreement — Phase I	UH2	93	57	9	27	$24,614,091
Exploratory/Developmental Cooperative Agreement — Phase II	UH3	2	0	1	1	$859,818
Research Project with Complex Structure Cooperative Agreement	UM1	16	10	1	5	$49,491,258
Pre-application	X02	14	0	14	0	$0
Overall Totals		**15,327**	**5,026**	**5,680**	**4,621**	**$6,138,419,455**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 416 withdrawn applications that have been subtracted from the total count.

Table 6. Grant and Cooperative Agreement Applications Reviewed by the NCI/DEA in FY2016

Sorted by Activity Code

Applications	Activity Code	Total by Activity	Applications by NCAB			Total Costs Requested First Year
			Feb	June	Sept	
Pre-doc to Post-doc Transition Award	F99	76	0	0	76	$0
Research Scientist Development Award – Research and Training	K01	23	6	9	8	$3,335,515
Academic/Teacher Award	K07	74	24	18	32	$11,282,879
Clinical Investigator Award	K08	61	20	24	17	$9,923,622
Physician Scientist Award (Program)	K12	9	9	0	0	$5,548,424
Career Transition Award	K22	99	33	31	35	$16,559,490
Mentored Patient-Oriented Research Development Award	K23	29	8	12	9	$4,948,500
Mid-Career Investigator Award in Patient-Oriented Research	K24	9	3	1	5	$1,416,916
Mentored Quantitative Research Career Development	K25	28	12	8	8	$4,140,703
Career Transition Award	K99	169	61	52	56	$20,985,753
Research Program Projects	P01	76	20	27	29	$181,889,799
Exploratory Grants	P20	46	0	38	8	$12,493,148
Center Core Grants	P30	14	3	6	5	$35,565,216
Specialized Center	P50	42	8	19	15	$98,728,506
Research Project	R01	259	112	141	6	$151,813,126
Small Research Grants	R03	559	148	160	251	$43,361,337
Conferences	R13	80	25	26	29	$2,814,144
Exploratory/Developmental Grants	R21	2,193	958	1,177	58	$492,950,969
Education Projects	R25	26	14	9	3	$6,248,844
Exploratory/Developmental Grants — Phase II	R33	94	26	29	39	$40,721,658
Outstanding Investigator Award	R35	166	0	166	0	$160,433,289
Research Specialist Award	R50	219	0	0	219	$36,246,690
Intramural Clinical Scholar Research Award	SI2	5	5	0	0	$0
Institutional National Research Service Award	T32	87	28	35	24	$33,898,815
Research Project (Cooperative Agreements)	U01	409	110	159	140	$332,321,237
Conference (Cooperative Agreement)	U13	1	1	0	0	$18,500
Resource-Related Research Project (Cooperative Agreements)	U24	115	19	28	68	$99,879,444
Specialized Center (Cooperative Agreements)	U54	48	0	36	12	$105,848,933
Phase 1 Exploratory/Developmental Cooperative Agreement	UG3	33	0	0	33	$14,664,716
Exploratory/Developmental Cooperative Agreement Phase I	UH2	30	9	9	12	$8,790,101
Exploratory/Developmental Cooperative Agreement Phase II	UH3	2	0	1	1	$859,818
Research Project with Complex Structure Cooperative Agreement	UM1	10	10	0	0	$7,396,288
Overall Totals		**5,091**	**1,672**	**2,221**	**1,198**	**$1,945,086,380**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 151 withdrawn applications that have been subtracted from the total count.

Table 7. Applications Reviewed by NCI IRG Subcommittees and Special Emphasis Panels (SEPs) in FY2016

NCI IRG Subcommittee	Types of Applications Reviewed	Total by Committee	Total Costs Requested First Year
A - Cancer Centers	P30	13	$32,069,943
F - Institutional Training and Education	K12,R25,T32	117	$43,225,547
I - Transition to Independence	K22,K25,K99	280	$39,298,258
J - Career Development	K01,K07,K08,K22,K23,K24	207	$32,658,426
Totals - NCI IRG Subcommittees		**617**	**$147,252,174**
Total SEPs	F99, K01, K12, K22, K23, K25, K99, L30, L40, P01, P20, P30, P50, R01, R03, R13, R21, R25, R33, R35, R50, SI2, T32, U01, UG3, UH2, UH3, UM1, U13, U24, U54, T32,	**4,474**	**$1,797,834,206**
Totals		**5,091**	**$1,945,086,380**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 20 withdrawn applications that have been subtracted from the total count.

Table 8. Summary of Investigator-Initiated P01 Applications Reviewed in FY2016

Type of Application	February	June	September	FY Total
New	9	9	15	33
Resubmitted New	3	6	5	14
Renewal	6	7	7	20
Resubmitted renewal	2	4	2	8
Revisions	0	1	0	1
Total	**20**	**27**	**29**	**76**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications.

Table 9. Summary of Investigator-Initiated P01 Applications Reviewed

Sorted by NCI Program Division, in FY2016

Program Division	Number of Applications	Total Costs Requested First Year	Total Costs for Requested Period
Division of Cancer Biology (DCB)	31	$67,737,653	$343,096,159
Division of Cancer Control and Population Sciences (DCCPS)	7	$24,509,311	$118,579,504
Division of Cancer Prevention (DCP)	8	$18,950,516	$97,328,745
Division of Cancer Treatment and Diagnosis (DCTD)	30	$70,692,319	$354,787,726
Total	**76**	**$181,889,799**	**$913,792,133**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications.

Table 10. Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2016

Title of Initiative	RFA Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Innovative Molecular Analysis Technologies for Cancer Research	CA15-002	R21	98	47	51	0	$22,200,303
Advanced Development and Validation of Emerging Molecular Analysis Technologies for Cancer Research	CA15-003	R33	47	21	26	0	$20,801,981
Innovative Technologies for Cancer-Relevant Biospecimen Science	CA15-004	R21	18	10	8	0	$4,299,664
Advanced Development and Validation of Emerging Technologies for Cancer-Relevant Biospecimen Science	CA15-005	R33	8	5	3	0	$2,738,336
Planning for Regional Centers of Research Excellence in Non-communicable Diseases in Low- and Middle-Income Countries	CA15-007	P20	38	0	38	0	$10,122,780
Research Answers to NCI's Provocative Questions	CA15-008	R01	176	78	98	0	$93,329,249
	CA15-009	R21	91	40	51	0	$20,805,668
Smoking Cessation within the Context of Lung Cancer Screening	CA15-011	R01	32	0	32	0	$22,137,096
Provocative Questions (PQ) Initiative; Cancer with an Underlying HIV Infection	CA15-012	R01	27	27	0	0	$16,334,007
Provocative Questions in Cancer with an Underlying HIV Infection	CA15-013	R21	12	12	0	0	$2,724,730
Research Centers for Cancer Systems Biology Consortium	CA15-014	U54	17	0	17	0	$40,103,100
Coordinating Center for Cancer Systems Biology Consortium	CA15-015	U24	6	0	6	0	$6,673,461
Genomic Data Analysis Network: Processing Genomic Data Center	CA15-018	U24	2	0	0	2	$2,048,058
Genomic Data Analysis Network: Visualization Genomic Data Center	CA15-019	U24	6	0	0	6	$6,537,857
Genomic Data Analysis Network: Specialized Genomic Data Center	CA15-020	U24	36	0	0	36	$18,708,560
Proteome Characterization Centers for Clinical Proteomic Tumor Analysis Consortium	CA15-021	U24	8	0	0	8	$11,146,670
Proteogenomic Data Analysis Centers for Clinical Proteomic Tumor Analysis Consortium	CA15-023	U24	12	0	0	12	$13,478,020
Cancer Detection, Diagnosis, and Treatment Technologies for Global Health	CA15-024	UG3	33	0	0	33	$14,664,716
Limited Competition: Revisions to Add Phase 2 Clinical Trials Program to Experimental Therapeutics Clinical Trials Network	CA15-501	UM1	10	10	0	0	$7,396,288
Limited Competition: Childhood Cancer Survivor Study	CA15-502	U24	1	0	0	1	$4,302,645

continued

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 86 withdrawn applications that have been subtracted from the total count.

Table 10 (cont'd). Requests for Applications (RFAs) Reviewed by the NCI/DEA in FY2016

Title of Initiative	RFA Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research	CA16-001	R21	52	0	0	52	$11,914,492
Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research	CA16-002	R33	34	0	0	34	$15,112,327
Innovative Technologies for Cancer-Relevant Biospecimen Science	CA16-003	R21	6	0	0	6	$1,239,629
Advanced Development and Validation of Emerging Technologies for Cancer-Relevant Biospecimen Science	CA16-004	R33	5	0	0	5	$2,069,014
The NCI Predoctoral to Postdoctoral Fellow Transition Award	CA16-005	F99	76	0	0	76	$0
The Early Detection Research Network: Biomarker Developmental Laboratories	CA16-009	U01	40	0	0	40	$24,125,816
Totals			**891**	**250**	**330**	**311**	**$395,014,467**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 86 withdrawn applications that have been subtracted from the total count.

Table 11. Program Announcements (PAs) Reviewed by the NCI/DEA in FY2016

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	Jun	Sept	
Research Project Grant (Parent R01)	PA13-302	R01	23	6	11	6	$19,176,208
NIH Support for Conferences and Scientific Meetings (Parent R13/U13)	PA13-347	R13	80	25	26	29	$2,814,144
NIH Support for Conferences and Scientific Meetings (Parent R13/U13)	PA13-347	U13	1	1	0	0	$18,500
Advancing the Science of Geriatric Palliative Care (R01)	PA13-354	R01	1	1	0	0	$836,566
Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grant (Parent T32)	PA14-015	T32	87	28	35	24	$33,898,815
Mentored Clinical Scientist Research Career Development Award (Parent K08)	PA14-046	K08	58	19	23	16	$9,416,101
Mid-Career Investigator Award in Patient-Oriented Research (Parent K24)	PA14-047	K24	9	3	1	5	$1,416,916
Mentored Quantitative Research Development Award (Parent K25)	PA14-048	K25	28	12	8	8	$4,140,703
Mentored Patient-Oriented Research Career Development Award (Parent K23)	PA14-049	K23	27	7	11	9	$4,595,016
NIH Pathway to Independence Award (Parent K99/R00)	PA15-083	K99	113	61	52	0	$14,114,003
NIH Pathway to Independence Award (Parent K99/R00)	PA16-077	K99	56	0	0	56	$6,871,750
Early-Stage Development of Informatics Technology (U01)	PAR12-288	U01	19	19	0	0	$7,295,047
Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Detection Research (U01)	PAR13-036	U01	3	3	0	0	$1,364,531
Bridging the Gap Between Cancer Mechanism and Population Science (U01)	PAR13-081	U01	18	8	10	0	$13,652,875
NCI Exploratory/Developmental Research Grant Program (NCI Omnibus R21)	PAR13-146	R21	849	849	0	0	$190,903,998
Revision Applications to U01 Awards for Research on Imaging and Biomarkers for Early Cancer Detection (U01)	PAR13-176	U01	3	0	3	0	$736,767
Collaborative Research in Integrative Cancer Biology (U01)	PAR13-184	U01	17	12	5	0	$13,156,750
Paul Calabresi Career Development Award for Clinical Oncology (K12)	PAR13-201	K12	9	9	0	0	$5,548,424
Advanced Development of Informatics Technology (U24)	PAR13-294	U24	19	19	0	0	$14,138,987
Cancer Center Support Grants (CCSGs) for NCI-designated Cancer Centers (P30)	PAR13-386	P30	14	3	6	5	$35,565,216

continued

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 89 withdrawn applications that have been subtracted from the total count.

Table 11 (cont'd). Program Announcements (PAs) Reviewed by the NCI/DEA in FY2016

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	Jun	Sept	
NCI Small Grants Program for Cancer Research (NCI Omnibus R03)	PAR14-007	R03	559	148	160	251	$43,361,337
Fundamental Mechanisms of Affective and Decisional Processes in Cancer Control (U01)	PAR14-067	U01	29	22	7	0	$17,585,854
Quantitative Imaging for Evaluation of Response to Cancer Therapies (U01)	PAR14-116	U01	26	11	7	8	$18,595,417
Physical Sciences-Oncology Centers (U54)	PAR14-169	U54	19	0	19	0	$45,854,887
Innovative Research in Cancer Nanotechnology (IRCN) (U01)	PAR14-285	U01	76	0	41	35	$47,588,571
New Approaches to Synthetic Lethality for Mutant KRas-Dependent Cancers (U01)	PAR14-314	U01	21	21	0	0	$19,378,713
Specialized Programs of Research Excellence (SPOREs) in Human Cancers for Years 2015, 2016, and 2017 (P50)	PAR14-353	P50	42	8	19	15	$98,728,506
Physical Sciences-Oncology Network (PS-ON): Physical Sciences-Oncology Projects (PS-OP) (U01)	PAR15-021	U01	40	0	40	0	$29,956,374
National Cancer Institute Program Project Applications (P01)	PAR15-023	P01	76	20	27	29	$181,889,799
Cancer Prevention, Control, Behavioral Sciences, and Population Sciences Career Development Award (K07)	PAR15-033	K07	74	24	18	32	$11,282,879
The NCI Transition Career Development Award (K22)	PAR15-056	K22	87	31	23	33	$14,636,668
NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08)	PAR15-060	K08	3	1	1	1	$507,521
NCI Mentored Patient-Oriented Research Career Development Award to Promote Diversity (K23)	PAR15-062	K23	2	1	1	0	$353,484
NCI Transition Career Development Award to Promote Diversity (K22)	PAR15-063	K22	12	2	8	2	$1,922,822
NCI Mentored Research Scientist Development Award to Promote Diversity (K01)	PAR15-064	K01	23	6	9	8	$3,335,515
Assay Validation For High Quality Markers For NCI-Supported Clinical Trials (UH2/UH3)	PAR15-095	UH2	29	8	9	12	$8,562,101
Assay Validation For High Quality Markers For NCI-Supported Clinical Trials (UH3)	PAR15-096	UH3	2	0	1	1	$859,818
Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE) (U54)	PAR15-103	U54	12	0	0	12	$19,890,946
Core Infrastructure and Methodological Research for Cancer Epidemiology Cohorts (U01)	PAR15-104	U01	35	14	12	9	$85,037,187
Multilevel Interventions in Cancer Care Delivery: Building from the Problem of Follow-up to Abnormal Screening Tests (U01)	PAR15-108	U01	6	0	6	0	$5,268,137

continued

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 89 withdrawn applications that have been subtracted from the total count.

Table 11 (cont'd). Program Announcements (PAs) Reviewed by the NCI/DEA in FY2016

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	Jun	Sept	
Cancer Research Education Grants Program — Curriculum or Methods Development (R25)	PAR15-150	R25	2	1	1	0	$216,909
Cancer Research Education Grants Program – Courses for Skills Development (R25)	PAR15-151	R25	16	10	4	2	$3,860,298
Cancer Research Education Grants Program – Research Experiences (R25)	PAR15-152	R25	8	3	4	1	$2,171,637
Lasker Clinical Research Scholars Program (Si2/R00)	PAR15-189	SI2	5	5	0	0	$0
Oncology Co-Clinical Imaging Research Resources to Encourage Consensus on Quantitative Imaging Methods and Precision Medicine (U24)	PAR15-266	U24	5	0	5	0	$4,073,301
Opportunities for Collaborative Research at the NIH Clinical Center (U01)	PAR15-287	U01	14	0	0	14	$9,001,744
The Pancreatic Cancer Detection Consortium (U01)	PAR15-289	U01	12	0	12	0	$11,178,369
Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Detection Research (U01)	PAR15-297	U01	9	0	0	9	$4,289,855
Translational Studies on Adducts for Cancer Risk Identification and Prevention (U01)	PAR15-307	U01	4	0	4	0	$2,837,149
Advanced Development of Informatics Technologies for Cancer Research and Management (U24)	PAR15-331	U24	15	0	15	0	$12,844,955
Early-Stage Development of Informatics Technologies for Cancer Research and Management (U01)	PAR15-332	U01	12	0	12	0	$5,629,982
Sustained Support for Informatics Resources for Cancer Research and Management (U24)	PAR15-333	U24	2	0	2	0	$1,747,608
Development of Innovative Informatics Methods and Algorithms for Cancer Research and Management (R21)	PAR15-334	R21	32	0	32	0	$7,279,362
NCI Exploratory/Developmental Research Grant Program (NCI Omnibus R21)	PAR15-340	R21	1035	0	1035	0	$231,583,123
NCI Outstanding Investigator Award (R35)	PAR15-342	R35	166	0	166	0	$160,433,289
NCI Research Specialist Award (R50)	PAR16-025	R50	219	0	0	219	$36,246,690
Small Cell Lung Cancer (SCLC) Consortium: Therapeutic Development and Mechanisms of Resistance (U01)	PAR16-049	U01	19	0	0	19	$11,701,849
Small Cell Lung Cancer (SCLC) Consortium: Coordinating Center (U24)	PAR16-050	U24	3	0	0	3	$4,179,322
Small Cell Lung Cancer (SCLC) Consortium: Innovative Approaches to the Prevention and Early Detection of Small Cell Lung Cancer (U01)	PAR16-051	U01	6	0	0	6	$3,940,250
Feasibility Studies to Build Collaborative Partnerships in Cancer Research (P20)	PAR16-084	P20	8	0	0	8	$2,370,368
Totals			**4,199**	**1,421**	**1,891**	**887**	**$1,549,843,913**

Source: Office of Referral, Review and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. There were 89 withdrawn applications that have been subtracted from the total count.

Table 12. SBIR Topics and Requests for Proposals (RFPs) Reviewed by the NCI/DEA in FY2016*

Announcement/ Topic Number	Announcement Title	Review Round	No. of Proposals
Topic 341 (Phase I & Fast Track)	Development of Metabolomics Data Integration Methods and Software	May-16	7 (1 FT)
Topic 342 — Phase I	Validation of Mobile Technologies for Clinical Assessment, Monitoring and Intervention	May-16	9
Topic 343 (Phase I & Fast Track)	An Electronic Platform for Cognitive Assessment in Cancer Patients	May-16	12 (1 FT)
Topic 344 (Phase I & Fast Track)	Technologies for Differential Isolation of Exosomes and Oncosomes	May-16	4
Topic 345 (Phase I & Fast Track)	Predictive Biomarkers of Adverse Reactions to Radiation Treatment	May-16	7
Topic 346 (Phase I & Fast Track)	Molecularly Targeted Radiation Therapy For Cancer Treatment	May-16	13 (1 FT)
Topic 347 (Phase I & Fast Track)	Signal Amplification to Enable Attomolar Quantitation in Slide-Based or ELISA Biomarker Immunoassays	May-16	12 (1 FT)
Topic 348 (Phase I & Fast Track)	Identification and Capture of Enriched Tumor Zones with Preservation of Labile Biomarkers from Ultra-Cold Biopsies	May-16	2
Topic 349 (Phase I & Fast Track)	Proximity Slide Based Sandwich Immunoassay to Visualize Intramolecular Epitopes of Analytes in Tissue Sections	May-16	4 (1 FT)
Topic 350 (Phase I & Fast Track)	Highly Innovative Tools for Quantifying Redox Effector Dynamics in Cancer	May-16	2
Topic 351 — Phase I	Modulating the Microbiome to Improve Efficacy of Cancer Therapeutics	May-16	2
Topic 352 — Phase I	Cell and Animal-Based Models to Advance Cancer Health Disparity Research	May-16	3
Topic 353 (Phase I & Fast Track)	Cell-Free Nucleic Acid-Based Assay Development for Cancer Diagnosis	May-16	18 (1 FT)
Topic 354 (Phase I & Fast Track)	Companion Diagnostics for Cancer Immunotherapies	May-16	7 (1 FT)
Phase II Proposals from Earlier Phase I Awards			
Topic 315 — Phase II	Develoment of Companion Diagnostics Enabling Precision Medicine in Cancer Therapy	Oct-16	2
Topic 326 — Phase II	Development of Novel Therapeutic Agents that Target Cancer Stem Cells	Oct-16	5
Topic 327 — Phase II	Reformulation of Foiled Therapeutic Agents	Oct-16	1
Topic 328 — Phase II	Validation of 3D Human Tissue Culture Systems that Mimic the Tumor Microenvironment	Oct-16	3
Topic 330 — Phase II	Generation of Site-Specific Phospho-Threonine Protein Standards for Use in Cancer Assays	Oct-16	1
Topic 331 — Phase II	Development of Biosensor-Based Core Needle Tumor Biopsy Device	Oct-16	4
Topic 333 — Phase II	Software Tools for the Development of Environmental Measures Related to Cancer Health Behavior and Resources	Oct-16	3
Other Solicitations Reviewed in DEA			
L30 (OD-15-122)	Loan Repayment Program for Clinical Researchers	Oct-16	291
L40 (OD-15-121)	Loan Repayment Program for Pediatirc Researchers	Oct-16	92
TOTAL			**504**

* The NCI reviewed a total of 504 proposals. The proposals were in response to SBIR Contract Solicitations — Phase I (102), Phase II (19), and Loan Repayment (383).

Table 13. Summary of NCI Grant Awards by Mechanism in FY2016*

Fund Type: Appropriated				% of NCI Total Grants				Fiscal Year: 2016
Cost Centers Mechanisms	Awards Count	Awards Dollars	Average Cost	Number	Dollars	Competing Requested	Competing Awarded	Success Rate
Research Project Grants								
Traditional Research Grants—R01/RL1	2,883	1,194,861,167	414,451	46.0%	37.79%	4,785	650	13.58%
Program Projects—P01	94	173,357,758	1,844,231	1.5%	5.48%	68	14	20.59%
Small Grants—R03	114	9,056,673	79,445	1.82%	0.29%	484	48	9.92%
Exploratory/Developmental Research—R21	585	113,327,472	193,722	9.33%	3.58%	3,100	260	8.39%
Bridge Award—R56	2	560,000	280,000	0.03%	0.02%	1	1	100.0%
Pathway to Independence—R00/Si2	93	22,619,534	243,221	1.48%	0.72%	5	0	0.0%
Exploratory/Development Coop Agreements—UH2/UH3	6	2,111,785	351,964	0.1%	0.07%	29	5	17.24%
Merit Awards-R37	6	2,648,841	441,474	0.1%	0.08%	0	0	0.0%
NIH Director Pioneer Award (NDPA)—DP1	2	3,021,000	1,510,500	0.03%	0.1%	0	0	0.0%
NIH Director New Innovator Awards—DP2	0	219,502	219,502	0.0%	0.01%	0	0	0.0%
Outstanding Investigators—R35	77	71,417,507	927,500	1.23%	2.26%	175	35	20.0%
NIH Director's Early Independence Awards—DP5	11	4,817,748	437,977	0.18%	0.15%	0	0	0.0%
Academic Research Enhancement Awards (AREA)—R15	22	9,315,556	423,434	0.35%	0.29%	233	22	9.44%
Multi-Component Research Project Coop Agreements—UM1/RM1	14	26,106,418	1,864,744	0.22%	0.83%	0	0	0.0%
Research Specialist Award—R50	34	5,673,890	166,879	0.54%	0.18%	219	34	15.53%
Request for Applications	271	105,841,624	390,559	4.32%	3.35%	664	104	15.66%
Cooperative Agreements—RFA-U01/U19	100	119,202,223	1,192,022	1.6%	3.77%	144	38	26.39%
Cooperative Agreements—U01/U19	150	103,232,683	688,218	2.39%	3.27%	334	19	5.69%
Small Business Innovation Research—R43/R44	151	83,665,089	554,073	2.41%	2.65%	1,013	92	9.08%
Small Business Technology Transfer—R41/R42	51	17,813,381	349,282	0.81%	0.56%	321	43	13.4%
Program Evaluation—R01	0	77,204,211	77,204,211	0.0%	2.44%	0	0	0.0%
Subtotal Research Project Grants	**4,666**	**2,146,074,062**	**459,939**	**74.45%**	**67.88%**	**11,575**	**1,365**	**11.79%**
Other Research								
Clinical Cooperative Groups—U10/UG1	101	213,361,228	2,112,487	1.61%	6.75%	0	0	0.0%
Clinical Cooperative Groups—CCCT	0	5,990,643	5,990,643	0.0%	0.19%	0	0	0.0%
Conference Grants—R13/U13	52	708,889	13,632	0.83%	0.02%	73	49	67.12%
International Research Training Grants Conference—D43/U2R	0	1,183,808	1,183,808	0.0%	0.04%	0	0	0.0%
Cancer Education Awards—R25	74	23,260,856	314,336	1.18%	0.74%	30	9	30.0%
R25—BD2K	4	687,914	171,979	0.06%	0.02%	4	4	100.0%

continued

* A grant award count of zero showing a dollar amount represents either administrative supplements to existing grants, which are not factored into the grant count but are factored into the average cost of an award, or co-funded grants, which are not factored into the grant count for the NCI but are factored into the average cost of an award.

Source: Office of Extramural Finance and Information Analysis.

Table 13 (cont'd). Summary of NCI Grant Awards by Mechanism in FY2016*

Fund Type: Appropriated				% of NCI Total Grants				Fiscal Year: 2016
Cost Centers Mechanisms	Awards Count	Awards Dollars	Average Cost	Number	Dollars	Competing Requested	Competing Awarded	Success Rate
Research/Resource Grant—R24/U24/U2C	61	80,309,897	1,316,556	0.97%	2.54%	115	33	28.7%
Pilot Research Project—SC2	1	157,000	157,000	0.02%	0.0%	0	0	0.0%
Subtotal Other Research	**293**	**325,660,235**	**1,111,468**	**4.68%**	**10.3%**	**222**	**95**	**42.79%**
Centers								
Core/Planning—P20/P30	95	333,340,910	3,508,852	1.52%	10.54%	68	23	33.82%
Core—CCCT	0	1,662,880	1,662,880	0.0%	0.05%	0	0	0.0%
Spore Grants—P50	50	108,198,397	2,163,968	0.8%	3.42%	32	7	21.88%
Other P50/P20	4	2,815,700	703,925	0.06%	0.09%	0	0	0.0%
Specialized Center (Cooperative Agreement)—U54/U41	66	93,246,662	1,412,828	1.05%	2.95%	48	17	35.42%
Specialized Center (Cooperative Agreement)—BD2K	2	6,067,160	3,033,580	0.03%	0.19%	0	0	0.0%
Subtotal Centers	**217**	**545,331,709**	**2,513,049**	**3.46%**	**17.25%**	**148**	**47**	**31.76%**
NRSA								
NRSA Institution—T32/T35	144	50,448,997	350,340	2.3%	1.6%	77	45	58.44%
NRSA Fellowships—F31/F32	509	21,175,724	41,603	8.12%	0.67%	676	192	28.4%
NRSA Pre-Doc Fellow Awards—F99	36	1,391,380	38,649	0.57%	0.04%	76	36	47.37%
Subtotal NRSA	**689**	**73,016,101**	**105,974**	**10.99%**	**2.31%**	**829**	**273**	**32.93%**
Careers								
Mentored Clinical Scientist—K08	90	14,777,429	164,194	1.44%	0.47%	64	20	31.25%
Preventive Oncology Award—K07	63	9,634,693	152,932	1.01%	0.3%	57	16	28.07%
Mentored Career Award—K12	19	13,299,012	699,948	0.3%	0.42%	8	6	75.0%
Mentored Research Scient Devel Awds/ Mentrd Career Dev.../Temin-K01/Intl. Career—K43	42	5,592,518	133,155	0.67%	0.18%	26	5	19.23%
Clinical Research Track—K22	56	9,995,612	178,493	0.89%	0.32%	96	21	21.88%
Mentored Patient-Oriented Research Career Dev A—K23	20	3,337,530	166,877	0.32%	0.11%	31	5	16.13%
Mid-Career Investigator in Patient-Oriented Res A—K24	17	2,913,847	171,403	0.27%	0.09%	8	3	37.5%
Mentored Quantitative Resch. Career Dev. Awd.—K25	9	1,372,352	152,484	0.14%	0.04%	23	2	8.7%
Established Invest. Award in Ca Prevention & Control—K05	9	888,629	98,737	0.14%	0.03%	0	0	0.0%
Pathway to Independence—K99	77	9,789,203	127,133	1.23%	0.31%	159	51	32.08%
Subtotal Careers	**402**	**71,600,825**	**178,112**	**6.41%**	**2.26%**	**472**	**129**	**27.33%**
Total:	**6,267**	**3,161,682,932**	**504,497**	**100.0%**	**100.0%**	**13,246**	**1,909**	**14.41%**

* A grant award count of zero showing a dollar amount represents either administrative supplements to existing grants, which are not factored into the grant count but are factored into the average cost of an award, or co-funded grants, which are not factored into the grant count for the NCI but are factored into the average cost of an award.

Source: Office of Extramural Finance and Information Analysis.

Table 14. Average Total Cost*† and Number of Research Project Grant Awards Sorted by Division, Office, Center, and Mechanism From FY2012 – FY2016

Budget Mechnism/ Division	FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		Percent Change 2012 - 2016	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
R01 Average Cost of Award												
NCI Overall	3,526	374	3,306	358	3,085	378	2,949	398	2,883	414	-18.24%	-10.7 %
DCB	1,660	323	1,555	312	1,441	330	1,375	351	1,324	370	-20.20%	14.60%
DCP	245	421	226	389	201	434	199	442	194	452	-20.80%	7.30%
DCTD	1,139	355	1,078	342	1,041	362	1,014	390	1,024	407	-10.10%	14.80%
DCCPS	468	559	436	521	391	542	354	556	336	565	-28.20%	1.00%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	14	924	11	1,221	11	1,343	7	1,703	5	2,043	-64.30%	121.10%
P01 Average Cost of Award												
NCI Overall	122	1,997	124	1,868	109	1,937	100	1,938	94	1,844	-22.95%	-7.66%
DCB	54	1,771	54	1,612	45	1,708	44	1,713	43	1,768	-20.40%	-0.20%
DCP	8	1,579	7	1,414	7	1,652	5	1,253	3	1,233	-62.50%	-21.90%
DCTD	49	2,194	53	2,063	48	2,018	42	2,165	40	1,903	-18.40%	-13.20%
DCCPS	11	2,502	10	2,517	9	2,836	9	2,299	8	2,138	-27.30%	-14.60%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	306	0	155	0	343	0	572	0	392	0.0 %	28.10%
R03 Average Cost of Award												
NCI Overall	172	76	199	77	194	78	162	79	114	79	-33.72%	3.95%
DCB	10	76	11	75	22	76	33	79	28	79	180.00%	2.90%
DCP	61	78	63	77	48	78	28	79	8	80	-86.90%	1.50%
DCTD	10	78	15	76	24	78	29	79	24	79	140.00%	1.50%
DCCPS	91	75	110	77	100	78	72	79	54	80	-40.70%	7.10%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	0	0	0	0	0	0	68	0	0	0.0 %	0.0 %
R21 Average Cost of Award												
NCI Overall	439	197	441	188	551	187	639	193	585	194	33.26%	-1.52%
DCB	80	187	90	185	138	188	196	193	201	190	151.30%	1.60%
DCP	54	188	54	181	44	172	55	188	61	191	13.00%	1.70%
DCTD	188	215	190	194	242	194	266	196	220	192	17.00%	-10.40%
DCCPS	89	176	78	179	93	174	93	185	82	202	-7.90%	14.50%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	28	186	29	195	34	182	29	208	21	219	-25.00%	17.40%

continued

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†In thousands.

Source: Office of Extramural Finance and Information Analysis.

Table 14 (cont'd). Average Total Cost*† and Number of Research Project Grant Awards Sorted by Division, Office, Center, and Mechanism From FY2012 – FY2016

Budget Mechnism/ Division	FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		Percent Change 2012 - 2016	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
U01/U19 Average Cost of Award												
NCI Overall	132	989	115	1,093	79	988	53	1,141	65	912	-50.76%	-7.79%
DCB	28	714	28	665	1	1,065	6	753	6	690	-78.60%	-3.40%
DCP	36	681	36	674	35	546	11	975	34	778	-5.60%	14.20%
DCTD	23	939	5	3,621	1	3,820	7	780	6	462	-73.90%	-50.90%
DCCPS	22	1,761	22	1,593	16	1,570	16	1,570	6	1,912	-72.70%	8.60%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	23	1,119	24	1,235	26	1,113	13	1,129	13	1,113	-43.50%	-0.60%
R13 Average Cost of Award												
NCI Overall	64	89	57	15	54	14	54	14	51	14	-20.31%	-84.27%
DCB	22	6	24	5	22	6	29	4	22	6	0.00%	-10.00%
DCP	5	19	6	18	3	34	6	17	4	22	-20.00%	14.50%
DCTD	14	14	15	8	18	6	11	10	12	7	-14.30%	-49.00%
DCCPS	11	21	7	19	8	21	5	26	8	19	-27.30%	-8.90%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	12	418	5	69	3	84	3	93	5	50	-58.30%	-88.10%
U10 Average Cost of Award												
NCI Overall	128	1,789	120	1,958	49	3,637	49	3,130	48	2,852	-62.5 %	59.42%
DCP	75	1,165	75	1,130	0	11,012	0	1,009	0	0	-100.00%	-100.00%
DCTD	53	2,671	45	3,337	49	3,412	49	3,110	48	2,852	-9.40%	6.80%
P30 Average Cost of Award												
NCI Overall	67	4,134	68	3,823	68	4,098	69	4,110	69	4,761	2.99%	15.17%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	67	4,133	68	3,823	68	4,098	69	4,110	69	4,761	3.00%	15.20%
P50 Average Cost of Award												
NCI Overall	69	2,010	66	1,895	61	2,012	53	2,046	54	2,056	-21.74%	2.29%
DCP	0	400	0	388	0	388	0	0	0	0	0.0 %	-100.0 %
DCTD	59	2,044	59	1,907	56	2,032	53	2,042	51	2,142	-13.60%	4.80%
DCCPS	10	1,686	7	1,651	5	1,676	0	0	3	464	-70.00%	-72.50%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	813	0	600	0	138	0	220	0	402	0.0 %	-50.60%

continued

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† In thousands.

Source: Office of Extramural Finance and Information Analysis.

Table 14 (cont'd). Average Total Cost*† and Number of Research Project Grant Awards Sorted by Division, Office, Center, and Mechanism From FY2012 – FY2016

Budget Mechnism/ Division	FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		Percent Change 2012 - 2016	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
SBIR Average Cost of Award												
NCI Overall	151	422	132	444	171	391	162	479	151	554	0.0 %	31.28%
DCTD	0	0	0	0	0	0	0	0	0	0	0.0 %	0.0 %
DCCPS	0	0	0	0	0	66	0	77	0	0	0.0 %	0.0 %
SBIRDC	151	422	132	444	171	391	162	479	151	554	0.00%	31.30%
STTR Average Cost of Award												
NCI Overall	39	350	27	469	46	325	32	469	51	349	30.77%	-0.29%
SBIRDC	39	350	27	469	46	325	32	469	51	349	30.80%	-0.20%
U54 Average Cost of Award												
NCI Overall	103	1,709	106	1,316	99	1,268	90	1,073	55	1,602	-46.6 %	-6.26%
CRCHD	49	1,110	50	940	49	978	51	818	30	1,268	-38.80%	14.10%
CSSI	21	3,630	21	2,155	9	2,343	6	2,116	6	2,234	-71.40%	-38.50%
DCB	22	1,441	24	1,343	30	1,288	22	1,110	17	2,080	-22.70%	44.40%
DCCPS	11	1,244	11	1,365	11	1,626	11	1,611	2	651	-84.80%	-47.70%

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†In thousands.
Source: Office of Extramural Finance and Information Analysis.

Table 15. NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Adrenal	***Number of Grants***	***6***	***3***	***3***	***2***	***1***	
	Relevant Grant Dollars	694,479	334,332	440,344	255,563	202,275	
	Total Count	***6***	***3***	***3***	***2***	***1***	
	Total Relevant Dollars	694,479	334,332	440,344	255,563	202,275	-20.74
Anus	***Number of Grants***	***18***	***19***	***19***	***17***	***21***	
	Relevant Grant Dollars	2,539,326	3,730,597	3,860,964	3,142,985	3,368,804	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***18***	***19***	***19***	***17***	***21***	
	Total Relevant Dollars	2,539,326	3,730,597	3,860,964	3,142,985	3,368,804	9.75
Bladder	***Number of Grants***	***143***	***124***	***147***	***129***	***127***	
	Relevant Grant Dollars	18,493,415	15,767,632	23,221,839	23,038,302	21,648,984	
	Number of Contracts	***1***	***1***	‡	***3***	***13***	
	Relevant Contract Dollars	749,947	561,614	‡	2,845,018	5,856,681	
	Total Count	***144***	***125***	***147***	***132***	***140***	
	Total Relevant Dollars	19,243,362	16,329,246	23,221,839	25,883,320	27,505,665	11.20
Bone Marrow	***Number of Grants***	***55***	***67***	***40***	***21***	***13***	
	Relevant Grant Dollars	8,938,608	8,109,194	6,186,065	5,101,356	4,425,573	
	Total Count	***55***	***67***	***40***	***21***	***13***	
	Total Relevant Dollars	8,938,608	8,109,194	6,186,065	5,101,356	4,425,573	-15.94
Bone, Cartilage	***Number of Grants***	***72***	***68***	***54***	***19***	***13***	
	Relevant Grant Dollars	10,824,238	7,034,582	4,313,783	2,011,240	3,340,737	
	Total Count	***72***	***68***	***54***	***19***	***13***	
	Total Relevant Dollars	10,824,238	7,034,582	4,313,783	2,011,240	3,340,737	-15.24
Brain	***Number of Grants***	***512***	***544***	***557***	***538***	***536***	
	Relevant Grant Dollars	148,032,345	152,082,930	162,133,244	184,919,655	177,269,529	
	Number of Contracts	***5***	***2***	***2***	***2***	‡	
	Relevant Contract Dollars	672,916	1,639,630	422,895	968,489	‡	
	Total Count	***517***	***546***	***559***	***540***	***536***	
	Total Relevant Dollars	148,705,261	153,722,560	162,556,139	185,888,144	177,269,529	4.71
Breast	***Number of Grants***	***1,835***	***1,792***	***1,811***	***1,729***	***1,673***	
	Relevant Grant Dollars	536,444,140	501,581,607	478,792,611	491,214,544	470,476,822	
	Number of Contracts	***25***	***20***	***10***	***11***	***22***	
	Relevant Contract Dollars	12,810,843	11,117,661	5,422,635	9,929,929	14,699,628	
	Total Count	***1,860***	***1,812***	***1,821***	***1,740***	***1,695***	
	Total Relevant Dollars	549,254,983	512,699,268	483,879,269	501,144,473	485,176,451	-2.97
Central Nervous System	***Number of Grants***	***51***	***59***	***48***	***13***	***9***	
	Relevant Grant Dollars	4,169,107	3,630,469	1,739,620	1,300,559	784,790	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***51***	***59***	***48***	***13***	***9***	
	Total Relevant Dollars	4,169,107	3,630,469	1,739,620	1,300,559	784,790	-32.47

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Cervix	***Number of Grants***	***298***	***283***	***305***	***227***	***207***	
	Relevant Grant Dollars	58,198,274	50,597,621	52,183,192	45,275,628	51,244,770	
	Number of Contracts	***3***	***1***	***1***	‡	***3***	
	Relevant Contract Dollars	3,366,401	2,280,313	740,476	‡	5,125,766	
	Total Count	***301***	***284***	***306***	***227***	***210***	
	Total Relevant Dollars	61,564,675	52,877,934	52,923,668	45,275,628	56,370,536	-0.99
Childhood Leukemia	***Number of Grants***	***178***	***151***	***159***	***143***	***177***	
	Relevant Grant Dollars	51,786,291	51,230,678	36,743,720	36,439,553	55,857,941	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***178***	***151***	***160***	***143***	***177***	
	Total Relevant Dollars	51,786,291	51,230,678	36,788,720	36,439,553	55,857,941	5.77
Colon, Rectum	***Number of Grants***	***937***	***916***	***866***	***754***	***698***	
	Relevant Grant Dollars	227,386,183	213,714,476	198,038,574	186,582,220	185,327,068	
	Number of Contracts	***14***	***9***	***6***	***9***	***16***	
	Relevant Contract Dollars	6,246,343	4,230,994	3,024,309	4,627,427	9,412,567	
	Total Count	***951***	***925***	***872***	***763***	***714***	
	Total Relevant Dollars	233,632,526	217,945,470	201,062,883	191,209,647	194,739,634	-4.38
Connective Tissue	***Number of Grants***	***44***	***21***	***13***	***9***	***5***	
	Relevant Grant Dollars	8,185,709	3,310,900	3,141,987	1,224,585	191,253	
	Total Count	***44***	***21***	***13***	***9***	***5***	
	Total Relevant Dollars	8,185,709	3,310,900	3,141,987	1,224,585	191,253	-52.52
Embryonic Tissue, Cells	***Number of Grants***	***5***	***3***	***2***	***2***	***1***	
	Relevant Grant Dollars	368,936	340,919	145,522	‡	‡	
	Total Count	***5***	***3***	***2***	***2***	***1***	
	Total Relevant Dollars	368,936	340,919	145,522	‡	‡	-32.45
Esophagus	***Number of Grants***	***147***	***175***	***117***	***116***	***109***	
	Relevant Grant Dollars	23,801,157	23,146,386	24,631,620	26,634,006	22,479,745	
	Number of Contracts	***2***	***1***	‡	‡	‡	
	Relevant Contract Dollars	229,905	12,726	‡	‡	‡	
	Total Count	***149***	***176***	***117***	***116***	***109***	
	Total Relevant Dollars	24,031,062	23,159,112	24,631,620	26,634,006	22,479,745	-1.18
Eye	***Number of Grants***	***14***	***16***	***17***	***23***	***26***	
	Relevant Grant Dollars	2,008,983	2,362,025	2,855,615	4,363,108	3,817,344	
	Total Count	***14***	***16***	***17***	***23***	***26***	
	Total Relevant Dollars	2,008,983	2,362,025	2,855,615	4,363,108	3,817,344	19.69
Gall Bladder	***Number of Grants***	***2***	***2***	***2***	***1***	***4***	
	Relevant Grant Dollars	156,086	146,805	‡	‡	579,237	
	Total Count	***2***	***2***	***2***	***1***	***4***	
	Total Relevant Dollars	156,086	146,805	‡	‡	579,237	144.31
Gastrointestinal Tract	***Number of Grants***	***50***	***45***	***35***	***33***	***33***	
	Relevant Grant Dollars	9,181,848	7,398,956	5,831,855	5,873,156	6,074,796	
	Number of Contracts	‡	‡	‡	***2***	***4***	
	Relevant Contract Dollars	‡	‡	‡	1,663,052	2,858,139	
	Total Count	***50***	***45***	***35***	***35***	***37***	
	Total Relevant Dollars	9,181,848	7,398,956	5,831,855	7,536,208	8,932,935	1.79

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Genital System, Female	***Number of Grants***	***38***	***43***	***74***	***14***	***11***	
	Relevant Grant Dollars	2,136,318	2,875,521	1,800,605	1,458,230	1,310,107	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***38***	***43***	***74***	***14***	***11***	
	Total Relevant Dollars	2,136,318	2,875,521	1,800,605	1,458,230	1,310,107	-7.99
Genital System, Male	***Number of Grants***	***6***	***2***	***2***	***2***	***2***	
	Relevant Grant Dollars	350,827	237,891	241,644	233,577	319,939	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***6***	***2***	***2***	***2***	***2***	
	Total Relevant Dollars	350,827	237,891	241,644	233,577	319,939	0.76
Head and Neck	***Number of Grants***	***217***	***248***	***226***	***205***	***191***	
	Relevant Grant Dollars	37,034,455	33,677,355	33,439,973	35,246,846	35,221,524	
	Number of Contracts	***7***	***5***	***3***	***3***	***3***	
	Relevant Contract Dollars	4,032,932	717,810	1,733,390	1,713,852	1,814,999	
	Total Count	***224***	***253***	***229***	***208***	***194***	
	Total Relevant Dollars	41,067,387	34,395,165	35,173,363	36,960,698	37,036,523	-2.17
Heart	***Number of Grants***	***12***	***10***	***7***	***3***	***2***	
	Relevant Grant Dollars	1,971,428	1,792,289	1,344,822	929,886	834,401	
	Total Count	***12***	***10***	***7***	***3***	***2***	
	Total Relevant Dollars	1,971,428	1,792,289	1,344,822	929,886	834,401	-18.79
Hodgkins Lymphoma	***Number of Grants***	***94***	***83***	***51***	***39***	***35***	
	Relevant Grant Dollars	9,649,890	9,563,149	10,262,763	8,519,854	8,217,911	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***94***	***83***	***51***	***39***	***35***	
	Total Relevant Dollars	9,649,890	9,563,149	10,262,763	8,519,854	8,217,911	-3.53
Kaposi Sarcoma	***Number of Grants***	***82***	***77***	***76***	***77***	***63***	
	Relevant Grant Dollars	19,241,042	18,354,076	20,860,705	21,864,767	24,537,356	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***82***	***77***	***76***	***77***	***63***	
	Total Relevant Dollars	19,241,042	18,354,076	20,860,705	21,864,767	24,537,356	6.52
Kidney	***Number of Grants***	***246***	***250***	***237***	***160***	***154***	
	Relevant Grant Dollars	32,449,153	31,320,199	21,146,275	23,745,801	27,200,468	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***246***	***250***	***237***	***160***	***154***	
	Total Relevant Dollars	32,449,153	31,320,199	21,146,275	23,745,801	27,200,468	-2.28
Larynx	***Number of Grants***	***6***	***6***	***7***	***5***	***5***	
	Relevant Grant Dollars	464,533	1,259,413	1,535,331	671,024	575,873	
	Total Count	***6***	***6***	***7***	***5***	***5***	
	Total Relevant Dollars	464,533	1,259,413	1,535,331	671,024	575,873	30.64

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Leukemia	***Number of Grants***	***724***	***755***	***781***	***702***	***675***	
	Relevant Grant Dollars	208,324,142	209,330,335	212,414,621	218,460,707	217,864,508	
	Number of Contracts	***2***	***7***	***4***	***5***	***1***	
	Relevant Contract Dollars	213,752	3,612,561	1,775,197	3,259,086	1,496,276	
	Total Count	***726***	***762***	***785***	***707***	***676***	
	Total Relevant Dollars	208,537,894	212,942,896	214,189,818	221,719,793	219,360,784	1.29
Liver	***Number of Grants***	***322***	***321***	***306***	***294***	***259***	
	Relevant Grant Dollars	52,508,097	48,910,887	49,666,458	59,175,493	62,124,234	
	Number of Contracts	***2***	***8***	‡	***2***	***2***	
	Relevant Contract Dollars	115,700	4,653,688	‡	1,488,511	353,600	
	Total Count	***324***	***329***	***306***	***296***	***261***	
	Total Relevant Dollars	52,623,797	53,564,575	49,666,458	60,664,004	62,477,834	4.91
Lung	***Number of Grants***	***993***	***1,003***	***977***	***898***	***891***	
	Relevant Grant Dollars	268,028,541	243,708,636	219,322,515	220,913,549	242,571,606	
	Number of Contracts	***26***	***21***	***11***	***9***	***23***	
	Relevant Contract Dollars	12,146,630	11,323,702	6,163,921	5,231,560	15,848,869	
	Total Count	***1,019***	***1,024***	***988***	***907***	***914***	
	Total Relevant Dollars	280,175,171	255,032,338	225,486,436	226,145,109	258,420,475	-1.50
Lymph Node	***Number of Grants***	***9***	***9***	***4***	***4***	***1***	
	Relevant Grant Dollars	1,975,041	608,275	316,561	273,875	94,613	
	Total Count	***9***	***9***	***4***	***4***	***1***	
	Total Relevant Dollars	1,975,041	608,275	316,561	273,875	94,613	-49.02
Lymphatic System	***Number of Grants***	***4***	***3***	***3***	***5***	***3***	
	Relevant Grant Dollars	803,722	489,999	397,376	704,373	261,544	
	Total Count	***4***	***3***	***3***	***5***	***3***	
	Total Relevant Dollars	803,722	489,999	397,376	704,373	261,544	-10.89
Melanoma	***Number of Grants***	***423***	***474***	***502***	***461***	***462***	
	Relevant Grant Dollars	99,713,846	101,678,996	106,822,745	114,263,178	119,244,182	
	Number of Contracts	***2***	***2***	‡	***2***	***1***	
	Relevant Contract Dollars	1,349,977	1,764,768	‡	597,520	295,782	
	Total Count	***425***	***476***	***502***	***463***	***463***	
	Total Relevant Dollars	101,063,823	103,443,764	106,822,745	114,860,698	119,539,964	4.30
Mesothelioma	***Number of Grants***	***18***	***19***	***25***	***25***	***26***	
	Relevant Grant Dollars	4,863,814	4,452,535	7,157,480	5,376,051	6,939,730	
	Total Count	***18***	***19***	***25***	***25***	***26***	
	Total Relevant Dollars	4,863,814	4,452,535	7,157,480	5,376,051	6,939,730	14.12
Muscle	***Number of Grants***	***58***	***41***	***10***	***5***	***4***	
	Relevant Grant Dollars	6,914,232	3,361,305	862,759	384,442	342,916	
	Total Count	***58***	***41***	***10***	***3***	***4***	
	Total Relevant Dollars	6,914,232	3,361,305	862,759	384,442	342,916	-47.99
Myeloma	***Number of Grants***	***249***	***160***	***174***	***184***	***190***	
	Relevant Grant Dollars	52,667,345	37,120,602	37,800,248	40,799,287	45,263,432	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	1,499,746	‡	‡	‡	‡	
	Total Count	***250***	***160***	***174***	***184***	***190***	
	Total Relevant Dollars	54,167,091	37,120,602	37,800,248	40,799,287	45,263,432	-2.69

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Nervous System	***Number of Grants***	***26***	***24***	***24***	***25***	***24***	
	Relevant Grant Dollars	6,438,816	4,163,832	4,421,874	6,108,596	6,153,043	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***26***	***24***	***24***	***25***	***24***	
	Total Relevant Dollars	6,438,816	4,163,832	4,421,874	6,108,596	6,153,043	2.43
Neuroblastoma	***Number of Grants***	***105***	***99***	***104***	***75***	***64***	
	Relevant Grant Dollars	24,697,656	16,492,753	21,130,521	16,233,598	17,024,278	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	299,993	‡	‡	‡	‡	
	Total Count	***106***	***99***	***104***	***75***	***64***	
	Total Relevant Dollars	24,997,649	16,492,753	21,130,521	16,233,598	17,024,278	-6.05
Non-Hodgkins Lymphoma	***Number of Grants***	***473***	***480***	***452***	***413***	***387***	
	Relevant Grant Dollars	93,857,913	89,044,122	93,955,405	96,633,382	98,315,810	
	Number of Contracts	***1***	***1***	‡	‡	‡	
	Relevant Contract Dollars	125,000	749,986	‡	‡	‡	
	Total Count	***474***	***481***	***452***	***413***	***387***	
	Total Relevant Dollars	93,982,913	89,794,108	93,955,405	96,633,382	98,315,810	1.19
Nose, Nasal Passages	***Number of Grants***	***10***	***10***	***9***	***8***	***6***	
	Relevant Grant Dollars	1,117,904	987,215	890,916	699,843	691,610	
	Total Count	***10***	***10***	***9***	***8***	***6***	
	Total Relevant Dollars	1,117,904	987,215	890,916	699,843	691,610	-11.02
Not Site Specific§	***Number of Grants***	***1,889***	***1,727***	***1,747***	***1,668***	***1,629***	
	Relevant Grant Dollars	572,734,563	495,343,572	621,155,734	580,506,330	613,729,313	
	Number of Contracts	***192***	***201***	***181***	***152***	***154***	
	Relevant Contract Dollars	187,026,369	205,498,650	212,411,501	442,411,300	555,664,493	
	Total Count	***2,081***	***1,928***	***1,928***	***1,820***	***1,783***	
	Total Relevant Dollars	759,760,932	700,842,222	833,567,235	1,022,917,630	1,169,393,806	12.05
Oral Cavity	***Number of Grants***	***59***	***66***	***66***	***66***	***68***	
	Relevant Grant Dollars	11,657,227	10,151,964	8,835,614	12,635,411	13,714,954	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***59***	***66***	***66***	***66***	***68***	
	Total Relevant Dollars	11,657,227	10,151,964	8,835,614	12,635,411	13,714,954	6.42
Ovary	***Number of Grants***	***385***	***384***	***380***	***382***	***373***	
	Relevant Grant Dollars	95,732,146	85,110,664	79,194,763	77,297,410	83,576,854	
	Number of Contracts	***7***	***5***	***2***	***5***	***3***	
	Relevant Contract Dollars	2,496,203	3,421,603	1,182,604	3,363,895	1,470,356	
	Total Count	***392***	***389***	***382***	***387***	***376***	
	Total Relevant Dollars	98,228,349	88,532,267	80,377,367	80,661,305	85,047,209	-3.32

continued

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
§Not Site Specific = research that lacks a focus on a particular type of cancer/cancer site (e.g., basic research on the role of a protein in cellular DNA damage in fruit flies. There is no cancer site focus; however, it is relevant to cancer research.)
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Pancreas	***Number of Grants***	***421***	***465***	***494***	***499***	***502***	
	Relevant Grant Dollars	97,245,213	93,541,191	109,038,628	113,151,301	138,490,101	
	Number of Contracts	***3***	***2***	***5***	***4***	***13***	
	Relevant Contract Dollars	306,780	1,249,838	6,483,207	3,791,916	5,378,661	
	Total Count	***424***	***467***	***499***	***503***	***515***	
	Total Relevant Dollars	97,551,993	94,791,029	115,521,835	116,943,217	143,868,761	10.82
Parathyroid	***Number of Grants***	***2***	***2***	***3***	***3***	***3***	
	Relevant Grant Dollars	216,587	199,513	401,380	391,973	219,722	
	Total Count	***2***	***2***	***3***	***3***	***3***	
	Total Relevant Dollars	216,587	199,513	401,380	391,973	219,722	11.75
Penis	***Number of Grants***	***6***	***6***	***8***	***6***	***4***	
	Relevant Grant Dollars	2,424,675	2,435,008	2,652,760	191,911	341,656	
	Total Count	***6***	***6***	***8***	***6***	***4***	
	Total Relevant Dollars	2,424,675	2,435,008	2,652,760	191,911	341,656	-1.34
Pharynx	***Number of Grants***	***74***	***63***	***25***	***21***	***17***	
	Relevant Grant Dollars	3,427,507	4,442,944	1,881,045	2,704,917	2,017,103	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***74***	***63***	***25***	***21***	***17***	
	Total Relevant Dollars	3,427,507	4,442,944	1,881,045	2,704,917	2,017,103	-2.42
Pituitary	***Number of Grants***	***5***	***6***	***4***	***5***	***8***	
	Relevant Grant Dollars	695,788	649,567	458,773	821,132	1,419,108	
	Total Count	***5***	***6***	***4***	***5***	***8***	
	Total Relevant Dollars	695,788	649,567	458,773	821,132	1,419,108	28.95
Prostate	***Number of Grants***	***968***	***923***	***866***	***774***	***734***	
	Relevant Grant Dollars	231,897,860	223,571,212	187,129,390	198,462,848	202,049,473	
	Number of Contracts	***10***	***12***	***5***	***9***	***23***	
	Relevant Contract Dollars	3,076,292	6,244,033	6,350,291	6,069,471	15,201,920	
	Total Count	***978***	***935***	***871***	***783***	***757***	
	Total Relevant Dollars	234,974,152	229,815,245	193,479,681	204,532,319	217,251,393	-1.52
Reticuloendothelial System	***Number of Grants***	***12***	***9***	***8***	***7***	***5***	
	Relevant Grant Dollars	3,007,301	1,097,687	1,318,507	1,188,247	747,436	
	Total Count	***12***	***9***	***8***	***7***	***5***	
	Total Relevant Dollars	3,007,301	1,097,687	1,318,507	1,188,247	747,436	-22.59
Retinoblastoma	***Number of Grants***	***13***	***14***	***16***	***14***	***12***	
	Relevant Grant Dollars	2,335,494	2,225,018	3,538,181	3,475,408	2,740,929	
	Total Count	***13***	***14***	***16***	***12***	***12***	
	Total Relevant Dollars	2,335,494	2,225,018	3,538,181	3,475,408	2,740,929	7.85
Salivary Glands	***Number of Grants***	***3***	***3***	***2***	***1***	‡	
	Relevant Grant Dollars	582,113	515,075	45,316	‡	‡	
	Total Count	***3***	***3***	***2***	***1***	‡	
	Total Relevant Dollars	582,113	515,075	45,316	‡	‡	-51.36

continued

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Skin	***Number of Grants***	***209***	***205***	***192***	***170***	***163***	
	Relevant Grant Dollars	38,979,774	36,075,772	35,045,052	34,254,082	31,543,713	
	Number of Contracts	***1***	***1***	‡	***1***	‡	
	Relevant Contract Dollars	299,993	608,798	‡	35,000	‡	
	Total Count	***210***	***206***	***192***	***171***	***163***	
	Total Relevant Dollars	39,279,767	36,684,570	35,045,052	34,289,082	31,543,713	-5.31
Small Intestine	***Number of Grants***	***22***	***19***	***13***	***10***	***9***	
	Relevant Grant Dollars	2,601,072	2,440,030	1,954,527	2,085,838	2,085,715	
	Total Count	***22***	***19***	***13***	***10***	***9***	
	Total Relevant Dollars	2,601,072	2,440,030	1,954,527	2,085,838	2,085,715	-4.84
Spleen	***Number of Grants***	‡	‡	***2***	***2***	***2***	
	Relevant Grant Dollars	‡	‡	136,258	141,998	143,352	
	Total Count	‡	‡	***2***	***2***	***2***	
	Total Relevant Dollars	‡	‡	136,258	141,998	143,352	2.58
Stomach	***Number of Grants***	***46***	***43***	***63***	***66***	***63***	
	Relevant Grant Dollars	8,068,624	8,064,193	8,597,660	9,547,109	11,180,211	
	Number of Contracts	***2***	‡	‡	‡	‡	
	Relevant Contract Dollars	85,605	‡	‡	‡	‡	
	Total Count	***48***	***43***	***63***	***66***	***63***	
	Total Relevant Dollars	8,154,229	8,064,193	8,597,660	9,547,109	11,180,211	8.41
Testis	***Number of Grants***	***12***	***8***	***8***	***10***	***9***	
	Relevant Grant Dollars	3,825,536	3,850,005	3,880,838	3,143,451	730,983	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***12***	***8***	***8***	***10***	***9***	
	Total Relevant Dollars	3,825,536	3,850,005	3,880,838	3,143,451	730,983	-23.58
Thymus	***Number of Grants***	***4***	***5***	***5***	***4***	***3***	
	Relevant Grant Dollars	615,252	609,747	449,070	239,742	260,988	
	Total Count	***4***	***5***	***5***	***4***	***3***	
	Total Relevant Dollars	615,252	609,747	449,070	239,742	260,988	-16.25
Thyroid	***Number of Grants***	***48***	***52***	***61***	***62***	***54***	
	Relevant Grant Dollars	10,082,148	14,641,877	17,516,816	19,137,599	17,604,744	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	95313	‡	‡	‡	
	Total Count	***48***	***53***	***61***	***62***	***54***	
	Total Relevant Dollars	10,082,148	14,737,190	17,516,816	19,137,599	17,604,744	16.57
Trachea, Bronchus	***Number of Grants***	***3***	***3***	***3***	***2***	***2***	
	Relevant Grant Dollars	707,722	523,065	279,944	26,998	314,082	
	Total Count	***3***	***3***	***3***	***2***	***2***	
	Total Relevant Dollars	707,722	523,065	279,944	26,998	314,082	225.11

continued

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Anatomical Site	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Uterus	***Number of Grants***	***107***	***104***	***101***	***88***	***90***	
	Relevant Grant Dollars	16,911,090	15,653,222	13,467,035	10,947,265	15,043,375	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	142712	‡	‡	‡	
	Total Count	***107***	***105***	***101***	***88***	***90***	
	Total Relevant Dollars	16,911,090	15,795,934	13,467,035	10,947,265	15,043,375	-0.66
Vagina	***Number of Grants***	***5***	***4***	***4***	***4***	***2***	
	Relevant Grant Dollars	336,623	317,026	286,298	86,493	‡	
	Total Count	***5***	***4***	***4***	***4***	***2***	
	Total Relevant Dollars	336,623	317,026	286,298	86,493	‡	-28.43
Vascular	***Number of Grants***	***40***	***30***	***19***	***14***	***6***	
	Relevant Grant Dollars	7,523,998	3,990,351	2,310,811	1,745,884	668,887	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***40***	***30***	***19***	***14***	***6***	
	Total Relevant Dollars	7,523,998	3,990,351	2,310,811	1,745,884	668,887	-43.80
Wilms Tumor	***Number of Grants***	***14***	***7***	***9***	***10***	***12***	
	Relevant Grant Dollars	2,563,467	1,341,539	3,843,112	3,548,011	3,831,667	
	Total Count	***14***	***7***	***9***	***10***	***12***	
	Total Relevant Dollars	2,563,467	1,341,539	3,843,112	3,548,011	3,831,667	34.78

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16. NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Adolescent and Young Adults Cancer	***Number of Grants***				***9***	***106***	
	Relevant Grant Dollars				2,606,149	28,390,821	
	Number of Contracts				***1***	‡	
	Relevant Contract Dollars				140,000	‡	
	Total Count				***10***	***106***	
	Total Relevant Dollars				2,746,149	28,390,821	933.84
Adoptive Cell Immunotherapy	***Number of Grants***	***231***	***216***	***211***	***210***	***200***	
	Relevant Grant Dollars	64,459,206	55,186,231	52,024,707	45,245,708	43,690,082	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	1,499,971	‡	‡	‡	
	Total Count	***231***	***217***	***211***	***210***	***200***	
	Total Relevant Dollars	64,459,206	56,686,202	52,024,707	45,245,708	43,690,082	-9.19
Advanced Manufacturing Technology	***Number of Grants***	***10***	***7***	***8***	***9***	***4***	
	Relevant Grant Dollars	2,945,075	2,460,945	2,295,195	1,939,427	900,771	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	498,626	‡	‡	‡	‡	
	Total Count	***11***	***7***	***8***	***9***	***4***	
	Total Relevant Dollars	3,443,701	2,460,945	2,295,195	1,939,427	900,771	-26.08
Aging	***Number of Grants***	***689***	***577***	***420***	***319***	***292***	
	Relevant Grant Dollars	79,998,304	69,649,282	57,171,560	53,143,671	54,936,453	
	Number of Contracts	***2***	***1***	***1***	***3***	***4***	
	Relevant Contract Dollars	82,113	27,250	31,046	230,807	343,283	
	Total Count	***691***	***578***	***421***	***322***	***296***	
	Total Relevant Dollars	80,080,417	69,676,532	57,202,606	53,374,478	55,279,736	-8.50
AIDS	***Number of Grants***	***60***	***45***	***35***	***27***	***32***	
	Relevant Grant Dollars	12,538,472	10,917,513	10,442,198	8,158,469	11,352,233	
	Total Count	***60***	***45***	***35***	***27***	***32***	
	Total Relevant Dollars	12,538,472	10,917,513	10,442,198	8,158,469	11,352,233	-0.001
Alternative Medicine, Direct	***Number of Grants***	***343***	***304***	***317***	***229***	***190***	
	Relevant Grant Dollars	73,033,996	57,639,318	52,792,542	47,270,448	42,068,505	
	Number of Contracts	***3***	‡	***2***	***2***	***2***	
	Relevant Contract Dollars	266,500	‡	3,552,516	4,201,607	6,035,840	
	Total Count	***346***	***304***	***319***	***231***	***192***	
	Total Relevant Dollars	73,300,496	57,639,318	56,345,058	51,472,055	48,104,345	-9.70
Alternative Medicine, Indirect	***Number of Grants***	***31***	***23***	***24***	***23***	***18***	
	Relevant Grant Dollars	6,981,196	4,798,508	4,098,399	3,769,298	3,160,728	
	Total Count	***31***	***23***	***24***	***23***	***18***	
	Total Relevant Dollars	6,981,196	4,798,508	4,098,399	3,769,298	3,160,728	-17.51
Alzheimers Dementia	***Number of Grants***	***3***	***3***	***2***	***3***	***6***	
	Relevant Grant Dollars	96,204	186,357	294,069	386,427	643,489	
	Total Count	***3***	***3***	***2***	***3***	***6***	
	Total Relevant Dollars	96,204	186,357	294,069	386,427	643,489	62.36

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Arctic Research	***Number of Grants***	***5***	***7***	***8***	***5***	***5***	
	Relevant Grant Dollars	570,649	1,048,649	1,141,359	562,755	730,070	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	471,532	‡	‡	‡	‡	
	Total Count	***6***	***7***	***8***	***5***	***5***	
	Total Relevant Dollars	1,042,181	1,048,649	1,141,359	562,755	730,070	-2.88
Arthritis	***Number of Grants***	***7***	***6***	***6***	***4***	***1***	
	Relevant Grant Dollars	1,066,691	881,952	864,304	672,293	‡	
	Total Count	***7***	***6***	***6***	***4***	***1***	
	Total Relevant Dollars	1,066,691	881,952	864,304	672,293	‡	-13.85
Asbestos	***Number of Grants***	***13***	***13***	***12***	***13***	***13***	
	Relevant Grant Dollars	3,609,082	2,872,753	2,937,531	3,365,262	3,619,815	
	Total Count	***13***	***13***	***12***	***13***	***13***	
	Total Relevant Dollars	3,609,082	2,872,753	2,937,531	3,365,262	3,619,815	0.99
Ataxia Telangiectasia	***Number of Grants***	***11***	***7***	***6***	***5***	***5***	
	Relevant Grant Dollars	1,369,928	1,238,529	309,072	749,775	786,560	
	Total Count	***11***	***7***	***6***	***5***	***5***	
	Total Relevant Dollars	1,369,928	1,238,529	309,072	749,775	786,560	15.71
Autoimmune Diseases	***Number of Grants***	***33***	***28***	***22***	***14***	***9***	
	Relevant Grant Dollars	3,767,007	2,747,501	1,403,677	630,151	832,994	
	Total Count	***33***	***28***	***22***	***14***	***9***	
	Total Relevant Dollars	3,767,007	2,747,501	1,403,677	630,151	832,994	-24.72
Behavior Research	***Number of Grants***	***1,106***	***1,093***	***1,032***	***920***	***888***	
	Relevant Grant Dollars	328,483,291	288,411,741	239765778	222,068,908	212,741,824	
	Number of Contracts	***18***	***19***	***5***	***9***	***11***	
	Relevant Contract Dollars	7,750,198	11,278,961	3018920	8,316,984	8,642,050	
	Total Count	***1,124***	***1,112***	***1037***	***929***	***899***	
	Total Relevant Dollars	336,233,489	299,690,702	242784698	230,385,892	221,383,874	-9.72
Bioengineering	***Number of Grants***	***471***	***438***	***551***	***525***	***478***	
	Relevant Grant Dollars	128,170,758	116,606,055	139,804,609	135,770,178	132,443,598	
	Number of Contracts	***14***	***14***	***9***	***10***	***7***	
	Relevant Contract Dollars	7,721,382	6,142,128	3,567,443	1,910,970	2,478,606	
	Total Count	***485***	***452***	***560***	***535***	***485***	
	Total Relevant Dollars	135,892,140	122,748,183	143,372,052	137,681,148	134,922,204	0.29
Bioinformatics	***Number of Grants***	***691***	***655***	***649***	***645***	***661***	
	Relevant Grant Dollars	220,626,261	188,164,686	183,215,139	162,383,424	179,136,458	
	Number of Contracts	***25***	***31***	***29***	***18***	***28***	
	Relevant Contract Dollars	20,993,037	24,968,039	24,606,810	33,425,767	58,667,710	
	Total Count	***716***	***686***	***678***	***663***	***689***	
	Total Relevant Dollars	241,619,298	213,132,725	207,821,949	195809191	237,804,168	0.35
Biological Carcinogenesis, Non-Viral	***Number of Grants***	***75***	***77***	***78***	***83***	***77***	
	Relevant Grant Dollars	15,387,505	14,300,282	15,804,902	18,764,027	20,074,390	
	Total Count	***75***	***77***	***78***	***83***	***77***	
	Total Relevant Dollars	15,387,505	14,300,282	15,804,902	18,764,027	20,074,390	7.29

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Biologics/Biological Response Modifiers	***Number of Grants***	***1,484***	***1,353***	***1,188***	***1,031***	***946***	
	Relevant Grant Dollars	530,129,682	477,320,267	289,423,470	271,992,850	279,698,693	
	Number of Contracts	***10***	***10***	***5***	***7***	***14***	
	Relevant Contract Dollars	10,691,980	9,671,661	5,894,582	28,016,244	44,277,523	
	Total Count	***1,494***	***1,363***	***1,193***	***1038***	***960***	
	Total Relevant Dollars	540,821,662	486,991,928	295,318,052	300,009,094	323,976,215	-9.93
Biomaterials Research	***Number of Grants***	***104***	***94***	***84***	***78***	***63***	
	Relevant Grant Dollars	15,414,009	12,137,705	14,254,502	13,939,654	11,643,768	
	Number of Contracts	***2***	***3***	‡	‡	‡	
	Relevant Contract Dollars	1,186,186	797,035	‡	‡	‡	
	Total Count	***106***	***97***	***84***	***78***	***63***	
	Total Relevant Dollars	16,600,195	12,934,740	14,254,502	13,939,654	11,643,768	-7.64
Biomedical Computing	***Number of Grants***	***596***	***588***	***595***	***617***	***653***	
	Relevant Grant Dollars	164,726,922	161,506,346	190,278,426	185,096,312	206,729,157	
	Number of Contracts	***31***	***35***	***24***	***23***	***34***	
	Relevant Contract Dollars	53,261,742	37,914,467	24,933,240	24,023,855	31,453,540	
	Total Count	***627***	***623***	***619***	***640***	***687***	
	Total Relevant Dollars	217,988,664	199,420,813	215,211,666	209,120,167	238,182,697	2.62
Birth Defects	***Number of Grants***	***46***	***33***	***30***	***35***	***30***	
	Relevant Grant Dollars	8,086,859	5,021,213	4,403,949	8,435,172	8,432,758	
	Total Count	***46***	***33***	***30***	***35***	***30***	
	Total Relevant Dollars	8,086,859	5,021,213	4,403,949	8,435,172	8,432,758	10.33
Bone Marrow Transplantation	***Number of Grants***	***112***	***130***	***115***	***104***	***99***	
	Relevant Grant Dollars	37,328,235	39,871,538	35,750,541	34,316,819	34,979,933	
	Number of Contracts	‡	‡	‡	‡	***1***	
	Relevant Contract Dollars	‡	‡	‡	‡	728,795	
	Total Count	***112***	***130***	***115***	***104***	***100***	
	Total Relevant Dollars	37,328,235	39,871,538	35,750,541	34,316,819	35,708,727	-0.87
Breast Cancer Detection	***Number of Grants***	***441***	***411***	***385***	***344***	***322***	
	Relevant Grant Dollars	88,105,336	81,666,201	75,065,760	82,711,296	72,103,576	
	Number of Contracts	***12***	***4***	***1***	***1***	***4***	
	Relevant Contract Dollars	5,863,578	3,543,475	1,100,000	750,000	874,929	
	Total Count	***453***	***415***	***386***	***345***	***326***	
	Total Relevant Dollars	93,968,914	85,209,676	76,165,760	83,461,296	72,978,505	-5.73
Breast Cancer Early Detection	***Number of Grants***	***197***	***180***	***180***	***189***	***170***	
	Relevant Grant Dollars	46,685,468	43,528,756	43,117,642	41,884,877	33,480,855	
	Number of Contracts	***6***	***2***	***1***	***1***	***1***	
	Relevant Contract Dollars	3,764,617	2,295,819	1,100,000	750,000	149,669	
	Total Count	***203***	***182***	***181***	***190***	***171***	
	Total Relevant Dollars	50,450,085	45,824,575	44,217,642	42,634,877	33,630,524	-9.34
Breast Cancer Education	***Number of Grants***	***117***	***106***	***102***	***41***	***38***	
	Relevant Grant Dollars	13,390,623	9,550,272	4,699,015	4,270,107	4,685,670	
	Total Count	***117***	***106***	***102***	***41***	***38***	
	Total Relevant Dollars	13,390,623	9,550,272	4,699,015	4,270,107	4,685,670	-19.72

continued

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Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Breast Cancer Epidemiology	***Number of Grants***	***215***	***219***	***210***	***192***	***147***	
	Relevant Grant Dollars	79,021,942	74,082,885	65,139,979	55,393,919	39,840,647	
	Number of Contracts	***2***	***6***	***1***	***3***	***12***	
	Relevant Contract Dollars	1,728,711	3,348,609	125,000	1,469,411	6,203,333	
	Total Count	***217***	***225***	***211***	***195***	***159***	
	Total Relevant Dollars	80,750,653	77,431,494	65,264,979	56,863,330	46,043,980	-12.93
Breast Cancer Genetics	***Number of Grants***	***510***	***509***	***498***	***462***	***398***	
	Relevant Grant Dollars	130,302,574	116,592,352	107,994,765	96,024,839	81,070,422	
	Number of Contracts	***5***	***4***	‡	‡	***1***	
	Relevant Contract Dollars	2,143,190	2,739,232	‡	‡	49,931	
	Total Count	***515***	***513***	***498***	***462***	***399***	
	Total Relevant Dollars	132,445,764	119,331,584	107,994,765	96,024,839	81,120,353	-11.50
Breast Cancer Prevention	***Number of Grants***	***190***	***182***	***180***	***110***	***99***	
	Relevant Grant Dollars	18,454,078	18,639,346	16,628,036	18,681,211	19,111,915	
	Number of Contracts	***1***	***1***	***1***	***1***	***2***	
	Relevant Contract Dollars	35,700	68,000	1,478,927	3,163,159	3,146,728	
	Total Count	***191***	***183***	***181***	***111***	***101***	
	Total Relevant Dollars	18,489,778	18,707,346	18,106,963	21,844,370	22,258,643	5.13
Breast Cancer Rehabilitation	***Number of Grants***	***169***	***160***	***130***	***92***	***86***	
	Relevant Grant Dollars	23,354,588	19,304,588	16,034,148	16,436,183	15,759,809	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	200,000	‡	‡	‡	
	Total Count	***169***	***161***	***130***	***92***	***86***	
	Total Relevant Dollars	23,354,588	19,504,588	16,034,148	16,436,183	15,759,809	-8.97
Breast Cancer Screening	***Number of Grants***	***178***	***170***	***142***	***91***	***70***	
	Relevant Grant Dollars	26,090,155	24,889,715	20,751,155	17,485,192	10,475,206	
	Number of Contracts	***1***	***1***	***1***	***1***	‡	
	Relevant Contract Dollars	1,400,000	1,300,000	1,100,000	750,000	‡	
	Total Count	***179***	***171***	***143***	***92***	***70***	
	Total Relevant Dollars	27,490,155	26,189,715	21,851,155	18,235,192	10,475,206	-20.10
Breast Cancer Treatment	***Number of Grants***	***679***	***664***	***687***	***644***	***650***	
	Relevant Grant Dollars	151,868,982	142,815,791	138,560,818	152,387,067	154,489,026	
	Number of Contracts	***8***	***5***	***4***	***3***	***3***	
	Relevant Contract Dollars	4,169,128	2,525,833	2,065,223	892,527	4,424,708	
	Total Count	***687***	***669***	***691***	***647***	***653***	
	Total Relevant Dollars	156,038,110	145,341,624	140,626,041	153,279,594	158,913,734	0.64
Breast Cancer, Basic	***Number of Grants***	***744***	***767***	***855***	***763***	***745***	
	Relevant Grant Dollars	175,587,977	164,833,399	167,569,592	165,644,820	169,080,913	
	Number of Contracts	***5***	***3***	***3***	***3***	***1***	
	Relevant Contract Dollars	1,013,726	1,431,744	653,485	3,654,832	49,931	
	Total Count	***749***	***770***	***858***	***766***	***746***	
	Total Relevant Dollars	176,601,703	166,265,143	168,223,077	169,299,652	169,130,844	-1.03

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Cancer Survivorship	***Number of Grants***	***669***	***628***	***568***	***476***	***465***	
	Relevant Grant Dollars	247,349,527	245,984,817	169,414,751	171,526,613	162,069,466	
	Number of Contracts	***13***	***15***	***1***	***7***	***7***	
	Relevant Contract Dollars	12,698,851	11,019,708	997,190	9,847,866	2,679,641	
	Total Count	***682***	***643***	***569***	***483***	***472***	
	Total Relevant Dollars	260,048,378	257,004,525	170,411,941	181,374,479	164,749,107	-9.40
Carcinogenesis, Environmental	***Number of Grants***	***1,163***	***1,116***	***1,041***	***943***	***892***	
	Relevant Grant Dollars	367,617,534	313,980,620	273,042,396	260,061,824	255,935,050	
	Number of Contracts	***13***	***17***	***11***	***9***	***19***	
	Relevant Contract Dollars	4,057,751	5,565,513	3,879,202	3,465,524	13,046,648	
	Total Count	***1,176***	***1,133***	***1,052***	***952***	***911***	
	Total Relevant Dollars	371,675,285	319,546,133	276,921,598	263,527,348	268,981,698	-7.53
Cervical Cancer Education	***Number of Grants***	***39***	***30***	***34***	***38***	***37***	
	Relevant Grant Dollars	6,569,930	4,529,757	6,077,658	6,221,573	5,869,483	
	Total Count	***39***	***30***	***34***	***38***	***37***	
	Total Relevant Dollars	6,569,930	4,529,757	6,077,658	6,221,573	5,869,483	-0.04
Chemoprevention	***Number of Grants***	***521***	***490***	***429***	***342***	***295***	
	Relevant Grant Dollars	106,270,652	97,428,457	84,243,372	80,022,566	71,829,951	
	Number of Contracts	***9***	***6***	***6***	***11***	***9***	
	Relevant Contract Dollars	7,745,895	8,399,689	15,066,511	20,758,658	16,414,527	
	Total Count	***530***	***496***	***435***	***353***	***304***	
	Total Relevant Dollars	114,016,547	105,828,146	99,309,883	100,781,224	88,244,478	-6.07
Chemoprevention, Clinical	***Number of Grants***	***129***	***118***	***91***	***36***	***24***	
	Relevant Grant Dollars	26,207,896	24,973,361	14,722,116	12,015,435	9,361,402	
	Number of Contracts	***5***	‡	‡	‡	‡	
	Relevant Contract Dollars	1,809,372	‡	‡	‡	‡	
	Total Count	***134***	***118***	***91***	***36***	***24***	
	Total Relevant Dollars	28,017,268	24,973,361	14,722,116	12,015,435	9,361,402	-23.10
Chemotherapy	***Number of Grants***	***1,309***	***1,232***	***1,087***	***930***	***872***	
	Relevant Grant Dollars	483,927,715	439,082,427	250,373,415	246,109,305	260,723,356	
	Number of Contracts	***21***	***18***	***12***	***7***	***20***	
	Relevant Contract Dollars	15,400,076	10,450,686	9,970,324	5,413,456	13,695,854	
	Total Count	***1,330***	***1,250***	***1,099***	***937***	***892***	
	Total Relevant Dollars	499,327,791	449,533,113	260,343,739	251,522,761	274,419,210	-11.59
Child Health	***Number of Grants***	***132***	***123***	***122***	***102***	***100***	
	Relevant Grant Dollars	29,367,355	23,265,126	24,830,888	20,762,243	16,163,223	
	Number of Contracts	***3***	***5***	***2***	***3***	‡	
	Relevant Contract Dollars	632,000	2,181,318	177,670	195,000	‡	
	Total Count	***135***	***128***	***124***	***105***	***100***	
	Total Relevant Dollars	29,999,355	25,446,444	25,008,558	20,957,243	16,163,223	-13.99
Childhood Cancers	***Number of Grants***	***532***	***525***	***493***	***448***	***453***	
	Relevant Grant Dollars	177,934,130	155,945,246	173,785,934	178,242,101	181,711,926	
	Number of Contracts	***2***	***3***	***2***	‡	‡	
	Relevant Contract Dollars	2,999,993	4,212,177	3,007,558	‡	‡	
	Total Count	***534***	***528***	***495***	***448***	***453***	
	Total Relevant Dollars	180,934,123	160,157,423	176,793,492	178,242,101	181,711,926	0.42

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Chronic Myeloproliferative Disorders	***Number of Grants***	***143***	***143***	***132***	***113***	***91***	
	Relevant Grant Dollars	38,980,403	36,692,865	36,189,051	30,632,366	20,846,554	
	Number of Contracts	‡	‡	‡	***1***	‡	
	Relevant Contract Dollars	‡	‡	‡	1,489,494	‡	
	Total Count	***143***	***143***	***132***	***114***	***91***	
	Total Relevant Dollars	38,980,403	36,692,865	36,189,051	32,121,860	20,846,554	-13.40
Clinical Trials, Diagnosis	***Number of Grants***	***142***	***136***	***146***	***187***	***194***	
	Relevant Grant Dollars	38,090,132	30,815,744	45,889,734	53,037,657	60,433,953	
	Number of Contracts	***2***	***3***	***1***	‡	***1***	
	Relevant Contract Dollars	2,264,053	1,651,880	1,728,293	‡	166,395	
	Total Count	***144***	***139***	***147***	***187***	***195***	
	Total Relevant Dollars	40,354,185	32,467,624	47,618,027	53,037,657	60,600,348	13.19
Clinical Trials, Other	***Number of Grants***	***241***	***115***	***279***	***250***	***283***	
	Relevant Grant Dollars	73,756,321	40,042,677	149,612,281	133,237,216	120,494,908	
	Number of Contracts	***8***	‡	***3***	***5***	***6***	
	Relevant Contract Dollars	4,870,009	‡	7,962,288	27,271,204	42,312,294	
	Total Count	***249***	***115***	***282***	***255***	***289***	
	Total Relevant Dollars	78,626,330	40,042,677	157,574,569	160,508,420	162,807,202	61.93
Clinical Trials, Prevention	***Number of Grants***	***140***	***115***	***114***	***119***	***109***	
	Relevant Grant Dollars	51,726,135	40,042,677	35,417,115	31,032,388	30,908,463	
	Number of Contracts	***8***	‡	***4***	***5***	***4***	
	Relevant Contract Dollars	2,682,866	‡	7,423,381	10,710,985	9,803,442	
	Total Count	***148***	***115***	***118***	***124***	***113***	
	Total Relevant Dollars	54,409,001	40,042,677	42,840,496	41,743,373	40,711,905	-6.11
Clinical Trials, Therapy	***Number of Grants***	***574***	***532***	***546***	***501***	***498***	
	Relevant Grant Dollars	326,779,192	323,103,308	315,511,818	334,042,999	334,329,251	
	Number of Contracts	***16***	***14***	***11***	***15***	***8***	
	Relevant Contract Dollars	38,008,573	22,662,279	18,485,764	60,380,409	100,254,859	
	Total Count	***590***	***546***	***557***	***516***	***506***	
	Total Relevant Dollars	364,787,765	345,765,587	333,997,582	394,423,408	434,584,110	4.91
Combined Treatment Modalities	***Number of Grants***	***922***	***1,022***	***1,056***	***1,084***	***1,148***	
	Relevant Grant Dollars	407,422,052	412,395,044	241,467,906	266,541,656	301,911,203	
	Number of Contracts	***8***	***8***	***6***	***7***	***2***	
	Relevant Contract Dollars	7,776,273	7,259,529	7,488,672	3,420,624	671,778	
	Total Count	***930***	***1,030***	***1,062***	***1,091***	***1,150***	
	Total Relevant Dollars	415,198,325	419,654,573	248,956,578	269,962,280	302,582,981	-4.77
Cost Effectiveness	***Number of Grants***	***181***	***155***	***139***	***131***	***137***	
	Relevant Grant dollars	29,528,911	23,509,038	22,816,491	24,073,416	27,207,714	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	2,479,561	‡	‡	‡	‡	
	Total count	***182***	***155***	***139***	***131***	***137***	
	Total Relevant Dollars	32,008,472	23,509,038	22,816,491	24,073,416	27,207,714	-2.74

continued

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Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Diabetes	***Number of Grants***	***49***	***68***	***77***	***77***	***75***	
	Relevant Grant dollars	7,823,131	9,846,534	8,622,303	10,029,759	10,282,028	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	207,952	‡	‡	‡	
	Total Count	***49***	***69***	***77***	***77***	***75***	
	Total Relevant Dollars	7,823,131	10,054,486	8,622,303	10,029,759	10,282,028	8.28
Diagnosis	***Number of Grants***	***1,758***	***1,695***	***1,686***	***1,631***	***1,576***	
	Relevant Grant Dollars	538,315,913	492,426,013	529,392,958	539,541,884	530,211,572	
	Number of Contracts	***52***	***54***	***39***	***31***	***43***	
	Relevant Contract Dollars	32,848,866	40,112,891	30,979,563	49,265,219	54,014,496	
	Total Count	***1,810***	***1,749***	***1,725***	***1,662***	***1,619***	
	Total Relevant Dollars	571,164,779	532,538,904	560,372,521	588,807,103	584,226,068	0.69
Diethylstilbestrol	***Number of Grants***	***3***	***3***	***2***	***2***	***1***	
	Relevant Grant Dollars	323,182	308,506	263,724	121,734	28,088	
	Total Count	***3***	***3***	***2***	***2***	***1***	
	Total Relevant Dollars	323,182	308,506	263,724	121,734	28,088	-37.46
Dioxin	***Number of Grants***	***9***	***8***	***7***	***9***	***7***	
	Relevant Grant Dollars	936,088	612,850	631,714	383,261	369,498	
	Total Count	***9***	***8***	***7***	***9***	***7***	
	Total Relevant Dollars	936,088	612,850	631,714	383,261	369,498	-18.59
DNA Repair	***Number of Grants***	***540***	***512***	***494***	***507***	***473***	
	Relevant Grant Dollars	111,276,907	102,121,375	99,797,181	100,671,223	100,897,948	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	999,596	‡	‡	‡	‡	
	Total Count	***541***	***512***	***494***	***507***	***473***	
	Total Relevant Dollars	112,276,503	102,121,375	99,797,181	100,671,223	100,897,948	-2.55
Drug Development	***Number of Grants***	***2,233***	***2,310***	***2,393***	***2,284***	***2,130***	
	Relevant Grant Dollars	593,685,849	583,484,075	604,291,255	617,108,394	647,645,213	
	Number of Contracts	***69***	***64***	***39***	***47***	***44***	
	Relevant Contract Dollars	58,367,271	43,062,404	36,749,532	84,307,830	95,203,326	
	Total Count	***2,302***	***2,374***	***2,432***	***2,331***	***2,174***	
	Total Relevant Dollars	652,053,120	626,546,479	641,040,787	701,416,224	742,848,539	3.43
Drug Discovery	***Number of Grants***	***426***	***423***	***432***	***422***	***366***	
	Relevant Grant Dollars	77,078,178	76,661,475	83,662,149	80,704,643	79,153,198	
	Number of Contracts	***7***	***14***	***3***	***4***	***10***	
	Relevant Contract Dollars	2,752,844	5,018,328	298,072	2,349,989	4,433,398	
	Total count	***433***	***437***	***435***	***426***	***376***	
	Total Relevant Dollars	79,831,022	81,679,803	83,960,221	83,054,632	83,586,595	1.17
Drug Resistance	***Number of Grants***	***697***	***712***	***785***	***852***	***898***	
	Relevant Grant Dollars	137,912,021	133,575,885	148,056,783	177,796,465	214,729,058	
	Number of Contracts	***2***	***3***	***1***	***3***	***2***	
	Relevant Contract Dollars	399,349	3,198,559	1,000,000	824,798	646,029	
	Total Count	***699***	***715***	***786***	***855***	***900***	
	Total Relevant Dollars	138,311,370	136,774,444	149,056,783	178,621,263	215,375,087	12.07

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Drugs, Natural Products	***Number of Grants***	***577***	***556***	***490***	***371***	***300***	
	Relevant Grant Dollars	123,779,207	109,888,176	71,095,657	57,656,190	54,297,012	
	Number of Contracts	***2***	‡	‡	‡	***2***	
	Relevant Contract Dollars	396,938	‡	‡	‡	2,574,718	
	Total Count	***579***	***556***	***490***	***371***	***302***	
	Total Relevant Dollars	124,176,145	109,888,176	71,095,657	57,656,190	56,871,730	-16.77
Early Detection	***Number of Grants***	***788***	***755***	***748***	***714***	***694***	
	Relevant Grant Dollars	220,140,713	204,867,734	225,248,442	220,102,816	229,998,056	
	Number of Contracts	***17***	***14***	***9***	***14***	***7***	
	Relevant Contract Dollars	15,164,662	13,803,863	8,393,779	8,686,400	4,028,068	
	Total Count	***805***	***769***	***757***	***728***	***701***	
	Total Relevant Dollars	235,305,375	218,671,597	233,642,221	228,789,216	234,026,124	0.01
Effectiveness Research	***Number of Grants***	***329***	***318***	***296***	***264***	***223***	
	Relevant Grant Dollars	95,620,963	90,764,479	80,220,580	69,440,936	47,442,385	
	Number of Contracts	***7***	***8***	***1***	***2***	***11***	
	Relevant Contract Dollars	5,463,193	12,172,772	10,500	4,377,973	30,894,764	
	Total Count	***336***	***326***	***297***	***266***	***234***	
	Total Relevant Dollars	101,084,156	102,937,251	80,231,080	73,818,909	78,337,149	-5.52
Endocrinology	***Number of Grants***	***619***	***572***	***539***	***512***	***469***	
	Relevant Grant Dollars	127,583,367	111,913,229	107,069,679	104,762,093	96,691,678	
	Number of Contracts	***4***	***1***	***1***	‡	‡	
	Relevant Contract Dollars	813,140	1,307,520	1,478,552	‡	‡	
	Total Count	***623***	***573***	***540***	***512***	***469***	
	Total Relevant Dollars	128,396,507	113,220,749	108,548,231	104,762,093	96,691,678	-6.78
Energy Balance	***Number of Grants***	***112***	***91***	***86***	***68***	***51***	
	Relevant Grant Dollars	32,621,115	27,758,787	23,971,943	20,847,429	7,628,220	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	31,250	‡	‡	‡	
	Total Count	***112***	***92***	***86***	***68***	***51***	
	Total Relevant Dollars	32,621,115	27,790,037	23,971,943	20,847,429	7,628,220	-26.25
Epidemiology—Biochemical	***Number of Grants***	***525***	***516***	***495***	***457***	***385***	
	Relevant Grant Dollars	200,458,114	183,330,345	169,955,392	164,276,738	146,920,161	
	Number of Contracts	***10***	***4***	***1***	***1***	***1***	
	Relevant Contract Dollars	32,063,034	12,320,111	2,160,252	1,716,430	24,966	
	Total Count	***535***	***520***	***496***	***458***	***386***	
	Total Relevant Dollars	232,521,148	195,650,456	172,115,644	165,993,168	146,945,127	-10.73
Epidemiology	***Number of Grants***	***257***	***245***	***233***	***210***	***188***	
	Relevant Grant Dollars	75,023,578	76,193,758	81,439,737	76,666,541	75,587,379	
	Number of Contracts	***19***	***42***	***33***	***27***	***31***	
	Relevant Contract Dollars	13,162,987	42,219,232	38,502,206	91,178,576	111,330,516	
	Total Count	***276***	***287***	***266***	***237***	***219***	
	Total Relevant Dollars	88,186,565	118,412,990	119,941,943	167,845,117	186,917,895	21.72

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Epidemiology, Environmental	***Number of Grants***	***402***	***380***	***336***	***303***	***250***	
	Relevant Grant Dollars	146,924,987	117,386,653	107,915,202	93,061,131	74,257,282	
	Number of Contracts	***14***	***6***	***5***	***4***	***2***	
	Relevant Contract Dollars	27,082,561	13,262,667	3,754,701	3,257,460	1,417,866	
	Total Count	***416***	***386***	***341***	***307***	***252***	
	Total Relevant Dollars	174,007,548	130,649,320	111,669,903	96,318,591	75,675,148	-18.66
Epigenetics	***Number of Grants***	***893***	***901***	***943***	***917***	***928***	
	Relevant Grant Dollars	197,448,892	183,377,930	187,566,016	185,757,320	203,722,809	
	Number of Contracts	***1***	***1***	‡	***1***	***2***	
	Relevant Contract Dollars	80,000	80,000	‡	80,000	147,571	
	Total Count	***894***	***902***	***943***	***918***	***930***	
	Total Relevant Dollars	197,528,892	183,457,930	187,566,016	185,837,320	203,870,380	0.97
Gene Mapping, Human	***Number of Grants***	***349***	***283***	***237***	***197***	***153***	
	Relevant Grant Dollars	112,977,260	75,989,190	61,585,479	48,294,930	46,905,132	
	Total Count	***349***	***283***	***237***	***197***	***153***	
	Total Relevant Dollars	112,977,260	75,989,190	61,585,479	48,294,930	46,905,132	-19.04
Gene Mapping, Non-Human	***Number of Grants***	***183***	***157***	***130***	***82***	***59***	
	Relevant Grant Dollars	30,805,418	24,907,163	14,858,944	9,387,204	9,836,690	
	Total Count	***183***	***157***	***130***	***82***	***59***	
	Total Relevant Dollars	30,805,418	24,907,163	14,858,944	9,387,204	9,836,690	-22.88
Gene Transfer, Clinical	***Number of Grants***	***28***	***23***	***22***	***20***	***20***	
	Relevant Grant Dollars	6,398,890	5,731,303	4,272,656	4,512,499	4,853,792	
	Total Count	***28***	***23***	***22***	***20***	***20***	
	Total Relevant Dollars	6,398,890	5,731,303	4,272,656	4,512,499	4,853,792	-5.68
Genetic Testing Research, Human	***Number of Grants***	***250***	***195***	***154***	***131***	***104***	
	Relevant Grant Dollars	78,970,309	60,583,797	42,299,385	38,489,954	29,475,413	
	Number of Contracts	***4***	‡	***1***	‡	***1***	
	Relevant Contract Dollars	2,838,423	‡	660,000	‡	75,000	
	Total Count	***254***	***195***	***155***	***131***	***105***	
	Total Relevant Dollars	81,808,732	60,583,797	42,959,385	38,489,954	29,550,408	-22.17
Genomics	***Number of Grants***	***1,090***	***1,113***	***1,182***	***1,203***	***1,266***	
	Relevant Grant Dollars	355,990,253	315,909,113	323,758,372	341,321,721	389,134,110	
	Number of Contracts	***9***	***8***	***2***	***9***	***12***	
	Relevant Contract Dollars	3,769,491	3,463,628	972,912	55,539,001	83,510,228	
	Total Count	***1,099***	***1,121***	***1,184***	***1,212***	***1,278***	
	Total Relevant Dollars	359,759,744	319,372,741	324,731,284	396,860,722	472,644,337	7.94
Health Literacy	***Number of Grants***	***107***	***106***	***98***	***100***	***97***	
	Relevant Grant Dollars	25,702,360	20,195,573	18,558,771	18,398,631	15,279,155	
	Number of Contracts	***1***	***1***	‡	‡	‡	
	Relevant Contract Dollars	2,026,250	2,298,614	‡	‡	‡	
	Total Count	***108***	***107***	***98***	***100***	***97***	
	Total Relevant Dollars	27,728,610	22,494,187	18,558,771	18,398,631	15,279,155	-13.55

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Health Promotion	***Number of Grants***	***459***	***434***	***378***	***338***	***309***	
	Relevant Grant Dollars	152,900,603	125,530,387	107,111,437	92,700,255	69,278,601	
	Number of Contracts	***9***	***6***	***7***	***3***	***3***	
	Relevant Contract Dollars	5,078,162	7,193,454	4,712,166	1,673,149	2,081,656	
	Total Count	***468***	***440***	***385***	***341***	***312***	
	Total Relevant Dollars	157,978,765	132,723,841	111,823,603	94,373,404	71,360,257	-17.93
Health Care Delivery	***Number of Grants***	***370***	***360***	***398***	***378***	***377***	
	Relevant Grant Dollars	116,521,815	108,978,920	218,923,687	200,905,989	178,992,169	
	Number of Contracts	***12***	***14***	***3***	***5***	***17***	
	Relevant Contract Dollars	6,285,437	12,762,591	2,221,373	5,400,399	32,071,822	
	Total Count	***382***	***374***	***401***	***383***	***394***	
	Total Relevant Dollars	122,807,252	121,741,511	221,145,060	206,306,388	211,063,992	19.09
Helicobacter	***Number of Grants***	***32***	***31***	***29***	***29***	***22***	
	Relevant Grant Dollars	7,685,880	6,972,140	6,799,315	8,287,809	7,837,594	
	Total Count	***32***	***31***	***29***	***29***	***22***	
	Total Relevant Dollars	7,685,880	6,972,140	6,799,315	8,287,809	7,837,594	1.17
Hematology	***Number of Grants***	***1,440***	***1,411***	***1,336***	***1,283***	***1,208***	
	Relevant Grant Dollars	454,740,603	428,144,424	432,281,168	443,608,933	449,886,880	
	Number of Contracts	***7***	***9***	***4***	***5***	***3***	
	Relevant Contract Dollars	3,100,209	5,851,583	1,775,197	3,259,086	2,262,571	
	Total Count	***1,447***	***1,420***	***1,340***	***1,288***	***1,211***	
	Total Relevant Dollars	457,840,812	433,996,007	434,056,365	446,868,019	452,149,451	-0.27
Hematopoietic Stem Cell Research	***Number of Grants***	***449***	***431***	***397***	***306***	***291***	
	Relevant Grant Dollars	105,983,734	101,488,276	87,079,722	88,073,334	84,627,744	
	Number of Contracts	‡	‡	‡	‡	***1***	
	Relevant Contract Dollars	‡	‡	‡	‡	728,795	
	Total Count	***449***	***431***	***397***	***306***	***292***	
	Total Relevant Dollars	105,983,734	101,488,276	87,079,722	88,073,334	85,356,538	-5.10
Hormone Replacement Therapy	***Number of Grants***	***23***	***21***	***17***	***10***	***13***	
	Relevant Grant Dollars	2,695,611	2,396,798	1,621,562	420,973	2,574,377	
	Total Count	***23***	***21***	***17***	***10***	***13***	
	Total Relevant Dollars	2,695,611	2,396,798	1,621,562	420,973	2,574,377	98.52
Hospice	***Number of Grants***	***34***	***31***	***26***	***21***	***26***	
	Relevant Grant Dollars	7,183,290	5,960,311	6,718,944	5,068,406	6,571,656	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***34***	***31***	***26***	***21***	***26***	
	Total Relevant Dollars	7,183,290	5,960,311	6,718,944	5,068,406	6,571,656	0.20
Human Genome	***Number of Grants***	***762***	***831***	***889***	***893***	***889***	
	Relevant Grant Dollars	303,194,306	285,048,104	288,232,403	270,053,324	291,591,849	
	Number of Contracts	***4***	***6***	***2***	‡	***6***	
	Relevant Contract Dollars	1,744,057	2,922,371	972,912	‡	20,797,623	
	Total Count	***766***	***837***	***891***	***893***	***895***	
	Total Relevant Dollars	304,938,363	287,970,475	289,205,315	270,053,324	312,389,472	0.98

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Iatrogenesis	***Number of Grants***	***264***	***240***	***255***	***234***	***240***	
	Relevant Grant Dollars	70,740,383	63,359,024	62,665,069	65,666,762	73,902,588	
	Number of Contracts	***4***	***15***	***16***	***9***	***15***	
	Relevant Contract Dollars	1,406,258	9,252,324	11,590,700	7,954,033	10,094,584	
	Total Count	***268***	***255***	***271***	***243***	***255***	
	Total Relevant Dollars	72,146,641	72,611,348	74,255,769	73,620,795	83,997,172	4.04
Imaging	***Number of Grants***	***1,014***	***977***	***1,020***	***1,004***	***1,005***	
	Relevant Grant Dollars	287,214,478	262,826,270	303,333,609	328,599,329	333,313,090	
	Number of Contracts	***14***	***18***	***15***	***3***	***10***	
	Relevant Contract Dollars	7,351,691	13,479,943	9,601,975	22,477,850	31,629,404	
	Total Count	***1,028***	***995***	***1,035***	***1,007***	***1,015***	
	Total Relevant Dollars	294,566,169	276,306,213	312,935,584	351,077,179	364,942,494	5.80
Immunization	***Number of Grants***	***469***	***443***	***432***	***411***	***398***	
	Relevant Grant Dollars	127,780,151	108,339,472	104,548,325	102,651,388	108,683,779	
	Number of Contracts	***1***	***5***	***4***	***7***	***11***	
	Relevant Contract Dollars	1,996,084	8,810,556	4,894,582	28,016,244	40,549,330	
	Total Count	***470***	***448***	***436***	***418***	***409***	
	Total Relevant Dollars	129,776,235	117,150,028	109,442,907	130,667,632	149,233,109	4.32
Inflammation	***Number of Grants***	***532***	***594***	***611***	***580***	***561***	
	Relevant Grant Dollars	113,039,549	107,278,269	109,966,955	112,167,081	112,244,989	
	Number of Contracts	‡	***1***	***3***	***3***	***3***	
	Relevant Contract Dollars	‡	318,141	3,652,516	14,497,899	18,472,380	
	Total Count	***532***	***595***	***614***	***583***	***564***	
	Total Relevant Dollars	113,039,549	107,596,410	113,619,471	126,664,980	130,717,368	3.87
Information Dissemination	***Number of Grants***	***787***	***755***	***739***	***681***	***652***	
	Relevant Grant Dollars	247,159,725	224,368,430	217,876,571	210,348,487	213,783,646	
	Number of Contracts	***56***	***22***	***8***	***10***	***18***	
	Relevant Contract Dollars	76,556,706	19,915,843	14,567,395	3,998,692	7,900,187	
	Total Count	***843***	***777***	***747***	***691***	***670***	
	Total Relevant Dollars	323,716,431	244,284,273	232,443,966	214,347,179	221,683,833	-8.44
Metastasis	***Number of Grants***	***1,543***	***1,550***	***1,545***	***1,604***	***1,605***	
	Relevant Grant Dollars	370,139,067	339,242,680	340,009,556	358,876,606	380,888,828	
	Number of Contracts	***6***	***6***	***3***	***4***	***3***	
	Relevant Contract Dollars	3,434,990	2,322,483	961,421	1,108,062	2,899,297	
	Total Count	***1,549***	***1,556***	***1,548***	***1,608***	***1,608***	
	Total Relevant Dollars	373,574,057	341,565,163	340,970,977	359,984,668	383,788,124	0.86
Mind/Body Research	***Number of Grants***	***83***	***78***	***59***	***52***	***41***	
	Relevant Grant Dollars	18,436,251	13,881,407	11,783,092	10,026,196	9,007,115	
	Number of Contracts	***2***	‡	‡	‡	‡	
	Relevant Contract Dollars	89,759	‡	‡	‡	‡	
	Total Count	***85***	***78***	***59***	***52***	***41***	
	Total Relevant Dollars	18,526,010	13,881,407	11,783,092	10,026,196	9,007,115	-16.32

continued

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Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Molecular Disease	***Number of Grants***	***4,945***	***5,158***	***5,466***	***5,602***	***5,473***	
	Relevant Grant Dollars	1,646,243,216	1,611,962,239	1,679,313,384	1,782,526,277	1,882,712,427	
	Number of Contracts	***34***	***49***	***45***	***41***	***59***	
	Relevant Contract Dollars	19,893,543	30,025,697	30,765,834	79,018,098	153,297,602	
	Total Count	***4,979***	***5,207***	***5,511***	***5,643***	***5,532***	
	Total Relevant Dollars	1,666,136,759	1,641,987,936	1,710,079,218	1,861,544,375	2,036,010,029	5.23
Molecular Imaging	***Number of Grants***	***724***	***672***	***620***	***609***	***539***	
	Relevant Grant Dollars	184,280,121	160,435,399	152,907,543	156,307,861	141,492,077	
	Number of Contracts	***4***	***5***	***3***	***1***	‡	
	Relevant Contract Dollars	798,078	2,940,739	1,942,675	118,783	‡	
	Total Count	***728***	***677***	***623***	***610***	***539***	
	Total Relevant Dollars	185,078,199	163,376,138	154,850,218	156,426,644	141,492,077	-6.37
Molecular Targeted Prevention	***Number of Grants***	***269***	***260***	***232***	***208***	***185***	
	Relevant Grant Dollars	47,214,496	48,209,422	44,556,081	46,590,174	43,516,697	
	Number of Contracts	***2***	***2***	***2***	***1***	***1***	
	Relevant Contract Dollars	212,500	1,647,216	2,979,162	790,790	547,510	
	Total Count	***271***	***262***	***234***	***209***	***186***	
	Total Relevant Dollars	47,426,996	49,856,638	47,535,243	47,380,964	44,064,207	-1.71
Molecular Targeted Therapy	***Number of Grants***	***1,775***	***1,888***	***2,044***	***2,148***	***2,232***	
	Relevant Grant Dollars	475,531,951	470,992,018	523,857,998	581,779,389	656,567,963	
	Number of Contracts	***18***	***12***	***12***	***16***	***6***	
	Relevant Contract Dollars	12,174,642	8,499,344	8,863,954	53,873,784	90,988,532	
	Total Count	***1,793***	***1,900***	***2,056***	***2,164***	***2,238***	
	Total Relevant Dollars	487,706,593	479,491,362	532,721,952	635,653,173	747,556,494	11.59
Nanotechnology	***Number of Grants***	***480***	***476***	***455***	***481***	***455***	
	Relevant Grant Dollars	121,450,044	109,920,780	111,516,643	106197770	114,941,122	
	Number of Contracts	***14***	***6***	***5***	***9***	***5***	
	Relevant Contract Dollars	7,104,793	2,045,407	5,326,115	56177120	64,879,438	
	Total Count	***494***	***482***	***460***	***490***	***460***	
	Total Relevant Dollars	128,554,837	111,966,187	116,842,758	162374890	179,820,560	10.29
Neurofibromatosis	***Number of Grants***	***15***	***11***	***8***	***10***	***12***	
	Relevant Grant Dollars	2,745,637	1,584,767	1,376,362	3,686,798	3,936,995	
	Total Count	***15***	***11***	***8***	***10***	***12***	
	Total Relevant Dollars	2,745,637	1,584,767	1,376,362	3,686,798	3,936,995	29.81
Nursing Research	***Number of Grants***	***45***	***37***	***35***	***36***	***33***	
	Relevant Grant Dollars	11,366,624	9,407,781	8,475,918	8,132,143	8,044,965	
	Total Count	***45***	***37***	***35***	***36***	***33***	
	Total Relevant Dollars	11,366,624	9,407,781	8,475,918	8,132,143	8,044,965	-8.07
Nutrition—Fiber	***Number of Grants***	***13***	***10***	***7***	***7***	***3***	
	Relevant Grant Dollars	1,881,369	1,147,521	1,084,354	1,214,524	354,168	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	56,250	‡	‡	‡	‡	
	Total Count	***14***	***10***	***7***	***7***	***3***	
	Total Relevant Dollars	1,937,619	1,147,521	1,084,354	1,214,524	354,168	-26.28

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Nutrition	***Number of Grants***	***735***	***698***	***638***	***513***	***441***	
	Relevant Grant Dollars	176,394,674	152,339,204	131,807,340	117,756,071	102,564,615	
	Number of Contracts	***19***	***9***	***9***	***10***	***7***	
	Relevant Contract Dollars	12,900,479	11,924,668	4,372,361	4,220,813	3,452,083	
	Total Count	***754***	***707***	***647***	***523***	***448***	
	Total Relevant Dollars	189,295,153	164,263,872	136,179,701	121,976,884	106,016,699	-13.46
Nutrition Monitoring	***Number of Grants***	***36***	***30***	***30***	***33***	***26***	
	Relevant Grant Dollars	9,995,060	10,354,902	8,955,163	9,882,676	5,485,202	
	Number of Contracts	***7***	***2***	***3***	***1***	***1***	
	Relevant Contract Dollars	1,107,515	1,277,146	2,210,544	323,154	435,711	
	Total Count	***43***	***32***	***33***	***34***	***27***	
	Total Relevant Dollars	11,102,575	11,632,048	11,165,707	10,205,830	5,920,913	-12.46
Obesity	***Number of Grants***	***258***	***283***	***290***	***281***	***262***	
	Relevant Grant Dollars	63,008,280	62,423,989	63,637,392	64,004,183	55,081,497	
	Number of Contracts	***4***	‡	***1***	***3***	***1***	
	Relevant Contract Dollars	1,012,349	‡	1,478,927	3,323,159	2,190,039	
	Total Count	***262***	***283***	***291***	***284***	***263***	
	Total Relevant Dollars	64,020,629	62,423,989	65,116,319	67,327,342	57,271,546	-2.43
Occupational Cancer	***Number of Grants***	***42***	***36***	***27***	***30***	***27***	
	Relevant Grant Dollars	7,737,704	6,712,701	6,625,987	6,560,117	5,893,989	
	Total Count	***42***	***36***	***27***	***30***	***27***	
	Total Relevant Dollars	7,737,704	6,712,701	6,625,987	6,560,117	5,893,989	-6.42
Oncogenes	***Number of Grants***	***1,883***	***1,828***	***1,784***	***1,693***	***1,573***	
	Relevant Grant Dollars	473,323,034	413,130,527	404,601,468	402,124,198	403,153,878	
	Number of Contracts	***8***	***6***	***1***	***3***	***3***	
	Relevant Contract Dollars	2,534,277	5,307,498	111,706	1,510,068	1,968,626	
	Total Count	***1,891***	***1,834***	***1,785***	***1,696***	***1,576***	
	Total Relevant Dollars	475,857,311	418,438,025	404,713,174	403,634,266	405,122,504	-3.81
Organ Transplant Research	***Number of Grants***	***164***	***175***	***151***	***132***	***129***	
	Relevant Grant Dollars	49,923,229	55,542,375	48,657,932	45,618,921	47,946,930	
	Number of Contracts	‡	‡	‡	‡	***1***	
	Relevant Contract Dollars	‡	‡	‡	‡	728,795	
	Total Count	***164***	***175***	***151***	***132***	***130***	
	Total Relevant Dollars	49,923,229	55,542,375	48,657,932	45,618,921	48,675,724	-0.17
Osteoporosis	***Number of Grants***	***6***	***5***	***7***	***6***	***6***	
	Relevant Grant Dollars	925,324	722,771	1,471,815	1,557,646	768,584	
	Total Count	***6***	***5***	***7***	***6***	***6***	
	Total Relevant Dollars	925,324	722,771	1,471,815	1,557,646	768,584	9.23
Pain	***Number of Grants***	***154***	***159***	***132***	***75***	***65***	
	Relevant Grant Dollars	18,155,638	17,703,099	12,405,393	9,313,288	11,455,185	
	Number of Contracts	‡	***1***	‡	‡	‡	
	Relevant Contract Dollars	‡	100,000	‡	‡	‡	
	Total Count	***154***	***160***	***132***	***75***	***65***	
	Total Relevant Dollars	18,155,638	17,803,099	12,405,393	9,313,288	11,455,185	-8.55

continued

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Palliative Care	***Number of Grants***	***153***	***152***	***129***	***68***	***64***	
	Relevant Grant Dollars	21,916,672	18,689,924	15,149,837	10,957,597	13,862,941	
	Number of Contracts	***1***	***1***	***1***	‡	‡	
	Relevant Contract Dollars	21,000	53,991	10,500	‡	‡	
	Total count	***154***	***153***	***130***	***68***	***64***	
	Total Relevant Dollars	21,937,672	18,743,915	15,160,337	10,957,597	13,862,941	-8.72
Pap Testing	***Number of Grants***	***111***	***98***	***81***	***34***	***27***	
	Relevant Grant Dollars	11,312,785	10,168,380	5,542,465	4,772,033	5,776,068	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***111***	***98***	***81***	***34***	***27***	
	Total Relevant Dollars	11,312,785	10,168,380	5,542,465	4,772,033	5,776,068	-12.12
Pediatric Research	***Number of Grants***	***636***	***681***	***623***	***583***	***580***	
	Relevant Grant Dollars	179,363,922	193,100,899	209,529,822	216,588,476	220,383,334	
	Number of Contracts	***5***	***8***	***4***	***3***	‡	
	Relevant Contract Dollars	3,631,993	6,488,808	3,185,228	195,000	‡	
	Total Count	***641***	***689***	***627***	***586***	***580***	
	Total Relevant Dollars	182,995,915	199,589,707	212,715,050	216,783,476	220,383,334	4.80
Personalized Health Care	***Number of Grants***	***685***	***661***	***664***	***635***	***597***	
	Relevant Grant Dollars	184,951,025	164,974,350	155,335,886	153,442,074	144,856,624	
	Number of Contracts	***20***	***12***	***1***	***3***	***4***	
	Relevant Contract Dollars	37,283,739	8,158,581	224,999	25,437,656	49,185,985	
	Total Count	***705***	***673***	***665***	***638***	***601***	
	Total Relevant Dollars	222,234,764	173,132,931	155,560,885	178,879,730	194,042,608	-2.19
Pesticides	***Number of Grants***	***10***	***4***	***1***	***4***	***5***	
	Relevant Grant Dollars	460,087	59,725	‡	610,640	663,084	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***10***	***4***	***1***	***4***	***5***	
	Total Relevant Dollars	460,087	59,725	‡	610,640	663,084	281.33
Pharmacogenetics	***Number of Grants***	***266***	***248***	***226***	***183***	***176***	
	Relevant Grant Dollars	54,346,257	49,570,728	41,541,959	37,555,190	41,108,745	
	Number of Contracts	***2***	‡	‡	‡	‡	
	Relevant Contract Dollars	670,000	‡	‡	‡	‡	
	Total Count	***268***	***248***	***226***	***183***	***176***	
	Total Relevant Dollars	55,016,257	49,570,728	41,541,959	37,555,190	41,108,745	-6.56
Prevention	***Number of Grants***	***1,235***	***1,240***	***1,221***	***1,067***	***1,001***	
	Relevant Grant Dollars	338,729,425	324,824,552	366,837,607	339,430,238	318,281,486	
	Number of Contracts	***35***	***27***	***23***	***33***	***29***	
	Relevant Contract Dollars	25,780,603	30,875,471	32,958,496	51,922,887	54,150,632	
	Total Count	***1,270***	***1,267***	***1,244***	***1,100***	***1,030***	
	Total Relevant Dollars	364,510,028	355,700,023	399,796,103	391,353,125	372,432,118	0.76

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Proteomics	***Number of Grants***	***718***	***700***	***680***	***664***	***673***	
	Relevant Grant Dollars	143,749,069	133,187,112	132,200,036	134218056	140,643,812	
	Number of Contracts	***8***	***14***	***3***	***3***	***1***	
	Relevant Contract Dollars	3,506,652	5,364,611	465,439	53481462	62,182,698	
	Total Count	***726***	***714***	***683***	***667***	***674***	
	Total Relevant Dollars	147,255,721	138,551,723	132,665,475	187699518	202,826,510	9.85
Radiation, Electromagnetic Fields	***Number of Grants***	***2***	***1***	***1***	***3***	***4***	
	Relevant Grant Dollars	208,400	195,214	207,149	1,015,296	1,291,914	
	Total Count	***2***	***1***	***1***	***3***	***4***	
	Total Relevant Dollars	208,400	195,214	207,149	1,015,296	1,291,914	104.29
Radiation, Ionizing	***Number of Grants***	***109***	***99***	***91***	***87***	***70***	
	Relevant Grant Dollars	20,437,132	15,415,636	13,527,344	16,375,603	14,849,251	
	Number of Contracts	***1***	***1***	***1***	***1***	***1***	
	Relevant Contract Dollars	91,808	95,313	209,449	291,030	157,967	
	Total Count	***110***	***100***	***92***	***88***	***71***	
	Total Relevant Dollars	20,528,940	15,510,949	13,736,793	16,666,633	15,007,218	-6.13
Radiation, Ionizing Diagnosis	***Number of Grants***	***297***	***291***	***301***	***292***	***286***	
	Relevant Grant Dollars	78,440,948	69,835,784	67,671,200	71,896,359	72,895,969	
	Number of Contracts	***4***	***6***	***3***	***1***	***1***	
	Relevant Contract Dollars	2,664,706	4,565,381	4,153,185	750,000	149,751	
	Total Count	***301***	***297***	***304***	***293***	***287***	
	Total Relevant Dollars	81,105,654	74,401,165	71,824,385	72,646,359	73,045,720	-2.51
Radiation, Ionizing Radiotherapy	***Number of Grants***	***595***	***578***	***510***	***459***	***457***	
	Relevant Grant Dollars	178,645,894	168,829,680	105,995,072	113,662,465	120,584,371	
	Number of Contracts	***6***	***14***	***1***	***14***	***10***	
	Relevant Contract Dollars	1,860,053	7,299,204	1,499,978	5,521,043	8,940,664	
	Total Count	***601***	***592***	***511***	***473***	***467***	
	Total Relevant Dollars	180,505,947	176,128,884	107,495,050	119,183,508	129,525,035	-5.46
Radiation, Low-Level Ionizing	***Number of Grants***	***11***	***8***	***7***	***5***	***3***	
	Relevant Grant Dollars	2,790,815	1,703,359	760,210	489,579	523,999	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***11***	***8***	***7***	***5***	***3***	
	Total Relevant Dollars	2,790,815	1,703,359	760,210	489,579	523,999	-30.73
Radiation, Magnetic Resonance Imaging	***Number of Grants***	***316***	***302***	***322***	***339***	***316***	
	Relevant Grant Dollars	66,373,621	71,059,404	83,520,731	91,673,750	78,728,770	
	Number of Contracts	***4***	***3***	‡	‡	***1***	
	Relevant Contract Dollars	1,649,709	813,452	‡	‡	225,000	
	Total Count	***320***	***305***	***322***	***339***	***317***	
	Total Relevant Dollars	68,023,330	71,872,856	83,520,731	91,673,750	78,953,770	4.44
Radiation, Mammography	***Number of Grants***	***183***	***173***	***153***	***95***	***83***	
	Relevant Grant Dollars	29,124,083	27,564,637	23,148,908	20,990,452	14,435,131	
	Number of Contracts	***1***	***1***	***1***	***1***	‡	
	Relevant Contract Dollars	1,400,000	1,300,000	1,100,000	750,000	‡	
	Total Count	***184***	***174***	***154***	***96***	***83***	
	Total Relevant Dollars	30,524,083	28,864,637	24,248,908	21,740,452	14,435,131	-16.34

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Radiation, Non-Ionizing	***Number of Grants***	***149***	***129***	***130***	***129***	***125***	
	Relevant Grant Dollars	25,283,118	21,566,717	24,739,055	25836973	23,741,839	
	Number of Contracts	***1***	‡	‡	***1***	‡	
	Relevant Contract Dollars	137,350	‡	‡	35000	‡	
	Total Count	***150***	***129***	***130***	***130***	***125***	
	Total Relevant Dollars	25,420,468	21,566,717	24,739,055	25871973	23,741,839	-1.03
Radiation, Non-Ionizing Diagnosis	***Number of Grants***	***491***	***469***	***474***	***470***	***438***	
	Relevant Grant Dollars	126,670,584	114,249,805	130,723,063	134,607,297	120,965,607	
	Number of Contracts	***6***	***6***	***3***	‡	***2***	
	Relevant Contract Dollars	2,735,231	4,045,191	679,250	‡	1,724,725	
	Total Count	***497***	***475***	***477***	***470***	***440***	
	Total Relevant Dollars	129,405,815	118,294,996	131,402,313	134,607,297	122,690,332	-0.98
Radiation, Non-Ionizing Radiotherapy	***Number of Grants***	***187***	***187***	***193***	***190***	***183***	
	Relevant Grant Dollars	45,869,628	42,314,931	51,128,011	53,934,953	52,954,709	
	Number of Contracts	***1***	***2***	***5***	***2***	‡	
	Relevant Contract Dollars	1,499,896	1,573,324	1,044,592	1,798,842	‡	
	Total Count	***188***	***189***	***198***	***192***	***183***	
	Total Relevant Dollars	47,369,524	43,888,255	52,172,603	55,733,795	52,954,709	3.34
Radiation, UV	***Number of Grants***	***133***	***121***	***114***	***98***	***88***	
	Relevant Grant Dollars	23,909,838	20,530,426	22,589,958	18,726,175	15,072,662	
	Number of Contracts	***1***	‡	‡	***1***	‡	
	Relevant Contract Dollars	137,350	‡	‡	35,000	‡	
	Total Count	***134***	***121***	***114***	***99***	***88***	
	Total Relevant Dollars	24,047,188	20,530,426	22,589,958	18,761,175	15,072,662	-10.30
Radon	***Number of Grants***	***5***	***4***	***4***	***4***	***2***	
	Relevant Grant Dollars	490,407	399,608	417,728	422,972	61,643	
	Total Count	***5***	***4***	***4***	***4***	***2***	
	Total Relevant Dollars	490,407	399,608	417,728	422,972	61,643	-24.54
Rare Diseases	***Number of Grants***	***100***	***73***	***62***	***61***	***57***	
	Relevant Grant Dollars	18,712,924	12,159,075	10,866,928	14,081,488	13,348,150	
	Number of Contracts	‡	***1***	***1***	‡	‡	
	Relevant Contract Dollars	‡	74,592	312,912	‡	‡	
	Total Count	***100***	***74***	***63***	***61***	***57***	
	Total Relevant Dollars	18,712,924	12,233,667	11,179,840	14,081,488	13,348,150	-5.62
Rehabilitation	***Number of Grants***	***234***	***229***	***210***	***168***	***173***	
	Relevant Grant Dollars	45,308,533	40,076,940	47,474,572	51,747,174	54,957,761	
	Number of Contracts	***1***	***4***	***2***	***1***	***3***	
	Relevant Contract Dollars	21,000	475,141	1,007,690	149,925	1,694,020	
	Total Count	***235***	***233***	***212***	***169***	***176***	
	Total Relevant Dollars	45,329,533	40,552,081	48,482,262	51,897,099	56,651,781	6.31
Rural Populations	***Number of Grants***	***100***	***91***	***118***	***103***	***103***	
	Relevant Grant Dollars	31,874,931	28,293,909	51,131,320	45,918,623	39,972,778	
	Number of Contracts	***8***	‡	‡	‡	‡	
	Relevant Contract Dollars	7,269,316	‡	‡	‡	‡	
	Total Count	***108***	***91***	***118***	***103***	***103***	
	Total Relevant Dollars	39,144,247	28,293,909	51,131,320	45,918,623	39,972,778	7.46

continued

*Some categories are not mutually exclusive, resulting in overlap in reported funding. As a result, dollar totals may exceed 100 percent of the extramural budget.
†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Sexually Transmitted Diseases	***Number of Grants***	***175***	***154***	***130***	***69***	***52***	
	Relevant Grant Dollars	28,189,148	21,439,368	17,283,985	12,192,170	11,054,662	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	870,317	‡	‡	‡	‡	
	Total Count	***176***	***154***	***130***	***69***	***52***	
	Total Relevant Dollars	29,059,465	21,439,368	17,283,985	12,192,170	11,054,662	-21.10
Sleep Disorders	***Number of Grants***	***54***	***46***	***48***	***49***	***59***	
	Relevant Grant Dollars	6,729,657	5,420,968	6,930,386	7,520,997	9,575,112	
	Number of Contracts	***1***	***3***	***1***	***1***	‡	
	Relevant Contract Dollars	300,000	550,000	78,195	35,000	‡	
	Total Count	***55***	***49***	***49***	***50***	***59***	
	Total Relevant Dollars	7,029,657	5,970,968	7,008,581	7,555,997	9,575,112	9.21
Small Molecules	***Number of Grants***	***513***	***556***	***609***	***648***	***649***	
	Relevant Grant Dollars	100,631,305	95,910,356	109,485,605	112,555,106	116,837,379	
	Number of Contracts	***4***	***6***	***4***	***2***	***4***	
	Relevant Contract Dollars	1,449,375	1,140,627	1,389,150	846,672	2,932,872	
	Total Count	***517***	***562***	***613***	***650***	***653***	
	Total Relevant Dollars	102,080,680	97,050,983	110,874,755	113,401,778	119,770,251	4.30
Smokeless Tobacco	***Number of Grants***	***24***	***33***	***29***	***25***	***27***	
	Relevant Grant Dollars	5,175,673	4,087,588	1,359,152	1,961,730	1,686,491	
	Number of Contracts	***1***	***1***	***1***	***1***	***1***	
	Relevant Contract Dollars	385,000	332,500	420,000	420,000	440,965	
	Total Count	***25***	***34***	***30***	***26***	***28***	
	Total Relevant Dollars	5,560,673	4,420,088	1,779,152	2,381,730	2,127,455	-14.27
Smoking, Passive	***Number of Grants***	***14***	***18***	***20***	***20***	***20***	
	Relevant Grant Dollars	2,491,604	3,160,590	3,771,941	4,153,475	3,389,404	
	Number of Contracts	***1***	***1***	***1***	***1***	***2***	
	Relevant Contract Dollars	385,000	332,500	420,000	420,000	456,715	
	Total Count	***15***	***19***	***21***	***21***	***22***	
	Total Relevant Dollars	2,876,604	3,493,090	4,191,941	4,573,475	3,846,118	8.66
Structural Biology	***Number of Grants***	***1,199***	***1,103***	***1,048***	***944***	***856***	
	Relevant Grant Dollars	235,455,633	206,932,623	196,164,921	180,943,953	165,245,966	
	Number of Contracts	***3***	***4***	‡	***2***	***2***	
	Relevant Contract Dollars	615,101	1,595,591	‡	52,481,360	62,705,109	
	Total Count	***1,202***	***1,107***	***1,048***	***946***	***858***	
	Total Relevant Dollars	236,070,734	208,528,214	196,164,921	233,425,313	227,951,075	-0.24
Surgery	***Number of Grants***	***328***	***326***	***300***	***208***	***210***	
	Relevant Grant Dollars	76,917,479	77,598,007	48,740,495	47,266,013	50,662,032	
	Number of Contracts	***3***	***5***	‡	***2***	‡	
	Relevant Contract Dollars	545,979	2,527,184	‡	1,094,494	‡	
	Total Count	***331***	***331***	***300***	***210***	***210***	
	Total Relevant Dollars	77,463,458	80,125,191	48,740,495	48,360,507	50,662,032	-7.94

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Taxol	***Number of Grants***	***273***	***270***	***222***	***149***	***127***	
	Relevant Grant Dollars	60,447,024	52,963,267	17,879,201	14,735,085	15,870,045	
	Number of Contracts	***1***	‡	‡	‡	***1***	
	Relevant Contract Dollars	199,714	‡	‡	‡	496,154	
	Total Count	***274***	***270***	***222***	***149***	***128***	
	Total Relevant Dollars	60,646,738	52,963,267	17,879,201	14,735,085	16,366,199	-21.36
Telehealth	***Number of Grants***	***292***	***288***	***283***	***270***	***291***	
	Relevant Grant Dollars	76,478,419	65,169,688	64,593,337	64,342,929	68,485,679	
	Number of Contracts	***7***	***7***	***6***	***6***	***10***	
	Relevant Contract Dollars	9,755,606	9,541,363	10,473,269	6,161,456	3,584,009	
	Total Count	***299***	***295***	***289***	***276***	***301***	
	Total Relevant Dollars	86,234,025	74,711,051	75,066,606	70,504,385	72,069,688	-4.19
Therapy	***Number of Grants***	***3,738***	***3,838***	***4,057***	***4,079***	***4,107***	
	Relevant Grant Dollars	1,293,761,000	1,246,559,964	1,366,836,549	1,430,619,450	1,527,523,958	
	Number of Contracts	***92***	***104***	***67***	***81***	***78***	
	Relevant Contract Dollars	88,810,315	71,823,475	80,749,732	137,502,906	179,514,139	
	Total Count	***3,830***	***3,942***	***4,124***	***4,160***	***4,185***	
	Total Relevant Dollars	1,382,571,315	1,318,383,439	1,447,586,281	1,568,122,356	1,707,038,097	5.59
Tobacco	***Number of Grants***	***416***	***417***	***381***	***354***	***344***	
	Relevant Grant Dollars	122,594,345	98,441,413	80,787,427	79736310	85,531,663	
	Number of Contracts	***4***	***8***	***5***	***5***	***6***	
	Relevant Contract Dollars	1,302,350	2,268,519	1,335,500	1960000	5,099,990	
	Total Count	***420***	***425***	***386***	***359***	***350***	
	Total Relevant Dollars	123,896,695	100,709,932	82,122,927	81696310	90,631,653	-6.69
Tobacco Use Behavior	***Number of Grants***	***259***	***276***	***274***	***269***	***267***	
	Relevant Grant Dollars	87,985,064	73,128,257	64,136,938	63,391,848	65,022,529	
	Number of Contracts	***4***	***6***	***5***	***3***	***4***	
	Relevant Contract Dollars	1,302,350	2,066,485	1,335,500	1,285,000	4,424,240	
	Total Count	***263***	***282***	***279***	***272***	***271***	
	Total Relevant Dollars	89,287,414	75,194,742	65,472,438	64,676,848	69,446,769	-5.64
Tropical Diseases	***Number of Grants***	***21***	***16***	***15***	***15***	***11***	
	Relevant Grant Dollars	5,588,012	2,226,158	2,968,168	3,731,760	3,628,078	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***21***	***16***	***15***	***15***	***11***	
	Total Relevant Dollars	5,588,012	2,226,158	2,968,168	3,731,760	3,628,078	-0.97
Tumor Markers	***Number of Grants***	***508***	***393***	***298***	***214***	***147***	
	Relevant Grant Dollars	124,259,866	88,015,396	59,605,975	49,088,453	35,214,792	
	Number of Contracts	***3***	‡	‡	‡	‡	
	Relevant Contract Dollars	2,693,245	‡	‡	‡	‡	
	Total Count	***511***	***393***	***298***	***214***	***147***	
	Total Relevant Dollars	126,953,111	88,015,396	59,605,975	49,088,453	35,214,792	-27.21

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Underserved Populations	***Number of Grants***	***585***	***556***	***610***	***595***	***605***	
	Relevant Grant Dollars	216,074,187	189,290,919	245,809,745	230,676,876	228,862,603	
	Number of Contracts	***16***	***2***	‡	***4***	***7***	
	Relevant Contract Dollars	11,469,992	2,354,483	‡	5,952,032	1,906,103	
	Total Count	***601***	***558***	***610***	***599***	***612***	
	Total Relevant Dollars	227,544,179	191,645,402	245,809,745	236,628,908	230,768,706	1.57
Vaccine Development	***Number of Grants***	***151***	***130***	***112***	***109***	***100***	
	Relevant Grant Dollars	20,714,291	17,452,232	15,119,199	17,882,191	18,841,587	
	Number of Contracts	‡	***1***	***1***	***1***	***2***	
	Relevant Contract Dollars	‡	739,425	458,635	318,481	2,719,056	
	Total Count	***151***	***131***	***113***	***110***	***102***	
	Total Relevant Dollars	20,714,291	18,191,657	15,577,834	18,200,672	21,560,643	2.19
Vaccine Production	***Number of Grants***	***3***	***2***	***1***	***1***	***1***	
	Relevant Grant Dollars	589,530	152,239	‡	41,056	40,677	
	Number of Contracts	‡	***1***	‡	‡		
	Relevant Contract Dollars	‡	739,425	‡	‡		
	Total Count	***3***	***3***	***1***	***1***	***1***	
	Total Relevant Dollars	589,530	891,664	‡	41,056	40,677	-15.02
Vaccine Research	***Number of Grants***	***183***	***167***	***149***	***129***	***113***	
	Relevant Grant Dollars	31,279,880	25,866,062	25,518,109	22,248,751	23,660,428	
	Number of Contracts	***1***	***3***	‡	***6***	***10***	
	Relevant Contract Dollars	1,996,084	5,831,735	‡	24,951,052	34,643,738	
	Total Count	***184***	***170***	***149***	***135***	***123***	
	Total Relevant Dollars	33,275,964	31,697,797	25,518,109	47,199,803	58,304,167	21.06
Vaccine Testing	***Number of Grants***	***101***	***82***	***70***	***72***	***63***	
	Relevant Grant Dollars	17,217,816	13,797,753	14,265,015	14,360,299	14,750,690	
	Number of Contracts	***1***	‡	***3***	***1***	***1***	
	Relevant Contract Dollars	870,317	‡	4,435,947	2,746,712	3,186,536	
	Total Count	***102***	***82***	***73***	***73***	***64***	
	Total Relevant Dollars	18,088,133	13,797,753	18,700,962	17,107,011	17,937,226	2.04
Virus Cancer Research	***Number of Grants***	***481***	***458***	***442***	***419***	***370***	
	Relevant Grant Dollars	133,815,083	123,611,800	124,977,046	121,319,532	130,243,171	
	Number of Contracts	***4***	***2***	***1***	***2***	***4***	
	Relevant Contract Dollars	4,066,305	2,478,454	740,476	21,920,290	30,559,118	
	Total Count	***485***	***460***	***443***	***421***	***374***	
	Total Relevant Dollars	137,881,388	126,090,254	125,717,522	143,239,822	160,802,289	4.34
Virus—Epstein-Barr	***Number of Grants***	***96***	***81***	***75***	***69***	***57***	
	Relevant Grant Dollars	22,756,337	20,096,683	17,304,516	16,834,173	18,001,207	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***96***	***81***	***75***	***69***	***57***	
	Total Relevant Dollars	22,756,337	20,096,683	17,304,516	16,834,173	18,001,207	-5.34
Virus—Hepatitis B	***Number of Grants***	***42***	***39***	***39***	***33***	***22***	
	Relevant Grant Dollars	4,928,799	3,929,183	4,816,519	3,855,582	2,835,408	
	Total Count	***42***	***39***	***39***	***33***	***22***	
	Total Relevant Dollars	4,928,799	3,929,183	4,816,519	3,855,582	2,835,408	-11.03

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Virus—Hepatitis C	***Number of Grants***	***40***	***39***	***34***	***34***	***25***	
	Relevant Grant Dollars	5,332,014	3,990,130	3,507,767	6,172,959	4,925,341	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***40***	***39***	***34***	***34***	***25***	
	Total Relevant Dollars	5,332,014	3,990,130	3,507,767	6,172,959	4,925,341	4.63
Virus—Herpes	***Number of Grants***	***182***	***163***	***157***	***148***	***127***	
	Relevant Grant Dollars	44,080,597	41,683,291	42,315,552	41,959,685	44,516,965	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***182***	***163***	***157***	***148***	***127***	
	Total Relevant Dollars	44,080,597	41,683,291	42,315,552	41,959,685	44,516,965	0.33
Virus—HHV8	***Number of Grants***	***74***	***66***	***65***	***63***	***57***	
	Relevant Grant Dollars	15,764,211	18,719,752	19,671,059	19,794,001	25,216,563	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***74***	***66***	***65***	***63***	***57***	
	Total Relevant Dollars	15,764,211	18,719,752	19,671,059	19,794,001	25,216,563	-12.96
Virus—HTLV-I	***Number of Grants***	***22***	***20***	***22***	***18***	***14***	
	Relevant Grant Dollars	6,563,215	3,679,947	4,627,662	3,629,925	4,142,547	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***22***	***20***	***22***	***18***	***14***	
	Total Relevant Dollars	6,563,215	3,679,947	4,627,662	3,629,925	4,142,547	-6.40
Virus—HTLV-II	***Number of Grants***	***1***	***1***	***1***	***1***	***1***	
	Relevant Grant Dollars	171,471	160,325	151,718	171,471	154,324	
	Total Count	***1***	***1***	***1***	***1***	***1***	
	Total Relevant Dollars	171,471	160,325	151,718	171,471	154,324	-2.21
Virus—Papilloma	***Number of Grants***	***165***	***162***	***176***	***167***	***171***	
	Relevant Grant Dollars	41,276,749	40,445,208	43,808,063	43,027,935	48,797,503	
	Number of Contracts	***3***	***2***	***1***	***1***	***3***	
	Relevant Contract Dollars	3,866,401	2,478,454	740,476	1,327,705	5,686,039	
	Total Count	***168***	***164***	***177***	***168***	***174***	
	Total Relevant Dollars	45,143,150	42,923,662	44,548,539	44,355,640	54,483,542	5.32
Virus—Papova	***Number of Grants***	***190***	***185***	***196***	***188***	***187***	
	Relevant Grant Dollars	49,415,531	49,217,700	50,340,929	49,604,921	52,682,779	
	Number of Contracts	***3***	***2***	***1***	***1***	***3***	
	Relevant Contract Dollars	3,866,401	2,478,454	740,476	1,327,705	5,686,039	
	Total Count	***193***	***187***	***197***	***189***	***190***	
	Total Relevant Dollars	53,281,932	51,696,154	51,081,405	50,932,626	58,368,818	2.54
Virus—SV40	***Number of Grants***	***21***	***15***	***7***	***2***	***2***	
	Relevant Grant Dollars	3,525,677	3,313,239	356,763	361,950	155,700	
	Total Count	***21***	***15***	***7***	***2***	***2***	
	Total Relevant Dollars	3,525,677	3,313,239	356,763	361,950	155,700	-37.70

continued

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‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2012 – FY2016 – Annual Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2012	2013	2014	2015	2016	Average Percent Change/Year
Vitamin A	***Number of Grants***	***42***	***40***	***31***	***24***	***18***	
	Relevant Grant Dollars	6,336,364	6,714,906	4,342,551	2,458,147	2,452,760	
	Number of Contracts	‡	‡	‡	‡	‡	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***42***	***40***	***31***	***24***	***18***	
	Total Relevant Dollars	6,336,364	6,714,906	4,342,551	2,458,147	2,452,760	-18.24
Vitamin C	***Number of Grants***	***16***	***11***	***7***	***6***	***6***	
	Relevant Grant Dollars	1,323,825	1,327,243	993,313	1,569,644	1,443,333	
	Total Count	***16***	***11***	***7***	***6***	***6***	
	Total Relevant Dollars	1,323,825	1,327,243	993,313	1,569,644	1,443,333	6.27
Vitamin D	***Number of Grants***	***76***	***70***	***81***	***68***	***46***	
	Relevant Grant Dollars	20,791,513	17,759,137	17,167,368	16,217,405	10,749,178	
	Number of Contracts	***1***	***1***	‡	‡	‡	
	Relevant Contract Dollars	56,250	918,685	‡	‡	‡	
	Total Count	***77***	***71***	***81***	***68***	***46***	
	Total Relevant Dollars	20,847,763	18,677,822	17,167,368	16,217,405	10,749,178	-14.44
Vitamins, Other	***Number of Grants***	***25***	***15***	***8***	***7***	***4***	
	Relevant Grant Dollars	6,252,528	4,252,163	3,199,595	3,184,755	403,368	
	Number of Contracts	***1***	‡	‡	‡	‡	
	Relevant Contract Dollars	56,250	‡	‡	‡	‡	
	Total Count	***26***	***15***	***8***	***7***	***4***	
	Total Relevant Dollars	6,308,778	4,252,163	3,199,595	3,184,755	403,368	-36.29

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†Relevant Dollars = portion of the funded amount relevant to a specific site.
‡Coding not required or requested.
Source: Research Analysis and Evaluation Branch.

Table 17. NCI Funding of Foreign Research Grants and Contracts in FY2016

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

Country/ Cancer Site	Mechanism													
Australia	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #						*1*			*1*					*2*
Funding $						*491,893*			*771,348*					*1,263,241*
Childhood Leukemia									385,674					385,674
Leukemia									385,674					385,674
Ovary						491,893								491,893
Botswana	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #					*1*									*1*
Funding $					*239,056*									*239,056*
Breast					119,528									119,528
Vascular					119,528									119,528
Canada	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #	*1*			*1*		*7*		*1*		*1*	*1*		*1*	*13*
Funding $	*58,002*			*1,999,910*		*2,396,403*		*43,179*		*2,484,121*	*394,335*		*1,003,004*	*8,378,954*
Bladder						24,497				124,206				148,703
Brain	58,002									124,206				182,208
Breast										993,649				993,649
Cervix										62,103				62,103
Childhood Leukemia						164,905								164,905
Colon, Rectum										99,365				99,365
Esophagus										49,682				49,682
Head and Neck										124,206				124,206
Kidney										124,206				124,206
Leukemia						767,666				93,155				860,821
Liver										24,841				24,841
Lung						968,185				124,206				1,092,391
Melanoma						123,525								123,525
Myeloma										62,103				62,103
Non-Hodgkins Lymphoma						123,525				93,155				216,680
Not Site Specific*				1,999,910		224,100		43,179			394,335		1,003,004	3,664,528
Ovary										124,206				124,206
Pancreas										49,682				49,682
Prostate										124,206				124,206
Stomach										24,841				24,841
Uterus										62,103				62,103
Costa Rica	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #		*1*	*1*											*2*
Funding $		*1,277,543*	*3,830,610*											*5,108,153*
Cervix		1,277,543	3,830,610											5,108,153

continued

*Not Site Specific = research that lacks a focus on a particular type of cancer/cancer site (e.g., basic research on the role of a protein in cellular DNA damage in fruit flies and has no cancer site focus; however, it is relevant to cancer research.)

Source: Research Analysis and Evaluation Branch.

Table 17 (cont'd). NCI Funding of Foreign Research Grants and Contracts in FY2016

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

Country/ Cancer Site	Mechanism													
France	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #							*2*	*1*	*2*			*2*		*7*
Funding $							*113,000*	*170,178*	*1,276,543*			*923,412*		*2,483,133*
Anus									225,599					225,599
Bladder									123,802					123,802
Cervix												923,412		923,412
Esophagus								170,178						170,178
Head and Neck							56,500							56,500
Lung							56,500		123,802					180,302
Not Site Specific*									577,741					577,741
Pharynx									225,599					225,599
Germany	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #						*2*					*1*			*3*
Funding $						*544,460*					*461,829*			*1,006,289*
Not Site Specific*						320,360					461,829			782,189
Sarcoma, Soft Tissue						224,100								224,100
Italy	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #			*2*											*2*
Funding $			*119,532*											*119,532*
Not Site Specific*			119,532											119,532
Israel	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #						*1*								*1*
Funding $						*199,020*								*199,020*
Breast						49,755								49,755
Colon, Rectum						49,755								49,755
Lung						49,755								49,755
Skin						49,755								49,755
Japan	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #		*1*												*1*
Funding $		*157,967*												*157,967*
Not Site Specific*		157,967												157,967
Korea	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #			*1*											*1*
Funding $			*10,000*											*10,000*
Not Site Specific*			10,000											10,000
Mexico	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH2**	**UM1**	**Totals**
Grants #					*1*									*1*
Funding $					*247,164*									*247,164*
Not Site Specific*					247,164									247,164
South Africa	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**		**UM1**	**Totals**
Grants #						*1*		*2*						*3*
Funding $						*272,451*		*305,501*						*577,952*
Breast						272,451								272,451
Kaposi Sarcoma								123,323						123,323
Non-Hodgkins Lymphoma								182,178						182,178

continued

*Not Site Specific = research that lacks a focus on a particular type of cancer/cancer site (e.g., basic research on the role of a protein in cellular DNA damage in fruit flies and has no cancer site focus; however, it is relevant to cancer research.)

Source: Research Analysis and Evaluation Branch.

Table 17 (cont'd). NCI Funding of Foreign Research Grants and Contracts in FY2016

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

Country/ Cancer Site	Mechanism												
Switzerland	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UM1**	**Totals**
Grants #	*1*					*1*							*2*
Funding $	*54,294*					*220,464*							*274,758*
Brain						220,464							220,464
Breast	54,294												54,294
United Kingdom	**F32**	**N01**	**N02**	**N03**	**P20**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UM1**	**Totals**
Grants #						*1*					*1*		*2*
Funding $						*199,044*					*228,718*		*427,762*
Brain						99,522							99,522
Central Nervous System						99,522							99,522
Thyroid											228,718		228,718
Total Grants & Contracts	**2**	**2**	**4**	**1**	**2**	**14**	**2**	**4**	**3**	**1**	**3**	**2**	**1**	**41**
Total $ Per Grant & Contract type	**112,296**	**1,435,510**	**3,960,142**	**1,999,910**	**486,220**	**4,323,735**	**113,000**	**518,858**	**2,047,891**	**2,484,121**	**1,084,882**	**923,412**	**1,003,004**	**20,492,981**

*Not Site Specific = research that lacks a focus on a particular type of cancer/cancer site (e.g., basic research on the role of a protein in cellular DNA damage in fruit flies and has no cancer site focus; however, it is relevant to cancer research.)
Source: Research Analysis and Evaluation Branch.

Table 18. Foreign Components of U.S. Domestic Research Grants and Contracts in FY2016

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

Country	Funding Mechanism																									Sub-total
	F30	F31	F32	K01	K07	K08	K22	K99	N01	P01	R00	R01	R03	R13	R03	R21	R25	R33	R35	R41	R44	U01	U24	UG1	UH2	UH3	UM1	
Africa												1																1
Argentina												1											1					2
Asia (unspecified)												1																1
Australia							1				2	12	1									2	1				1	20
Austria																					1		1					2
Bahamas																						1						1
Belgium												2				2							2					6
Benin												1																1
Brazil																	1						1		1	1		4
Cameroon												1																1
Canada										1		39	1	1		2	1				4	7	2	1			2	61
Caribbean (unspecified)												1																1
Central American (unspecified)												1																1
China					2				1			10				3						2	1				3	22
Columbia												2											1			1		4
Costa Rica																						1						1
Cyprus																	1											1
Czech																							1					1
Denmark			1									4	1		1	1							1					9
Egypt												1											1					2
El Salvador												2																2
Europe (unspecified)												1																1
Finland												2										1	1					4
France												6										3	1		1			12
Germany								1			1	21				2				1	1	4	1					32
Ghana																1	1					1						3
Greece												1				1												2
Hungary																							1					1
Iceland												1																1
India												4											1					6
Ireland												3											1					4
Israel												4					2					2	1					9
Italy	1											7	1		1	1						1	1					13
Japan									1			6				1							1					10
Jordan																	1											1
Kenya												3													1		1	5
Kuwait																							1					1
Malaysia																							1					1
Mexico				1	1							4											1					8
Middle East (unspecified)												1																1

continued

Source: Research Analysis and Evaluation Branch.

Table 18. (cont'd). Foreign Components of U.S. Domestic Research Grants and Contracts in FY2016

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

Country	Funding Mechanism																											Sub-total
	F30	F31	F32	K01	K07	K08	K22	K99	N01	P01	R00	R01	R03	R13	R03	R21	R25	R33	R35	R41	R44	U01	U24	UG1	UH2	UH3	UM1	
Morocco																	1											1
Netherlands												10										5	1					16
New Zealand												1											1					2
Nigeria																						1						1
Norway												5																5
Oceania (unspecified)												1																1
Pakistan																							1					1
Panama																							1					1
Peru												2														1		3
Philipines																									1	1		2
Poland												3											1					4
Portugal												1											1					2
Russia																							1					1
Saudi Arabia																							1					1
Senegal																						1						1
Singapore												5							1				1				1	8
South Africa																1						1	1		1	1	1	6
South America (unspecified)												1																1
South Korea												1											1					2
Spain												7	1	2		1	1						1					13
Sweden												4				1						2	1					8
Switzerland						1						2				1					1	1	1					7
Taiwan												1				1							1					3
Tanzania												3					1											4
Thailand												1																1
Tunisia																	1											1
Turkey	1																						1					2
Uganda		1										2													1			4
United Kingdom		1										21	1			1	1					6	2					33
Uraguay																							1					1
Venezuela																							1					1
Vietnam												1																1
Zambia												2					1											3
Zimbabwe																											1	1
Totals	**2**	**2**	**1**	**1**	**3**	**1**	**1**	**1**	**2**	**1**	**3**	**217**	**7**	**3**	**2**	**20**	**13**	**1**	**1**	**1**	**7**	**42**	**45**	**1**	**6**	**7**	**10**	**401***

* Because many grants and contracts have multiple foreign contributors, the total count (401) is greater than the total number of grants and contracts (253).

Source: Research Analysis and Evaluation Branch.

Appendix A: Activities of the National Cancer Advisory Board (NCAB)

Originally established as the National Advisory Cancer Council in 1937, the NCAB consists of 18 members who are appointed by the U.S. President and 12 nonvoting *ex officio* members. The NCAB advises, assists, consults with, and makes recommendations to the Secretary of HHS, and to the NCI Director with respect to the activities carried out by and through the Institute and on policies pertaining to these activities. The NCAB is authorized to recommend support for grants and cooperative agreements following technical and scientific peer review. The DEA Director serves as the 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 14,365 applications in FY2016 requesting $4,244,958,426 in direct costs with appropriated funds. Additionally, the Board reviewed eight FDA applications in FY2016.

The Board heard presentations, discussed, and provided advice on a variety of topics and NCI activities in FY2016, such as:

- NCI Acting Director's Report
- President's Cancer Panel Report
- Legislative Update
- Annual Delegations of Authority
- Cancer Centers Working Group Report
- SEER Registries: Enhancing the Mission to Support Cancer Research
- A 1-Dose/2-Dose HPV Vaccine Trial
- Epstein-Barr Virus Vaccines
- Cancer Moonshot Blue Ribbon Panel Report
- NCI Genomic Data Commons Status
- Cells as Drugs: Next-Gen Cancer Immunotherapies
- Physical Activity and Cancer Risk
- Global Cancer Research Subcommittee Report

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 website at: **https://deainfo.nci.nih.gov/advisory/ncab/ncabmeetings.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 FY2016:

- NCI Acting Director's Report
- Update: Cancer Centers Funding Policy Metrics
- Tobacco Control Research Priorities Working Group Report
- Physical Activity and Cancer Risk
- Moonshot Update: NCAB Blue Ribbon Panel
- President's Cancer Panel Report
- Cancer Centers Working Group Report
- SEER Registries: Enhancing the Mission to Support Cancer Research
- A 1-dose/2-dose HPV Vaccine Trial
- Epstein-Barr Virus Vaccines

RFA Concept Approved

Office of the Director

- U.S.-Russia Bilateral Collaborative Research Partnerships on Cancer

RFA/Cooperative Agreements Approved

Office of the Director

- Collaborative Consortia for the Study of HIV-Associated Cancers: U.S. and Low and Middle Income Country Partnerships

RFA/Cooperative Agreements/RFP Re-Issuances

Office of the Director

- Cancer Target Discovery and Development Network Centers

Division of Cancer Treatment and Diagnosis

- Blood and Marrow Transplant Clinical Trials Network
- Cancer Immunotherapy Trials Network
- Cancer Immune Monitoring and Analysis Centers Network

Division of Cancer Biology and Division of Cancer Prevention

- Barrett's Esophagus Translational Research Network

Division of Cancer Control and Population Sciences

- Research to Optimize Screening Processes in Diverse Populations
- Surveillance, Epidemiology, and End Results (SEER) Program (Reissue RFP)

Appendix C: Activities of the Frederick National Laboratory Advisory Committee to the NCI (FNLAC)

Originally established as the NCI-Frederick Advisory Committee in 2011, the FNLAC consists of up to 16 members, including the Chair, appointed by the Director of NCI; nonvoting representatives from the National Cancer Advisory Board, the NCI Board of Scientific Advisors, and the NCI Board of Scientific Counselors (Basic Sciences and Clinical Sciences and Epidemiology); and nonvoting *ex officio* members, including NCI Deputy Directors, selected NCI Division Directors, and the Associate Director of the Frederick National Laboratory for Cancer Research (FNLCR). The National Cancer Institute Facility in Frederick, Maryland, was established in 1972 as a Government-owned Contractor-operated (GOCO) facility. In 1975, the facility was designated as a Federally Funded Research and Development Center (FFRDC) to provide a unique national resource within the biomedical research community for the development of new technologies and the translation of basic science discoveries into novel agents for the prevention, diagnosis, and treatment of cancer and AIDS. The FNLAC reviews the state of research (extramural and intramural) at the FNLCR and makes recommendations for the best use of its capabilities and infrastructure. Specifically, the Committee reviews major new projects proposed to be performed at the FNLCR and advises the Director, NCI, and the Associate Director, FNLCR, about the intrinsic merit of the projects and about whether they should be performed at the FNLCR. In addition, the Committee periodically reviews the existing portfolio of projects at the FNLCR, evaluates their productivity, helps determine which of these projects should be transitioned to more conventional mechanisms of support (i.e., grants, contracts, cooperative agreements), and which should be considered for termination.

The Committee heard presentations, discussed, and provided advice on a variety of topics and NCI activities in FY2016, such as:

- NCI Acting Director's Report
- Precision Medicine Initiative for Oncology
- RAS Initiative
- National Cryo-Electron Microscopy Facility
- NCI-Department of Energy (DOE) Pilot
- Computational Opportunities at the FNLCR
- Antibody Technology Research Center (ATRC) at the University of California, San Francisco
- Future Opportunities at the FNLCR
- Re-compete of the Federally Funded Research and Development Center (FFRDC) Contract

Another major role of the Committee is to monitor and evaluate contractor-initiated research within the span of a contract period. The Committee considers proposed research and provides advice as to whether the FNLCR is the best mechanism for carrying out these projects that it deems to be of merit and to be consistent with the mission of the National Cancer Institute and the FNLCR.

The full text of recent FNLAC meeting summaries is available on the NCI website at: **https://deainfo.nci.nih.gov/advisory/fac/fac.htm**

Appendix D: List of Chartered Boards, Councils, and Committees

President's Cancer Panel

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Members

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Owen N. Witte, M.D. ..... University of California, Los Angeles

Executive Secretary

Abby B. Sandler, Ph.D. ..... National Cancer Institute, NIH

National Cancer Advisory Board

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Past Chair

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Francis Ali-Osman, D.Sc.* .....Duke University Medical Center
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Yuan Chang, M.D. .....University of Pittsburgh Cancer Institute
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Marcia R. Cruz-Correa, M.D., Ph.D. .....University of Puerto Rico
Kevin J. Cullen, M.D. ..... University of Maryland, Baltimore
Judy E. Garber, M.D., M.P.H. .....Harvard Medical School
Lawrence O. Gostin, J.D.* ..... Georgetown University
Scott W. Hiebert, Ph.D.* ..... Vanderbilt University
Beth Y. Karlan, M.D. ..... University of California, Los Angeles
Timothy J. Ley, M.D. ..... Washington University School of Medicine in St. Louis
Olufunmilayo F. Olopade, M.D., M.B.B.S., F.A.C.P. .....University of Chicago
Electra D. Paskett, Ph.D.* ..... Ohio State University
Nancy J. Raab-Traum, Ph.D.* ..... University of North Carolina at Chapel Hill
Mack Roach III, M.D., F.A.C.R. .....University of California, San Francisco
Jonathan M. Samet, M.D., M.S. ..... University of Southern California
Charles L. Sawyers, M.D. ..... Weill Cornell Medical College
William R. Sellers, M.D. ..... Novartis Institutes for BioMedical Research, Inc.

* pending appointment

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Max S. Wicha, M.D. ..... University of Michigan

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The Honorable Sylvia M. Burwell ..... U.S. Department of Health and Human Services
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Inez Tenenbaum, M.Ed. ..... U.S. Consumer Product Safety Commission
Sharlene Weatherwax, Ph.D. ..... U.S. Department of Energy
Jonathan Woodson, M.D. ..... U.S. Department of Defense

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* pending appointment

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Executive Secretary

Paulette S. Gray, Ph.D. ..... National Cancer Institute, NIH

* pending appointment

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Sanford Markowitz, M.D., Ph.D. ..... Case Western Reserve University
David A. Norris, M.D. ..... University of Colorado, Denver
Kenneth Offit, M.D., M.P.H. ..... Memorial Sloan Kettering Cancer Center
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Alfredo Quinones-Hinojosa, M.D. ..... Mayo Clinic, Jacksonville
Jeremy N. Rich, M.D., M.H.Sc. ..... Case Western Reserve University
A. Oliver Sartor, M.D. ..... Tulane University
Joan H. Schiller, M.D. ..... Inova Schar Cancer Institute
Stephen M. Schwartz, Ph.D., M.P.H. ..... Fred Hutchinson Cancer Research Center
Walter M. Stadler, M.D., F.A.C.P. ..... University of Chicago
Ren Sun, Ph.D. ..... University of California, Los Angeles
Sally W. Vernon, Ph.D. ..... University of Texas Health Science Center at Houston
George Wilding, M.D. ..... University of Texas MD Anderson Cancer Center

Executive Secretary

Brian E. Wojcik, Ph.D. ..... National Cancer Institute, NIH

* pending appointment

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Robert E. Lewis, Ph.D. ..... University of Nebraska Medical Center
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Wayne M. Yokoyama, M.D. ..... Washington University in St. Louis
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Janet A. Houghton, Ph.D.* ..... Southern Research Institute
Sanford D. Markowitz, Ph.D.* ..... Case Western Reserve University
Jill P. Mesirov, Ph.D. ..... Broad Institute of MIT and Harvard University
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Cheryl L. Willman, M.D. ..... University of New Mexico
Jedd D. Wolchok, M.D., Ph.D. ..... Memorial Sloan Kettering Cancer Center

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Elizabeth M. Jaffee, M.D. ..... Johns Hopkins University
Alexandra L. Joyner, Ph.D. ..... Memorial Sloan Kettering Cancer Center

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Lee J. Helman, M.D. ..... National Cancer Institute, NIH
Douglas R. Lowy, M.D. ..... National Cancer Institute, NIH
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Tom Misteli, Ph.D. ..... National Cancer Institute, NIH
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Paul B. Jacobsen, Ph.D. ..... University of South Florida
Aminah Jatoi, M.D. ..... Mayo Clinic, Rochester
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Fiemu E. Nwariaku, M.D. ..... University of Texas Southwestern Medical Center
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Melanie E. Royce, M.D., Ph.D. ..... University of New Mexico School of Medicine
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Danny R. Welch, Ph.D. ..... University of Kansas Medical Center
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Jennifer P. Clarke, Ph.D. ..... University of Nebraska-Lincoln
Andrei Goga, M.D., Ph.D. ..... University of California, San Francisco
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Adhip P. N. Majumdar, D.Sc., Ph.D. ..... Wayne State University
Upender Manne, Ph.D. ..... University of Alabama at Birmingham
W. Keith Miskimins, Ph.D ..... Sanford Research
Keith D. Paulsen, Ph.D. ..... Dartmouth College
Brian W. Pogue, Ph.D. ..... Dartmouth College
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Janet Stein, Ph.D. ..... University of Vermont
Bakhos A. Tannous, Ph.D. ..... Harvard Medical School
E. Aubrey Thompson, Ph.D. ..... Mayo Clinic, Jacksonville
Ashani T. Weeraratna, Ph.D. ..... Wistar Institute
Helmut Zarbl, Ph.D. ..... Rutgers, The State University of New Jersey

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Delia Tang, M.D. ..... National Cancer Institute, NIH

Past Scientific Review Officer

Tushar Deb, Ph.D. ..... National Cancer Institute, NIH

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John C. Byrd, M.D. ..... The Ohio State University
Meira Epplein, Ph.D. ..... Vanderbilt University Medical Center
Fernando A. Ferrer, M.D. ..... University of Connecticut School of Medicine
Christopher R. Friese, Ph.D., R.N., F.A.A.N., A.O.C.N. ..... University of Michigan
Erica A. Golemis, Ph.D. ..... Fox Chase Cancer Center
James S. Goodwin, M.D. ..... University of Texas Medical Branch at Galveston
Kristi D. Graves, Ph.D. ..... Georgetown University
Jennifer Hatcher, Ph.D., M.P.H., R.N. ..... University of Kentucky
Michelle C. Janelsins, Ph.D., M.P.H. ..... University of Rochester Medical Center
Heather S.L. Jim, Ph.D. ..... Moffitt Cancer Center
Lisa Schum Kahalley, Ph.D. ..... Baylor College of Medicine
Santosh Kesari M.D., Ph.D. ..... John Wayne Cancer Institute at St. Johns Health Center
Justin P. Kline, M.D. ..... University of Chicago
Alexander S. Krupnick, M.D. ..... University of Virginia
Kirsten B. Moysich, Ph.D. ..... Roswell Park Cancer Institute
John M. Pagel, M.D., Ph.D. ..... Swedish Medical Center
Scott A. Waldman, M.D., Ph.D. ..... Thomas Jefferson University
Lei Zheng, M.D. ..... Johns Hopkins University

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Tushar Deb, Ph.D. ..... National Cancer Institute, NIH

Appendix E: NCI Initial Review Group Consultants

1. Consultants Serving as Temporary Members on IRG Subcommittees in FY2016

A

Agazie, Yehenew M., Ph.D. ..... Marshall University
Arbab, Ali S., M.D., Ph.D. ..... Augusta University

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Badr, Hoda J., Ph.D. ..... Baylor College of Medicine
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Baer, Maria R., M.D. ..... University of Maryland, Baltimore
Baer, Richard J., Ph.D. ..... Columbia University
Baker, Ian, Ph.D. ..... Dartmouth College
Bertagnolli, Monica M., M.D. ..... Brigham and Women's Hospital
Black, Jennifer D., Ph.D. ..... University of Nebraska Medical Center
Bloom, Joan R., Ph.D. ..... University of California, Berkeley
Bravo, Hector C., Ph.D. ..... University of Maryland, College Park
Brock, Malcolm V., M.D. ..... Johns Hopkins University
Brown, Elizabeth E., Ph.D., M.P.H. ..... University of Alabama at Birmingham
Buchsbaum, Donald J., Ph.D. ..... University of Alabama at Birmingham
Buck, Matthias, Ph.D. ..... Case Western Reserve University

C

Cannon, Martin J., Ph.D. ..... DCV Technologies, Inc.
Capanu, Marinela, Ph.D. ..... Memorial Sloan Kettering Cancer Center
Castellino, Sharon M., M.D., M.Sc. ..... Children's Healthcare of Atlanta
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Chiriva-Internati, Maurizio, Ph.D. ..... Texas Tech University Health Sciences Center
Chu, Edward, M.D. ..... University of Pittsburgh
Cooper, Jonathan A., Ph.D. ..... Fred Hutchinson Cancer Research Center
Cox, Adrienne D., Ph.D. ..... University of North Carolina at Chapel Hill
Cui, Rutao, M.D. ..... Boston University Medical Campus

D

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Dixon, Dan A., Ph.D. ..... University of Kansas Medical Center
Djeu, Julie Y., Ph.D. ..... Moffitt Cancer Center
Donoghue, Daniel J., Ph.D. ..... University of California, San Diego
Dwinell, Michael B., Ph.D. ..... Medical College of Wisconsin

E

Edwards, John R., Ph.D. ..... Washington University in St. Louis
Epplein, Meira, Ph.D. ..... Vanderbilt University Medical Center
Evans, Michael J., Ph.D. ..... University of California, San Francisco

F

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Florea, Liliana D., Ph.D. ..... Johns Hopkins University
Ford, James M., M.D. ..... Stanford University

G

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Hanakahi, Leslyn A., Ph.D. ..... University of Illinois at Chicago
Hann, Stephen R., Ph.D. ..... Vanderbilt University
Hartley, Rebecca S., Ph.D. ..... University of New Mexico Health Sciences Center
Hatcher, Jennifer, Ph.D., M.P.H., R.N. ..... University of Kentucky
Henderson, Tara O., M.D., M.P.H. ..... University of Chicago
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J

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Jiang, Yu, Ph.D. ..... University of Pittsburgh

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Keller, Charles, M.D. ..... Children's Cancer Therapy Development Institute
Kelly, W. Kevin, D.O. ..... Thomas Jefferson University
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Kharas, Michael, Ph.D. ..... Memorial Sloan Kettering Cancer Center
Klein, Alison P., Ph.D. ..... Johns Hopkins University
Kumar, Addanki P., Ph.D. ..... University of Texas Health Science Center at San Antonio

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Levy, David E., Ph.D. ..... New York University School of Medicine
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Lothstein, Leonard, Ph.D. ..... University of Tennessee Health Science Center

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Matei, Daniela E., M.D. ..... Northwestern University
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Meyers, Craig M., Ph.D. ..... Penn State Health, Milton S. Hershey Medical Center
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Ochs, Michael F., Ph.D. ..... College of New Jersey
Olson, John A., M.D., Ph.D. ..... University of Maryland, Baltimore

P

Paterson, Yvonne J., Ph.D. ..... University of Pennsylvania
Payton, Jacqueline E., M.D., Ph.D. ..... Washington University in St. Louis

Q

Qu, Cheng-Kui, M.D., Ph.D. ..... Emory University
Quarles, Christopher C., Ph.D. ..... St. Joseph's Hospital and Medical Center

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Rao, Jianghong, Ph.D. ..... Stanford University
Ratliff, Timothy L., Ph.D. ..... Purdue University, West Lafayette
Rosenzweig, Margaret Q., Ph.D. ..... University of Pittsburgh

S

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Seither, Richard L., Ph.D., M.B.A. ..... Albert Einstein College of Medicine
Seo, Youngho, Ph.D. ..... University of California, San Francisco
Setiawan, Veronica W., Ph.D. ..... University of Southern California
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Wu, Lizi, Ph.D. ..... University of Florida

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Z

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2. Consultants Serving as *Ad Hoc* Committee Members on IRG Site Visit Teams in FY2016

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Berens, Michael E., Ph.D. ..... Translational Genomics Research Institute
Berwick, Marianne, Ph.D., M.P.H. ..... University of New Mexico
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Appendix F: NCI Grant Mechanisms and Descriptions

Below is a brief description of different 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: Institutional Training and Director Program 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.
DP1	**NIH Director's Pioneer Award (NDPA)** To support individuals who have the potential to make extraordinary contributions to medical research. The NIH Director's Pioneer Award is not renewable.
DP2	**NIH Director's New Innovator Awards** To support highly innovative research projects by new investigators in all areas of biomedical and behavioral research.
F Series: Fellowship Programs	
F30	**Ruth L. Kirschstein National Research Service Award (NRSA) for Individual Predoctoral M.D./Ph.D. Degree Fellows** 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	**Ruth L. Kirschstein National Research Service Award for Predoctoral Individuals** To provide predoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.
F32	**Ruth L. Kirschstein 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	**Ruth L. Kirschstein National Research Service Award for Senior Fellows** To provide opportunities for experienced scientists to make major changes in the direction of research careers, broaden scientific backgrounds, acquire new research capabilities, enlarge command of an allied research field, or take time from regular professional responsibilities to increase capabilities to engage in health-related research.

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

K12	**Institutional Clinical Oncology Research Career Development Award** To support a newly trained clinician appointed by an institution for development of independent research skills and experience in a fundamental science within the framework of an interdisciplinary research and development program.
K18	**The Career Enhancement Award** Provides either full-time or part-time support for experienced scientists who would like to broaden their scientific capabilities or to make changes in their research careers by acquiring new research skills or knowledge. Career enhancement experiences supported by this award should usually last no more than 1 year.
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 to 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.
L Series: Loan Repayment Program	
L30	**Loan Repayment Program for Clinical Researchers** To provide for the repayment of the educational loan debt of qualified health professionals involved in clinical research. Qualified health professionals who contractually agree to conduct qualified clinical research are eligible to apply for this program.
L32	**Loan Repayment Program for Clinical Researchers From Disadvantaged Backgrounds** To provide for the repayment of the educational loan debt of qualified health professionals from disadvantaged backgrounds involved in clinical research. Qualified health professionals from disadvantaged backgrounds who contractually agree to conduct qualified clinical research are eligible to apply for this program.
L40	**Loan Repayment Program for Pediatric Research** To provide for the repayment of the educational loan debt of qualified health professionals involved in research directly related to diseases, disorders, and other conditions in children. Qualified health professionals who contractually agree to conduct qualified pediatric research are eligible to apply for this program. (See the NIH Guidelines about Loan Repayment at http://www.lrp.nih.gov/index.aspx.)
L50	**Loan Repayment Program for Contraception and Infertility Research** To provide for the repayment of the educational loan debt of qualified health professionals (including graduate students) who contractually agree to commit to conduct qualified contraception and/or infertility research.
L60	**Loan Repayment Program for Health Disparities Research** To provide for the repayment of the educational loan debt of qualified health professionals involved in minority health and health disparities research, for the purposes of improving minority health and reducing health disparities. Qualified health professionals who contractually agree to conduct qualified minority health disparities research or other health disparities research are eligible to apply for this program.

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 ensure greater productivity than that provided through the separate projects and Program Projects.
P41	**Biotechnology Resource Grants** To support biotechnology resources available to all qualified investigators without regard to the scientific disciplines or disease orientations of their research activities or specifically directed to a categorical program area.
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.
R35	**Outstanding Investigator Award (OIA)** To provide long-term support to experienced investigators with outstanding records of cancer research productivity who propose to conduct exceptional research. The OIA is intended to allow investigators the opportunity to take greater risks, be more adventurous in their lines of inquiry, or take the time to develop new techniques. The OIA would allow an Institution to submit an application nominating an established Program Director/Principal Investigator (PD/PI) for a 7-year grant.
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 reviewing competing research grant applications prepared and submitted in accordance with regular Public Health Service (PHS) requirements

R50	**Research Specialist Award** To encourage the development of stable research career opportunities for exceptional scientists who want to pursue research within the context of an existing cancer research program, but not serve as independent investigators. These scientists, such as researchers within a research program, core facility managers, and data scientists, are vital to sustaining the biomedical research enterprise. The award is intended to provide desirable salaries and sufficient autonomy so that individuals are not solely dependent on grants held by Principal Investigators for career continuity.
R55	**James A. Shannon Director's Award** To provide a limited award to investigators to further develop, test, and refine research techniques; perform secondary analysis of available data sets; test the feasibility of innovative and creative approaches; and conduct other discrete projects that can demonstrate their research capabilities and lend additional weight to their already meritorious applications. Essentially replaced in FY2005 by the R56 award.
R56	**High-Priority, Short-Term Project Award** Begun in FY2005, this grant provides funds for 1- or 2-year high-priority new or competing renewal R01 applications that fall just outside the limits of funding of the participating NIH Institutes and Centers (ICs); recipients of R56 awards will be selected by IC staff from R01 applications that fall at or near the payline margins.

Small Business Innovation Research (SBIR) (R43/44) and Small Business Technology Transfer (STTR) (R41/42) 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. Applicants may propose longer periods of time and greater amounts of funds necessary for completion of the project.

R41	**STTR Grants, Phase I** To support cooperative research and development (R&D) projects between small business concerns and research institutions, limited in time and amount, to establish the technical merit and feasibility of ideas that have potential for commercialization.
R42	**STTR Grants, Phase II** To support in-depth development of cooperative R&D projects between small business concerns and research institutions, limited in time and amount, whose feasibility has been established in Phase I and that have potential for commercial products or services.
R43	**SBIR Grants, Phase I** To support projects, limited in time and amount, to establish the technical merit and feasibility of R&D ideas that may ultimately lead to commercial products or services.
R44	**SBIR Grants, Phase II** To support in-depth development of R&D ideas whose feasibility has been established in Phase I and that are likely to result in commercial products or services.
S Series: Research-Related Programs	
SC1	**Research Enhancement Award** Individual investigator-initiated research projects aimed at developing researchers at minority-serving institutions (MSIs) to a stage where they can transition successfully to other extramural support (R01 or equivalent).
SC2	**Pilot Research Project** Individual investigator-initiated pilot research projects for faculty at minority-serving institutions (MSIs) to generate preliminary data for a more ambitious research project.
S06	**Minority Biomedical Research Support (MBRS)** To strengthen the biomedical research and research training capability of ethnic minority institutions and thus establish a more favorable milieu for increasing the involvement of minority faculty and students in biomedical research.

S07	**Biomedical Research Support Grants (NCRR BRSG)** As an example of this funding mechanism, the NIH issued a Request for Applications (RFA) in FY2004 to provide short-term interim support for institutional activities that will strengthen oversight of human subjects research at institutions that receive significant NIH support for clinical research. Although there is considerable flexibility in the types of activities that could be supported under the BRSG program, that RFA emphasized the importance of efforts to enhance the protection of research subjects by means that would be sustained by the recipient institution after the award period ends. Awardees also are required to collaborate with other institutions conducting human subjects research and are not currently funded under this program, and to share educational resources, computer technologies, best practices, etc. Although all NIH components supporting clinical research (including the NCI) are providing support for this program, it is administered by the National Center for Research Resources (NCRR).
S10	**Biomedical Research Support Shared Instrumentation Grants (NCRR SIG)** The National Center for Research Resources (NCRR) initiated its competitive Shared Instrumentation Grant (SIG) Program in FY1982. Shared Instrumentation Grants provide support for expensive state-of-the-art instruments utilized in both basic and clinical research. This program is designed to meet the special problems of acquisition and updating of expensive shared-use instruments that are not generally available through other NIH funding mechanisms, such as the regular research project, program project, or center grant programs. Applications for funds to design or to advance the design of new instruments are not accepted. The objective of the program is to make available to institutions with a high concentration of NIH-supported biomedical investigators expensive research instruments that can only be justified on a shared-use basis and for which meritorious research projects are described.
S21	**Research and Institutional Resources Health Disparities Endowment Grants—Capacity Building** To strengthen the research and training infrastructure of the institution, while addressing current and emerging needs in minority health and other health disparities research.
T Series: Training Programs	
T15	**Continuing Education Training Grants** To assist professional schools and other public and nonprofit institutions in the establishment, expansion, or improvement of programs of continuing professional education, especially for programs of extensive continuation, extension, or refresher education dealing with new developments in the science and technology of the profession.
T32	**NIH National Research Service Award—Institutional Research Training Grants** To enable institutions to make National Research Service Awards to individuals selected by them for predoctoral and postdoctoral research training in specified shortage areas.
T34	**Undergraduate NRSA Institutional Research Training Grants** To enhance the undergraduate research training of individuals from groups underrepresented in biomedical, behavioral, clinical, and social sciences through Institutional National Research Service Award Training Grants in preparation for research doctorate degree programs.

U Series: Cooperative Agreements	
U01	**Research Projects—Cooperative Agreements** To support a discrete, specified, circumscribed project to be performed by the named investigators in an area representing their specific interests and competencies.
U10	**Cooperative Clinical Research—Cooperative Agreements** To support clinical evaluation of various methods of therapy and/or prevention in specific disease areas. These represent cooperative programs between participating institutions and Principal Investigators and are usually conducted under established protocols.
U13	**Conference—Cooperative Agreements** To coordinate, exchange, and disseminate information related to its program interests, an NIH Institute or Center can use this type of award to provide funding and direction for appropriate scientific conferences. These cooperative agreements allow the NCI to partner with one or more outside organizations to support international, national, or regional meetings, conferences, and workshops that are of value in promoting the goals of the National Cancer Program.
U19	**Research Program—Cooperative Agreements** To support a research program of multiple projects directed toward a specific major objective, basic theme, or program goal, requiring a broadly based, multidisciplinary, and often long-term approach.
U24	**Resource-Related Research Projects—Cooperative Agreements** To support research projects contributing to improvement of the capability of resources to serve biomedical research.
U42	**Animal (Mammalian and Nonmammalian) Model, and Animal and Biological Materials Resource Cooperative Agreements** To develop and support animal (mammalian and nonmammalian) models or animal or biological materials resources available to all qualified investigators without regard to the scientific disciplines or disease orientations of their research activities or specifically directed to a categorical program. Nonmammalian resources include nonmammalian vertebrates, invertebrates, cell systems, and nonbiological systems.
U43	**Small Business Innovation Research (SBIR) Cooperative Agreements—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.
U44	**Small Business Innovation Research (SBIR) Cooperative Agreements—Phase II** To support in-depth development of R&D ideas whose feasibility has been established in Phase I and that are likely to result in commercial products or services.

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.
UH2/ UH3	**Exploratory/Developmental Cooperative Agreement Phase I/II** To support the development of new research activities in categorical program areas. (Support generally is restricted in level of support and in time.) The UH3 provides a second phase for the support for innovative exploratory and development research activities initiated under the UH2 mechanism. Although only UH2 awardees are generally eligible to apply for UH3 support, specific program initiatives may establish eligibility criteria under which applications could be accepted from applicants demonstrating progress equivalent to that expected under the UH2.
UM1	**Research Project With Complex Structure Cooperative Agreement** To support cooperative agreements involving large-scale research activities with complicated structures that cannot be appropriately categorized into an available single component activity code (e.g., clinical networks, research programs, or consortia). The components represent a variety of supporting functions and are not independent of each component. Substantial Federal programmatic staff involvement is intended to assist investigators during performance of the research activities, as defined in the terms and conditions of the award. The performance period may extend up to 7 years but only through the established deviation request process. ICs desiring to use this activity code for programs greater than 5 years must receive OPERA prior approval through the deviation request process.

Appendix G: Glossary of Acronyms

ABTC	Adult Brain Tumor Consortium
AHRQ	Agency for Healthcare Research and Quality
AIDS	Acquired Immune Deficiency Syndrome
AISB	Applied Information Systems Branch
AMC	AIDS Malignancy Clinical Trials Consortium
ARA	Awaiting Receipt of Application
AREA	Academic Research Enhancement Award
BRSG	Biomedical Research Support Grant
BSA	Board of Scientific Advisors
BSC	Board of Scientific Counselors
CAM	Complementary and Alternative Medicine
CATS	Concept to Award Tracking System
CBIIT	NCI Center for Biomedical Informatics and Information Technology
CCCT	Coordinating Center for Clinical Trials
CCG	Center for Cancer Genomics
CCR	Center for Cancer Research
CCSG	Cancer Center Support Grant
CCT	Center for Cancer Training
CD	Career Development
CDC	Centers for Disease Control and Prevention
CEGP	Cancer Education Grant Program
CGCHR	Center for Global Cancer Health Research
CGH	Center for Global Health
CHTN	Collaborative Human Tissue Network
CISNET	Cancer Intervention and Surveillance Modeling Network
CIT	Center for Information Technology
CMO	Committee Management Office
COI	Conflict of Interest
CPACHE	Comprehensive Partnerships to Advance Cancer Health Equity
CRCHD	Center to Reduce Cancer Health Disparities
CRP	Collaborative Research Partnership
CSO	Common Scientific Outline
CSPPC	Consortium of the Study of Chronic Pancreatitis, Diabetes, and Pancreatic Cancer
CSR	Center for Scientific Review
CSSI	Center for Strategic Scientific Initiatives
CTAC	Clinical Trials and Translational Research Advisory Committee
DCB	Division of Cancer Biology
DCCPS	Division of Cancer Control and Population Sciences
DCEG	Division of Cancer Epidemiology and Genetics
DCLG	Director's Consumer Liaison Group (now NCRA)
DCP	Division of Cancer Prevention
DCTD	Division of Cancer Treatment and Diagnosis
DEA	Division of Extramural Activities
DEAS	Division of Extramural Activities Support
DEAIS	DEA Information System
DFO	Designated Federal Officer
DHHS	U.S. Department of Health and Human Services (now HHS)
DPIC	Detection of Pathogen-Induced Cancer
DRR	Division of Receipt and Referral
EDRN	Early Detection Research Network
EEC	Electronic Early Concurrence
EPMC	Extramural Program Management Committee
eRA	Electronic Research Administration
ESA	Extramural Support Assistant
ESATTS	Extramural Officer Science Administrator Training – Tracking System
ETCTN	Experimental Therapeutics Clinical Trials Network
eTUG	NIH eRA Technical Users Group
FACA	Federal Advisory Committee Act
FDA	Food and Drug Administration
FFRDC	Federally Funded Research and Development Center
FIC	Fogarty International Center
FLARE	Fiscal Linked Analysis of Research Emphasis
FNLAC	Frederick National Laboratory Advisory Committee
FNLCR	Frederick National Laboratory for Cancer Research
FOA	Funding Opportunity Announcements
FOIA	Freedom of Information Act
FY	Fiscal Year
HHS	Department of Health and Human Services (replaces DHHS)
IC	Institute/Center
ICRP	International Cancer Research Partnership
IDeA	Institutional Development Award
IMAT	Innovative Molecular Analysis Technologies
IMPAC	Information for Management, Planning, Analysis, and Coordination
IRG	Initial Review Group

IRM	Information Resources Management
IT	Information Technology
LOI	Letter of Intent
LRP	Loan Repayment Program
MBRS	Minority Biomedical Research Support
MERIT	Method to Extend Research in Time
MSI	Minority-Serving Institution
NCAB	National Cancer Advisory Board
NCCCP	NCI Community Cancer Centers Program
NCI	National Cancer Institute
NCORP	NCI Community Oncology Research Program
NCRA	NCI Council of Research Advocates (replaces DCLG)
NCRR	National Center for Research Resources
NCTN	National Clinical Trials Network
NDPA	NIH Director Pioneer Award
NED	NIH Electronic Directory
NExT	NCI Experimental Therapeutics
NFRP	NCI Funded Research Portfolio
NGRAD	NCI Grant-Related Directory
NHLBI	National Heart, Lung, and Blood Institute
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIAID	National Institute of Allergy and Infectious Diseases
NIEHS	National Institute of Environmental Health Sciences
NIH	National Institutes of Health
NLM	National Library of Medicine
NRSA	National Research Service Award
OBBR	Office of Biorepositories and Biospecimen Research
OBF	Office of Budget and Finance
OCG	Office of Cancer Genomics
OD	Office of the Director
OEA	Office of Extramural Applications
OER	Office of Extramural Research
OFACP	Office of Federal Advisory Committee Policy
OHAM	Office of HIV and AIDS Malignancies
OIA	Outstanding Investigator Award
OPERA	Office of Policy for Extramural Research Administration
ORRPC	Office of Referral, Review, and Program Coordination
OSP	Office of Scientific Programs
PA	Program Announcement
PAR	Reviewed Program Announcement
PCP	President's Cancer Panel
PCRB	Program Coordination and Referral Branch
PD	Pharmacodynamics
PHS	Public Health Service (HHS)
PI	Principal Investigator
PO	Program Official
POA&M	Plan of Actions and Milestones
PQ	Provocative Questions
PRESTO	Program Review and Extramural Staff Training Office
RAEB	Research Analysis and Evaluation Branch
R&D	Research and Development
RFA	Request for Applications
RFP	Request for Proposals
RIO	Research Integrity Officer
RM	Road Map
RO	Referral Officer
RPG	Research Project Grant
RPRB	Research Programs Review Branch
RTCRB	Research Technology and Contract Review Branch
RTRB	Resources and Training Review Branch
SA	Staff Assistant
SA&A	Security Assessment and Authorization
SBIR	Small Business Innovation Research
SBIRDC	SBIR Development Center
SEER	Surveillance, Epidemiology, and End Results
SEP	Special Emphasis Panel
SGE	Special Government Employee
SIC	Special Interest Category
SIG	Shared Instrumentation Grant
SMW	Science Management Workspace
SPL	Scientific Program Leader
SPORE	Specialized Program of Research Excellence
SPRS	Secure Payee Reimbursement System
SRB	Special Review Branch
SREA	Scientific Review and Evaluation Activities
SRLB	Special Review and Logistics Branch
SRO	Scientific Review Officer (formerly Scientific Review Administrator)
STTR	Small Business Technology Transfer Research
T&E	Training and Education
TMEN	Tumor Microenvironment Network

Appendix H: Cancer Information Sources on the Internet

NCI Website

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

DEA Websites

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

Links to the individual DEA Web pages via the DEA home page are listed below.

Funding Opportunities/Policies

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

http://deais.nci.nih.gov/foastatus/?nt=P
Active PAs, with links to detailed descriptions.

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

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

http://www.cancer.gov/about-nci/organization/oga
Office of Grants Administration (OGA) manages all NCI business-related activities associated with negotiation, award, and administration of NCI grants and cooperative agreements..

Advisory Boards and Groups

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

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

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

http://deainfo.nci.nih.gov/advisory/ncab/ncabmeetings.htm
NCAB meeting information (agenda, minutes, and presentations).

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

http://deainfo.nci.nih.gov/advisory/bsa/bsameetings.htm
BSA meeting information (agenda, minutes, and presentations).

http://deainfo.nci.nih.gov/advisory/fac/fac.htm
NCI Frederick National Laboratory Advisory Committee Charter, functional statement, members, meeting information, and subcommittees.

http://deainfo.nci.nih.gov/advisory/bsc/bs/bs.htm
Board of Scientific Counselors (Basic Sciences) Charter; functional statement, and members.

http://deainfo.nci.nih.gov/advisory/bsc/cse/cse.htm
Board of Scientific Counselors (Clinical Sciences and Epidemiology) Charter, functional statement, and members.

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

http://deainfo.nci.nih.gov/advisory/ncra/ncra.htm
NCI Council of Research Advocates (NCRA) Charter, functional statement, members, and meeting information.

http://deainfo.nci.nih.gov/advisory/irg/irg.htm
NCI Initial Review Group (IRG) Charter, functional statement, and members.

http://deainfo.nci.nih.gov/advisory/sep/sep.htm
Special Emphasis Panel Charter, functional statement, and rosters of most recent review meetings.

Other NIH Websites

http://www.nih.gov
NIH Homepage

http://grants.nih.gov/grants/ElectronicReceipt/
Grants & Funding – Applying electronically

http://grants.nih.gov/grants/policy/policy.htm
Grants & Funding – Grants policies and guidance

http://grants.nih.gov/grants/guide/index.html
Grants & Funding – Funding opportunities and notices

http://grants.nih.gov/training/extramural.htm
Extramural training mechanisms

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