National Cancer Institute

Division of Extramural Activities

Annual Report 2021

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

The discovery of "split genes" and RNA splicing just celebrated its 45th birthday,[1] but the first structural elucidation of the megadalton ribonuclear complex known as the spliceosome was only achieved in 2015.[2] Recently, large-scale sequencing of cancer patients has revealed mutations in the spliceosome across cancer types but mostly enriched in the heterogenous collection of diseases known as myeloid malignancies. Understanding these particular mutations and their role in malignancy has become a central research aim in the Laboratory of Receptor Biology and Gene Expression. This work is being carried out in the larger context of the newly established NIH Myeloid Malignancies Program, whose clinical home is in the National Cancer Institute (NCI).

Human protein-coding genes contain exons—which code for parts of the protein and regulatory regions in mRNA, such as 5' and 3' untranslated regions—and introns, which need to be removed from the newly synthesized RNA transcribed from DNA. The process of removing introns and ligating the exons is called RNA splicing (illustration on cover). For many years, the laboratory has been working to directly observe RNA synthesis and processing in living cells, resulting in the first direct observation of transcription[3] and splicing[4] of human genes transcribed from their endogenous locations in the genome. The RNA sequences that direct splicing are present as sequence elements flanking introns and exons, but splicing further depends on a set of proteins that recognize these sequences, such as U2AF1, SRSF2, SF3B1, and ZRSR2. How these proteins assemble and dissemble in real time in living cells in a coordinated fashion is an outstanding problem in gene regulation, and the research group's work in this area uses cutting-edge approaches in genetic manipulation and live-cell single-molecule imaging.

Myelodysplastic syndromes (MDS) are clonal hematopoietic stem cell diseases of the bone marrow characterized by infective, dysplastic hematopoiesis and a potential to transform to acute myeloid leukemia (AML). The *U2AF1* gene, which codes for a factor involved in recognizing intron/exon boundaries, is frequently mutated in MDS. The group discovered that one target that shows profound changes in response to *U2AF1* mutation is the pro-inflammatory cytokine interleukin 8 (IL-8).[5,6] IL-8 has a long history at the NCI; it was originally discovered and characterized in the laboratories of Dr. Joost Oppenheim and Dr. Ed Leonard in Frederick in the 1980s as a neutrophil chemoattractant and was named "monocyte-derived neutrophil chemotactic factor."[7] Interestingly, the observed molecular basis of the misregulation appears to be in how the IL-8 mRNA (cover data) is translated in cells containing the splicing factor mutation.

This observation of elevated levels of IL-8 resulting from a splicing factor mutation fits with the known biology of MDS, which—like many myeloid diseases—is coincident with chronic inflammation in patients. Thus, it is an attractive target for therapeutic intervention. Working with the clinical team at the NCI consisting of Dr. Steven Pavletic and Dr. Noa Holtzman and in collaboration with Bristol Myers Squibb, the research group has initiated a clinical trial at the NIH Clinical Center for a fully human antibody to IL-8 as a treatment for low- and high-risk MDS patients. Overall, the recent growth in the biochemical, genetic, and structural knowledge of the spliceosome makes it an exciting pathway for therapeutic targeting in myelodysplasia.

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The cover narrative and inset image are courtesy of Dr. Daniel R. Larson, Senior Investigator, Laboratory of Receptor Biology and Gene Expression, NCI. The cover illustration was created by NIH Medical Arts.

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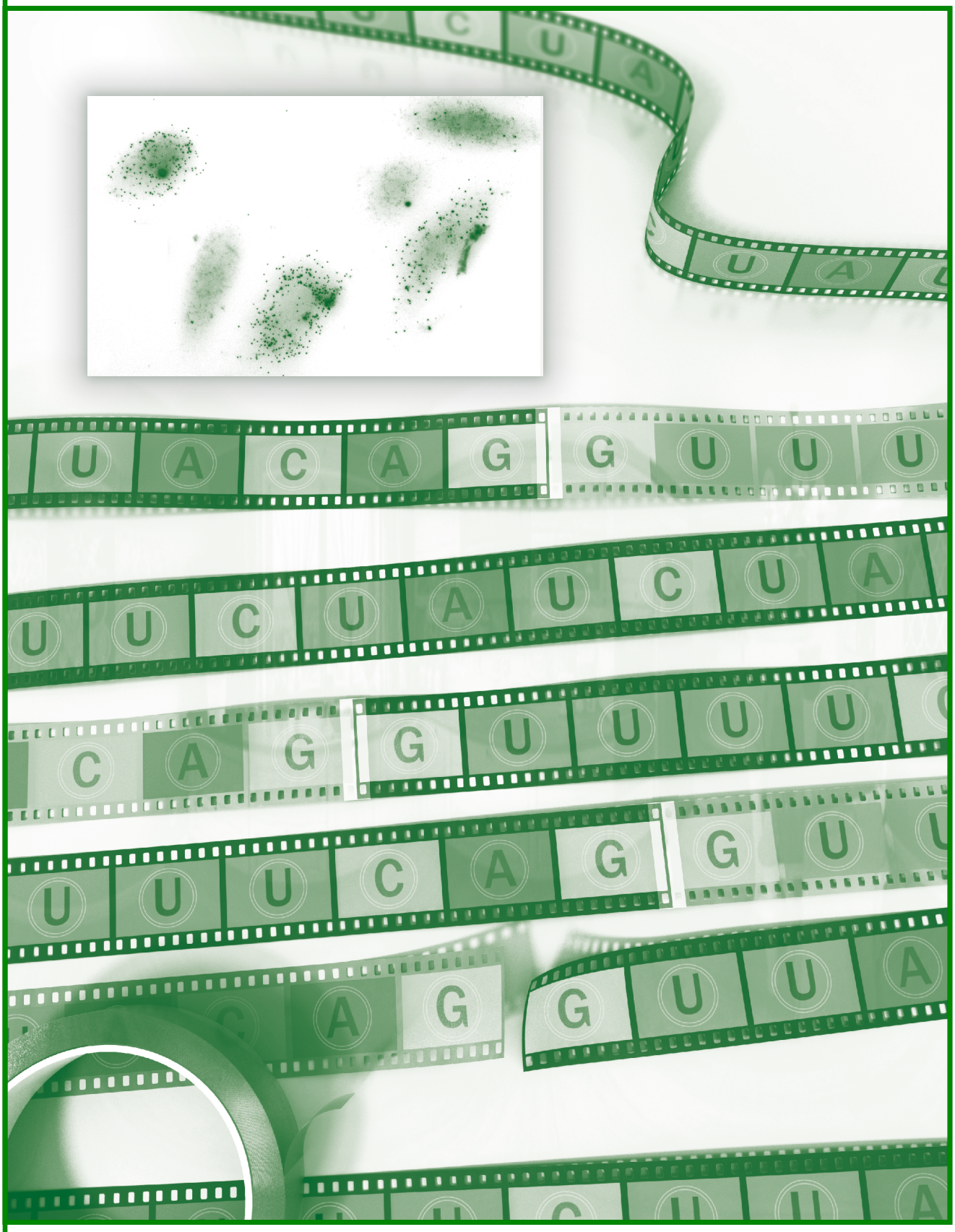

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Introduction

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

The 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; and (3) the Frederick National Laboratory Advisory Committee (FNLAC), which reviews the state of research at the Frederick National Laboratory for Cancer Research (FNLCR); as well as (4) extramural training opportunities for NCI Program and Review staff.

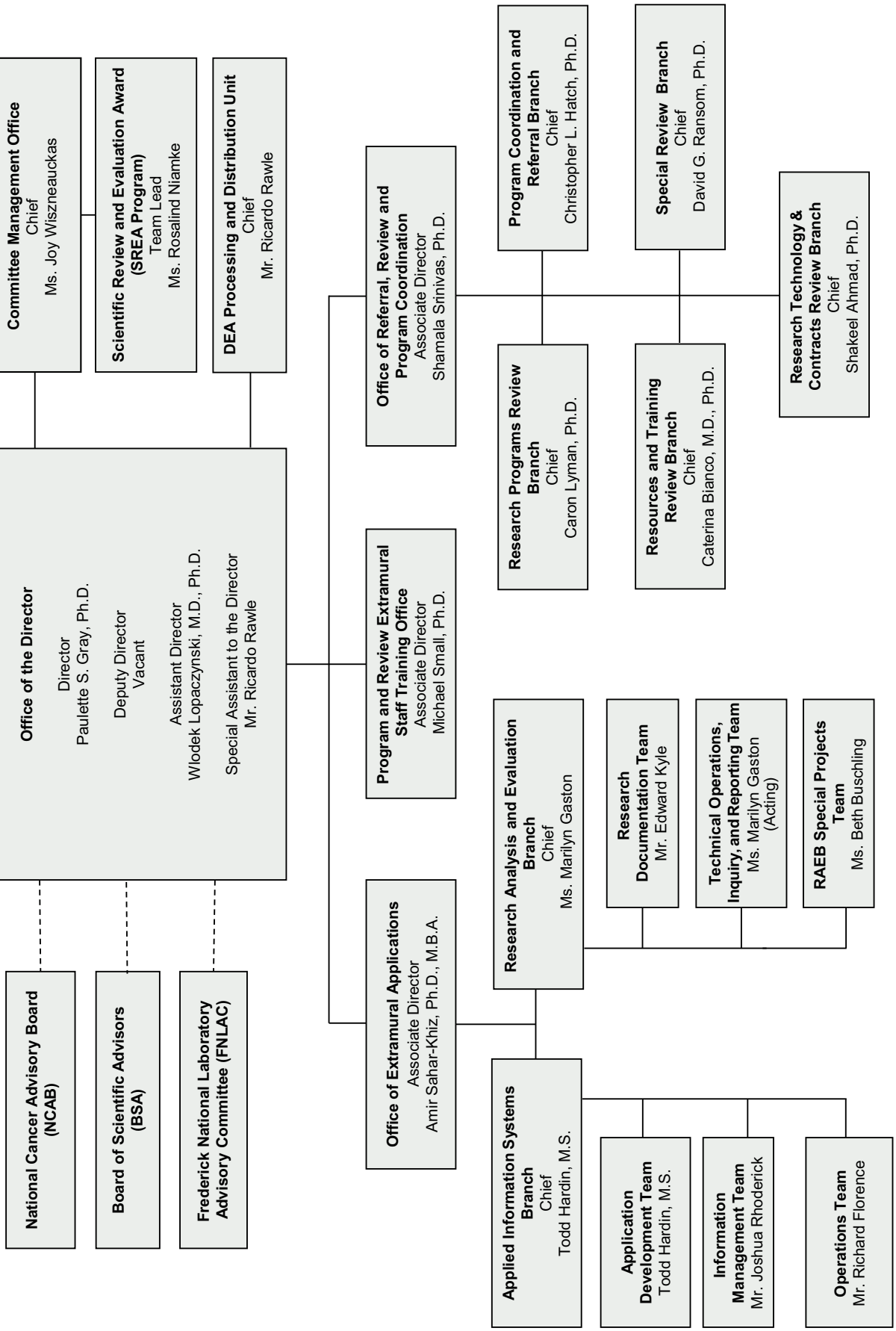
The DEA evaluates the content of all extramural research funded by the NCI and annually tracks the NCI research portfolio of more than 9,000 research and training awards by using consistent budget-linked scientific information to provide a basis for budget projections; maintaining extensive records of this research; providing specialized analyses of the costs, goals, and accomplishments of the research; and serving as an NCI resource to others for reporting and dissemination of the NCI's research portfolio. The DEA monitors budgetary limitations for grant applications; participates in establishing policies to expedite funding; and initiates and implements changes to applications, guidelines, and award processes. Additionally, 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. It also 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 the 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) 2021 (1 October 2020 – 30 September 2021) 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. A sincere thanks to the more than 3,630 researchers, clinicians, and advocates who gave unselfishly of their time in FY2020. Their contribution to the continuing success of NCI's peer review and advisory activities is most appreciated.

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

Division of Extramural Activities



Overview of the Division of Extramural Activities

The paramount goal of the National Cancer Institute (NCI) is to develop the knowledge base that will ultimately lessen the impact of cancer. Among the most important contributors to this base are the outstanding extramurally funded scientists supported by the NCI through grants, contracts, and cooperative agreements. The DEA was established within the NCI to provide the Institute and the scientific community with expert scientific review of the merits of extramural research. An important function of the DEA's mission is to manage and coordinate the second-level grant review by the National Cancer Advisory Board (NCAB); concept review of new and re-issue requests for applications (RFAs), research and development (R&D) requests for proposals (RFPs), and program announcements (PAs) with special receipt, referral, or review (PARs) considerations 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 for Cancer Research (FNLCR).

The **Committee Management Office** (CMO) provides oversight of all NCI-chartered advisory boards and committees, subcommittees, working groups, task forces, and review groups. The CMO also serves as an NIH service center for the National Institutes of Health (NIH) Advisory Committee to the Director (ACD), Council of Councils (CoC), Advisory Committee on Research on Women's Health (ACRWH), Novel and Exceptional Technology and Research Advisory Council (NExTRAC), the National Institute on Alcohol Abuse and Alcoholism (NIAAA), the National Institute on Drug Abuse (NIDA), and the National Institute on Minority Health and Health Disparities (NIMHD). 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: coordination of development and issuance of NCI program initiatives; execution of grant receipt and referral; and management of NCI peer review activities. Review activities include the organization and management of peer review for all applications and proposals received in response to RFAs, PAs, PARs, multi-component grant and cooperative agreement initiatives, and R&D requests for proposals. The program coordination responsibilities of the DEA, in cooperation with NCI extramural program Divisions, Offices, and Centers (DOCs), extend to the development of all new extramural program guidelines and funding opportunity announcements (FOAs).

Another program coordination activity is the development and maintenance of referral guidelines for assignment of grant applications to the NCI. These guidelines, included in the *Referral Guidelines for Funding Components of the Public Health Service*, 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 programmatic areas.

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

The DEA conducts continual evaluation of program initiatives and coordinates policies and procedures to ensure adherence by NCI staff, advisory groups, and applicants. 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 information on approved concepts, listings of active PARs, recently published RFAs, and policies related to the clearance of new program initiatives. As such, information is accessible to the public at **https://deainfo.nci.nih.gov/funding.htm** and to staff via NCI limited-access Intranet sites.

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 its 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 1998, an NIH inclusion policy was implemented requiring applicants and grantees to include children (as defined as an individual younger than 18 years of age) in clinical research, unless there is strong justification for their exclusion. In 2019, the NIH expanded the policy on Inclusion of Children in Clinical Research Policy to include individuals of all ages, including children and older adults (the Inclusion Across the Lifespan policy). 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 inclusion waivers. In FY2021, 21 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, financial conflict of interest involving NCI-supported research, review integrity, and harassment.

The DEA Director functions as the NCI Research Integrity Officer (RIO) and considers all documents related to research misconduct for transmittal and reporting to the NIH. In FY2021, 44 cases of research integrity—including alleged research misconduct, foreign interference, and harassment and involving NCI funding—were opened and referred to the DEA Director, and they are under review by the Office of Extramural Research, NIH, and the Office of Research Integrity, HHS. Twenty cases were completed/closed, and two cases were found to involve research misconduct.[1]

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

[1] Cases found to involve research misconduct are published in the *Federal Register* and *HHS Office of Research Integrity*.

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; (3) identifies and develops resources to facilitate individual learning and performance; and (4) tracks the participation of extramural staff in NIH- and NCI-sponsored training activities as well as continuously evaluates the efficacy of these activities.

During FY2021, **PRESTO** activities included the following:

- An Electronic Tools Workshop Series specifically designed for new Program Officials to enhance their knowledge and skills related to the use of various portfolio management and analysis applications, including the Query, View, and Report (QVR) system, the Portfolio Management Application (PMA), the FOA and Concept to Award Tracking System (CATS), the Workbench system, and Greensheets.
- Funding Opportunity Announcement (FOA) Spotlight Series, including presentations on Assay Validation of High-Quality Markers for Clinical Studies in Cancer and Development and Issuance of NOSIs and Referral of NOSI-connected Applications at the NCI.
- NCI Research Resource Series featuring a presentation on the NCI Co-Clinical Imaging Research Resources Program (CIRP) Cancer Imaging Resource U24 Consortium for Precision Medicine at Preclinical & Clinical Setting.
- Project Management Symposium, including presentations on Risk Language and Risk Messaging, Disciplined Agile: A Holistic Approach to Project Management, Power Networking Across Culture, Bias, Who Me: Unearthing Implicit Bias, Reframing Presentations from the Ground Up, Stop Pivoting-Start Innovating, and How Your Personal Brand Impacts Your Career and Business.
- PRESTO-sponsored training focused on administrative and scientific topics, including NCI Receipt & Referral: Special Focus on ACR and RDA Scenarios.

During FY2022, 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. Various information technology tools will be employed to enhance the effectiveness of PRESTO-sponsored training activities. PRESTO will continue to support the NCI by providing Program and Review–related trainings and seminars, including Development and Challenges Facing NCI Notices of Special Interest (NOSIs), An Overview of the NIH Collaborative Research Exchange (CREx), the Electronic Tools Workshop Series, and the New Program Officials Series. PRESTO plans to host our annual Project Management Seminar featuring project management professionals addressing various issues of interest to NCI extramural staff, including effective messaging, lateral thinking for complex problem solution, and managing motivation.

DEA Processing and Distribution Unit (DPDU)

The **DEA Processing and Distribution Unit** (DPDU) maintains DEA facilities and provides services to DEA staff, including the coordination, consolidation, and purchasing of supplies; tracking of expenditures; and preparation of meeting folders, advisory board and committee books, orientation documents, and the Division's annual reports. In conjunction with the establishment of this unit, the number of DEA Purchase Cards was reduced, minimizing the hoarding of office supplies, with an overall reduction in dollar costs associated with their use.

Program Coordination: A Resource for New Funding Initiatives

The DEA performs critical functions in the development of new strategic funding initiatives at the NCI and in the coordination of their publication as Funding Opportunity Announcements (FOAs), which comprise both 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 re-issue) FOAs. PCRB staff members disseminate various operating policies and procedures pertaining to extramural funding programs. To maintain consistency and completeness, all new and re-issued NCI FOAs and Notices 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 FY2021, and Table 2 lists RFAs issued by other NIH Institutes and Centers (ICs) that the NCI has joined as a participating partner. Tables 3a and 3b show the variety of PAs/PARs issued by the NCI in FY2021, and Table 4 lists PAs/PARs issued by other NIH ICs that the NCI has joined as a participating partner.

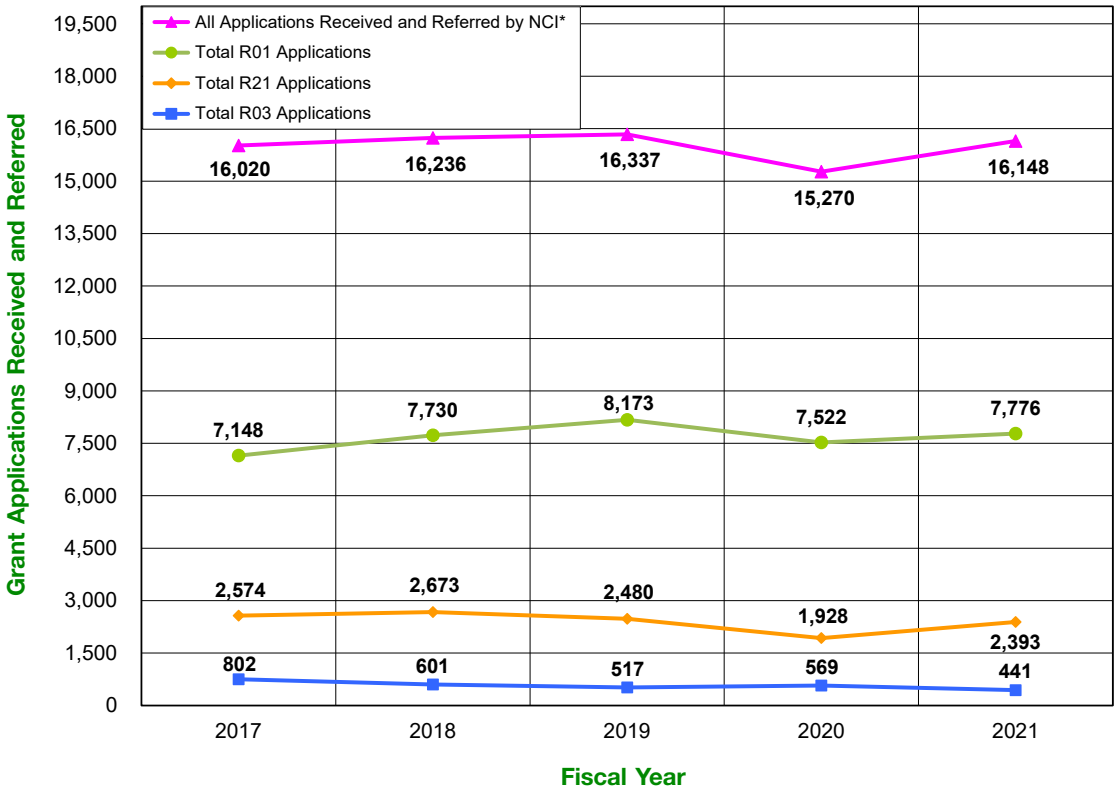
The PCRB staff members provide relevant information and timely updates to NCI extramural staff members on activities and results related to the requirements for all FOAs, activity codes (R01, P01, F30, K08, U01, etc.), and grant applications. The Branch also serves as a direct source of guidance on this topic for program officials at the NCI and applicants in the extramural scientific community. The Referral Officers (ROs) in PCRB continued to collaborate 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 review of 303 student loan repayment program (LRP) applications, contract proposals, as well as 71 R13 conference grant applications and a variety of other proposals in FY2021.

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

In FY2021, a total of 16,148 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 80 different types of award activity codes (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), Outstanding Investigator Award (R35), 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 58 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 for Healthcare Research and Quality

Figure 1. Receipt and Referral of NCI Grant Applications*
FY2017 – FY2021



* Includes NCI Primary and Secondary applications received and referred.

(AHRQ), the Centers for Disease Control and Prevention (CDC), and the U.S. Food and Drug Administration (FDA).

The first point of contact for applicants seeking NCI support for their research is often a PCRB Referral Officer (RO) 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 (PI) 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 clearance process is accomplished by the applicant contacting Program staff well in advance of the anticipated submission date, but no later than 6 weeks before submission for prior approval. If the Program agrees to accept the application, the Program Officer (Director) must submit an Awaiting Receipt of Applications (ARA) "form" through the NIH electronic Research Administration (eRA) to CSR DRR. ARAs also are used to facilitate requests for assignments from ICs and other information that needs to be connected to specific applications. For additional guidance on this process, the applicants are referred to NOT-OD-02-004, "Revised Policy on the Acceptance for Review of Unsolicited Applications That Request $500,000 or More in Direct Costs," and NOT-OD-17-005, "Optional Electronic Submission Method to Request to Submit an Unsolicited Application That Will Exceed $500,000 in Direct Costs."

Peer Review: The Next Step

Once applications are referred to the appropriate NCI program, they must be reviewed. The high caliber of NCI-sponsored research is maintained through a peer review process in which experts in the appropriate scientific fields review 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 funds research that has the potential to make a significant impact on 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 R&D contracts also are subjected to peer review, including contract-supported projects conducted within the intramural research program.

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

Most investigators are familiar with the NIH CSR study sections, which have the primary responsibility for managing the peer review of most investigator-initiated Research Project Grant (RPG, R01) and Fellowship (F) applications. However, dollars requested for grant applications reviewed by DEA-chartered IRGs and SEPs represent more than 50 percent of the NCI's total extramural budget. Peer review managed by either the CSR or the DEA is usually determined by the type of grant mechanism.

The NCI has no direct input into the selection of peer reviewers who serve on CSR study sections. In contrast, members on NCI IRGs and SEPs are selected by DEA review staff, with suggestions from NCI program staff. All chartered NCI IRG Subcommittee members are approved by the DEA Director, based on their knowledge in various disciplines and fields related to cancer. The NCI has four specialized IRG study sections. Study Section A reviews Cancer Center Support Grant (CCSG) applications. Study Section F reviews Institutional Training and Education applications. Study Section I reviews Transition to Independence applications, and Study Section J reviews Career Development applications. (The membership of NCI-chartered study sections may be found in Appendix D and at https://deainfo.nci.nih.gov/advisory/irg/irg.htm.) IRG members are appointed for varying terms of service, which may be up to 6 years. DEA SEPs may be formed to review grant and cooperative agreement applications received in response to RFAs, PAs, PARs, other special applications, or Technical Evaluation Panel (TEP) review of R&D contract proposals received in response to RFPs. Members of each panel are selected—on a one-time, as-needed basis—to review specific grant and cooperative agreement applications or contract proposals. Additional information about NCI SEPs can be accessed at https://deainfo.nci.nih.gov/advisory/sep/sep.htm.

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

Review Workload

In FY2021 the DEA organized, managed, and reviewed a total of 4,502 research grant and cooperative agreement applications (Table 6) and 126 contract proposals (Table 12) assigned to the NCI for funding with appropriated dollars of $2,061,540,962. The total number of grant applications, cooperative agreements, and contract proposals reviewed in FY2021 was **4,887** (Figure 2). In addition, the DEA conducted 12 Cancer Center site visits, 12 IRG Subcommittee review meetings, 148 SEPs to review grant applications and contract proposals, and 32 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. Also, 3,637 peer reviewers served on the NCI DEA-managed IRG Subcommittees, SEPs, and work groups in FY2021. Members were selected based on their demonstrated experience and expertise in relevant fields of biomedical research or their informed consumer perspectives.

Peer Review Functions

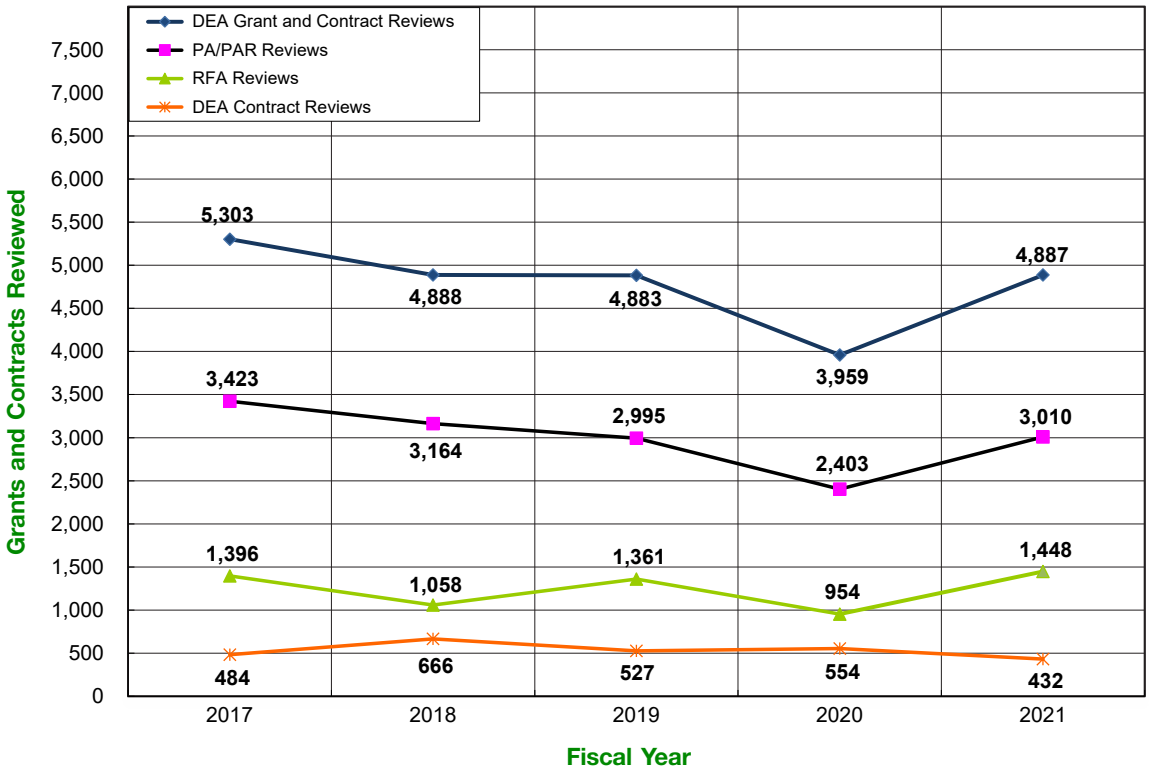
The **Office of Referral, Review, and Program Coordination** (ORRPC) is responsible for the coordination and management of the review of NCI grant applications, cooperative agreements, and contract proposals. The ORRPC is composed of four review branches, and the Program Coordination and Referral Branch. The individual review branches are responsible for organizing, managing, and reporting the results of scientific peer review of grants, cooperative applications, and R&D 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 Technical Evaluation Panels (TEPs).

Research Programs Review Branch (RPRB)

Program Project (P01) Applications

Again, a significant effort of RPRB during FY2021 was the review of unsolicited Program Project (P01) applications. These are multi-project, collaborative programs with a well-defined unifying cancer research theme. For the review of P01s, 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.

Figure 2. DEA Review Workload*
Grants and Contracts Reviewed in FY2017 – FY2021



* Withdrawn applications are not included.

All P01 review panels are constituted as SEPs, with *ad hoc* reviewers recruited based on the required scientific expertise. 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 assign an overall impact score to each application.

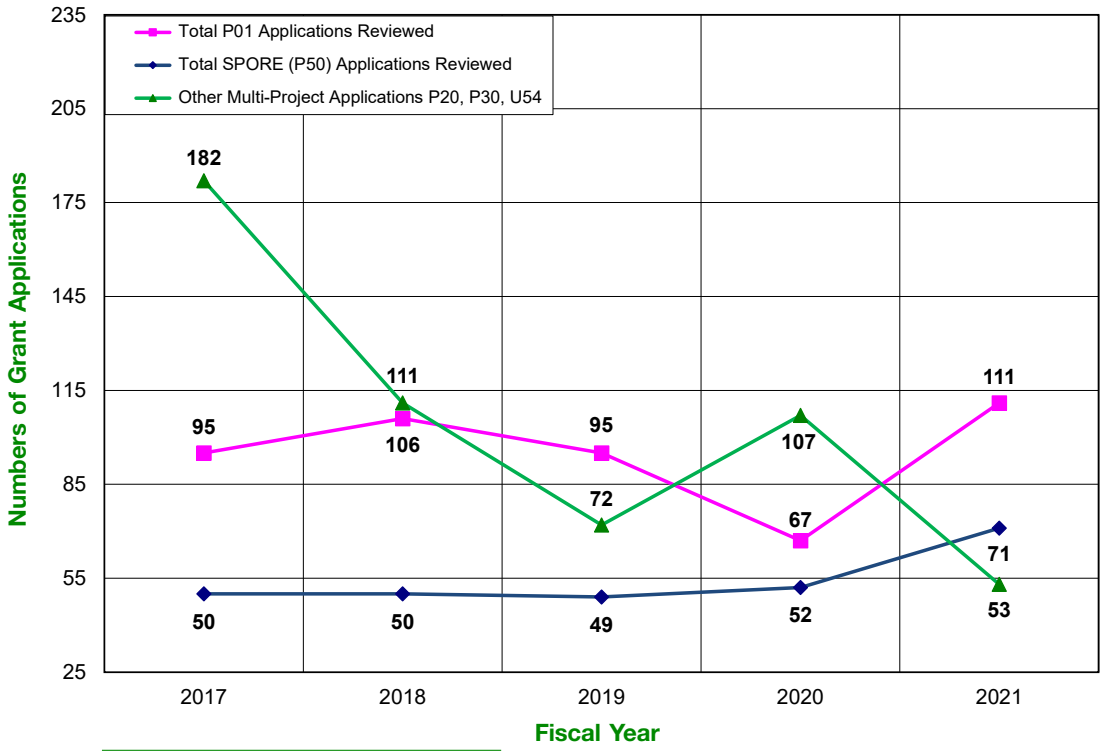
During FY2021, RPRB managed the review of 111 new, renewal (competing), resubmitted (amended), and revised (competitive supplement) P01 applications (Figure 3 and Table 8). Sixty-seven (60%) of the applications proposed new multidisciplinary research programs, 20 (18%) were competitive renewals, and 27 (24%) of the applications (both Type 1 and 2) were resubmitted applications (Table 8). Thirty-seven (33%) of the 111 applications were referred to the NCI's Division of Cancer Biology (DCB), 49 applications (44%) were referred to the Division of Cancer Treatment and Diagnosis (DCTD), eight applications (7%) were referred to the Division of Cancer Control and Population Sciences (DCCPS), and 17 applications (15%) were referred to the Division of Cancer Prevention (DCP) (see Table 9). The 111 applications requested $290,840,964 in total costs for the first year of support and $1,509,641,300 in total costs for 5 years (see Tables 6 and 9).

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

Figure 3. Program Project (P01), SPORE, and Other Multi-Project Research Applications Reviewed in FY2017 – FY2021*



* Withdrawn applications are not included.

programs) and then, assign an overall impact score to the SPORE application as a whole.

In FY2021, the RPRB organized and managed nine SEPs for the review of 71 SPORE applications (Figure 3 and Table 11). The applications addressed multiple organ sites, with the following distribution and numbers of applications: Brain (5); Breast (6); Gastrointestinal (2); Pancreas (8); Head and Neck (7); Leukemia (3); Lymphoma (3); Skin (1); Melanoma (1); Multiple Myeloma (2); Ovarian (2); Endometrial (2); Prostate (6); Kidney (1); Sarcoma (2); Neuroendocrine (2); and Lung (6). In addition to organ sites, there were applications focused on common biological mechanisms: Epigenetics (3); RAS (2); Immunotherapy (2); Cancer Stem Cells (1); Pediatric Cancer (1); and Health Disparities (3). Overall, 57 (80%) of the 71 applications were submitted for new SPOREs, and 14 (20%) were competitive renewal applications, with five (7%) being resubmitted applications.

The disease sites addressed in the SPORE applications vary from round to round. For example, 15 applications addressing 10 different disease sites were reviewed for the February 2021 NCAB cycle; 39 applications addressing 13 disease sites were reviewed for the June 2021 NCAB cycle, and 17 applications addressing eight disease sites were reviewed for the September 2021 NCAB meeting. The applications requested $166,130,669 in total costs for the first year of support (Table 11).

Additionally, in FY2021, the RPRB coordinated review of 19 Feasibility and Planning Studies for Development of SPOREs to Investigate Cancer Health Disparities (P20) across multiple organ sites (Table 10).

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. The 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 FY2021, the RPRB SROs attended 75 of these pre-submission meetings.

As needed, RPRB SROs also manage review of applications submitted to the DEA in response to other initiatives. In FY2021, this included coordinating SEP review of R01, R03, R21, R44, and U01, applications, and TEP review of Phase I and Phase II contract proposals.

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 study sections: A, F, I, and J (Appendix E).

Review of P30 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 a 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 Study Section A for discussion, evaluation, and final impact scoring of the application. Final impact scoring by NCI Study Section A provides a more uniform evaluation of the individual CCSG applications than scoring based solely on the initial site visit review group. During FY2021, NCI Study Section A reviewed 12 CCSG applications (site visits).

Training and Career Development

Career Development (CD) and Training and Education (T&E) grant applications are reviewed by IRG Study Sections Institutional Training and Education (F) and Career Development (I and J). The number of Career Development applications increased to 727 in FY2021 from 579 in FY2020

(Table 6). The number of Training and Education grant applications increased from 157 in 2020 to 158 in 2021 (Figure 4). In addition, 66 applications submitted in response to the NCI Predoctoral to Postdoctoral Fellow Transition Award (F99) and 30 applications in response to NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00) were reviewed.

Other RTRB Activities

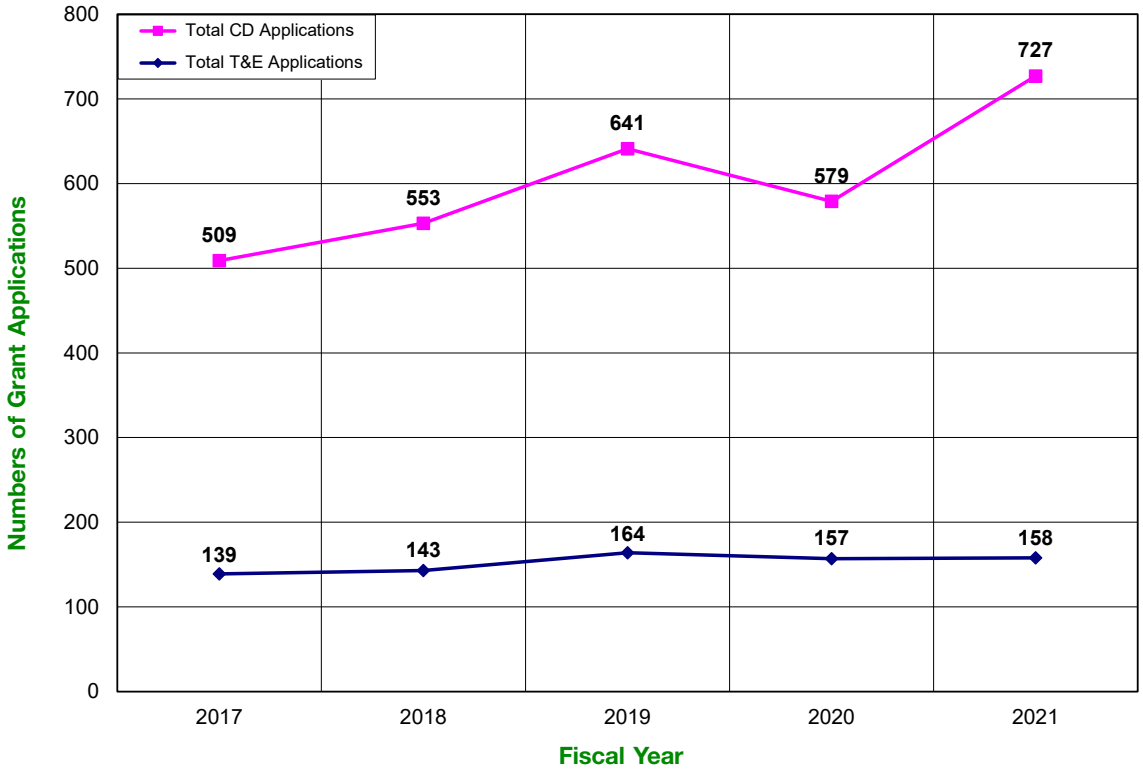
In FY2021, RTRB review staff also reviewed applications received in response to initiatives that were coordinated by the Special Review Branch (SRB), i.e., (1) Exploratory/Developmental Grant (R21); (2) Research Project (R01); (3) Small Grant (R03); (4) Coordinating Center—Cooperative Agreement (U24); (5) Research Projects—Cooperative Agreements (U01); (6) Specialized Center—Cooperative Agreements (U54); and (7) Exploratory Developmental Cooperative Agreements Phase I/Phase II UH2/UH3.

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 Leadership (SPL) and the Board of Scientific Advisors (BSA), NCI Program staff prepare RFAs and RFPs for publication in the *NIH Guide for Grants and Contracts*. 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 reviewed by the DEA.

During FY2021, the SRB, with the assistance of the three other DEA review branches (RPRB, RTCRB, and RTRB), peer reviewed a total of

Figure 4. Numbers of Career Development (CD) and Training and Education (T&E) Applications Reviewed FY2017 – FY2021*



* CD mechanisms: K01, K08, K18, K22, K25, K43, and K99.
T&E mechanisms: K12, R25, and T32.

1,447 applications received in response to 54 RFAs (Table 10) and 3,010 applications in response to 52 PAs/PARs (Table 11). All the peer review meetings were conducted by 140 SEPs.

Exploratory/Developmental Research

In FY2021, the DEA reviewed 1,188 R21 applications submitted for the NCI Clinical and Translational Exploratory/Developmental Research Grant Program in response to PAR-19-356 and PAR-20-292 (Table 11). 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 applications were reviewed in a total of 33 SEPs over the three review cycles in FY2021.

Small Grant Programs

The small grant (R03) PAR program initiative in the NCI Omnibus R03 for cancer research (PAR-20-052) stimulated increased interest in the applicant community. In FY2021, 420 applications were submitted and reviewed by the DEA in response to this FOA (Table 11).

Other SRB Activities

As needed, SRB SROs also manage review of applications submitted to the DEA in response to other initiatives. In FY2021, this included coordinating review of P01, P20, P30, R01, R03, R21, R50, U01, U24, U54, UG3, and UH2/UH3 applications.

Research Technology and Contracts Review Branch (RTCRB)

The RTCRB organizes and manages the peer review of technology-related Innovative Molecular and Cellular Analysis Technologies (IMAT), Small Business (SBIR/STTR) grant applications, SBIR Special Topics contract proposals, and R&D contract proposals submitted in response to RFPs. In most instances, 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, whereas the R33 mechanism is suitable for projects for which "proof-of-principle" of the proposed technology or methodology already has been established and supportive preliminary data are available. These two mechanisms are well suited for technology development.

In FY2021, 314 technology applications (Figure 5)/(Table 10) for Exploratory/Developmental Phase I (R21) grants and Exploratory/Developmental Phase II (R33) grants were reviewed for Development of Innovative Informatics Methods and Algorithms for Cancer Research and Management ([RFA CA20-007] R21 Clinical Trial Optional)]; Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (RFA CA20-017 [R21 Clinical Trials Not Allowed]); Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (RFA CA20-018 [R33 Clinical Trials Not Allowed]); Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (RFA CA20-019 [R21 Clinical Trials Not Allowed]); and Advanced Development and Validation of Emerging Biospecimen Science Technologies for Basic and Clinical Cancer Research (RFA CA20-020 [R33 Clinical Trials Not Allowed]); Visualization Methods and Tools Development for Enhancing Cancer Moonshot Data (R33 Clinical Trial Not Allowed); Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (RFA CA21-003 [R21 Clinical Trials Not Allowed]); Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (RFA CA21-004 [R33 Clinical Trials Not Allowed]); Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (RFA CA21-005 [R21 Clinical Trials Not Allowed]); Advanced Development and Validation of Emerging Biospecimen Science Technologies for

Basic and Clinical Cancer Research (RFA CA21-006 [R33 Clinical Trials Not Allowed]) (Table 10).

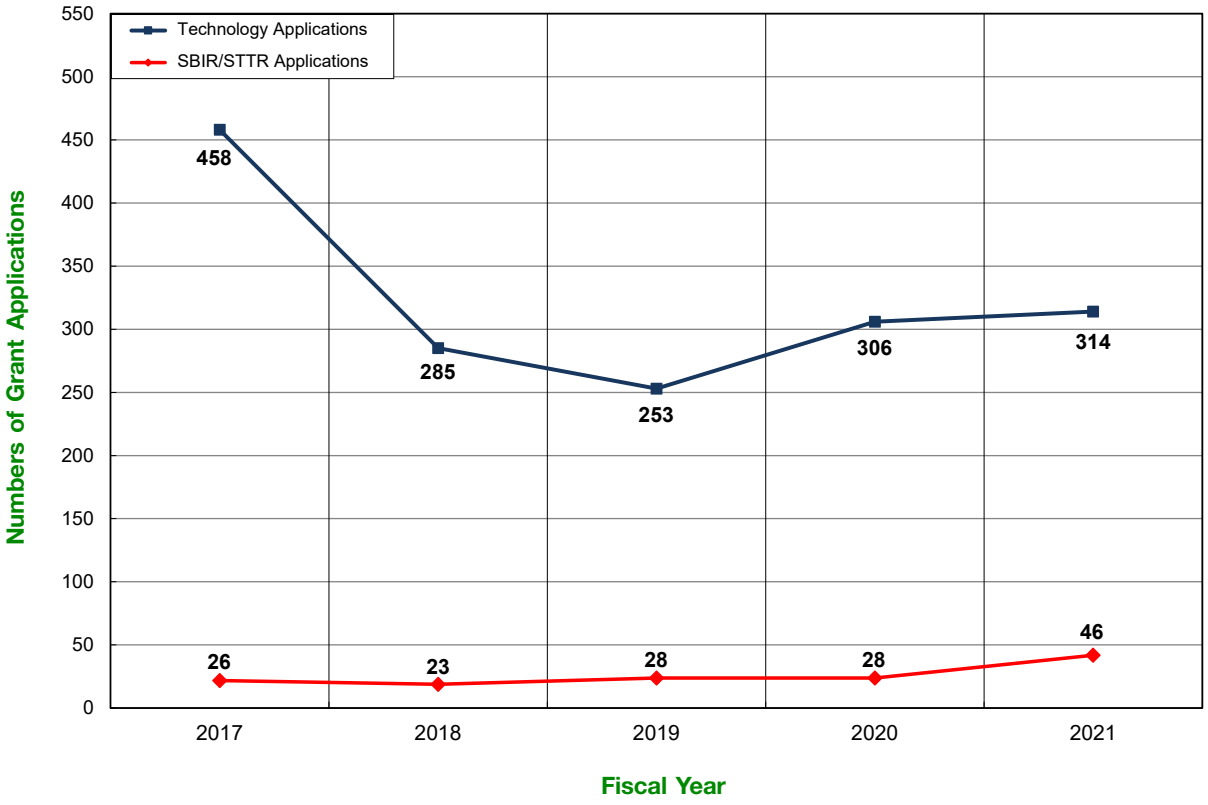
Research and Development (R&D) Contract Proposals

In FY2021, the RTCRB received and reviewed a total of 126 contract proposals. The proposals were in response to SBIR Contract Solicitations—Phase I & Fast Track (110), R&D Clinical Trials Information Management and Support (CTIMS) Contract (2), R&D CCR Contract Sponsor and Regulatory Oversight Support Contract (2), Preclinical Toxicological Studies (TEP) Contract (8), and R&D Preclinical Pharmacokinetic and Pharmacological Support Contract (8) (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 announced on the SAM.gov site.

Other RTCRB Activities

In FY2021, members of the branch also assisted in the review of applications for initiatives that were coordinated by the SRB, including the NCI Omnibus Exploratory Grant (R21) program and the Small Grant (R03) program. In FY2021, the RTCRB also managed reviews of P01, U01, U24, U54, UG3, and UH2/UH3 applications.

Figure 5. Technology Initiatives Applications Reviewed FY2017 – FY2021*



* 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, Office's, and Center'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 FY2020 and FY2021. Figure 8 shows RFA concepts that the BSA approved from FY2018 through FY2021 according to the sponsoring NCI Division, Office, or Center.

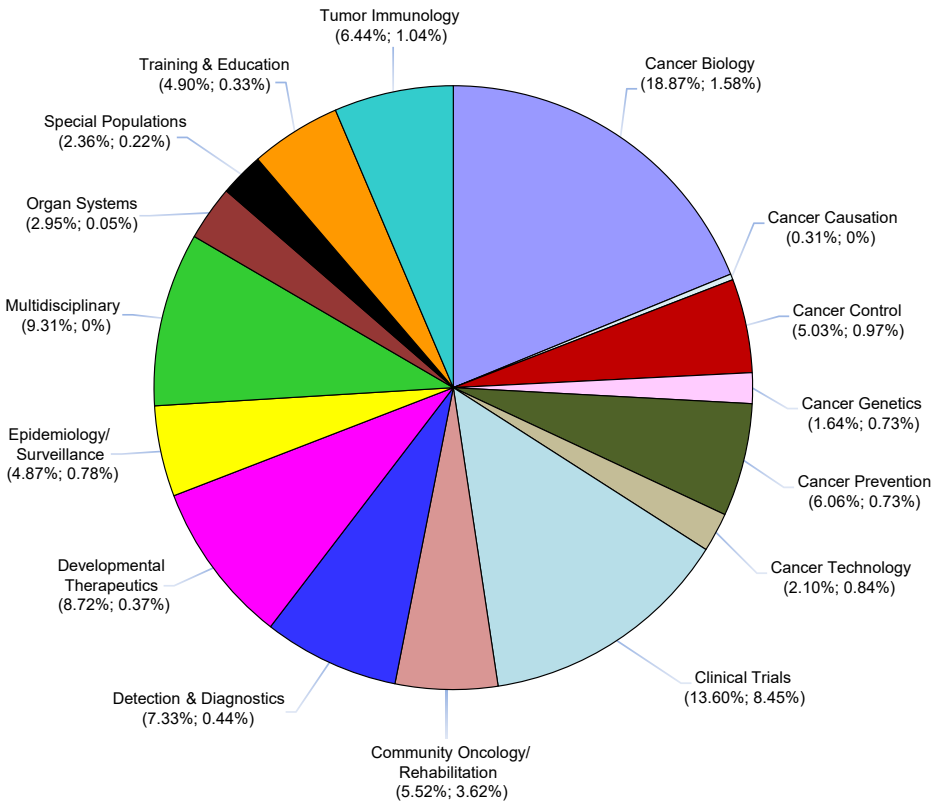
Table 13 presents a summary of total funding of NCI grant awards by mechanism and activity code for FY2021. In Table 14, a comparison is made of the average cost and number of NCI P01, P30, P50, R01, R03, R13, R21, U01/U19, U10, and U54 grants, and cooperative agreements awarded through FY2021, for each of 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 FY2021, and Table 18 reports foreign components of U.S. domestic research grants in FY2021.

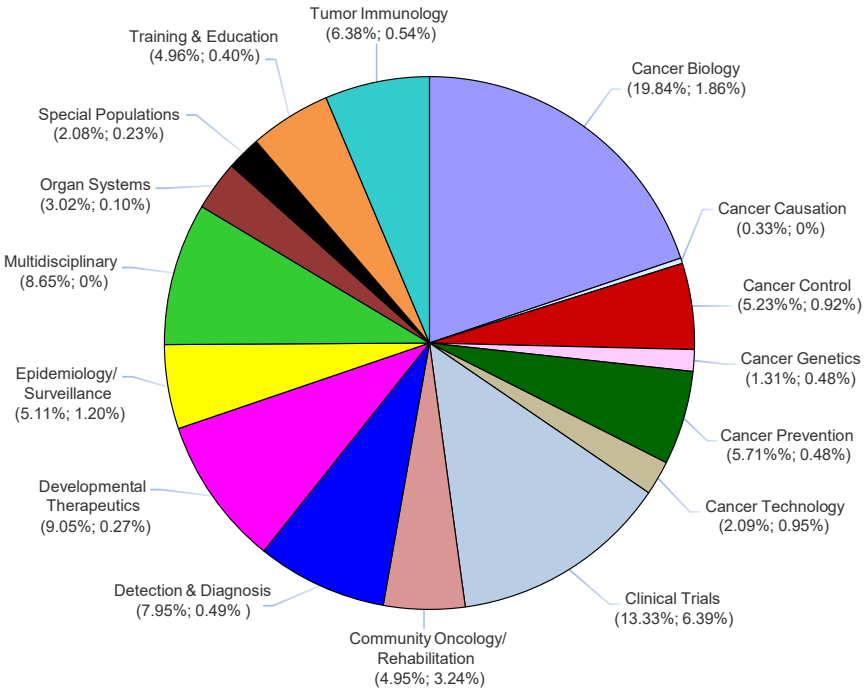
Note: Some grant awards made during a fiscal year may have been for grant applications reviewed in a prior fiscal year.

Figure 6. NCI Grant and RFA Funding Percentages by Concept Area FY2020



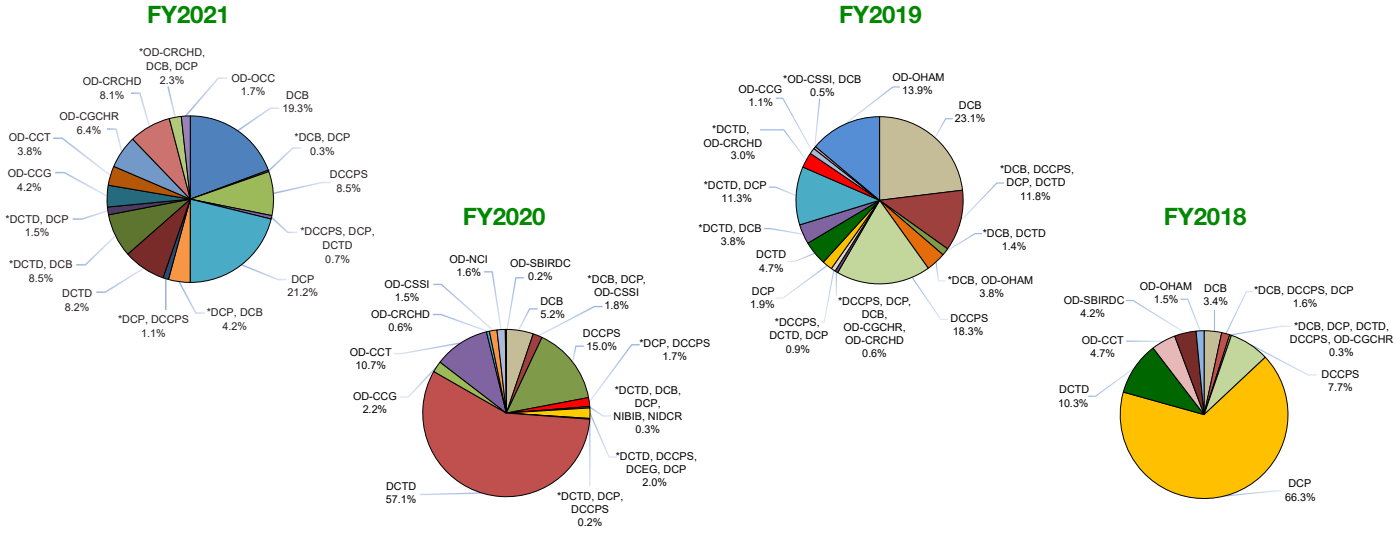
Percentages represent Total Funding and RFA Funding for the Concept Area as a percentage of Total NCI Grants. Concept Area (% of Total Funding to Total NCI Grants; % of RFA Funding to Total NCI Grants)

Figure 7. NCI Grant and RFA Funding Percentages by Concept Area FY2021



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

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



Legend

DCB	Division of Cancer Biology	OD-CCG	Office of the Director – Center for Cancer Genomics
DCCPS	Division of Cancer Control and Population Sciences	OD-CCT	Office of the Director – Center for Cancer Training
DCEG	Division of Cancer Epidemiology and Genetics	OD-CGCHR	Office of the Director – Center for Global Cancer Health Research
DCP	Division of Cancer Prevention	OD-CRCHD	Office of the Director – Center to Reduce Cancer Heath Disparities
DCTD	Division of Cancer Treatment and Diagnosis	OD-OHAM	Office of the Director – Office of HIV and AIDS Malignancy
NIBIB	National Institute of Biomedical Imaging and Bioengineering	OD-CSSI	Office of the Director – Center for Strategic Scientific Initiatives
NIDCR	National Institute of Dental and Craniofacial Research	OD-NCI	Office of the Director – National Cancer Institute
OD-OCC	Office of the Director – Office of Cancers	OD-SBIRDC	Office of the Director – Small Business Innovation Research Development Center

* 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 study sections 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 multimillion-dollar program. The staff members of CMO 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 178 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 FY2021, approximately 3,637 consultants were reimbursed honoraria and flat-rate payment for serving at more than 178 peer review meetings (**Appendix E**). There were 3,605 instances of honoraria and flat-rate payments to NCI peer review consultants. The SREA staff works diligently to ensure reviewers are reimbursed in a timely manner and, when appropriate, 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, all of the 3,605 instances of honoraria and flat-rate payments to NCI peer review consultants were paid out in FY2021.

Throughout the year, the SREA staff ensures 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 FY2021, no hotel contracts were processed by the SREA staff due to the COVID-19 pandemic. The 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. No hotel invoices or consultant travel invoices were reviewed and submitted for payment in FY2021 due to the COVID-19 pandemic.

The SREA staff collaborates with the Associate Director, ORRPC, NCI 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.

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 (SAs)" page on the PRESTO website. The documents are then utilized by NCI DEA SROs and SAs. These training tools are imperative to the peer review process and the integrity of the National Cancer Institute'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 the 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 the DEA is coordination of the activities of the **National Cancer Advisory Board** (NCAB), whose members are appointed by the U.S. 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. The DEA also coordinates administration of the **Board of Scientific Advisors** (BSA), the body responsible for the oversight and concept review of the extramural programs and initiatives of the NCI, and the **Frederick National Laboratory Advisory Committee** (FNLAC), which provides oversight of research activities at the **Frederick National Laboratory for Cancer Research** (FNLCR). Working groups, task forces, etc., are formed under the various chartered committees 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, the DEA plays a major role in the development and issuance of PAs, PARs, RFAs, and R&D RFPs, 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 FY2021 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 of grant applications referred to the NCI and for the U.S. Food and Drug Administration (FDA) (Appendix A).

President's Cancer Panel (PCP). The PCP consists of three members appointed by the U.S. President who—by virtue of their training, experience, and backgrounds—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 U.S. 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. One important function of the BSA is to evaluate NCI extramural programs and policies and review concepts for new research opportunities and solicitations to ensure that those concepts are meritorious and consistent with the Institute's mission (Appendix B).

Board of Scientific Counselors (BSC). In FY2021, the Board of Scientific Counselors for Basic Sciences and for Clinical Sciences and Epidemiology were merged into one BSC. Managed through the Office of the Director (OD), NCI, the BSC advises 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). These scientific experts from outside the NCI evaluate the performance and productivity of NCI Intramural Principal Investigators and staff scientists through periodic site visits of 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–Frederick Cancer Research Center (FCRC) 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. In 2012, the FCRC was renamed to the Frederick National Laboratory for Cancer Research (FNLCR). FNLAC reviews new projects proposed to be performed at FNLCR 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 recommends 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 study sections, review grant applications for Cancer Center Support (Study Section A), Institutional Training and Education (Study Section F), and Career Development (Study Sections I and J) 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 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 the rights and obligations of IRG committee membership, including the right to vote on recommendations.

NCI Technical Evaluation Panels (TEPs). The TEPs advise the NCI Director and the DEA Director regarding contract proposals. The TEPs provide an orderly, impartial, timely, yet comprehensive and discriminating, technical evaluation of each prospective offeror's technical proposal.

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, Division of Extramural Activities (DEA), National Cancer Institute (NCI). This Office continues to provide expert advice to the Director, NCI, Deputy Directors, NCI, the Director, DEA, NCI, and other senior-level Institute/Center/Client staff on all rules, regulations, guidelines, policies, procedures, etc., 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, 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 (OD), National Institutes of Health (NIH); the Advisory Committee to the Director, NIH (ACD) located in the OD, NIH; the Advisory Committee on Research on Women's Health (ACRWH) located in the Office of Research on Women's Health in the Division of Program Coordination, Planning, and Strategic Initiatives, OD, NIH; and the Novel and Exceptional Technology and Research Advisory Committee (NExTRAC) [formerly the NIH Recombinant DNA Advisory Committee (RAC)] located in the Office of Science Policy, OD, NIH. In addition, CMO serves as the Service Center for three NIH Institutes/Centers (ICs). The National Institute on Alcohol Abuse and Alcoholism (NIAAA), which has seven Federal Advisory Committees, includes an Advisory Council, a BSC, four IRG study sections, and a SEP. The National Institute on Drug Abuse (NIDA), which has four Federal Advisory Committees, includes an Advisory Council, a BSC, one IRG study section, and a SEP. The National Institute on Minority Health and Health Disparities (NIMHD), which has two Federal Advisory Committees, includes an Advisory Council and a SEP.

In all, CMO successfully manages 30 Federal Advisory Committees and numerous subcommittees and working groups. The Office is also 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 and ACRWH 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. CMO effectively managed a comprehensive ethics program in support of CoC, ACD, ACRWH, NExTRAC, NIDA, and NIMHD. Ethics services include analysis and review of Special Government Employee OGE-450s and Foreign Activity Questionnaires and preparation of recusal lists and waivers of current members. Additionally, 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 FY2021 include the following:

- Continued to refine the processes and procedures to have advisory committee/board members use the USA Jobs Onboarding System to submit their human resource appointment forms electronically versus completing paper forms.

- Continued to provide guidance and resources to the CMO community in the implementation of advisory committee/board members use the NIH Enterprise Ethics System (NEES) to submit their OGE-450s electronically versus completing paper forms.
- Worked with the NCI DEA Director on the establishment of the NCAB *ad hoc* Working Group on Strategic Approaches and Opportunities for Research on Cancer Among Racial and Ethnic Minorities and Underserved Populations and CTAC *ad hoc* Working Group on Gastric and Esophageal Cancer.
- Responded to requests from the NIH Office of Federal Advisory Committee Policy (OFACP) regarding proposed policies, processes, and other matters related to FACA advisory boards and committees.
- Worked with the DEA Director and coordinated with NIH OFACP staff to successfully complete the merger of the NCI Board of Scientific Counselors for Basic Sciences and the NCI Board of Scientific Counselors for Clinical Sciences and Epidemiology into one NCI Board of Scientific Counselors.
- Worked with NIMHD Leadership and coordinated with NIH OFACP to provide guidance, support, and the initial required documentation to begin the establishment of a Board of Scientific Counselors.
- Provided guidance to NIH OD Staff assigned to support ACD, CoC, and ACRWH Working Groups.
- Continued to provide oversight of the NCI DEA SREA multi-million-dollar program and successfully closed out the FY2021 budget.
- Continued to participate in the Phase II Committee Management Module (CMM) process mapping and requirements gathering for the automation of nomination slates.

The following **training sessions** were given by CMO to various Federal audiences over the course of FY2021:

- Overview and Training on Department of Health and Human Services (HHS) waiver policies and procedures to NIMHD and NIDA SROs.
- FACA Training to newly assigned Designated Federal Officials (DFOs) of the Frederick National Laboratory Advisory Committee, NIDA Board of Scientific Counselors, and NIH Council of Councils.
- Working Group Overview and Training to newly assigned DFOs of the NCAB *ad hoc* Working Group on Strategic Approaches and Opportunities for Research on Cancer Among Racial and Ethnic Minorities and Underserved Populations and the CTAC *ad hoc* Working Group on Gastric and Esophageal Cancer.
- Responded to requests from senior NCI and Client staff on various non-FACA meetings and working group concerns.

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 Branch collects and maintains consistent budget-linked scientific information across all of NCI's scientific programs to analyze the Institute's research funding portfolio. The RAEB staff members assist in making budget projections and, as requested, disseminate scientific cancer information. The 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 the DEA to respond immediately to requests for information from NCI staff, the broader NIH community, and requesters nationally and worldwide regarding the NCI Funded Research Portfolio. 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, 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 FY2017 through FY2021 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.

Highlights in FY2021 include the following:

- Congressional Request on early treatments for COVID-19.
- Identify NCI biodefense research for the NCI Office of Budget and Finance with two days' notice.
- Coordinated with the NCI Office of Budget and Finance (OBF) to update and align budget reporting categories.
- Supplied FY2019 and FY2020 grant and research contract funding information on Stomach and Esophageal Cancer.
- Responsible for entering NCI stem cell research categories into the NIH RCDC database.
- RAEB staff participated in the NCI Accrual Working Group for reporting of NCI compliance with Congressional Inclusion reporting requirements.
- RAEB staff are DEA representatives on the NCI Communications Committee, the My NCI Users Group, and the NCI Planning Committee.
- Assisted DEA Scientific Review Officers in identifying science experts for a number of review study sections.

FY2021 Funding of Foreign Institutions

(See Table 17 for more information.)

Country	No. of Grants	Funding $
Argentina	1	$155,024
Australia	4	$2,837,312
Canada	12	$6,648,388
Denmark	1	$406,906
France	7	$4,134,631
Germany	1	$532,409
South Africa	3	$490,659
Sweden	2	$415,815
United Kingdom	2	$752,662
Totals	**33**	**$16,373,806**

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

In FY2021, the NCI allocated $16 million to support 33 projects received from 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 receiving $6.6 million. R01s were the most common mechanisms funded, with 15 grants receiving $5.9 million. Disease areas receiving the most NCI funding to foreign institutions were Not Site-Specific ($2.8 million) and Breast ($2.2 million), followed by Colon ($2.0 million).

In FY2021, the NCI supported 405 U.S. domestic projects with 547 foreign components. These projects are listed in Table 18 by country, mechanism, and number of projects. Because many projects have multiple foreign contributors, the total count is greater than the total number of projects. Institutions in Canada (79 grants), the United Kingdom (42 grants), Germany (45 grants), China (31 grants), Netherlands (28 grants), and Australia (27 grants) were the NCI's most frequent collaborators. The R01 funding mechanism is the most commonly used for collaborations, with 279 grants, followed by U01 (73 grants) and R37 (21 grants).

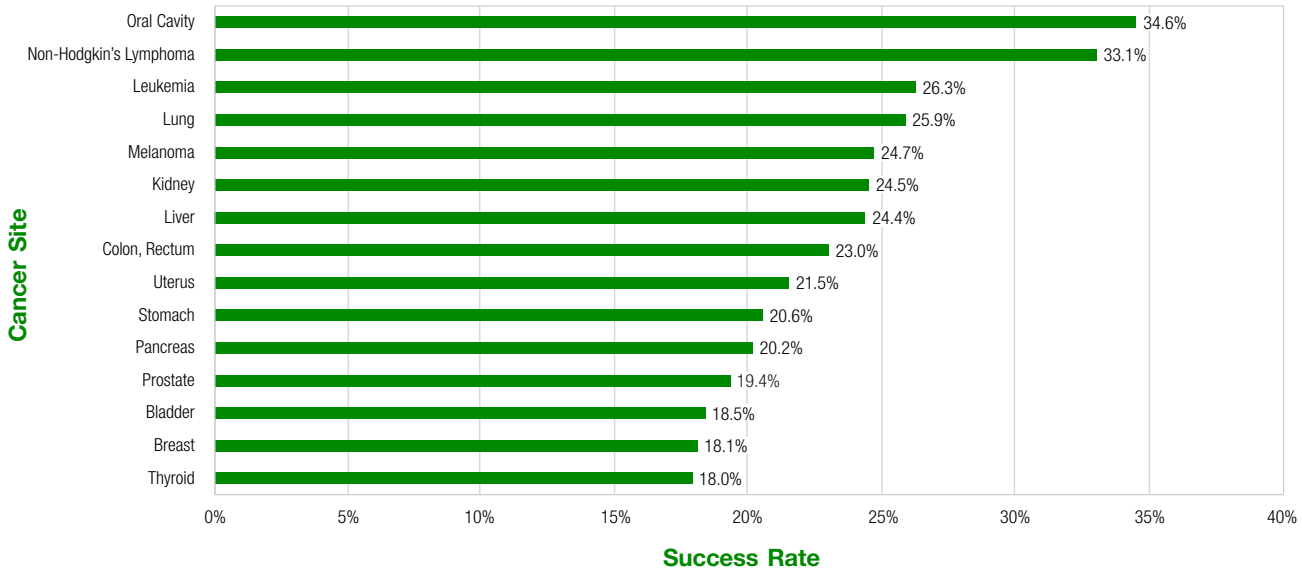
Success Rates of Extramural Science Categories

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 FY2021 success rates for selected Special Interest Categories (SIC) and for the highest incidence cancers. The highest incidence cancer rankings are from the SEER rank of top 15 cancer sites, 2014–2018, age-adjusted incidence for all races and sexes.

Success rates were calculated by dividing the total number of newly and competing funded applications in FY2021 for that research category (SIC or Organ Site) by the total number of applications reviewed for that research category (see Figures 9 and 10).

Figure 9. FY2021 Success Rates for Applications in Highest Incidence Cancer

Sorted by Success Rate

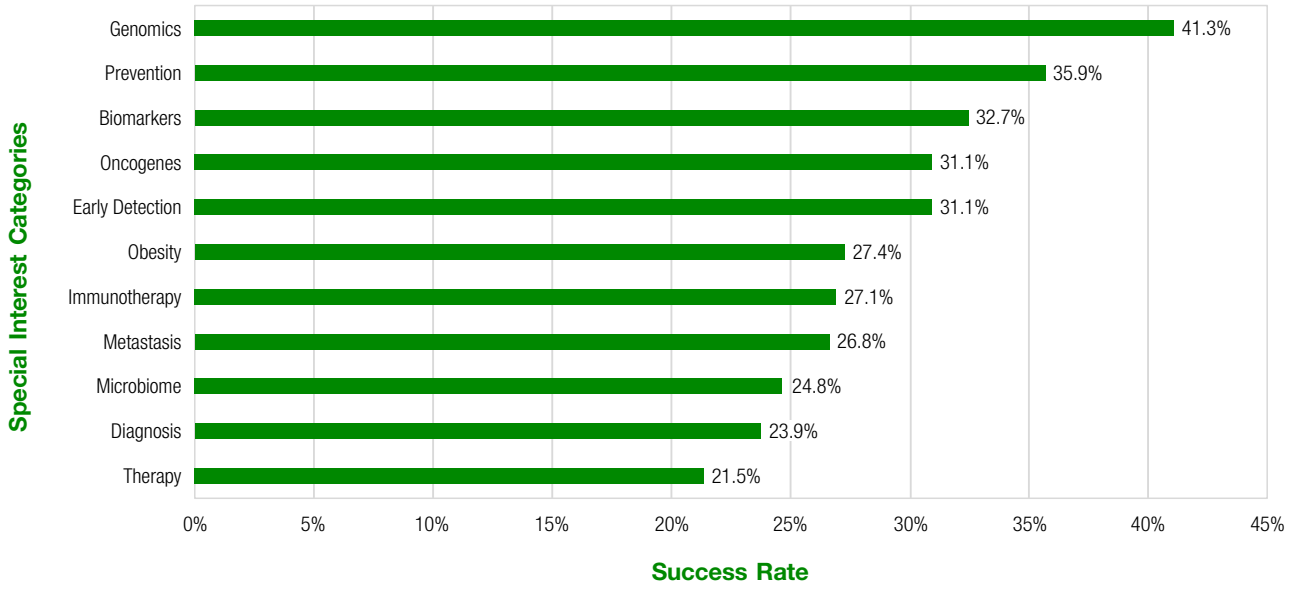


Selected Oncology Sites	SEER Rank*	Types 1 & 2 Funded in 2021	Total Applications Received in 2021	2021 Success Rate (%)	Total Funding for Types 1 & 2 in 2021
Oral Cavity	13	19	74	34.6%	$16,090,682
Non-Hodgkin's Lymphoma	7	82	330	33.1%	$66,566,836
Leukemia	11	142	682	26.3%	$102,148,237
Lung	2	295	1,434	25.9%	$160,906,302
Melanoma	5	112	565	24.7%	$76,874,999
Kidney	8	40	203	24.5%	$29,781,622
Liver	14	95	484	24.4%	$67,680,112
Colon, Rectum	4	180	962	23.0%	$118,684,544
Uterus	10	14	79	21.5%	$10,983,051
Stomach	15	15	88	20.6%	$13,993,766
Pancreas	12	145	864	20.2%	$105,065,665
Prostate	3	154	950	19.4%	$95,991,092
Bladder	6	31	199	18.5%	$13,374,850
Breast	1	358	2,334	18.1%	$192,097,977
Thyroid	9	9	59	18.0%	$9,368,576

*SEER rank of top 15 cancer sites 2014–2018 age adjusted incidence for all races and sexes.

Figure 10. FY2021 Success Rates for Applications in Selected Special Interest Categories

Sorted by Success Rate



Special Interest Category (SIC)	Types 1 & 2 Funded in 2021	Total Applications Received in 2021	2021 Success Rate (%)	Total Funding for Types 1 & 2 in 2021
Genomics	425	1,455	41.3%	$258,794,586
Prevention	235	890	35.9%	$147,307,492
Biomarkers	444	1,804	32.7%	$262,423,993
Oncogenes	272	1,146	31.1%	$155,659,545
Early Detection	134	565	31.1%	$107,128,343
Obesity	49	228	27.4%	$42,819,961
Immunotherapy	472	2,214	27.1%	$242,725,038
Metastasis	419	1,982	26.8%	$222,277,119
Microbiome	52	262	24.8%	$39,576,183
Diagnosis	428	2,221	23.9%	$253,516,476
Therapy	1,299	7,344	21.5%	$588,570,667

Information Resources Management

The **Applied Information Systems Branch** (AISB) provides integrated computer support, information technology expertise, and information systems development for the DEA. The AISB maintains and monitors the DEA Internet and Intranet websites; designs, develops, and maintains Division- and extramural-specific software applications; administers and maintains DEA infrastructure and security; provides information technology service desk support; provides oversight of hardware and connectivity; coordinates National Board and Committee virtual meetings; 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 contract is coordinated by the AISB. The AISB has an IT service desk team to track staff requests, manage the Division's computer equipment inventory, and provide information systems, applications, and information technology-related training. The branch is integrated into the business operations of all aspects of the Division, supporting key activities with technological solutions and expertise. Specific projects utilizing the technologies and services provided by the AISB are described under the appropriate functions of the DEA throughout this report.

For FY2021, 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. The Division's unified information system, DEAIS, is undergoing independent Assessment and Authorization activities and updates and has achieved a conditional Authorization to Operate.
- **Infrastructure and Operations**—Achieved **greater than 97% systems availability**; upgraded numerous key components, such as hosting environments, data center cabling, databases, and systems utilities; completed integration of federated access controls.
- **Desktop and Mobile Support**—Provided remote service desk support for DEA staff; maintained the desktop and mobility hardware refresh program; coordinated with NCI CBIIT to conduct various technology pilot and early release projects.

Application Development Projects

- Installed an inventory application and database to support better information technology equipment life cycle management. The application is used by the service desk to manage all Division IT assets, from printers and desktops to peripherals.
- Managed and maintained the portfolio of more than 40 applications, utilities, and reporting tools through software development life cycle practices to support the Division's activities and mission. Each of the portfolio items is reviewed for maintenance, enhancement, replacement, or end-of-life action.
- Overall, there were more than 90 updates to applications and reporting tools and the supporting components. Numerous security, infrastructure, and host environment updates were made. Databases and application environments were upgraded and patched to maintain highest quality and security of information.
- Migrated application development tracking to a more robust and capable system (GitHub).

DEA Website Development and Maintenance

- Curated internal and public-facing web pages.
- Proposed and planned a next-generation digital information management system. Initiated review of existing system to identify key migration objectives.
- Instantiated a tracking system to improve digital information management. Greatly improved the accuracy and capability of information to track requests, changes, reviews, ownership, and results.

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

- Updated systems interconnections in support of eRA's cloud migration
- Collaborated with the Office of Budget and Finance to streamline the processing of contracts data
- Redesigned system components to improve data quality
- Implemented a user management module to improve system security
- Identified and corrected inconsistent coding rules
- Redesigned the process for indexing Cancer Center Support Grants (P30s)

AISB Staff Involvement

AISB staff represented the needs and concerns of DEA staff through active participation in the following groups: NCI Research Funding Ecosystem Initiative, Weekly GAO Audit Prep Team, CBIIT Next Gen Hosting Task Force, Software Licensing Management Workgroup, Office 365 Email to the Cloud group, Service Now SIG, NCI Informatics and IT Advisory Group (IITAG), NIH eRA Technical Users Group (eTUG).

Organizational Structure of the Division of Extramural Activities

Office of the Director (OD)

- 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**
Wlodek Lopaczynski, M.D., Ph.D. ..... Assistant Director
Ricardo Rawle ..... Special Assistant to the Director
Thu Nguyen ..... Program Analyst
Deneen Mattocks ..... Program Specialist
Peter Wirth, Ph.D. ..... Contractor

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 books, orientation documents, and annual reports.
- Maintains DEA facilities.

Ricardo Rawle ..... Lead Program Analyst
Clara Murphy* ..... Program Specialist
Javon Chery ..... Program Specialist
Adrian Bishop ..... Program Specialist
Robert Kruth ..... Program Assistant

* Passed away November 2020.

Committee Management Office (CMO), 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), Advisory Committee on Research on Women's Health (ACRWH), and the Novel and Exceptional Technology and Research Advisory Committee (NExTRAC), as well as to seven National Institute on Alcohol Abuse and Alcoholism (NIAAA) advisory committees, four National Institute on Drug Abuse (NIDA) advisory committees, and two National Institute on Minority Health and Health Disparities (NIMHD) 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 Research on Women's Health; Office of Science Policy; Office of the Director, National Institutes of Health; NIAAA; NIDA; and NIMHD.
- 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, General Services Administration, 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 study sections 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.

Joy Wiszneauckas ..... **Committee Management Officer**
Sondra Sheriff* ..... **Deputy Committee Management Officer**
Etsegenet Abebe ..... **Committee Management Specialist**
Shayla Beckham ..... **Committee Management Specialist**
Alonda Lord ..... **Committee Management Specialist**
Rosalind Niamke ..... **Committee Management Specialist**
Beverly Powell ..... **Committee Management Specialist**
Christine Skeens ..... **Program Analyst**
Cameron Stansbury ..... **Staff Assistant**
Margaret Vardanian ..... **Committee Management Assistant**

* Became Deputy CMO in November 2020.

Program and Review Extramural Staff Training Office (PRESTO)

- 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. ..... Associate Director
Scott Chen, Ph.D.* ..... Health Scientist Administrator
Ivan Ding, M.D. ..... Health Scientist Administrator
Denise Santeufemio ..... Program Analyst
Janet Craigie ..... Program Analyst
Sheila Hester ..... Program Analyst
Lauren McLaughlin ..... Program Specialist

* Moved to PCRB in September 2021.

Office of Referral, Review, and Program Coordination (ORRPC)

- 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
Linda Brown ..... Secretary
Darnett Miller ..... Program Specialist
Paul Gallourakis* ..... Program Specialist
Kathy Tiong ..... Program Analyst**

* Joined from RTCRB in January 2021.
** Moved to RPRB in November 2020.

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 SROs and other support staff to manage 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.

David Ransom, Ph.D. ..... Chief
LT Robert Gahl, Ph.D.* ..... Scientific Review Officer
Hasan Siddiqui, Ph.D. ..... Scientific Review Officer
Sage Kim, Ph.D. ..... Scientific Review Officer
Timothy Meeker, M.D. ..... Scientific Review Officer
Ombretta Salvucci, Ph.D. ..... Scientific Review Officer
Cliff Schweinfest, Ph.D. ..... Scientific Review Officer
Shree Ram Singh, Ph.D. ..... Scientific Review Officer
Zhiqiang Zou, Ph.D. ..... Scientific Review Officer
Imela Gradington-Jones ..... Program Specialist
Julia Lee ..... Staff Assistant**
Micah Traurig ..... Staff Assistant

* Joined in January 2021.
** Joined in March 2021.

Research Technology and Contracts 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 SROs and other support staff for 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.

Shakeel Ahmad, Ph.D. ..... Chief
Eduardo Chufan, Ph.D. ..... Scientific Review Officer
Jeffrey DeClue, Ph.D. ..... Scientific Review Officer
Jun Fang, Ph.D. ..... Scientific Review Officer
Reed Graves, Ph.D.* ..... Scientific Review Officer
Nadeem Khan, Ph.D. ..... Scientific Review Officer
Susan Spence, Ph. D.# ..... Scientific Review Officer
Shuli Xia, Ph.D.# ..... Scientific Review Officer
Paul Gallourakis ..... Program Analyst**
Hanh "Julie" Hoang ..... Program Specialist

* Retired in January 2021.
** Moved to ORRPC in January 2021.
# Joined in June 2021.

Program Coordination and Referral Branch (PCRB)

- 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 for posting and availability 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 58 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 and Research Enhancement Award Program (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*
Scott Chen, Ph.D. ..... Chief**
Kamal Datta, M.D. ..... RFA/PA Coordinator, Scientific Review Officer (SRO)
Shannon Doyle, Ph.D. ..... Referral Officer, NCI/NIH Referral Liaison, SRO
Anandarup Gupta, Ph.D. ..... RFA/PA Coordinator, SRO
Jeanette I. Marketon, Ph.D. ..... Referral Officer, NCI/NIH Referral Liaison, SRO
Biman Paria, Ph.D. ..... Referral Officer, NCI/NIH Referral Liaison, SRO
Natacha P. Lassègue ..... Program Analyst
Quynh-Tram Chiaramonte ..... Program Specialist

* Retired in June 2021.
** Appointed Chief in September 2021, joined from PRESTO.

Research Programs Review Branch (RPRB)

- 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
Wlodek Lopaczynski, M.D., Ph.D. ..... Acting Chief**
Paul Cairns, Ph.D. ..... Scientific Review Officer
Majed Hamawy, Ph.D., M.B.A. ..... Scientific Review Officer
Michael Lindquist, Ph.D. ..... Scientific Review Officer
Klaus Piontek, Ph.D. ..... Scientific Review Officer
Anita Tandle, Ph.D. ..... Scientific Review Officer
Mukesh Kumar, Ph.D. ..... Scientific Review Officer
Kathy Tiong ..... Program Analyst

* Retired in June 2021.
** Became Acting Chief in July 2021.

Resources and Training Review Branch (RTRB)

- 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, and 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 NIH Center for Scientific Review.

Caterina Bianco Ph.D. ..... Chief
Shari Campbell, D.P.M., M.S.H.S. ..... Scientific Review Officer
Eun Ah Cho, Ph.D. ..... Scientific Review Officer
Tushar Deb, Ph.D. ..... Scientific Review Officer
Byeong-Chel Lee, Ph.D. ..... Scientific Review Officer
Adriana Stoica, Ph.D. ..... Scientific Review Officer
Delia Tang, M.D. ..... Scientific Review Officer
Donnell Wilson ..... Program Analyst
Linda Edwards ..... Staff Assistant
Bridgette Wilson ..... Staff Assistant

Office of Extramural Applications

- Evaluates, plans, and acquires necessary Information Technology (IT) solutions for all business activities of the Division. Manages and monitors IT contracts within the Division.
- Coordinates and collaborates with the NIH Center for Information Technology (CIT), the NCI Center for Biomedical Informatics and Information Technology (CBIIT), and other entities for various IT-related activities.
- Collaborates with the DEA Office of the Director (OD) and the Committee Management Office (CMO) on various activities related to the NCI Advisory Boards.
- Coordinates activities of the Applied Information Systems Branch (AISB) to evaluate new technologies, desktop and mobile support, user training, server administration, and system application design, development, and maintenance, as well as to conduct necessary audit, planning, and risk assessment to meet the requirements set by the Standards for Security Categorization of Federal and Information Systems.
- Coordinates activities of the Research Analysis and Evaluation Brach (RAEB) to provide budget-linked research portfolio data from NCI grants, cooperative agreements, and contracts for the NCI Office of Budget and Finance (OBF) and other entities, as well as to coordinate 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.

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

Technical Operations, Inquiry, and Reporting

- Provides specialized data querying, archiving, and reporting functions for the Division and the Institute.
- Coordinates Institute data reporting with the NCI Office of Budget and Financial Management, NIH Population Tracking and Inclusion Committee, and others.
- Answers inquiries from 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 of 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 on the Office of Communications and Education Steering Committee.

Marilyn Gaston .....Lead Biologist/Team Leader
William Clark, M.S. .....Biologist

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.
- Coordinates, conducts, and maintains the development and deployment of specialized software and databases systems for the Division 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); and the IMPAC II and NIH eRA (electronic Research Administration) staff and systems.
- Supports connectivity, design, and maintenance of the DEA Internet and Intranet websites and applications.
- Administers and monitors the IT support contract to provide design, development, and maintenance for Division information systems.
- Formulates and establishes the DEA-specific office automation policy.
- Provides desktop support and technology refresh for the Division and conducts training for the DEA IT applications.
- Coordinates general user support and training with NCI and NIH services. Co-leads or participates in Program and Review Extramural Staff Training Office (PRESTO) training sessions.
- Provides Division-specific video teleconferencing, audiovisual services, and application support for review and National Board and Committee activities.
- Conducts continuous security monitoring and implementation of Federal Information Systems Management Act (FISMA) practices and procedures for the Division's information system. Conducts security activities and reporting to maintain the DEA Information System (DEAIS) Federal Authorization to Operate (ATO).

Todd Hardin ..... Chief

Application Development and Information Security Team

- Analyzes and coordinates life-cycle software development for the Division.
- Develops, designs, and maintains applications to support the Division's business processes.
- Develops, administers, and monitors contracts for acquisition, support, and maintenance of the Division's information systems.
- Formulates system development policy and oversees eRA/IMPAC II operations for the Division.
- Coordinates internal user groups and training for specific DEA applications.
- Aligns Division information security policies and practices with NIH and other applicable Federal requirements. Coordinate with NCI and NIH security offices to maintain operational status at or above standards.
- Oversees implementation of the security activities of the Division's information technology assets, from desktop to infrastructure and systems components.
- Authors and maintains required Assessment and Authorization (AA) documentation.

Gary Geiglein*..... Team Leader
Teresa Park ..... Information Technology Specialist
Vivien Yeh ..... Information Technology Specialist

* Joined in February 2021.

Information Management Team

- Designs and maintains the Division's Intranet and Internet websites, 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 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
Harry Chauhan ..... Information Technology Specialist
Joe Gibbs ..... Information Technology Specialist

Operations Team

- Administers and maintains the Division's server infrastructure in support of DEA applications, databases, and websites.
- Conducts configuration management in accordance with Federal cybersecurity policies and regulations.
- Coordinates network connectivity for the Division with NCI-CBIIT.
- Researches and recommends IT-related equipment, service, and support for the Division.
- Provides end-to-end technical service and IT service desk support for desktop and laptop computers, mobility solutions, office automation products, and licensed software applications.
- Acquires and administers the Division's information technology assets—computer hardware, software, mobility solutions, IT maintenance contracts, 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.
- Supports National Board meeting technological needs.

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 FY2021

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center
10/14/2020	CA20-050	U24	New Cohorts for Environmental Exposures and Cancer Risk (CEECR) Coordinating Center (U24 Clinical Trial Not Allowed)	DCCPS
	CA20-049	UG3, UH3	New Cohorts for Environmental Exposures and Cancer Risk (CEECR; UG3/UH3 Clinical Trial Not Allowed)	
10/16/2020	CA20-054	U01	Collaborative Approaches to Engineer Biology for Cancer Applications (U01 Clinical Trial Not Allowed)	CSSI
10/28/2020	CA20-055	K99, R00	NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 – Independent Basic Experimental Studies with Humans Required)	CCT
	CA20-056	K99, R00	NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 Independent Clinical Trial Not Allowed)	
	CA20-057	K99, R00	NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 Independent Clinical Trial Required)	
11/20/2020	CA21-006	R33	Advanced Development and Validation of Emerging Biospecimen Science Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)	CSSI
	CA21-003	R21	Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)	
	CA21-005	R21	Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)	
	CA21-004	R33	Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)	
11/24/2020	CA21-008	U01	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (U01 Clinical Trial Optional)	CSSI
	CA21-009	U54	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (U54 Clinical Trial Optional)	
	CA21-010	U2C	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (U2C Clinical Trial Optional)	
	CA21-011	P01	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (P01 Clinical Trial Optional)	
	CA21-007	R01	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (R01 Clinical Trial Optional)	
	CA21-012	P50	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (P50 Clinical Trial Optional)	
11/25/2020	CA21-001	R42	Small Business Transition Grant for Early Career Scientists (R42 Clinical Trial Not Allowed)	SBIR
12/02/2020	CA21-019	U24	Revision Applications to Support the Application of Informatics Technology for Cancer Research (U24 Clinical Trial Optional)	CSSI
	CA21-015	U24	Advanced Development of Informatics Technologies for Cancer Research and Management (U24 Clinical Trial Optional)	
	CA21-018	U01	Revision Applications to Support the Application of Informatics Technology for Cancer Research (U01 Clinical Trials Optional)	
	CA21-017	R01	Revision Applications to Support the Application of Informatics Technology for Cancer Research (R01 Clinical Trials Optional)	
	CA21-014	U01	Early-Stage Development of Informatics Technologies for Cancer Research and Management (U01 Clinical Trial Optional)	
	CA21-013	R21	Development of Innovative Informatics Methods and Algorithms for Cancer Research and Management (R21 Clinical Trial Optional)	
	CA21-016	U24	Sustained Support for Informatics Technologies for Cancer Research and Management (U24 Clinical Trial Optional)	

continued

Source: Office of Referral, Review, and Program Coordination.

Table 1a (cont'd). Requests for Applications (RFAs) Published by the NCI in FY2021

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center
12/09/2020	CA21-002	U54	Cellular Cancer Biology Imaging Research (CCBIR) Program (U54, Clinical Trial Not Allowed)	CCT
02/19/2021	CA21-030	U01	Cancer Prevention, Detection, Diagnosis, and Treatment Technologies for Global Health (U01 Clinical Trial Optional)	CGH
03/25/2021	CA21-036	R44	SBIR Phase IIB Bridge Awards to Accelerate the Development of Cancer-Relevant Technologies Toward Commercialization (R44 Clinical Trial Optional)	SBIR
04/05/2021	CA21-025	U01	Proteogenomic Translational Research Centers (PTRCs) for Clinical Proteomic Tumor Analysis Consortium (U01 Clinical Trial Not Allowed)	DCTD
	CA21-024	U24	Proteogenomic Data Analysis Centers (PGDACs) for Clinical Proteomic Tumor Analysis Consortium (U24 Clinical Trial Not Allowed)	
	CA21-023	U24	Proteome Characterization Centers (PCCs) for Clinical Proteomic Tumor Analysis Consortium (U24 Clinical Trial Not Allowed)	
04/08/2021	CA21-029	P50	Centers on Telehealth Research for Cancer-Related Care (P50 Clinical Trial Required)	DCCPS
04/14/2021	CA21-037	UH2	3D Technologies to Accelerate HTAN Atlas Building Efforts (UH2 Clinical Trial Not Allowed)	DCB DCTD DCP
05/03/2021	CA21-032	U24	Coordinating Center for Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes (ENICTO) in Cancer Survivors Consortium (U24 Clinical Trial Not Allowed)	DCCPS
	CA21-031	U01	Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes (ENICTO) in Cancer Survivors Consortium (U01 Clinical Trial Required)	
06/01/2021	CA21-035	U2C	The Early Detection Research Network: Biomarker Characterization Centers (U2C Clinical Trial Not Allowed)	DCP
	CA21-034	U24	The Early Detection Research Network: Data Management and Coordinating Center (U24 Clinical Trial Not Allowed)	
	CA21-033	U01	The Early Detection Research Network: Clinical Validation Centers (U01 Clinical Trial Optional)	
06/24/2021	CA21-040	U54	Radiation Oncology-Biology Integration Network (ROBIN) Centers (U54 Clinical Trial Required)	DCTD
06/25/2021	CA21-027	U24	Coordinating Center for the Program on the Origins of Gastroesophageal Cancers (U24 Clinical Trial Not Allowed)	DCB
	CA21-026	R01	Program on the Origins of Gastroesophageal Cancers (R01 Clinical Trial Optional)	
07/06/2021	CA21-021	U01	Metabolic Dysregulation and Cancer Risk Program, Research Grants: A Transdisciplinary Approach to Obesity-Associated Research (U01 Clinical Trial Optional)	DCCPS DCB DCP
	CA21-022	U24	Coordinating Center for the Metabolic Dysregulation and Cancer Risk Program: A Transdisciplinary Approach to Obesity-Associated Cancer Research (U24 Clinical Trial Not Allowed)	DCCPS
07/15/2021	CA21-038	U54	Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Centers (U54 Clinical Trial Not Allowed)	DCP
	CA21-039	U24	Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Data and Resource Coordination Center (CAP-IT DRCC) (U24 Clinical Trial Not Allowed)	

continued

Source: Office of Referral, Review, and Program Coordination.

Table 1a (cont'd). Requests for Applications (RFAs) Published by the NCI in FY2021

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center
07/26/2021	CA21-042	U24	Pancreatic Ductal Adenocarcinoma Stromal Reprogramming Consortium Coordinating and Data Management Center (PSRC CDMC) (U24 Clinical Trial Not Allowed)	DCB DCTD
	CA21-041	U01	Pancreatic Ductal Adenocarcinoma (PDAC) Stromal Reprogramming Consortium (PSRC) (U01 Clinical Trial Not Allowed)	
07/27/2021	CA21-051	U24	Coordinating Center for Canine Cancer Immunotherapy Network (K9CIN; U24 Clinical Trial Not Allowed)	DCTD
	CA21-050	U01	Canine Cancer Immunotherapy Network (K9CIN; U01 Clinical Trial Not Allowed)	
07/28/2021	CA21-048	U54	Research Centers for Cancer Systems Biology (U54 Clinical Trial Not Allowed)	DCB
07/29/2021	CA21-049	U24	Division of Cancer Biology Multi-Consortia Coordinating Center (U24 Clinical Trial Not Allowed)	DCB
08/03/2021	CA21-052	U54	Acquired Resistance to Therapy Network (ARTNet; U54 Clinical Trial Not Allowed)	DCTD DCB
	CA21-053	U24	Coordinating and Data Management Center for Acquired Resistance to Therapy Network (ARTNet; U24 Clinical Trial Not Allowed)	
08/25/2021	CA21-056	U01	Implementation Science for Cancer Control in People Living with HIV in Low- and Middle-Income Countries (U01 Clinical Trial Optional)	CGH
08/31/2021	CA21-055	U24	Translational and Basic Science Research in Early Lesions (TBEL) Coordinating and Data Management Center (U24 Clinical Trial Not Allowed)	DCP DCB
	CA21-054	U54	Translational and Basic Science Research in Early Lesions (TBEL) (U54 Clinical Trial Not Allowed)	
09/01/2021	CA21-057	U01	A Multilevel Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT U01 Clinical Trial Not Allowed)	CRCHD
	CA21-058	U24	Data, Evaluation, and Coordinating Center for: A Multilevel Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT) (U24 Clinical Trial Not Allowed)	
	CA21-020	R25	National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed)	
09/22/2021	CA21-059	F99, K00	The NCI Predoctoral to Postdoctoral Fellow Transition Award (F99/K00 Clinical Trial Not Allowed)	CCT

Source: Office of Referral, Review, and Program Coordination.

Table 1b. Requests for Applications (RFAs) Published by the NCI in FY2021

Sorted by Division, Office, and Center

Division, Office, and Center	RFA	Mechanism	Title	Date of Publication
CCT	CA20-055	K99, R00	NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 – Independent Basic Experimental Studies with Humans Required)	10/28/2020
	CA20-056	K99, R00	NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 Independent Clinical Trial Not Allowed)	10/28/2020
	CA20-057	K99, R00	NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 Independent Clinical Trial Required)	10/28/2020
	CA21-002	U54	Cellular Cancer Biology Imaging Research (CCBIR) Program (U54 Clinical Trial Not Allowed)	12/09/2020
	CA21-059	F99, K00	The NCI Predoctoral to Postdoctoral Fellow Transition Award (F99/K00 Clinical Trial Not Allowed)	09/22/2021
CGH	CA21-030	U01	Cancer Prevention, Detection, Diagnosis, and Treatment Technologies for Global Health (U01 Clinical Trial Optional)	02/19/2021
	CA21-056	U01	Implementation Science for Cancer Control in People Living with HIV in Low- and Middle-Income Countries (U01 Clinical Trial Optional)	08/25/2021
CRCHD	CA21-057	U01	A Multilevel Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT; U01 Clinical Trial Not Allowed)	09/01/2021
	CA21-058	U24	Data, Evaluation, and Coordinating Center for: A Multilevel Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT) (U24 Clinical Trial Not Allowed)	
	CA21-020	R25	National Cancer Institute Youth Enjoy Science Research Education Program (R25 Clinical Trial Not Allowed)	
CSSI	CA20-054	U01	Collaborative Approaches to Engineer Biology for Cancer Applications (U01 Clinical Trial Not Allowed)	10/16/2020
	CA21-006	R33	Advanced Development and Validation of Emerging Biospecimen Science Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)	11/20/2020
	CA21-003	R21	Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)	11/20/2020
	CA21-005	R21	Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)	11/20/2020
	CA21-004	R33	Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)	11/20/2020
	CA21-008	U01	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (U01 Clinical Trial Optional)	11/24/2020
	CA21-009	U54	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (U54 Clinical Trial Optional)	11/24/2020
	CA21-010	U2C	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (U2C Clinical Trial Optional)	11/24/2020
	CA21-011	P01	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (P01 Clinical Trial Optional)	11/24/2020
	CA21-007	R01	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (R01 Clinical Trial Optional)	11/24/2020
	CA21-012	P50	Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (P50 Clinical Trial Optional)	11/24/2020

continued

Source: Office of Referral, Review, and Program Coordination.

Table 1b (cont'd). Requests for Applications (RFAs) Published by the NCI in FY2021

Sorted by Division, Office, and Center

Division, Office, and Center	RFA	Mechanism	Title	Date of Publication
CSSI (continued	CA21-019	U24	Revision Applications to Support the Application of Informatics Technology for Cancer Research (U24 Clinical Trial Optional)	12/02/2020
	CA21-015	U24	Advanced Development of Informatics Technologies for Cancer Research and Management (U24 Clinical Trial Optional)	
	CA21-018	U01	Revision Applications to Support the Application of Informatics Technology for Cancer Research (U01 Clinical Trials Optional)	
	CA21-017	R01	Revision Applications to Support the Application of Informatics Technology for Cancer Research (R01 Clinical Trials Optional)	
	CA21-014	U01	Early-Stage Development of Informatics Technologies for Cancer Research and Management (U01 Clinical Trial Optional)	
	CA21-013	R21	Development of Innovative Informatics Methods and Algorithms for Cancer Research and Management (R21 Clinical Trial Optional)	
	CA21-016	U24	Sustained Support for Informatics Technologies for Cancer Research and Management (U24 Clinical Trial Optional)	
DCB	CA21-048	U54	Research Centers for Cancer Systems Biology (U54 Clinical Trial Not Allowed)	07/28/2021
	CA21-049	U24	Division of Cancer Biology Multi-Consortia Coordinating Center (U24 Clinical Trial Not Allowed)	07/29/2021
	CA21-027	U24	Coordinating Center for the Program on the Origins of Gastroesophageal Cancers (U24 Clinical Trial Not Allowed)	06/25/2021
	CA21-026	R01	Program on the Origins of Gastroesophageal Cancers (R01 Clinical Trial Optional)	06/25/2021
DCB DCP	CA21-055	U24	Translational and Basic Science Research in Early Lesions (TBEL) Coordinating and Data Management Center (U24 Clinical Trial Not Allowed)	08/31/2021
	CA21-054	U54	Translational and Basic Science Research in Early Lesions (TBEL) (U54 Clinical Trial Not Allowed)	
DCB DCTD	CA21-042	U24	Pancreatic Ductal Adenocarcinoma Stromal Reprogramming Consortium Coordinating and Data Management Center (PSRC CDMC) (U24 Clinical Trial Not Allowed)	07/26/2021
	CA21-041	U01	Pancreatic Ductal Adenocarcinoma (PDAC) Stromal Reprogramming Consortium (PSRC) (U01 Clinical Trial Not Allowed)	
	CA21-052	U54	Acquired Resistance to Therapy Network (ARTNet; U54 Clinical Trial Not Allowed)	08/03/2021
	CA21-053	U24	Coordinating and Data Management Center for Acquired Resistance to Therapy Network (ARTNet; U24 Clinical Trial Not Allowed)	
DCB DCTD DCP	CA21-037	UH2	3D Technologies to Accelerate HTAN Atlas Building Efforts (UH2 Clinical Trial Not Allowed)	04/14/2021

continued

Source: Office of Referral, Review, and Program Coordination.

Table 1b (cont'd). Requests for Applications (RFAs) Published by the NCI in FY2021

Sorted by Division, Office, and Center

Division, Office, and Center	RFA	Mechanism	Title	Date of Publication
DCCPS	CA20-050	U24	New Cohorts for Environmental Exposures and Cancer Risk (CEECR) Coordinating Center (U24 Clinical Trial Not Allowed)	10/14/2020
	CA20-049	UG3, UH3	New Cohorts for Environmental Exposures and Cancer Risk (CEECR; UG3/UH3 Clinical Trial Not Allowed)	10/14/2020
	CA21-029	P50	Centers on Telehealth Research for Cancer Related Care (P50 Clinical Trial Required)	04/08/2021
	CA21-032	U24	Coordinating Center for Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes (ENICTO) in Cancer Survivors Consortium (U24 Clinical Trial Not Allowed)	05/03/2021
	CA21-031	U01	Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes (ENICTO) in Cancer Survivors Consortium (U01 Clinical Trial Required)	05/03/2021
	CA21-022	U24	Coordinating Center for the Metabolic Dysregulation and Cancer Risk Program: A Transdisciplinary Approach to Obesity-Associated Cancer Research (U24 Clinical Trial Not Allowed)	07/06/2021
DCCPS DCB DCP	CA21-021	U01	Metabolic Dysregulation and Cancer Risk Program, Research Grants: A Transdisciplinary Approach to Obesity-Associated Research (U01 Clinical Trial Optional)	07/06/2021
DCP	CA21-035	U2C	The Early Detection Research Network: Biomarker Characterization Centers (U2C Clinical Trial Not Allowed)	06/01/2021
	CA21-034	U24	The Early Detection Research Network: Data Management and Coordinating Center (U24 Clinical Trial Not Allowed)	06/01/2021
	CA21-033	U01	The Early Detection Research Network: Clinical Validation Centers (U01 Clinical Trial Optional)	06/01/2021
	CA21-038	U54	Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Centers (U54 Clinical Trial Not Allowed)	07/15/2021
	CA21-039	U24	Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT) Data and Resource Coordination Center (CAP-IT DRCC) (U24 Clinical Trial Not Allowed)	07/15/2021
DCTD	CA21-025	U01	Proteogenomic Translational Research Centers (PTRCs) for Clinical Proteomic Tumor Analysis Consortium (U01 Clinical Trial Not Allowed)	04/05/2021
	CA21-024	U24	Proteogenomic Data Analysis Centers (PGDACs) for Clinical Proteomic Tumor Analysis Consortium (U24 Clinical Trial Not Allowed)	04/05/2021
	CA21-023	U24	Proteome Characterization Centers (PCCs) for Clinical Proteomic Tumor Analysis Consortium (U24 Clinical Trial Not Allowed)	04/05/2021
	CA21-040	U54	Radiation Oncology-Biology Integration Network (ROBIN) Centers (U54 Clinical Trial Required)	06/24/2021
	CA21-051	U24	Coordinating Center for Canine Cancer Immunotherapy Network (K9CIN; U24 Clinical Trial Not Allowed)	07/27/2021
	CA21-050	U01	Canine Cancer Immunotherapy Network (K9CIN; U01 Clinical Trial Not Allowed)	07/27/2021
SBIR	CA21-001	R42	Small Business Transition Grant for Early Career Scientists (R42 Clinical Trial Not Allowed)	11/25/2020
	CA21-036	R44	SBIR Phase IIB Bridge Awards to Accelerate the Development of Cancer-Relevant Technologies Toward Commercialization (R44 Clinical Trial Optional)	03/25/2021

Source: Office of Referral, Review, and Program Coordination.

Table 2. NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2021

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center	Issuing NIH IC
02/17/2021	OD21-002	R01	Tobacco Regulatory Science (R01 Clinical Trial Optional)	DCCPS	NIH
03/10/2021	OD21-004	R21	Maximizing the Scientific Value of Existing Biospecimen Collections (R21 Clinical Trial Not Allowed)	DCCPS	NIH
	OD21-003	R21	Secondary Analyses of Existing Datasets of Tobacco Use and Health (R21 Clinical Trial Not Allowed)		
03/15/2021	OD21-005	R25	Short Courses on Innovative Methodologies and Approaches in the Behavioral and Social Sciences (R25 – Independent Clinical Trial Not Allowed)	CCT	NIH
03/23/2021	MD21-004	R01	Understanding and Addressing the Impact of Structural Racism and Discrimination on Minority Health and Health Disparities (R01 Clinical Trial Optional)	DCCPS	NIH
03/26/2021	TW21-002	U2R	Hubs of Interdisciplinary Research and Training in Global Environmental and Occupational Health (GEOHealth) Research Training (Collaborative U2R Clinical Trial Optional)	DCCPS	NIH
	TW21-001	U01	Hubs of Interdisciplinary Research and Training in Global Environmental and Occupational Health (GEOHealth) Research (Collaborative U01 Clinical Trial Optional)		
04/13/2021	OD21-008	U01	Emergency Awards: Community-Engaged COVID-19 Testing Interventions Among Underserved and Vulnerable Populations RADx-UP Phase II (U01 Clinical Trial Optional)	CSSI	NIH
	OD21-009	U01	Emergency Award: RADx-UP – Social, Ethical, and Behavioral Implications (SEBI) Research on Disparities in COVID-19 Testing Among Underserved and Vulnerable Populations (U01 Clinical Trials Optional)		
04/16/2021	OD21-006	K12	Building Interdisciplinary Research Careers in Women's Health Program (BIRCWH) (K12 Clinical Trial Optional)	CCT	NIH
05/19/2021	TW21-004	D43	Launching Future Leaders in Global Health (LAUNCH) Research Training Program (D43 Clinical Trial Optional)	CGH	NIH
06/28/2021	DE22-004	R21	Understanding Oral Human Papillomavirus (HPV) Infection, Acquisition, and Persistence in People Living with HIV (R21 Clinical Trial Not Allowed)	OHAM	NIH
06/29/2021	DE22-003	R01	Understanding Oral Human Papillomavirus (HPV) Infection, Acquisition, and Persistence in People Living with HIV (R01 Clinical Trial Not Allowed)	OHAM	NIH
08/31/2021	HG21-036	UM1	Limited Competition: Knockout Mouse Production and Phenotyping Project (UM1 Clinical Trial Not Allowed)	DCB	NIH
	HG21-037	UM1	Limited Competition: Knockout Mouse Phenotyping Project Data Coordination Center and Database (UM1 Clinical Trial Not Allowed)		
09/24/2021	OD21-007	R21	INvestigation of Co-occurring conditions across the Lifespan to Understand Down syndromE (INCLUDE) Exploratory/ Developmental Research Grant Award (R21 Clinical Trial Not Allowed)	DCB	NIH
12/08/2020	RM20-022	U54	NIH Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program: FIRST Cohort (U54 Clinical Trial Optional)	CRCHD	NIH
07/12/2021	RM21-025	U54	NIH Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program: FIRST Cohort (U54 Clinical Trial Optional)	CRCHD	NIH

continued

Source: Office of Referral, Review, and Program Coordination.

Table 2 (cont'd). NCI Participation in Trans-NIH Requests for Applications (RFAs) in FY2021

Sorted by Date of Publication

Date of Publication	RFA	Mechanism	Title	Division, Office, and Center	Issuing NIH IC
01/08/2021	RM21-010	U24	Cellular Senescence Network: Consortium Organization and Data Coordinating Center (U24 Clinical Trial Not Allowed)	DCB	NIH
10/13/2020	ES20-018	R01	Utilizing *In Vitro* Functional Genomics Advances for Gene–Environment (G x E) Discovery and Validation (R01 Clinical Trial Not Allowed)	DCCPS	NIH
01/21/2021	RM21-002	U24	Nutrition for Precision Health, powered by the *All of Us* Research Program: Metabolomics and Clinical Assays Center (U24 Clinical Trial Not Allowed)	DCCPS	NIH
	RM21-004	U24	Nutrition for Precision Health, powered by the *All of Us* Research Program: Dietary Assessment Center (U24 Clinical Trial Optional)		
03/05/2021	RM21-001	U54	Nutrition for Precision Health, powered by the *All of Us* Research Program: Artificial Intelligence for Multimodal Data Modeling and Bioinformatics Center (U54 Clinical Trial Not Allowed)	DCTD	NIH
07/09/2021	HG21-001	R01	Technology Development for Single-Molecule Protein Sequencing (R01 Clinical Trial Not Allowed)	DCTD	NIH

Source: Office of Referral, Review, and Program Coordination.

Table 3a. Program Announcements (PAs) Published by the NCI in FY2021

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
10/13/2020	PAR20-313	UH2, UH3	Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH2/UH3 Clinical Trial Not Allowed)	ALL DIVISIONS
	PAR20-314	UH3	Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH3 Clinical Trials Not Allowed)	
11/10/2020	PAR21-035	R01	Cancer Prevention and Control Clinical Trials Grant Program (R01 Clinical Trial Required)	DCCPS DCP
11/12/2020	PAR21-033	R01	National Cancer Institute's Investigator-Initiated Early Phase Clinical Trials for Cancer Treatment and Diagnosis (R01 Clinical Trial Required)	ALL DIVISIONS
11/17/2020	PAR21-065	R25	Cancer Research Education Grants Program – Curriculum or Methods Development (R25 Clinical Trial Not Allowed)	CCT
	PAR21-067	R25	Cancer Research Education Grants Program – Research Experiences (R25 Clinical Trial Not Allowed)	
	PAR21-066	R25	Cancer Research Education Grants Program – Courses for Skills Development (R25 Clinical Trial Not Allowed)	
03/12/2021	PAR21-190	R01	Modular R01s in Cancer Control and Population Sciences (R01 Clinical Trial Optional)	DCCPS
03/15/2021	PAR21-111	K22	The NCI Transition Career Development Award (K22 Independent Clinical Trial Required)	CCT
	PAR21-318	K22	The NCI Transition Career Development Award (K22 Independent Basic Experimental Studies with Humans Required)	
	PAR21-128	K22	The NCI Transition Career Development Award (K22 Independent Clinical Trial Not Allowed)	
03/18/2021	PAR21-061	R21	Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research (R21 Clinical Trial Not Allowed)	CRCHD DCB
03/25/2021	PAR21-206	R01	Academic–Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01 Clinical Trial Optional)	DCTD
	PAR21-166	R01	Academic–Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01 Clinical Trial Not Allowed)	
06/07/2021	PAR21-138	444	Method to Extend Research in Time (MERIT) Award Extension Request (Type 4 Clinical Trial Optional)	ALL DIVISIONS
07/12/2021	PAR21-274	U01	Cancer Target Discovery and Development (CTD2) (U01 Clinical Trial Not Allowed)	CCG
07/21/2021	PAR21-285	R50	NCI Research Specialist (Laboratory-Based Scientist) Award (R50 Clinical Trial Not Allowed)	CSSI
07/22/2021	PAR21-290	R01	Integration of Imaging and Fluid-Based Tumor Monitoring in Cancer Therapy (R01 Clinical Trial Optional)	DCTD
	PAR21-294	R01	Molecular Imaging of Inflammation in Cancer (R01 Clinical Trial Not Allowed)	
07/23/2021	PAR21-286	R50	NCI Research Specialist (Core-Based Scientist) Award (R50 Clinical Trial Not Allowed)	CSSI
08/20/2021	PAR21-306	R50	NCI Research Specialist (Clinician Scientist) Award (R50 Clinical Trial Not Allowed)	CRCHD

continued

Source: Office of Referral, Review, and Program Coordination.

Table 3a (cont'd). Program Announcements (PAs) Published by the NCI in FY2021

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center
08/26/2021	PAR21-278	R25	Cancer Research Education Grants Program – Courses for Skills Development (R25 Clinical Trial Not Allowed)	CCT
	PAR21-279	R25	Cancer Research Education Grants Program – Research Experiences (R25 Clinical Trial Not Allowed)	
08/31/2021	PAR21-296	K01	NCI Mentored Research Scientist Development Award to Promote Diversity (K01 Clinical Trial Required)	CRCHD
	PAR21-295	K01	NCI Mentored Research Scientist Development Award to Promote Diversity (K01 Independent Clinical Trial Not Allowed)	
09/02/2021	PAR21-324	R03	Basic Research in Cancer Health Disparities (R03 Clinical Trial Not Allowed)	ALL DIVISIONS
	PAR21-322	R01	Basic Research in Cancer Health Disparities (R01 Clinical Trial Not Allowed)	
	PAR21-323	R21	Basic Research in Cancer Health Disparities (R21 Clinical Trial Not Allowed)	
09/03/2021	PAR21-332	R21	Mechanisms That Impact Cancer Risk After Bariatric Surgery (R21 Clinical Trial Not Allowed)	DCB DCP
	PAR21-331	R01	Mechanisms That Impact Cancer Risk After Bariatric Surgery (R01 Clinical Trial Optional)	
09/08/2021	PAR21-330	U01	Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Detection Research (U01 Clinical Trial Not Allowed)	DCP
09/10/2021	PAR21-302	K22	NCI Transition Career Development Award to Promote Diversity (K22 Clinical Trial Required)	CRCHD
	PAR21-301	K22	NCI Transition Career Development Award to Promote Diversity (K22 Independent Clinical Trial Not Allowed)	
	PAR21-300	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 Independent Clinical Trial Not Allowed)	
	PAR21-299	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 Clinical Trial Required)	
09/16/2021	PAR21-334	U01	Pancreatic Cancer Detection Consortium: Research Units (U01 Clinical Trial Optional)	DCP
	PAR21-335	U24	Pancreatic Cancer Detection Consortium: Management and Data Coordination Unit (U24 Clinical Trial Not Allowed)	
09/20/2021	PAR21-333	R35	NCI Outstanding Investigator Award (R35 Clinical Trial Not Allowed)	CSSI
09/22/2021	PAR21-329	R01	Clinical Characterization of Cancer Therapy-Induced Adverse Sequelae and Mechanism-Based Interventional Strategies (R01 Clinical Trial Optional)	DCCPS DCP
09/27/2021	PAR21-348	U01	The Role of Epstein-Barr Virus (EBV) Infection in Non-Hodgkin Lymphoma (NHL) and Hodgkin Disease (HD) Development with or Without an Underlying HIV Infection (U01 Clinical Trial Optional)	DCB
09/29/2021	PAR21-346	U24	Limited Competition: Coordinating Center (CC) for the Small Cell Lung Cancer (SCLC) Consortium (U24 Clinical Trial Not Allowed)	DCTD

Source: Office of Referral, Review, and Program Coordination.

Table 3b. Program Announcements (PAs) Published by the NCI in FY2021

Sorted by Division, Office, and Center

Division, Office, and Center	PA/PAR	Mechanism	Title	Date of Publication
ALL DIVISIONS	PAR20-313	UH2, UH3	Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH2/UH3 Clinical Trial Not Allowed)	10/13/2020
	PAR20-314	UH3	Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH3 Clinical Trials Not Allowed)	
	PAR21-033	R01	National Cancer Institute's Investigator-Initiated Early Phase Clinical Trials for Cancer Treatment and Diagnosis (R01 Clinical Trial Required)	11/12/2020
	PAR21-138	444	Method to Extend Research in Time (MERIT) Award Extension Request (Type 4 Clinical Trial Optional)	06/07/2021
	PAR21-324	R03	Basic Research in Cancer Health Disparities (R03 Clinical Trial Not Allowed)	09/02/2021
	PAR21-322	R01	Basic Research in Cancer Health Disparities (R01 Clinical Trial Not Allowed)	
	PAR21-323	R21	Basic Research in Cancer Health Disparities (R21 Clinical Trial Not Allowed)	
CCG	PAR21-274	U01	Cancer Target Discovery and Development (CTD2) (U01 Clinical Trial Not Allowed)	07/12/2021
CCT	PAR21-065	R25	Cancer Research Education Grants Program – Curriculum or Methods Development (R25 Clinical Trial Not Allowed)	11/17/2020
	PAR21-067	R25	Cancer Research Education Grants Program – Research Experiences (R25 Clinical Trial Not Allowed)	
	PAR21-066	R25	Cancer Research Education Grants Program – Courses for Skills Development (R25 Clinical Trial Not Allowed)	
	PAR21-111	K22	The NCI Transition Career Development Award (K22 Independent Clinical Trial Required)	03/15/2021
	PAR21-318	K22	The NCI Transition Career Development Award (K22 Independent Basic Experimental Studies with Humans Required)	
	PAR21-128	K22	The NCI Transition Career Development Award (K22 Independent Clinical Trial Not Allowed)	
	PAR21-278	R25	Cancer Research Education Grants Program – Courses for Skills Development (R25 Clinical Trial Not Allowed)	08/26/2021
	PAR21-279	R25	Cancer Research Education Grants Program – Research Experiences (R25 Clinical Trial Not Allowed)	
CRCHD	PAR21-296	K01	NCI Mentored Research Scientist Development Award to Promote Diversity (K01 Clinical Trial Required)	08/31/2021
	PAR21-295	K01	NCI Mentored Research Scientist Development Award to Promote Diversity (K01 Independent Clinical Trial Not Allowed)	
	PAR21-302	K22	NCI Transition Career Development Award to Promote Diversity (K22 Clinical Trial Required)	09/10/2021
	PAR21-301	K22	NCI Transition Career Development Award to Promote Diversity (K22 Independent Clinical Trial Not Allowed)	
	PAR21-300	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 Independent Clinical Trial Not Allowed)	
	PAR21-299	K08	NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 Clinical Trial Required)	
	PAR21-306	R50	NCI Research Specialist (Clinician Scientist) Award (R50 Clinical Trial Not Allowed)	08/20/2021
CRCHD DCB	PAR21-061	R21	Exploratory Grant Award to Promote Workforce Diversity in Basic Cancer Research (R21 Clinical Trial Not Allowed)	03/18/2021

continued

Source: Office of Referral, Review, and Program Coordination.

Table 3b (cont'd). Program Announcements (PAs) Published by the NCI in FY2021

Sorted by Division, Office, and Center

Division, Office, and Center	PA/PAR	Mechanism	Title	Date of Publication
CSSI	PAR21-285	R50	NCI Research Specialist (Laboratory-Based Scientist) Award (R50 Clinical Trial Not Allowed)	07/21/2021
	PAR21-286	R50	NCI Research Specialist (Core-Based Scientist) Award (R50 Clinical Trial Not Allowed)	07/23/2021
	PAR21-333	R35	NCI Outstanding Investigator Award (R35 Clinical Trial Not Allowed)	09/20/2021
DCB	PAR21-348	U01	The Role of Epstein-Barr Virus (EBV) Infection in Non-Hodgkin Lymphoma (NHL) and Hodgkin Disease (HD) Development with or Without an Underlying HIV Infection (U01 Clinical Trial Optional)	09/27/2021
DCB DCP	PAR21-332	R21	Mechanisms That Impact Cancer Risk After Bariatric Surgery (R21 Clinical Trial Not Allowed)	09/03/2021
	PAR21-331	R01	Mechanisms That Impact Cancer Risk After Bariatric Surgery (R01 Clinical Trial Optional)	
DCCPS	PAR21-190	R01	Modular R01s in Cancer Control and Population Sciences (R01 Clinical Trial Optional)	03/12/2021
DCCPS DCP	PAR21-035	R01	Cancer Prevention and Control Clinical Trials Grant Program (R01 Clinical Trial Required)	11/10/2020
	PAR21-329	R01	Clinical Characterization of Cancer Therapy-Induced Adverse Sequelae and Mechanism-Based Interventional Strategies (R01 Clinical Trial Optional)	09/22/2021
DCP	PAR21-330	U01	Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Detection Research (U01 Clinical Trial Not Allowed)	09/08/2021
	PAR21-334	U01	Pancreatic Cancer Detection Consortium: Research Units (U01 Clinical Trial Optional)	09/16/2021
	PAR21-335	U24	Pancreatic Cancer Detection Consortium: Management and Data Coordination Unit (U24 Clinical Trial Not Allowed)	
DCTD	PAR21-206	R01	Academic–Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01 Clinical Trial Optional)	03/25/2021
	PAR21-166	R01	Academic–Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment (R01 Clinical Trial Not Allowed)	
	PAR21-290	R01	Integration of Imaging and Fluid-Based Tumor Monitoring in Cancer Therapy (R01 Clinical Trial Optional)	07/22/2021
	PAR21-294	R01	Molecular Imaging of Inflammation in Cancer (R01 Clinical Trial Not Allowed)	
	PAR21-346	U24	Limited Competition: Coordinating Center (CC) for the Small Cell Lung Cancer (SCLC) Consortium (U24 Clinical Trial Not Allowed)	09/29/2021

Source: Office of Referral, Review, and Program Coordination.

Table 4. NCI Participation in Trans-NIH Program Announcements (PAs/PARs) in FY2021

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH IC
10/06/2020	PA20-275	666	Successor-in-Interest (Type 6 Parent Clinical Trial Optional)	OHAM	NIH
10/13/2020	PA20-272	333	Administrative Supplements to Existing NIH Grants and Cooperative Agreements (Parent Admin Supp Clinical Trial Optional)	DCCPS	NIH
10/21/2020	PA21-051	F31	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31)	ALL DIVISIONS	NIH
10/22/2020	PA21-047	F33	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Senior Fellowship (Parent F33)	SBIR	NIH
10/26/2020	PA21-049	F30	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Fellowship for Students at Institutions with NIH-Funded Institutional Predoctoral Dual-Degree Training Programs (Parent F30)	CCT	NIH
	PA21-050	F30	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Fellowship for Students at Institutions Without NIH-Funded Institutional Predoctoral Dual-Degree Training Programs (Parent F30)		
	PA21-048	F32	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (Parent F32)		
10/28/2020	PA21-052	F31	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research (Parent F31-Diversity)	CRCHD	NIH
11/05/2020	PAR20-315	R00	Limited Competition: Lasker Clinical Research Scholars Transition Award (R00 Clinical Trial Optional)	DCCPS	NIH
11/09/2020	PAR21-038	R01	Stephen I. Katz Early Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed)	DCCPS	NIH
	PAR21-039	R01	Stephen I. Katz Early Stage Investigator Research Project Grant (R01 Basic Experimental Studies with Humans Required)	OHAM	NIH
11/16/2020	PAR21-022	R01	Multisite Studies for System-Level Implementation of Substance Use Prevention and Treatment Services (R01 Clinical Trial Optional)	DCCPS	NIH
	PA21-071	333	Research Supplements to Promote Diversity in Health-Related Research (Admin Supp Clinical Trial Not Allowed)		NIH CDC
11/17/2020	PAR21-080	R01	Addressing the Etiology of Health Disparities and Health Advantages Among Immigrant Populations (R01 Clinical Trial Not Allowed)	DCCPS	NIH
	PAR21-081	R01	Addressing Health Disparities Among Immigrant Populations Through Effective Interventions (R01 Clinical Trial Optional)	DCP	NIH
11/23/2020	PAR21-069	R21	Multidisciplinary Studies of HIV/AIDS and Aging (R21 Clinical Trial Optional)	OHAM	NIH
	PAR21-068	R01	Multidisciplinary Studies of HIV/AIDS and Aging (R01 Clinical Trial Optional)	CCT	NIH
12/23/2020	PAR21-099	R21	Music and Health: Understanding and Developing Music Medicine (R21 Clinical Trial Optional)	OCCAM	NIH
	PAR21-100	R01	Music and Health: Understanding and Developing Music Medicine (R01 Clinical Trial Optional)	DCTD	NIH

continued

Source: Office of Referral, Review, and Program Coordination.

Table 4 (cont'd). NCI Participation in Trans-NIH Program Announcements (PAs/PARs) in FY2021

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH IC
01/04/2021	PAR21-105	K01	International Research Scientist Development Award (IRSDA) (K01 Independent Clinical Trial Required)	DCCPS	NIH
	PAR21-104	K01	International Research Scientist Development Award (IRSDA) (K01 Independent Clinical Trial Not Allowed)	CHCRD	NIH CDC
02/01/2021	PAR21-145	R01	Research on Biopsychosocial Factors of Social Connectedness and Isolation on Health, Wellbeing, Illness, and Recovery (R01 Clinical Trials Not Allowed)	DCCPS	NIH
	PAR21-144	R01	Research on Biopsychosocial Factors of Social Connectedness and Isolation on Health, Wellbeing, Illness, and Recovery (R01 Basic Experimental Studies with Humans Required)		
02/10/2021	PA21-151	R13	NIH Support for Conferences and Scientific Meetings (Parent R13 Clinical Trial Not Allowed)	CCT	NIH
03/18/2021	PAR21-173	R16	Support for Research Excellence First Independent Research (SuRE-First) Award (R16 Clinical Trial Not Allowed)	ALL DIVISIONS	NIH
05/19/2021	PAR21-155	R15	Academic Research Enhancement Award for Undergraduate-Focused Institutions (R15 Clinical Trial Not Allowed)	ALL DIVISIONS	NIH
	PAR21-154	R15	Academic Research Enhancement Award for Undergraduate-Focused Institutions (R15 Clinical Trial Required)	CCT	NIH
06/25/2021	PAR21-275	R01	The Role of Work in Health Disparities in the U.S. (R01 Clinical Trials Optional)	CCT	NIH
06/30/2021	PA21-268	777	Change of Recipient Organization (Type 7 Parent Clinical Trial Optional)	ALL DIVISIONS	NIH
07/06/2021	PAR21-253	R01	Identification and Characterization of Bioactive Microbial Metabolites for Advancing Research on Microbe–Diet–Host Interactions (R01 Clinical Trial Not Allowed)	CCT	NIH
	PAR21-246	R21	HIV-Associated Noncommunicable Diseases Research at Low- and Middle-Income Country Institutions (R21 Clinical Trial Optional)	OHAM	NIH
07/08/2021	PA21-261	R41, R42	PHS 2021-2 Omnibus Solicitation of the NIH for Small Business Technology Transfer Grant Applications (Parent STTR [R41/R42] Clinical Trial Required)	ALL DIVISIONS	NIH
	PA21-260	R43, R44	PHS 2021-2 Omnibus Solicitation of the NIH and CDC for Small Business Innovation Research Grant Applications (Parent SBIR [R43/R44] Clinical Trial Required)	CCT	NIH
	PA21-262	R41, R42	PHS 2021-2 Omnibus Solicitation of the NIH for Small Business Technology Transfer Grant Applications (Parent STTR [R41/R42] Clinical Trial Not Allowed)	SBIR	NIH
07/09/2021	PAR21-280	R01	Dyadic Interpersonal Processes and Biopsychosocial Outcomes (R01 Basic Experimental Studies with Humans)	DCCPS	NIH
	PAR21-281	R01	Dyadic Interpersonal Processes and Biopsychosocial Outcomes (R01 Clinical Trials Not Allowed)	CRCHD	NIH
07/12/2021	PAR21-247	R43, R44	Technology Development for Single-Molecule Protein Sequencing (R43/R44 Clinical Trial Not Allowed)	CCT	NIH
08/04/2021	PAR21-303	R21, R33	Mobile Health: Technology and Outcomes in Low and Middle Income Countries (R21/R33 Clinical Trial Optional)	CGH	NIH
08/11/2021	PAR21-305	R01	Time-Sensitive Obesity Policy and Program Evaluation (R01 Clinical Trial Not Allowed)	DCP	NIH

continued

Source: Office of Referral, Review, and Program Coordination.

Table 4 (cont'd). NCI Participation in Trans-NIH Program Announcements (PAs/PARs) in FY2021

Sorted by Date of Publication

Date of Publication	PA/PAR	Mechanism	Title	Division, Office, and Center	Issuing NIH IC
09/08/2021	PAR21-252	K43	Emerging Global Leader Award (K43 Independent Clinical Trial Not Allowed)	CCT	NIH
	PAR21-251	K43	Emerging Global Leader Award (K43 Independent Clinical Trial Required)		
09/10/2021	PA21-345	333	Administrative Supplements to Promote Diversity in Small Businesses—SBIR/STTR (Admin Supp Clinical Trial Not Allowed)	SBIR	NIH CDC
09/28/2021	PAR21-344	R01	Interventions for Stigma Reduction to Improve HIV/AIDS Prevention, Treatment, and Care in Low- and Middle-Income Countries (R01 Clinical Trial Optional)	CCT	NIH

Source: Office of Referral, Review, and Program Coordination.

Table 5. Applications Received for Referral by the NCI DEA in FY2021

Sorted by Activity Code

Mechanism	Activity Code	Totals by Activity	Applications by NCAB			Total Costs Requested First Year
			Feb	June	Sept	
International Training Grants in Epidemiology (Fogarty)	D43	39	39	0	0	$10,291,192
NIH Director's New Innovator Awards	DP2	6	0	6	0	$9,000,000
Individual Predoctoral NRSA for M.D./Ph.D. Fellowships (ADAMHA)	F30	198	55	68	75	$0
Predoctoral Individual National Research Service Award	F31	647	221	221	205	$0
Postdoctoral Individual National Research Service Award	F32	229	92	74	63	$0
National Research Service Award for Senior Fellows	F33	1	0	1	0	$0
Predoctoral to Postdoctoral Transition Award	F99	66	0	66	0	$0
Research Scientist Development Award — Research & Training	K01	48	9	7	32	$7,349,993
Clinical Investigator Award	K08	230	65	91	74	$52,084,055
Physician Scientist Award (Program)	K12	16	16	0	0	$5,288,541
Career Enhancement Award	K18	1	1	0	0	$143,891
Career Transition Award	K22	125	51	37	37	$21,056,490
Mentored Quantitative Research Career Development	K25	3	0	1	2	$439,258
International Research Career Development Award	K43	16	0	15	1	$1,650,658
Career Transition Award	K99	304	89	98	117	$37,297,395
Loan Repayment Program for Health Disparities Research (HD-LRP)	L60	72	0	2	70	$0
Research Project — Other Transaction Award	OT2	1	0	1	0	$0
Research Program Projects	P01	111	27	40	44	$290,840,964
Exploratory Grants	P20	33	2	31	0	$28,362,309
Center Core Grants	P30	20	7	5	8	$81,853,357
Specialized Center	P50	71	15	39	17	$164,026,435
Research Transition Award	R00	1	0	0	1	$0
Research Project	R01	7,776	2,626	2,655	2,495	$4,603,054,417
Small Research Grants	R03	441	166	152	123	$35,905,634
Conferences	R13	71	36	16	19	$2,687,400
Academic Research Enhancement Awards (AREA)	R15	205	76	64	65	$87,530,280
Exploratory/Developmental Grants	R21	2,393	834	934	625	$541,403,025
Education Projects	R25	36	14	10	12	$9,038,870
Exploratory/Developmental Grants Phase II	R33	89	29	37	23	$41,127,825
Planning Grant	R34	1	1	0	0	$242,254
Outstanding Investigator Award	R35	73	0	73	0	$71,743,302
Method to Extend Research in Time (MERIT) Award	R37	48	25	22	1	$26,479,843
Small Business Technology Transfer (STTR) Grants — Phase I	R41	286	111	82	93	$95,423,579
Small Business Technology Transfer (STTR) Grants — Phase II	R42	71	17	14	40	$36,562,282
Small Business Innovation Research Grants (SBIR) — Phase I	R43	796	315	258	223	$254,115,065
Small Business Innovation Research Grants (SBIR) — Phase II	R44	451	188	154	109	$372,468,230
Research Specialist Award	R50	123	0	0	123	$18,262,009

continued

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 370 withdrawn applications have been subtracted from the total count.

Table 5 (cont'd). Applications Received for Referral by the NCI DEA in FY2021

Sorted by Activity Code

Mechanism	Activity Code	Totals by Activity	Applications by NCAB			Total Costs Requested First Year
			Feb	June	Sept	
High-Priority, Short-Term Project Award	R56	12	1	10	1	$405,937
Phase 1 Exploratory/Developmental Grant	R61	3	0	3	0	$1,512,192
Minority Biomedical Research Support — MBRS	S06	20	20	0	0	$24,349,494
Commercialization Readiness Program	SB1	16	6	2	8	$3,916,775
Research Enhancement Award	SC1	1	1	0	0	$386,250
Intramural Clinical Scholar Research Award	SI2	7	0	7	0	$0
Institutional National Research Service Award	T32	96	32	38	26	$48,973,623
Research Project (Cooperative Agreements)	U01	454	121	190	143	$304,615,300
Research Demonstration (Cooperative Agreements)	U18	29	29	0	0	$26,997,311
Research Program (Cooperative Agreement)	U19	16	0	0	16	$20,850,731
Resource-Related Research Project (Cooperative Agreements)	U24	102	22	50	30	$111,294,795
Resource-Related Research Multi-Component Projects and Centers Cooperative Agreements	U2C	7	0	7	0	$27,587,742
International Training Cooperative Agreement	U2R	1	0	0	1	$347,655
Small Business Innovation Research (SBIR) Cooperative Agreements — Phase II	U44	1	1	0	0	$915,130
Specialized Center (Cooperative Agreements)	U54	148	0	22	126	$156,970,468
Phase 1 Exploratory/Developmental Cooperative Agreement	UG3	90	39	0	51	$93,062,616
Exploratory/Developmental Cooperative Agreement Phase I	UH2	20	7	8	5	$5,671,691
Exploratory/Developmental Cooperative Agreement Phase II	UH3	3	0	1	2	$1,195,707
Resource Access Program	X01	13	0	0	13	$0
Pre-application	X02	11	0	11	0	$0
Overall Totals		**16,148**	**5,406**	**5,623**	**5,119**	**$7,734,781,970**

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 370 withdrawn applications have been subtracted from the total count.

Table 6. Grant and Cooperative Agreement Applications Reviewed by the NCI DEA in FY2021

Sorted by Activity Code

Mechanism	Activity Code	Totals by Activity	Applications by NCAB			Total Costs Requested First Year
			Feb	June	Sept	
International Training Grants in Epidemiology (Fogarty)	D43	34	34	0	0	$8,838,666
Predoctoral to Postdoctoral Transition Award	F99	66	0	66	0	$0
Research Scientist Development Award — Research & Training	K01	23	6	7	10	$3,090,778
Clinical Investigator Award	K08	219	64	85	70	$50,119,681
Physician Scientist Award (Program)	K12	16	16	0	0	$5,288,541
Career Transition Award	K22	125	51	37	37	$21,056,490
Mentored Quantitative Research Career Development	K25	3	0	1	2	$439,258
Career Transition Award	K99	263	83	74	106	$32,912,337
Loan Repayment Program for Health Disparities Research (HD-LRP)	L60	43	0	0	43	$0
Research Project — Other Transaction Award	OT2	1	0	1	0	$0
Research Program Projects	P01	102	27	31	44	$276,748,148
Exploratory Grants	P20	33	2	31	0	$28,362,309
Center Core Grants	P30	15	2	5	8	$73,292,514
Specialized Center	P50	71	15	39	17	$164,026,435
Research Transition Award	R00	1	0	0	1	$0
Research Project	R01	409	179	194	36	$290,655,479
Small Research Grants	R03	420	157	143	120	$33,504,479
Conferences	R13	44	22	9	13	$1,705,465
Exploratory/Developmental Grants	R21	1,574	508	630	436	$358,453,047
Education Projects	R25	36	14	10	12	$9,038,870
Exploratory/Developmental Grants Phase II	R33	88	28	37	23	$40,340,431
Outstanding Investigator Award	R35	73	0	73	0	$71,743,302
Small Business Technology Transfer (STTR) Grants — Phase II	R42	15	0	0	15	$6,801,944
Small Business Innovation Research Grants (SBIR) — Phase II	R44	30	30	0	0	$45,235,427
Research Specialist Award	R50	123	0	0	123	$18,262,009
Institutional National Research Service Award	T32	88	30	36	22	$34,441,317
Research Project (Cooperative Agreements)	U01	346	62	184	100	$208,269,340
Research Program (Cooperative Agreement)	U19	16	0	0	16	$20,850,731
Resource-Related Research Project (Cooperative Agreements)	U24	64	14	41	9	$53,645,193
Resource-Related Research Multi-Component Projects and Centers Cooperative Agreements	U2C	7	0	7	0	$27,587,742
Small Business Innovation Research (SBIR) Cooperative Agreements — Phase II	U44	1	1	0	0	$915,130
Specialized Center (Cooperative Agreements)	U54	49	0	22	27	$88,425,646
Phase I Exploratory/Developmental Cooperative Agreement	UG3	70	39	0	31	$80,622,855
Exploratory/Developmental Cooperative Agreement Phase I	UH2	20	7	8	5	$5,671,691
Exploratory/Developmental Cooperative Agreement Phase II	UH3	3	0	1	2	$1,195,707
Pre-application	X02	11	0	11	0	$0
Overall Totals		**4,502**	**1,391**	**1,783**	**1,328**	**$2,061,540,962**

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 144 withdrawn applications have been subtracted from the total count.

Table 7. Applications Reviewed by NCI IRG Subcommittees and Special Emphasis Panels (SEPs) in FY2021

NCI IRG Subcommittee	Types of Applications Reviewed	Total by Committee	Total Costs Requested First Year
A – Cancer Centers	P30	12	$56,936,024
F – Institutional Training and Education	K12, R25, T32	133	$45,902,210
I – Transition to Independence	K08, K99, R00	235	$29,870,403
J – Career Development	K01, K08, K22, K25, K99, U01	255	$58,524,026
Totals – NCI IRG Subcommittees		**635**	**$191,232,663**
Total SEPs	D43, F99, K12, K22, K99, L60, OT2, P01, P20, P30, P50, R01, R03, R13, R21, R25, R33, R35, R42, R44, R50, T32, U01, U19, U24, U2C, U44, U54, UG3, UH2, UH3, X02	3,867	$1,870,308,299
Totals		**4,502**	**$2,061,540,962**

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 134 withdrawn applications have been subtracted from the total count of the SEPs, and 10 withdrawn applications have been subtracted from the total count of the NCI IRG Study Sections.

Table 8. Summary of Investigator-Initiated P01 Applications Reviewed in FY2021

Sorted by NCAB Meeting

Type of Application	February	June	September	FY Total
New	16	26	25	67
Resubmitted New	8	5	10	23
Renewal	3	6	7	16
Resubmitted Renewal	0	3	1	4
Revisions	0	0	1	1
Totals	**27**	**40**	**44**	**111**

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

Table 9. Summary of Unsolicited P01 Applications Reviewed in FY2021

Sorted by NCI Program Division

Program Division	Number of Applications	Total Costs Requested First Year	Total Costs for Requested Period
Division of Cancer Biology (DCB)	37	$91,502,875	$458,186,536
Division of Cancer Control and Population Sciences (DCCPS)	8	$20,611,713	$104,745,714
Division of Cancer Prevention (DCP)	17	$36,269,078	$180,051,364
Division of Cancer Treatment and Diagnosis (DCTD)	49	$142,457,298	$766,657,686
Totals	**111**	**$290,840,964**	**$1,509,641,300**

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 FY2021

Title of Initiative	RFA Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Provocative Questions (PQs) in Cancer with an Underlying HIV Infection (R01 Clinical Trial Optional)	CA19-032	R01	7	7	0	0	$4,857,293
Feasibility and Planning Studies for Development of Specialized Programs of Research Excellence (SPOREs) to Investigate Cancer Health Disparities (P20 Clinical Trial Optional)	CA19-034	P20	19	2	17	0	$24,308,314
Participant Engagement and Cancer Genome Sequencing (PE-CGS): Research Centers (U2C Clinical Trial Optional)	CA19-045	U2C	7	0	7	0	$27,587,742
Revision Applications for Mechanisms of Drug Resistance (R01 Clinical Trials Not Allowed)	CA19-049	R01	12	7	5	0	$4,903,255
Revision Applications for Mechanisms of Drug Resistance (U01 Clinical Trials Not Allowed)	CA19-050	U01	2	2	0	0	$619,364
Research Answers to National Cancer Institute's (NCI) Provocative Questions (R01 Clinical Trial Optional)	CA20-004	R01	261	153	108	0	$180,006,760
Research Answers to National Cancer Institute's (NCI) Provocative Questions (R21 Clinical Trial Optional)	CA20-005	R21	115	60	55	0	$26,664,636
Development of Innovative Informatics Methods and Algorithms for Cancer Research and Management (R21 Clinical Trial Optional)	CA20-007	R21	81	32	49	0	$18,033,447
Early-Stage Development of Informatics Technologies for Cancer Research and Management (U01 Clinical Trial Optional)	CA20-008	U01	59	27	32	0	$27,918,364
Advanced Development of Informatics Technologies for Cancer Research and Management (U24 Clinical Trial Optional)	CA20-009	U24	21	8	13	0	$19,141,794
Sustained Support for Informatics Technologies for Cancer Research and Management (U24 Clinical Trial Optional)	CA20-010	U24	5	4	1	0	$5,220,778
Revision Applications to Support the Application of Informatics Technology for Cancer Research (R01 Clinical Trials Optional)	CA20-011	R01	3	1	2	0	$483,995
Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21 Clinical Trials Not Allowed)	CA20-017	R21	95	43	52	0	$22,344,886
Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R33 Clinical Trials Not Allowed)	CA20-018	R33	50	24	26	0	$23,413,595
Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (R21 Clinical Trials Not Allowed)	CA20-019	R21	15	6	9	0	$3,407,098
Advanced Development and Validation of Emerging Biospecimen Science Technologies for Basic and Clinical Cancer Research (R33 Clinical Trials Not Allowed)	CA20-020	R33	6	4	2	0	$2,666,109

continued

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

Table 10 (cont'd). Requests for Applications (RFAs) Reviewed by the NCI DEA in FY2021

Title of Initiative	RFA Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (R01 Clinical Trial Optional)	CA20-021	R01	7	3	4	0	$1,580,826
Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (P50 Clinical Trial Optional)	CA20-025	P50	1	0	1	0	$255,000
Research to Reduce Morbidity and Improve Care for Pediatric and Adolescent and Young Adult (AYA) Cancer Survivors (R01 Clinical Trial Optional)	CA20-027	R01	64	0	64	0	$52,113,238
Research to Reduce Morbidity and Improve Care for Pediatric and Adolescent and Young Adult (AYA) Cancer Survivors (R21 Clinical Trial Optional)	CA20-028	R21	29	0	29	0	$6,827,359
Metastasis Research Network (U54 Clinical Trial Not Allowed)	CA20-029	U54	21	0	21	0	$40,630,692
Utilizing Cohort Studies to Address Health Outcomes in Cancer Survivors (UG3/UH3 Clinical Trial Not Allowed)	CA20-030	UG3	39	39	0	0	$44,521,673
Strengthening Institutional Capacity to Conduct Global Cancer Research in Low- and Middle-Income Countries (D43 Clinical Trial Not Allowed)	CA20-031	D43	34	34	0	0	$8,838,666
SBIR Phase IIB Bridge Awards to Accelerate the Development of Cancer-Relevant Technologies Toward Commercialization (R44 Clinical Trial Optional)	CA20-033	R44	30	30	0	0	$45,235,427
SBIR Phase IIB Bridge Awards to Accelerate the Development of Cancer-Relevant Technologies Toward Commercialization (R44 Clinical Trial Optional)	CA20-033	U44	1	1	0	0	$915,130
NCI Pediatric *In Vivo* Testing Program (U01 Clinical Trial Not Allowed)	CA20-034	U01	16	0	16	0	$10,858,109
Improving Smoking Cessation Interventions Among People Living with HIV (R01 Clinical Trial Optional)	CA20-035	R01	8	8	0	0	$5,392,249
Improving Smoking Cessation Interventions Among People Living with HIV (R21 Clinical Trial Optional)	CA20-036	R21	7	7	0	0	$1,670,845
Tobacco Use and HIV in Low and Middle-Income Countries (U01 Clinical Trial Optional)	CA20-037	U01	18	0	18	0	$11,272,828
Aging, Cancer-Initiating Cells, and Cancer Development (U01 Clinical Trial Not Allowed)	CA20-040	U01	53	0	20	33	$25,762,958
NCI Pediatric *In Vivo* Testing Program Coordinating Center (U24 Clinical Trial Not Allowed)	CA20-041	U24	2	0	2	0	$1,681,156
3D Technologies to Accelerate HTAN Atlas Building Efforts (UH2 Clinical Trial Not Allowed)	CA20-042	UH2	4	0	4	0	$1,625,502
Cancer Intervention and Surveillance Modeling Network (CISNET) Incubator Program for New Cancer Sites (U01 Clinical Trial Not Allowed)	CA20-043	U01	10	0	0	10	$8,977,428
Visualization Methods and Tools Development for Enhancing Cancer Moonshot Data (R33 Clinical Trial Not Allowed)	CA20-044	R33	9	0	9	0	$3,569,512

continued

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

Table 10 (cont'd). Requests for Applications (RFAs) Reviewed by the NCI DEA in FY2021

Title of Initiative	RFA Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Limited Competition: International Agency for Research on Cancer (IARC) Monographs Program (R01 Clinical Trial Not Allowed)	CA20-045	R01	1	0	1	0	$880,253
Investigation of the Transmission of Kaposi Sarcoma–Associated Herpesvirus (KSHV) (R01 Clinical Trial Optional)	CA20-046	R01	9	0	9	0	$5,988,048
Glioblastoma Therapeutics Network (U19 Clinical Trial Required)	CA20-047	U19	16	0	0	16	$20,850,731
The NCI Predoctoral to Postdoctoral Fellow Transition Award (F99/K00)	CA20-048	F99	66	0	66	0	$0
New Cohorts for Environmental Exposures and Cancer Risk (CEECR; UG3/UH3 Clinical Trial Not Allowed)	CA20-049	UG3	31	0	0	31	$36,101,182
New Cohorts for Environmental Exposures and Cancer Risk (CEECR) Coordinating Center (U24 Clinical Trial Not Allowed)	CA20-050	U24	9	0	0	9	$7,491,622
Social and Behavioral Intervention Research to Address Modifiable Risk Factors for Cancer in Rural Populations (R01 Clinical Trial Required)	CA20-051	R01	33	0	0	33	$33,322,565
Limited Competition: Childhood Cancer Survivor Study (U24 Clinical Trial Required)	CA20-052	U24	1	0	1	0	$4,168,223
Genomic Data Analysis Network: Genomic Data Analysis Center (U24 Clinical Trial Not Allowed)	CA20-053	U24	19	0	19	0	$10,376,360
Collaborative Approaches to Engineer Biology for Cancer Applications (U01 Clinical Trial Not Allowed)	CA20-054	U01	20	0	0	20	$16,045,229
NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 Independent Clinical Trial Not Allowed)	CA20-056	K99	26	0	0	26	$3,029,467
NCI Pathway to Independence Award for Outstanding Early Stage Postdoctoral Researchers (K99/R00 Independent Clinical Trial Required)	CA20-057	K99	4	0	0	4	$430,420
Small Business Transition Grant For Early Career Scientists (R42 Clinical Trial Not Allowed)	CA21-001	R42	15	0	0	15	$6,801,944
Cellular Cancer Biology Imaging Research (CCBIR) Program (U54 Clinical Trial Not Allowed)	CA21-002	U54	15	0	0	15	$28,654,901
Innovative Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)	CA21-003	R21	39	0	0	39	$9,188,940
Advanced Development and Validation of Emerging Molecular and Cellular Analysis Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)	CA21-004	R33	21	0	0	21	$9,721,699
Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research (R21 Clinical Trial Not Allowed)	CA21-005	R21	5	0	0	5	$1,291,220

continued

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

Table 10 (cont'd). Requests for Applications (RFAs) Reviewed by the NCI DEA in FY2021

Title of Initiative	RFA Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Advanced Development and Validation of Emerging Biospecimen Science Technologies for Basic and Clinical Cancer Research (R33 Clinical Trial Not Allowed)	CA21-006	R33	2	0	0	2	$969,516
Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (R01 Clinical Trial Optional)	CA21-007	R01	3	0	0	3	$686,196
Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research (P01 Clinical Trial Optional)	CA21-011	P01	1	0	0	1	$252,000
Totals			**1,447**	**502**	**663**	**283**	**$859,556,544**

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

Table 11. Program Announcements (PAs) Reviewed by the NCI DEA in FY2021

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grant (Parent T32)	PA20-142	T32	88	30	36	22	$34,441,317
NIH Pathway to Independence Award (Parent K99/R00 Independent Clinical Trial Required)	PA20-187	K99	18	7	6	5	$2,583,609
NIH Pathway to Independence Award (Parent K99/R00 Independent Clinical Trial Not Allowed)	PA20-188	K99	214	75	68	71	$26,765,376
NIH Pathway to Independence Award (Parent K99/R00 Independent Basic Experimental Studies with Humans Required)	PA20-189	K99	1	1	0	0	$103,465
Mentored Research Scientist Development Award (Parent K01 Independent Clinical Trial Not Allowed)	PA20-190	K01	1	0	0	1	$104,460
Mentored Quantitative Research Development Award (Parent K25 Independent Clinical Trial Not Allowed)	PA20-199	K25	3	0	1	2	$439,258
Mentored Clinical Scientist Research Career Development Award (Parent K08 Independent Clinical Trial Required)	PA20-202	K08	52	14	17	21	$11,889,257
Mentored Clinical Scientist Research Career Development Award (Parent K08 Independent Clinical Trial Not Allowed)	PA20-203	K08	154	46	64	44	$35,329,847
NIH Support for Conferences and Scientific Meetings (Parent R13 Clinical Trial Not Allowed)	PA20-207	R13	31	22	9	0	$1,368,256
NIH Support for Conferences and Scientific Meetings (Parent R13 Clinical Trial Not Allowed)	PA21-151	R13	13	0	0	13	$337,209
Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH3 Clinical Trials Not Allowed)	PAR18-310	UH3	1	0	1	0	$380,953
Specialized Programs of Research Excellence (SPOREs) in Human Cancers for Years 2018, 2019, and 2020 (P50 Clinical Trial Required)	PAR18-313	P50	53	15	38	0	$122,846,451
Specialized Programs of Research Excellence (SPOREs) in Human Cancers for Years 2018, 2019, and 2020 (P50 Clinical Trial Required)	PAR18-313	U54	1	0	1	0	$2,359,234
Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH2/UH3 Clinical Trials Not Allowed)	PAR18-317	UH2	11	7	4	0	$2,750,049
NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 Clinical Trials Required)	PAR18-336	K08	5	1	2	2	$1,092,886
NCI Mentored Clinical Scientist Research Career Development Award to Promote Diversity (K08 No Independent Clinical Trials)	PAR18-337	K08	8	3	2	3	$1,807,691
NCI Mentored Research Scientist Development Award to Promote Diversity (K01 Independent Clinical Trial Not Allowed)	PAR18-364	K01	15	3	7	5	$1,904,571
NCI Mentored Research Scientist Development Award to Promote Diversity (Parent K01 Clinical Trial Required)	PAR18-365	K01	7	3	0	4	$1,081,747

continued

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 55 withdrawn applications have been subtracted from the total count.

Table 11 (cont'd). Program Announcements (PAs) Reviewed by the NCI DEA in FY2021

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
NCI Transition Career Development Award to Promote Diversity (K22 No Clinical Trials)	PAR18-366	K22	8	2	2	4	$1,296,798
The NCI Transition Career Development Award (K22 Independent Clinical Trial Required)	PAR18-466	K22	6	2	2	2	$1,143,961
The NCI Transition Career Development Award (K22 Independent Clinical Trial Not Allowed)	PAR18-467	K22	111	47	33	31	$18,615,731
Cancer Research Education Grants Program – Curriculum or Methods Development (R25)	PAR18-476	R25	2	2	0	0	$317,452
Cancer Research Education Grants Program – Courses for Skills Development (R25)	PAR18-477	R25	11	8	3	0	$2,962,156
Cancer Research Education Grants Program – Research Experiences (R25)	PAR18-478	R25	11	4	7	0	$2,586,797
Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE) (Collaborative U54 Clinical Trial Optional)	PAR18-767	U54	12	0	0	12	$16,780,819
Oncology Co-Clinical Imaging Research Resources to Encourage Consensus on Quantitative Imaging Methods and Precision Medicine (U24 Clinical Trial Optional)	PAR18-841	U24	7	2	5	0	$5,565,260
Feasibility Studies to Build Collaborative Partnerships in Cancer Research (P20 Clinical Trial Not Allowed)	PAR18-911	P20	14	0	14	0	$4,053,995
Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Detection Research (U01 Clinical Trial Not Allowed)	PAR18-913	U01	11	0	6	5	$7,546,569
Integrating Biospecimen Science Approaches into Clinical Assay Development (U01 Clinical Trial Not Allowed)	PAR18-947	U01	40	13	19	8	$16,251,140
Pre-application: Opportunities for Collaborative Research at the NIH Clinical Center (X02 Clinical Trial Optional)	PAR18-950	X02	11	0	11	0	$0
Opportunities for Collaborative Research at the NIH Clinical Center (U01 Clinical Trial Optional)	PAR18-951	U01	17	0	0	17	$10,286,155
Physical Sciences-Oncology Network (PS-ON): Physical Sciences-Oncology Projects (PS-OP) (U01 Clinical Trial Optional)	PAR19-101	U01	38	0	38	0	$29,518,363
Paul Calabresi Career Development Award for Clinical Oncology (K12 Clinical Trial Optional)	PAR19-242	K12	16	16	0	0	$5,288,541
Research Projects in Cancer Systems Biology (U01 Clinical Trial Optional)	PAR19-287	U01	43	20	23	0	$27,694,093
NCI Clinical and Translational Exploratory/Developmental Studies (R21 Clinical Trial Optional)	PAR19-356	R21	360	360	0	0	$80,865,508
Small-Cell Lung Cancer (SCLC) Consortium: Therapeutic Development and Mechanisms of Resistance (U01 Clinical Trial Not Allowed)	PAR19-361	U01	12	0	8	4	$7,340,574
Cancer Center Support Grants (CCSGs) for NCI-Designated Cancer Centers (P30 Clinical Trial Optional)	PAR20-043	P30	15	2	5	8	$73,292,514

continued

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 55 withdrawn applications have been subtracted from the total count.

Table 11 (cont'd). Program Announcements (PAs) Reviewed by the NCI DEA in FY2021

Title of Initiative	PA/PAR Number	Activity Code	Applications by NCAB				Total Costs Requested First Year
			Totals	Feb	June	Sept	
NCI Small Grants Program for Cancer Research for Years 2020, 2021, and 2022 (NCI Omnibus R03 Clinical Trial Optional)	PAR20-052	R03	420	157	143	120	$33,504,479
National Cancer Institute Program Project Applications (P01 Clinical Trial Optional)	PAR20-077	P01	101	27	31	43	$276,496,148
New Informatics Tools and Methods to Enhance U.S. Cancer Surveillance Research (U01 Clinical Trial Optional)	PAR20-170	U01	2	0	2	0	$1,118,636
NCI Outstanding Investigator Award (R35 Clinical Trial Not Allowed)	PAR20-278	R35	73	0	73	0	$71,743,302
NCI Research Specialist (Core-Based Scientist) Award (R50 Clinical Trial Not Allowed)	PAR20-287	R50	34	0	0	34	$5,207,468
NCI Research Specialist (Laboratory-Based Scientist) Award (R50 Clinical Trial Not Allowed)	PAR20-288	R50	89	0	0	89	$13,054,541
NCI Clinical and Translational Exploratory/Developmental Studies (R21 Clinical Trial Optional)	PAR20-292	R21	828	0	436	392	$188,159,108
Core Infrastructure Support for Cancer Epidemiology Cohorts (U01 Clinical Trial Not Allowed)	PAR20-294	U01	5	0	2	3	$7,059,530
Specialized Programs of Research Excellence (SPOREs) in Human Cancers for Years 2021, 2022, and 2023 (P50 Clinical Trial Required)	PAR20-305	P50	17	0	0	17	$40,924,984
Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH2/UH3 Clinical Trial Not Allowed)	PAR20-313	UH2	5	0	0	5	$1,296,140
Assay Validation of High-Quality Markers for Clinical Studies in Cancer (UH3 Clinical Trials Not Allowed)	PAR20-314	UH3	2	0	0	2	$814,754
Limited Competition: Lasker Clinical Research Scholars Transition Award (R00 Clinical Trial Optional)	PAR20-315	R00	1	0	0	1	$0
Cancer Research Education Grants Program – Curriculum or Methods Development (R25 Clinical Trial Not Allowed)	PAR21-065	R25	1	0	0	1	$162,000
Cancer Research Education Grants Program – Courses for Skills Development (R25 Clinical Trial Not Allowed)	PAR21-066	R25	8	0	0	8	$2,041,703
Cancer Research Education Grants Program – Research Experiences (R25 Clinical Trial Not Allowed)	PAR21-067	R25	3	0	0	3	$968,762
Totals			**3,010**	**889**	**1,119**	**1,002**	**$1,201,543,617**

Source: Office of Referral, Review, and Program Coordination. IMPAC II. Includes NCI Primary and Secondary assigned applications. A total of 55 withdrawn applications have been subtracted from the total count.

Table 12. SBIR Topics and Requests for Proposals (RFPs) Reviewed by the NCI DEA in FY2021*

Announcement Topic Number	Announcement Title	Review Round	No. of Proposals
Topic 413 Phase I	Next-Generation 3D Tissue Culture Systems with Tertiary Lymphoid Organs	May-21	1
Topic 414 Phase I	Synthetic Biology Gene Circuits for Cancer Therapy	May-21	4
Topic 415 Phase I	Applicator-Compatible Electronic Brachytherapy Sources for Cancer Radiotherapy	May-21	3
Topic 417 Phase I	Quantitative Imaging Software Tools for Cancer Diagnosis and Treatment Planning	May-21	9
Topic 418 Phase I	3D Spatial Omics for Molecular and Cellular Tumor Atlas Construction	May-21	2
Topic 419 Phase I	Understanding Cancer Tumor Genomic Results: Technology Applications for Providers	May-21	1
Topic 420 Phase I	Single-Cell "Unbiased Discovery" Proteomic Technologies	May-21	1
Topic 421 Phase I	Quantitative Biomimetic Phantoms for Cancer Imaging and Radiation Dosimetry	May-21	7
Topic 422 Phase I	Spatial Sequencing Technologies with Single-Cell Resolution for Cancer Research and Precision Medicine	May-21	1
Topic 423 Phase I	Software to Address Social Determinants of Health in Oncology Practices	May-21	12
Topic 424 Phase I	Digital Tools to Improve Health Outcomes in Pediatric Cancer Survivors	May-21	7
Topic 425 Phase I	Information Technology Tools for Automated Analysis of Physical Activity, Performance, and Behavior from Images for Improved Cancer Health	May-21	11
Topic 426 Phase I	Tools and Technologies for Visualizing Multi-Scale Data	May-21	4
Topic 427 Phase I	De-Identification Software Tools and Pipelines for Cancer Imaging Research	May-21	12
Topic 428 Phase I	Cloud-Based Multi-Omic and Imaging Software for the Cancer Research Data Commons	May-21	10
Topic 429 Phase I	Advanced Manufacturing to Speed Availability of Emerging Autologous Cell-Based Therapies	May-21	9
75N91020R00027	CCR Contract: Sponsor and Regulatory Oversight Support Contract	Jan-21	2
75N91020R00037	Contract: Clinical Trials Information Management and Support (CTIMS)	Jan-21	2
75N91021R00003	Contract: Preclinical Toxicological Studies TEP	May-21	4
75N91021R00004	Contract: Preclinical Toxicological Studies TEP	May-21	4
75N91021R00007	Contract: Preclinical Pharmacokinetic and Pharmacological Studies TEP	May-21	4
Phase II Proposals from Earlier Phase I Awards			
Topic 371 Phase II	Drugs to Exploit the Immune Response Generated by Radiation Therapy	May-21	1
Topic 372 Phase II	Development and Validation of Non-Mouse Reagents to Enable Preclinical Development of Novel Therapeutics	May-21	1

continued

* NCI reviewed a total of 432 proposals. The proposals were in response to SBIR Contract Solicitations — Phase I (94), Direct to Phase II (16), R&D (60), and Loan Repayment (306).
Source: Office of Referral, Review, and Program Coordination.

Table 12 (cont'd). SBIR Topics and Requests for Proposals (RFPs) Reviewed by the NCI DEA in FY2021*

Announcement Topic Number	Announcement Title	Review Round	No. of Proposals
Topic 373 Phase II	Tools and Technologies for Monitoring RNA Modifications	May-21	1
Topic 374 & 386 Phase II	Novel Approaches for Local Delivery of Chemopreventive Agents	May-21	1
Topic 378 Phase II	Mobile Application for Surveillance of Post-Radiation Therapy Health-Related Quality of Life	May-21	1
Topic 380 Phase II	Computer-Aided Decision Support for Radiation Oncology	May-21	1
Topic 382 Phase II	Integrated Subcellular Microscopy and 'Omics in Cancer Cell	May-21	1
Topic 384 Phase II	Digital Healthcare Platform to Reduce Financial Hardship for Cancer Patients	May-21	1
Topic 385 Phase II	Leveraging Connected Health Technologies to Address and Improve Health Outcomes of Long-Term Cancer Survivors	May-21	2
Topic 388 Phase II	*In vitro* Diagnostic for the Liver Flukes *Opisthorchis viverrini* and *Clonorchis sinensis*	May-21	2
Topic 389 Phase II	Development of Artificial Intelligence (AI) Tools to Understand and Duplicate Experts' Radiation Therapy Planning for Prostate Cancer	May-21	2
Topic 394 Phase II	Combinatory Treatment Modalities Utilizing Radiation to Locally Activate or Release Systemically Delivered Therapeutics	May-21	1
Topic 414 Phase II	Synthetic Biology Gene Circuits for Cancer Therapy	May-21	1
Other Solicitations Reviewed in DEA			
L30 (NOT-OD-20-133)	Extramural Loan Repayment Program for Clinical Researchers (LRP-CR)	Oct-20	195
L40 (NOT-OD-20-136)	Extramural Loan Repayment Program for Pediatric Researchers (LRP-PR)	Oct-20	68
L60 (NOT-OD-20-137)	Extramural Loan Repayment Program for Health Disparities Researchers (LRP-HDR)	Oct-20	43
Total			**432**

* NCI reviewed a total of 432 proposals. The proposals were in response to SBIR Contract Solicitations — Phase I (94), Direct to Phase II (16), R&D (60), and Loan Repayment (306).

Source: Office of Referral, Review, and Program Coordination.

Table 13. Summary of NCI Grant Awards by Mechanism in FY2021*

Fund Type: Appropriated				% of NCI Total Grants		Fiscal Year: 2021		
Cost Centers Mechanisms	Awards Count	Awards Dollars	Average Cost	Number	Dollars	Competing Requested	Competing Awarded	Success Rate
Research Project Grants								
Traditional R search Grants — R01	3,264	$1,529,396,782	$468,565	46.09%	38.76%	5,671	742	13.08%
MERIT Awards — R37	220	$100,632,237	$457,419	3.11%	2.55%	69	69	100.00%
Program Projects — P01	93	$190,106,879	$2,044,160	1.31%	4.82%	76	15	19.74%
Small Grants — R03	93	$8,382,871	$90,138	1.31%	0.21%	469	60	12.79%
Exploratory/Developmental Research — R21	299	$72,210,450	$241,507	4.22%	1.83%	1,770	206	11.64%
Phased Innovation Grant (Phase 2) — R33	2	$805,337	$402,669	0.03%	0.02%	0	0	0.00%
Bridge Award — R56	1	$121,875	$121,875	0.01%	0.00%	1	1	100.00%
Pathway to Independence — R00/ Si2	78	$18,840,975	$241,551	1.10%	0.48%	6	0	0.00%
Exploratory/Development Coop. Agreements — UH2/UH3	21	$7,567,452	$360,355	0.30%	0.19%	16	4	25.00%
Exploratory/Developmental Grants — UG3	5	$2,181,462	$436,292	0.07%	0.06%	2	2	100.00%
Phase 1 Exploratory/Developmental Grants — R61	0	$0	$0	0.00%	0.00%	2	0	0.00%
Outstanding Investigators — R35	166	$158,472,176	$954,652	2.34%	4.02%	74	17	22.97%
Academic Research Enhancement Awards (AREA) — R15	18	$7,018,239	$389,902	0.25%	0.18%	160	18	11.25%
Multi-Component Research Project Coop. Agreements — UM1/RM1	2	$8,400,539	$4,200,270	0.03%	0.21%	0	0	0.00%
Research Specialist Award — R50	77	$12,889,375	$167,394	1.09%	0.33%	123	16	13.01%
Cooperative Agreements — U01/U19	199	$146,973,810	$738,562	2.81%	3.72%	170	30	17.65%
Request for Applications	273	$115,458,729	$422,926	3.85%	2.93%	860	99	11.51%
Cooperative Agreements – RFA Postdoctoral Fellow Awards — K00 U01/U19	107	$134,628,817	$1,258,213	1.51%	3.41%	205	47	22.93%
Small Business Innovative Research — R43/R44/U44	189	$135,801,179	$718,525	2.67%	3.44%	1,016	114	11.22%
Small Business Technology Transfer — R41/R42/SB1	47	$21,588,429	$459,328	0.66%	0.55%	293	39	13.31%
Program Evaluation — R01	0	$96,663,955	$96,663,955	0.00%	2.45%	0	0	0.00%
Subtotal Research Project Grants	**5,154**	**$2,768,141,568**	**$537,086**	**72.78%**	**70.15%**	**10,983**	**1,479**	**13.47%**
Other Research								
Cooperative Clinical Research — U10/UG1	106	$299,271,229	$2,823,313	1.50%	7.58%	0	0	0.00%
Conference Grants — R13/U13	25	$434,014	$17,361	0.35%	0.01%	54	21	38.89%

continued

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Source: Office of Extramural Finance and Information Analysis.

Table 13 (cont'd). Summary of NCI Grant Awards by Mechanism in FY2021*

Fund Type: Appropriated				% of NCI Total Grants		Fiscal Year: 2021		
Cost Centers Mechanisms	Awards Count	Awards Dollars	Average Cost	Number	Dollars	Competing Requested	Competing Awarded	Success Rate
International Research Training Grants Conference — D43/U2R	4	$1,871,152	$467,788	0.06%	0.05%	34	4	11.76%
Cancer Education Awards — R25	68	$17,632,838	$259,306	0.96%	0.45%	31	5	16.13%
Research/Resource Grant — R24/ U24/U2C	71	$103,307,471	$1,455,035	1.00%	2.62%	60	22	36.67%
Research Education Cooperative Agreement — UE5	5	$2,045,516	$409,103	0.07%	0.05%	0	0	0.00%
Minority Biomedical Research Support — S06	0	$1,497,039	$1,497,039	0.00%	0.04%	0	0	0.00%
Predoctoral to Postdoctoral Transition Award — F99	44	$1,770,090	$40,229	0.62%	0.04%	66	24	36.36%
Research Pathway in Residency R38	3	$608,718	$202,906	0.04%	0.02%	4	1	25.00%
Other Transaction Authority – Non-Grant — OT2	1	$3,708,166	$3,708,166	0.01%	0.09%	1	1	100.00%
Subtotal Other Research	**327**	**$432,146,233**	**$1,321,548**	**4.62%**	**10.95%**	**250**	**78**	**31.2 %**
Centers								
Centers — P20	16	$4,375,422	$273,464	0.23%	0.11%	14	6	42.86%
Centers — P30	71	$337,300,082	$4,750,705	1.00%	8.55%	16	11	68.75%
SPORE Grants — P20	9	$9,036,227	$1,004,025	0.13%	0.23%	19	4	21.05%
SPORE Grants — P50	55	$110,754,884	$2,013,725	0.78%	2.81%	64	9	14.06%
Other P50/P20	0	$432,948	$432,948	0.00%	0.01%	0	0	0.00%
Specialized Center (Cooperative Agreement) — U54/U41	68	$87,948,046	$1,293,354	0.96%	2.23%	39	14	35.90%
Specialized Center (Cooperative Agreement) — BD2K	0	$450,328	$450,328	0.00%	0.01%	0	0	0.00%
Subtotal Centers	**219**	**$550,297,937**	**$2,512,776**	**3.09%**	**13.95%**	**152**	**44**	**28.95%**
NRSA								
NRSA Institution — T32	162	$61,123,417	$377,305	2.29%	1.55%	78	25	32.05%
NRSA Institution — BD2K Awards	0	$0	$0	0.00%	0.00%	1	0	0.00%
NRSA Fellowships — F31/F32/F33	696	$31,871,896	$45,793	9.83%	0.81%	928	267	28.77%
Subtotal NRSA	**858**	**$92,995,313**	**$108,386**	**12.12%**	**2.36%**	**1,007**	**292**	**29.00%**
Careers								
Career Enhancement Award for Stem Cell Research — K18	0	$0	$0	0.00%	0.00%	1	0	0.00%
Mentored Clinical Scientist — K08	219	$48,478,974	$221,365	3.09%	1.23%	187	49	26.20%
Preventive Oncology Award — K07	30	$4,879,214	$162,640	0.42%	0.12%	0	0	0.00%
Mentored Career Award — K12	20	$14,506,693	$725,335	0.28%	0.37%	16	5	31.25%

continued

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Source: Office of Extramural Finance and Information Analysis.

Table 13 (cont'd). Summary of NCI Grant Awards by Mechanism in FY2021*

Fund Type: Appropriated				% of NCI Total Grants		Fiscal Year: 2021		
Cost Centers Mechanisms	Awards Count	Awards Dollars	Average Cost	Number	Dollars	Competing Requested	Competing Awarded	Success Rate
Mentored Rsch Scient Devel Awds/ Mentored Career Devel/Temin — K01/Intl. Career — K43	36	$6,124,384	$170,122	0.51%	0.16%	28	11	39.29%
Clinical Research Track — K22	52	$9,722,676	$186,975	0.73%	0.25%	114	18	15.79%
Mentored Patient-Oriented Research Career Dev A — K23	3	$534,675	$178,225	0.04%	0.01%	0	0	0.00%
Mid-Career Investigator in Patient-Oriented Res A — K24	2	$354,197	$177,099	0.03%	0.01%	0	0	0.00%
Mentored Quantitative Resch. Career Dev Awd — K25	1	$157,167	$157,167	0.01%	0.0 %	1	0	0.00%
Postdoctoral Fellow Awards — K00	78	$7,211,442	$92,454	1.10%	0.18%	0	0	0.00%
Pathway to Independence — K99	83	$10,600,361	$127,715	1.17%	0.27%	256	45	17.58%
Subtotal Careers	**524**	**$102,569,783**	**$195,744**	**7.40%**	**2.60%**	**603**	**128**	**21.23%**
Totals	**7,082**	**$3,946,150,834**	**$557,209**	**100.00%**	**100.00%**	**12,995**	**2,021**	**15.55%**

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Source: Office of Extramural Finance and Information Analysis.

Table 14. Average Total Cost*† and Number of Research Project Grant Awards by Division, Office, Center, and Mechanism From FY2017 – FY2021

Budget Mechanism/ Division	FY2017		FY2018		FY2019		FY2020		FY2021		Percent Change 2017 vs. 2021	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
P01 Average Cost of Award												
NCI Overall	90	1,886	85	1,947	94	1,903	87	2,233	93	2,058	3.33%	9.12%
DCB	0	48	0	53	0	0	0	0	0	0	0.0%	-100.0%
DCB	42	1,765	38	1,812	37	1,696	34	1,779	39	1,860	-7.1%	5.4%
DCP	2	1,751	2	1,948	3	1,562	3	1,378	3	1,185	50.0%	-32.3%
DCTD	4	2,290	4	2,257	4	2,239	4	2,128	0	0	-100.0%	-100.0%
DCTD	33	1,861	31	1,982	38	1,989	36	2,183	39	2,248	18.2%	20.8%
DCCPS	9	2,322	10	2,174	12	2,182	10	2,258	12	2,284	33.3%	-1.6%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	610	0	535	0	742	0	20,000	0	159	0.0%	-73.9%
P30 Average Cost of Award												
NCI Overall	69	4,426	70	4,654	71	4,635	71	4,834	71	4,697	2.90%	6.12%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	69	4,426	70	4,654	71	4,635	71	4,834	71	4,697	2.9%	6.1%
P50 Average Cost of Award												
NCI Overall	51	2,185	50	2,191	58	2,036	59	2,048	54	2,004	5.88%	-8.28%
DCTD	51	2,177	50	2,188	52	2,125	52	2,169	54	2,001	5.9%	-8.1%
DCCPS	0	0	0	0	6	1,217	7	1,146	0	178	0.0%	100.0%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	385	0	128	0	272	0	0	0	0	0.0%	-100.0%
R01 Average Cost of Award												
NCI Overall	2,927	430	2,964	444	2,505	438	3,167	476	3,279	472	12.03%	9.77%
DCB	6	761	6	967	6	716	1	411	0	0	-100.0%	-100.0%
DCB	1,307	381	1,291	395	1,076	389	1,349	431	1,374	432	5.1%	13.4%
DCP	1	940	1	982	1	982	1	963	0	0	-100.0%	-100.0%
DCP	194	479	210	495	179	492	211	521	225	518	16.0%	8.1%
DCTD	2	1,239	2	1,153	2	1,025	0	0	0	0	-100.0%	-100.0%
DCTD	1,079	422	1,102	435	927	428	1,174	464	1,255	472	16.3%	12.0%
DCCPS	5	613	5	564	5	921	4	636	0	0	-100.0%	-100.0%

continued

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† In thousands of dollars.

Source: Office of Extramural Finance and Information Analysis.

Table 14 (cont'd). Average Total Cost*† and Number of Research Project Grant Awards by Division, Office, Center, and Mechanism From FY2017 – FY2021

Budget Mechanism/ Division	FY2017		FY2018		FY2019		FY2020		FY2021		Percent Change 2017 vs. 2021	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
DCCPS	328	578	339	573	301	546	416	589	410	563	25.0%	-2.4%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	0	0	229	0	0	0	0	0	0	0.0%	0.0%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	5	2,301	8	1,909	8	2,034	11	2,120	15	973	200.0%	-57.7%
R03 Average Cost of Award												
NCI Overall	138	78	148	82	68	82	117	97	93	90	-32.61%	15.38%
DCB	56	79	71	80	29	79	43	90	34	85	-39.3%	8.4%
DCP	9	78	8	78	3	75	7	82	5	79	-44.4%	1.7%
DCTD	33	78	39	80	18	80	39	98	34	90	3.0%	15.0%
DCCPS	40	78	30	92	18	91	28	108	20	102	-50.0%	30.8%
R13 Average Cost of Award												
NCI Overall	53	13	46	16	59	14	43	19	25	17	-52.83%	30.77%
DCB	30	4	19	6	28	6	20	6	9	7	-70.0%	51.3%
DCP	4	24	5	20	8	16	4	26	3	28	-25.0%	18.1%
DCTD	8	7	10	7	13	7	7	8	5	6	-37.5%	-10.8%
DCCPS	6	22	7	18	4	23	8	17	2	28	-66.7%	23.1%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	5	51	5	62	6	53	4	99	6	34	20.0%	-32.7%
R21 Average Cost of Award												
NCI Overall	369	190	298	191	219	183	322	233	298	234	-19.24%	23.16%
DCB	0	80	0	0	0	0	0	0	0	0	0.0%	-100.0%
DCB	102	186	27	186	20	184	46	213	37	237	-63.7%	27.7%
DCP	32	186	22	196	23	174	28	231	22	244	-31.3%	31.0%
DCTD	0	0	0	78	0	37	0	0	0	0	0.0%	0.0%
DCTD	144	193	165	191	121	181	158	239	188	233	30.6%	20.7%
DCCPS	0	82	0	0	0	0	0	0	0	0	0.0%	-100.0%
DCCPS	67	184	57	192	41	179	69	231	32	219	-52.2%	19.2%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	24	202	27	187	14	217	21	241	19	258	-20.8%	27.9%

continued

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† In thousands of dollars.

Source: Office of Extramural Finance and Information Analysis.

Table 14 (cont'd). Average Total Cost*† and Number of Research Project Grant Awards by Division, Office, Center, and Mechanism From FY2017 – FY2021

Budget Mechanism/ Division	FY2017		FY2018		FY2019		FY2020		FY2021		Percent Change 2017 vs. 2021	
	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	68	1,243	91	1,117	98	1,368	87	1,142	78	972	14.71%	-21.80%
DCB	2	1,672	8	2,554	8	2,822	7	1,082	0	0	-100.0%	-100.0%
DCB	5	1,120	7	771	6	988	3	392	9	452	80.0%	-59.7%
DCP	0	0	6	723	6	1,061	6	670	0	0	0.0%	0.0%
DCP	26	976	38	912	36	852	36	789	14	1,403	-46.2%	43.9%
DCTD	8	1,718	4	780	5	2,076	3	943	0	0	-100.0%	-100.0%
DCTD	6	809	5	335	6	353	2	553	21	608	250.0%	-24.8%
DCCPS	0	0	1	1,043	8	2,835	3	3,728	0	0	0.0%	0.0%
DCCPS	6	2,037	7	1,661	8	1,533	9	1,317	13	1,120	116.7%	-45.0%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	0	0	0	0	0	167	3	2,838	0	0	0.0%	0.0%
OD (CRCHD, OCAM, CSSI, CCT, OHAM, etc.)	15	1,292	15	1,291	15	1,396	15	1,511	21	1,181	40.0%	-8.6%
U10 Average Cost of Award												
NCI Overall	48	2,919	48	2,966	11	12,170	11	12,555	11	12,321	-77.08%	322.10%
DCTD	48	2,919	48	2,966	11	12,170	11	12,555	11	12,321	-77.1%	322.1%
U54 Average Cost of Award												
NCI Overall	66	1,534	68	2,261	69	2,100	45	1,598	60	1,174	-9.09%	-23.47%
CRCHD	31	1,238	38	1,480	38	1,185	25	1,325	42	1,044	35.5%	-15.6%
CSSI	6	2,206	0	0	0	0	0	0	0	0	-100.0%	-100.0%
DCB	22	2,040	30	3,237	31	3,208	19	2,011	18	1,477	-18.2%	-27.6%
DCCPS	7	675	0	400	0	400	1	579	0	0	-100.0%	-100.0%
SBIR Average Cost of Award												
NCI Overall	188	564	219	534	151	624	165	805	186	721	-1.06%	27.84%
SBIRDC	4	817	3	1,007	1	382	0	0	0	0	-100.0%	-100.0%
SBIR	0	0	0	0	0	0	165	751	186	721	100.0%	100.0%
SBIRDC	183	556	216	527	150	626	0	0	0	0	-100.0%	-100.0%

continued

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† In thousands of dollars.

Source: Office of Extramural Finance and Information Analysis.

Table 14 (cont'd). Average Total Cost*† and Number of Research Project Grant Awards by Division, Office, Center, and Mechanism From FY2017 – FY2021

Budget Mechanism/ Division	FY2017		FY2018		FY2019		FY2020		FY2021		Percent Change 2017 vs. 2021	
	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost	No.	Avg. Cost
STTR Average Cost of Award												
NCI Overall	50	392	40	459	29	626	50	457	52	446	4.00%	13.78%
SBIR	0	0	0	0	0	0	1	1,000	0	0	0.0%	0.0%
SBIRDC	4	327	3	442	2	913	0	0	0	0	-100.0%	-100.0%
SBIR	0	0	0	0	0	0	49	446	52	446	100.0%	100.0%
SBIRDC	46	397	37	460	27	604	0	0	0	0	-100.0%	-100.0%

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† In thousands of dollars.

Source: Office of Extramural Finance and Information Analysis.

Table 15. NCI Organ and Related Site-Specific Dollars for FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Adrenal	***Number of Grants***	***1***	***1***	***1***	***1***	***4***	
	Relevant Grant Dollars	‡	209,995	209,995	209,995	2,129,407	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***1***	***1***	***1***	***1***	***4***	
	Total Relevant Dollars	‡	209,995	209,995	209,995	2,129,407	304.67
Anus	***Number of Grants***	***25***	***25***	***31***	***32***	***31***	
	Relevant Grant Dollars	4,894,934	5,489,383	7,928,587	12,288,551	11,795,331	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***27***	***31***	***36***	***32***	***31***	
	Total Relevant Dollars	4,894,934	5,489,383	7,928,587	12,288,551	11,795,331	26.89
Bladder	***Number of Grants***	***104***	***114***	***80***	***93***	***92***	
	Relevant Grant Dollars	21,066,346	30,288,601	27,645,833	35,657,505	39,157,733	
	Number of Contracts	***15***	***9***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	8,205,875	4,183,614	1,088,691	‡	‡	
	Total Count	***119***	***123***	***81***	***93***	***92***	
	Total Relevant Dollars	29,272,221	34,472,215	28,734,524	35,657,505	39,157,733	8.76
Bone Marrow	***Number of Grants***	***11***	***6***	***9***	***10***	***7***	
	Relevant Grant Dollars	3,539,567	2,803,956	4,833,724	4,515,041	4,092,143	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***11***	***6***	***9***	***10***	***7***	
	Total Relevant Dollars	3,539,567	2,803,956	4,833,724	4,515,041	4,092,143	8.91
Bone — Cartilage	***Number of Grants***	***10***	***5***	***9***	***13***	***16***	
	Relevant Grant Dollars	3,299,530	2,706,328	3,671,705	4,589,421	6,100,496	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***10***	***5***	***9***	***13***	***16***	
	Total Relevant Dollars	3,299,530	2,706,328	3,671,705	4,589,421	6,100,496	18.90
Brain	***Number of Grants***	***478***	***485***	***483***	***480***	***501***	
	Relevant Grant Dollars	196,218,129	195,752,964	201,366,277	206,657,077	217,746,945	
	Number of Contracts	***3***	***1***	***‡***	***3***	***1***	
	Relevant Contract Dollars	606,179	50,007	‡	383,428,240	399,559	
	Total Count	***481***	***486***	***483***	***483***	***502***	
	Total Relevant Dollars	196,824,308	195,802,971	201,366,277	590,085,317	218,146,504	33.08

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Breast	***Number of Grants***	***1,313***	***1,333***	***1,368***	***1,348***	***1,346***	
	Relevant Grant Dollars	494,020,790	527,293,687	500,009,641	541,778,994	519,251,196	
	Number of Contracts	***17***	***15***	***4***	***7***	***1***	
	Relevant Contract Dollars	13,538,368	8,187,849	4,020,068	1,411,032	398,604	
	Total Count	***1,330***	***1,348***	***1,372***	***1,355***	***1,347***	
	Total Relevant Dollars	507,559,159	535,481,536	504,029,709	543,190,026	519,649,800	0.76
Central Nervous System	***Number of Grants***	***12***	***9***	***8***	***9***	***6***	
	Relevant Grant Dollars	1,347,811	1,001,486	1,919,978	2,145,042	1,729,033	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***12***	***9***	***8***	***9***	***6***	
	Total Relevant Dollars	1,347,811	1,001,486	1,919,978	2,145,042	1,729,033	14.59
Cervix	***Number of Grants***	***167***	***169***	***151***	***167***	***157***	
	Relevant Grant Dollars	51,639,739	56,529,769	55,801,427	66,395,225	65,477,459	
	Number of Contracts	***5***	***2***	***1***	***1***	***1***	
	Relevant Contract Dollars	3,846,974	855,852	622,604	761,776	835,869	
	Total Count	***172***	***171***	***152***	***168***	***158***	
	Total Relevant Dollars	55,486,713	57,385,621	56,424,031	67,157,001	66,313,328	4.88
Childhood Leukemia	***Number of Grants***	***161***	***145***	***218***	***243***	***203***	
	Relevant Grant Dollars	56,840,658	65,760,928	77,503,021	74,146,240	62,928,651	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***161***	***145***	***218***	***243***	***203***	
	Total Relevant Dollars	56,840,658	65,760,928	77,503,021	74,146,240	62,928,651	3.52
Colon — Rectum	***Number of Grants***	***547***	***608***	***599***	***625***	***637***	
	Relevant Grant Dollars	182,797,070	234,480,747	218,560,623	224,088,330	226,406,951	
	Number of Contracts	***16***	***12***	***7***	***2***	***2***	
	Relevant Contract Dollars	8,004,223	3,410,116	2,976,017	2,043,423	1,267,587	
	Total Count	***563***	***620***	***606***	***627***	***639***	
	Total Relevant Dollars	190,801,293	237,890,863	221,536,640	226,131,753	227,674,538	5.14
Esophagus	***Number of Grants***	***89***	***92***	***64***	***53***	***55***	
	Relevant Grant Dollars	27,239,377	25,721,355	22,683,369	19,853,591	20,998,406	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***89***	***92***	***64***	***53***	***55***	
	Total Relevant Dollars	27,239,377	25,721,355	22,683,369	19,853,591	20,998,406	-6.02

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Eye	***Number of Grants***	***27***	***23***	***24***	***22***	***21***	
	Relevant Grant Dollars	5,252,252	4,540,263	4,941,626	6,611,738	6,380,154	
	Number of Contracts	***1***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	1,999,987	‡	‡	‡	‡	
	Total Count	***28***	***23***	***24***	***22***	***21***	
	Total Relevant Dollars	7,252,239	4,540,263	4,941,626	6,611,738	6,380,154	0.43
Gall Bladder	***Number of Grants***	***4***	***5***	***5***	***6***	***5***	
	Relevant Grant Dollars	476,722	1,217,986	1,225,202	1,536,444	211,290	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***4***	***5***	***5***	***6***	***5***	
	Total Relevant Dollars	476,722	1,217,986	1,225,202	1,536,444	2,112,090	54.73
Gastrointestinal Stromal Tumor	***Number of Grants***	***9***	***12***	***13***	***16***	***10***	
	Relevant Grant Dollars	1,638,139	3,155,373	3,411,602	3,878,417	2,519,363	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***9***	***12***	***13***	***16***	***10***	
	Total Relevant Dollars	1,638,139	3,155,373	3,411,602	3,878,417	2,519,363	19.84
Gastrointestinal Tract	***Number of Grants***	***25***	***20***	***23***	***22***	***21***	
	Relevant Grant Dollars	5,074,964	4,019,325	10,623,733	10,670,783	11,509,389	
	Number of Contracts	***1***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	627,879	894,832	‡	‡	‡	
	Total Count	***26***	***21***	***23***	***22***	***21***	
	Total Relevant Dollars	5,702,843	4,914,157	10,623,733	10,670,783	11,509,389	27.66
Head and Neck	***Number of Grants***	***176***	***172***	***155***	***148***	***152***	
	Relevant Grant Dollars	38,974,882	40,445,671	47,171,588	46,369,930	52,429,001	
	Number of Contracts	***2***	***3***	***1***	***1***	***1***	
	Relevant Contract Dollars	312,604	128,865	1,999,989	400,000	20,000	
	Total Count	***178***	***175***	***156***	***149***	***153***	
	Total Relevant Dollars	39,287,486	40,574,536	49,171,577	46,769,930	52,449,001	7.93
Hodgkin's Lymphoma	***Number of Grants***	***29***	***29***	***28***	***35***	***33***	
	Relevant Grant Dollars	8,282,621	8,711,348	7,827,737	9,501,025	9,301,234	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***29***	***29***	***28***	***35***	***33***	
	Total Relevant Dollars	8,282,621	8,711,348	7,827,737	9,501,025	9,301,234	3.58

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Kaposi Sarcoma	***Number of Grants***	***58***	***60***	***65***	***69***	***64***	
	Relevant Grant Dollars	27,418,524	26,360,868	24,244,764	28,892,855	28,026,573	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***58***	***60***	***65***	***69***	***64***	
	Total Relevant Dollars	27,418,524	26,360,868	24,244,764	28,892,855	28,026,573	1.07
Kidney	***Number of Grants***	***131***	***145***	***116***	***122***	***118***	
	Relevant Grant Dollars	29,737,839	35,202,508	35,514,093	35,076,660	34,360,376	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***1***	
	Relevant Contract Dollars	‡	‡	‡	‡	131,128	
	Total Count	***131***	***145***	***116***	***122***	***119***	
	Total Relevant Dollars	29,737,839	35,202,508	35,514,093	35,076,660	34,491,504	4.09
Larynx	***Number of Grants***	***2***	***2***	***1***	***4***	***2***	
	Relevant Grant Dollars	473,788	431,926	82,322	349,888	113,482	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***2***	***2***	***1***	***4***	***2***	
	Total Relevant Dollars	473,788	431,926	82,322	349,888	113,482	41.92
Leukemia	***Number of Grants***	***593***	***560***	***556***	***603***	***575***	
	Relevant Grant Dollars	225,848,786	237,381,418	235,759,795	251,524,364	248,103,498	
	Number of Contracts	***2***	***2***	***‡***	***‡***	***1***	
	Relevant Contract Dollars	1,547,327	19,191	‡	‡	1,999,993	
	Total Count	***595***	***562***	***556***	***603***	***576***	
	Total Relevant Dollars	227,396,114	237,400,609	235,759,795	251,524,364	250,103,491	2.46
Liver	***Number of Grants***	***212***	***258***	***269***	***270***	***272***	
	Relevant Grant Dollars	62,046,177	84,863,828	93,301,235	92,885,952	94,198,945	
	Number of Contracts	***3***	***3***	***7***	***1***	***3***	
	Relevant Contract Dollars	1,674,216	99,772	2,411,664	80,000	2,211,089	
	Total Count	***215***	***261***	***276***	***271***	***275***	
	Total Relevant Dollars	63,720,393	84,963,600	95,712,899	92,965,952	96,410,034	11.71
Lung	***Number of Grants***	***714***	***726***	***777***	***862***	***930***	
	Relevant Grant Dollars	267,051,228	297,030,756	329,758,879	372,958,789	389,825,964	
	Number of Contracts	***25***	***16***	***20***	***9***	***6***	
	Relevant Contract Dollars	21,302,044	17,215,341	55,613,583	15,793,532	5,823,050	
	Total Count	***739***	***742***	***797***	***871***	***936***	
	Total Relevant Dollars	288,353,271	314,246,097	385,372,462	388,752,321	395,649,014	8.57

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Lymph Node	***Number of Grants***	***2***	***3***	***3***	***2***	***3***	
	Relevant Grant Dollars	425,733	650,917	571,254	493,999	383,072	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***2***	***3***	***3***	***2***	***3***	
	Total Relevant Dollars	425,733	650,917	571,254	493,999	383,072	1.17
Lymphatic System	***Number of Grants***	***1***	***1***	***1***	***1***	***1***	
	Relevant Grant Dollars	218,028	205,770	233,372	239,544	205,802	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***1***	***1***	***1***	***1***	***1***	
	Total Relevant Dollars	218,028	205,770	233,372	239,544	205,802	-0.91
Melanoma	***Number of Grants***	***422***	***433***	***431***	***459***	***462***	
	Relevant Grant Dollars	132,231,623	141,106,072	151,332,731	155,296,220	159,782,469	
	Number of Contracts	***2***	***‡***	***14***	***‡***	***1***	
	Relevant Contract Dollars	3,499,958	‡	23,242,523	‡	100,000	
	Total Count	***424***	***433***	***445***	***459***	***463***	
	Total Relevant Dollars	135,731,581	141,106,072	174,575,254	155,296,220	159,882,469	4.89
Mesothelioma	***Number of Grants***	***18***	***20***	***23***	***22***	***18***	
	Relevant Grant Dollars	6,037,260	8,166,842	9,722,032	7,662,841	5,701,409	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***18***	***20***	***23***	***22***	***18***	
	Total Relevant Dollars	6,037,260	8,166,842	9,722,032	7,662,841	5,701,409	1.88
Muscle	***Number of Grants***	***3***	***3***	***2***	***1***	***‡***	
	Relevant Grant Dollars	496,492	440,899	314,850	64,926	‡	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***3***	***3***	***2***	***1***	***‡***	
	Total Relevant Dollars	496,492	440,899	314,850	64,926	‡	-39.72
Myeloma	***Number of Grants***	***169***	***171***	***144***	***141***	***119***	
	Relevant Grant Dollars	53,362,826	55,081,460	51,396,312	41,853,952	44,441,690	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***169***	***171***	***144***	***141***	***119***	
	Total Relevant Dollars	53,362,826	55,081,460	51,396,312	41,853,952	44,441,690	-3.96

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Nervous System	***Number of Grants***	***24***	***14***	***15***	***9***	***10***	
	Relevant Grant Dollars	6,585,936	4,747,277	5,526,718	2,482,137	3,700,853	
	Number of Contracts	***1***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	1,499,991	‡	‡	‡	‡	
	Total Count	***25***	***14***	***15***	***9***	***10***	
	Total Relevant Dollars	8,085,927	4,747,277	5,526,718	2,482,137	3,700,853	-7.71
Neuroblastoma	***Number of Grants***	***58***	***71***	***75***	***76***	***71***	
	Relevant Grant Dollars	20,384,541	26,308,199	22,793,475	23,684,550	23,445,301	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***58***	***71***	***75***	***76***	***71***	
	Total Relevant Dollars	20,384,541	26,308,199	22,793,475	23,684,550	23,445,301	4.65
Non-Hodgkin's Lymphoma	***Number of Grants***	***307***	***299***	***278***	***295***	***291***	
	Relevant Grant Dollars	96,233,763	99,973,050	99,025,255	109,152,695	113,533,062	
	Number of Contracts	***‡***	***‡***	***1***	***1***	***1***	
	Relevant Contract Dollars	‡	‡	54,994	2,000,000	399,962	
	Total Count	***307***	***299***	***279***	***296***	***292***	
	Total Relevant Dollars	96,233,763	99,973,050	99,080,249	111,152,695	113,933,024	4.41
Not Site Specific†	***Number of Grants***	***1,368***	***1,435***	***1,511***	***1,526***	***1,524***	
	Relevant Grant Dollars	697,160,768	770,712,588	856,175,303	951,968,145	877,750,465	
	Number of Contracts	***135***	***160***	***125***	***172***	***174***	
	Relevant Contract Dollars	583,258,480	736,337,943	522,054,442	339,232,245	633,724,984	
	Total Count	***1,503***	***1,595***	***1,636***	***1,698***	***1,698***	
	Total Relevant Dollars	1,280,419,248	1,507,050,531	1,378,229,745	1,291,200,390	1,511,475,449	4.97
Oral Cavity	***Number of Grants***	***53***	***40***	***43***	***74***	***65***	
	Relevant Grant Dollars	13,533,375	12,182,738	12,325,550	18,840,504	16,634,211	
	Number of Contracts	***‡***	***‡***	***1***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	15,000	15,000	‡	
	Total Count	***53***	***40***	***43***	***75***	***65***	
	Total Relevant Dollars	13,533,375	12,182,738	12,340,550	18,855,504	16,634,211	8.08
Ovary	***Number of Grants***	***332***	***335***	***342***	***337***	***350***	
	Relevant Grant Dollars	95,963,310	106,717,144	108,940,938	116,728,532	120,285,614	
	Number of Contracts	***4***	***1***	***1***	***‡***	***1***	
	Relevant Contract Dollars	1,535,829	215,329	4,863	‡	1,167,587	
	Total Count	***336***	***336***	***343***	***337***	***351***	
	Total Relevant Dollars	97,499,140	106,932,473	108,945,801	116,728,532	121,453,201	5.69

continued

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

Table 15 (cont'd). NCI Organ and Related Site-Specific Dollars for FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Pancreas	***Number of Grants***	***454***	***486***	***484***	***525***	***544***	
	Relevant Grant Dollars	163,371,849	169,736,794	172,139,086	189,985,200	203,216,987	
	Number of Contracts	***13***	***9***	***2***	***1***	***‡***	
	Relevant Contract Dollars	4,908,116	789,909	1,291,099	398,711	‡	
	Total Count	***467***	***495***	***486***	***526***	***544***	
	Total Relevant Dollars	168,279,965	170,526,703	173,430,185	190,383,911	203,216,987	4.89
Parathyroid	***Number of Grants***	***3***	***2***	***3***	***6***	***4***	
	Relevant Grant Dollars	676,030	652,252	1,268,612	1,958,217	1,383,619	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***3***	***2***	***3***	***6***	***4***	
	Total Relevant Dollars	676,030	652,252	1,268,612	1,958,217	1,383,619	28.99
Penis	***Number of Grants***	***3***	***2***	***7***	***8***	***7***	
	Relevant Grant Dollars	341,693	263,025	656,490	885,380	873,240	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***3***	***2***	***7***	***8***	***7***	
	Total Relevant Dollars	341,693	263,025	656,490	885,380	873,240	40.02
Pharynx	***Number of Grants***	***12***	***7***	***8***	***17***	***16***	
	Relevant Grant Dollars	2,045,454	1,456,420	2,928,133	4,406,488	5,316,112	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***12***	***7***	***8***	***17***	***16***	
	Total Relevant Dollars	2,045,454	1,456,420	2,928,133	4,406,488	5,316,112	35.84
Pituitary	***Number of Grants***	***5***	***5***	***6***	***6***	***6***	
	Relevant Grant Dollars	1,222,742	1,572,297	1,546,588	1,524,157	1,628,815	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***5***	***5***	***6***	***6***	***6***	
	Total Relevant Dollars	1,222,742	1,572,297	1,546,588	1,524,157	1,628,815	8.09
Prostate	***Number of Grants***	***551***	***552***	***533***	***532***	***551***	
	Relevant Grant Dollars	194,381,794	203,996,788	210,896,342	208,342,580	213,750,605	
	Number of Contracts	***21***	***16***	***7***	***5***	***1***	
	Relevant Contract Dollars	13,540,995	7,118,212	5,553,063	1,702,340	1,167,587	
	Total Count	***572***	***568***	***540***	***537***	***552***	
	Total Relevant Dollars	207,922,789	211,115,001	216,449,404	210,044,920	214,918,192	0.86

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Retinoblastoma	***Number of Grants***	***8***	***10***	***10***	***12***	***7***	
	Relevant Grant Dollars	1,629,496	3,485,869	2,233,623	2,778,359	1,842,227	
	Number of Contracts	***‡***	***‡***	***‡***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	398,149	‡	
	Total Count	***8***	***10***	***10***	***13***	***7***	
	Total Relevant Dollars	1,629,496	3,485,869	2,233,623	3,176,508	1,842,227	19.55
Sarcoma — Bone	***Number of Grants***	***73***	***70***	***66***	***73***	***66***	
	Relevant Grant Dollars	19,160,750	32,624,063	16,332,850	15,137,493	18,059,775	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***73***	***70***	***66***	***73***	***66***	
	Total Relevant Dollars	19,160,750	32,624,063	16,332,850	15,137,493	18,059,775	8.08
Sarcoma — Soft Tissue	***Number of Grants***	***97***	***99***	***99***	***103***	***105***	
	Relevant Grant Dollars	22,274,960	40,785,034	31,903,104	24,661,666	30,208,118	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***97***	***99***	***99***	***103***	***105***	
	Total Relevant Dollars	22,274,960	40,785,034	31,903,104	24,661,666	30,208,118	15.28
Skin	***Number of Grants***	***136***	***127***	***116***	***123***	***113***	
	Relevant Grant Dollars	34,846,957	33,633,922	34,112,959	44,553,911	40,001,783	
	Number of Contracts	***2***	***1***	***3***	***‡***	***‡***	
	Relevant Contract Dollars	1,576,506	288,945	643,548	‡	‡	
	Total Count	***138***	***128***	***119***	***123***	***113***	
	Total Relevant Dollars	36,423,463	33,922,867	34,756,507	44,553,911	40,001,783	3.34
Small Intestine	***Number of Grants***	***10***	***6***	***8***	***7***	***5***	
	Relevant Grant Dollars	3,030,339	2,264,455	2,202,945	1,165,582	1,184,868	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	510,195	‡	‡	
	Total Count	***10***	***6***	***8***	***7***	***5***	
	Total Relevant Dollars	3,030,339	2,264,455	2,713,140	1,165,582	1,184,868	-15.21
Stomach	***Number of Grants***	***59***	***56***	***41***	***50***	***47***	
	Relevant Grant Dollars	11,244,817	11,759,946	10,761,813	12,464,266	13,850,275	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	510,195	‡	‡	
	Total Count	***59***	***56***	***42***	***50***	***47***	
	Total Relevant Dollars	11,244,817	11,759,946	11,272,008	12,464,266	13,850,275	5.53

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Testis	***Number of Grants***	***7***	***6***	***6***	***16***	***14***	
	Relevant Grant Dollars	1,741,733	1,660,195	1,568,860	5,260,190	4,363,846	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***7***	***6***	***6***	***16***	***14***	
	Total Relevant Dollars	1,741,733	1,660,195	1,568,860	5,260,190	4,363,846	52.02
Thymus	***Number of Grants***	***1***	***6***	***6***	***6***	***3***	
	Relevant Grant Dollars	116,127	1,081,389	1,065,371	1,183,335	845,886	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***1***	***6***	***6***	***6***	***3***	
	Total Relevant Dollars	116,127	1,081,389	1,065,371	1,183,335	845,886	203.07
Thyroid	***Number of Grants***	***49***	***46***	***44***	***49***	***46***	
	Relevant Grant Dollars	17,778,628	12,105,222	10,794,911	12,627,725	13,543,963	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	49,394	‡	‡	
	Total Count	***49***	***46***	***45***	***49***	***46***	
	Total Relevant Dollars	17,778,628	12,105,222	10,844,305	12,627,725	13,543,963	-4.66
Uterus	***Number of Grants***	***83***	***84***	***59***	***58***	***47***	
	Relevant Grant Dollars	15,803,076	15,069,028	13,819,141	14,403,143	12,119,866	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	1,231,648	‡	‡	
	Total Count	***83***	***84***	***60***	***58***	***47***	
	Total Relevant Dollars	15,803,076	15,069,028	15,050,789	14,403,143	12,119,866	-6.23
Vagina	***Number of Grants***	***1***	***2***	***4***	***3***	***6***	
	Relevant Grant Dollars	383,925	524,157	583,872	769,655	562,667	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***1***	***2***	***4***	***3***	***6***	
	Total Relevant Dollars	383,925	524,157	583,872	769,655	562,667	26.57
Vascular	***Number of Grants***	***4***	***2***	***3***	***6***	***4***	
	Relevant Grant Dollars	1,118,191	837,968	1,344,206	1,680,268	1,488,561	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***4***	***2***	***3***	***6***	***4***	
	Total Relevant Dollars	1,118,191	837,968	1,344,206	1,680,268	1,488,561	12.23

continued

* 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 FY2017 – FY2021 — Average Percent Change

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

Anatomical Site	Counts and Relevant Dollars*	2017	2018	2019	2020	2021	Average Percent Change/ Year
Wilms Tumor	***Number of Grants***	***11***	***9***	***7***	***6***	***5***	
	Relevant Grant Dollars	4,241,898	4,160,103	1,940,000	1,756,390	1,183,742	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***11***	***9***	***7***	***6***	***5***	
	Total Relevant Dollars	4,241,898	4,160,103	1,940,000	1,756,390	1,183,742	-24.34

* 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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Adolescent and Young Adults Cancer	***Number of Grants***	***142***	***172***	***231***	***293***	***313***	
	Relevant Grant Dollars	39,158,375	80,608,475	118,127,498	122,204,317	128,983,654	
	Number of Contracts	***1***	***‡***	***2***	***‡***	***‡***	
	Relevant Contract Dollars	37,500	‡	442,938	‡	‡	
	Total Count	***143***	***172***	***233***	***293***	***313***	
	Total Relevant Dollars	39,195,875	80,608,475	118,570,436	122,204,317	128,983,654	40.34
Adoptive Cell Immunotherapy	***Number of Grants***	***174***	***178***	***211***	***258***	***280***	
	Relevant Grant Dollars	50,677,796	65,668,061	87,631,798	86,391,555	100,646,024	
	Number of Contracts	***2***	***‡***	***1***	***1***	***2***	
	Relevant Contract Dollars	539,847	‡	27,497	399,299	2,399,955	
	Total Count	***176***	***178***	***212***	***259***	***282***	
	Total Relevant Dollars	51,217,643	65,668,061	87,659,295	86,790,854	103,045,979	19.86
Advanced Manufacturing Technology	***Number of Grants***	***1***	***3***	***3***	***4***	***5***	
	Relevant Grant Dollars	560,239	1,493,003	845,428	1,829,119	2,016,956	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***1***	***3***	***3***	***4***	***5***	
	Total Relevant Dollars	560,239	1,493,003	845,428	1,829,119	2,016,956	62.44
Aging	***Number of Grants***	***226***	***196***	***215***	***238***	***218***	
	Relevant Grant Dollars	49,797,772	49,513,188	64,340,550	77,241,267	72,529,506	
	Number of Contracts	***5***	***5***	***6***	***2***	***‡***	
	Relevant Contract Dollars	462,276	524,756	690,838	1,152,930	‡	
	Total Count	***231***	***201***	***221***	***240***	***218***	
	Total Relevant Dollars	50,260,048	50,037,944	65,031,388	78,394,197	72,529,506	10.65
Alternative Medicine	***Number of Grants***	***153***	***148***	***145***	***145***	***152***	
	Relevant Grant Dollars	35,660,834	45,018,152	46,859,296	43,374,202	49,802,758	
	Number of Contracts	***2***	***2***	***2***	***1***	***1***	
	Relevant Contract Dollars	4,872,052	3,855,644	928,436	181,500	199,976	
	Total Count	***155***	***150***	***147***	***146***	***153***	
	Total Relevant Dollars	40,532,886	48,873,796	47,787,732	43,555,702	50,002,734	6.08
Alzheimer's Dementia	***Number of Grants***	***3***	***1***	***1***	***3***	***2***	
	Relevant Grant Dollars	514,839	215,229	207,809	467,294	480,430	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***3***	***1***	***1***	***3***	***2***	
	Total Relevant Dollars	514,839	215,229	207,809	467,294	480,430	16.50

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Arctic Research	***Number of Grants***	***5***	***5***	***9***	***17***	***13***	
	Relevant Grant Dollars	1,387,435	1,238,465	4,280,761	7,890,282	5,711,933	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***5***	***5***	***9***	***17***	***13***	
	Total Relevant Dollars	1,387,435	1,238,465	4,280,761	7,890,282	5,711,933	72.91
Asbestos	***Number of Grants***	***7***	***7***	***5***	***4***	***6***	
	Relevant Grant Dollars	3,146,506	3,065,315	1,716,100	1,478,421	2,204,411	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***7***	***7***	***5***	***4***	***6***	
	Total Relevant Dollars	3,146,506	3,065,315	1,716,100	1,478,421	2,204,411	-2.84
Ataxia Telangiectasia	***Number of Grants***	***6***	***3***	***3***	***3***	***1***	
	Relevant Grant Dollars	971,104	439,541	632,185	646,859	241,275	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***6***	***3***	***3***	***3***	***1***	
	Total Relevant Dollars	971,104	439,541	632,185	646,859	241,275	-17.82
Autoimmune Diseases	***Number of Grants***	***5***	***9***	***10***	***11***	***9***	
	Relevant Grant Dollars	922,027	2,402,185	2,129,342	2,852,373	1,976,270	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***5***	***9***	***10***	***11***	***9***	
	Total Relevant Dollars	922,027	2,402,185	2,129,342	2,852,373	1,976,270	38.10
Behavior Research	***Number of Grants***	***631***	***630***	***680***	***799***	***802***	
	Relevant Grant Dollars	214,939,253	238,643,771	248,036,698	299,047,617	307,388,720	
	Number of Contracts	***8***	***7***	***5***	***7***	***2***	
	Relevant Contract Dollars	3,674,886	4,155,657	35,595,028	6,869,266	1,022,930	
	Total Count	***639***	***637***	***685***	***806***	***804***	
	Total Relevant Dollars	218,614,139	242,799,428	283,631,726	305,916,884	308,411,650	9.14
Bioengineering	***Number of Grants***	***359***	***445***	***498***	***517***	***561***	
	Relevant Grant Dollars	134,136,385	164,170,593	192,613,667	214,148,983	234,398,214	
	Number of Contracts	***4***	***6***	***17***	***10***	***7***	
	Relevant Contract Dollars	2,254,856	5,021,564	15,537,305	3,547,308	2,789,513	
	Total Count	***363***	***451***	***515***	***527***	***568***	
	Total Relevant Dollars	136,391,241	169,192,157	208,150,972	217,696,291	237,187,727	15.15

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Bioinformatics	***Number of Grants***	***551***	***641***	***755***	***819***	***820***	
	Relevant Grant Dollars	225,131,784	282,603,451	314,616,007	342,712,693	342,864,476	
	Number of Contracts	***43***	***25***	***26***	***119***	***40***	
	Relevant Contract Dollars	37,237,753	43,412,556	243,812,997	174,223,520	76,257,031	
	Total Count	***594***	***666***	***781***	***938***	***860***	
	Total Relevant Dollars	262,369,537	326,016,007	558,429,004	516,936,213	419,121,507	17.29
Biological Carcinogenesis Non-Viral	***Number of Grants***	***67***	***69***	***75***	***92***	***89***	
	Relevant Grant Dollars	20,826,379	21,398,045	23,221,779	25,360,950	28,608,038	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***1***	
	Relevant Contract Dollars	‡	‡	‡	‡	1,999,961	
	Total Count	***67***	***69***	***75***	***92***	***90***	
	Total Relevant Dollars	20,826,379	21,398,045	23,221,779	25,360,950	30,607,999	10.29
Biologics/Biological Response Modifiers	***Number of Grants***	***821***	***901***	***1,040***	***1,215***	***1,271***	
	Relevant Grant Dollars	318,168,448	360,770,365	421,827,794	480,327,415	490,484,192	
	Number of Contracts	***13***	***9***	***18***	***9***	***4***	
	Relevant Contract Dollars	43,053,952	39,559,578	7,000,911	9,399,568	4,091,098	
	Total Count	***834***	***910***	***1,058***	***1,224***	***1,274***	
	Total Relevant Dollars	361,222,400	400,329,942	428,828,705	489,726,983	494,575,290	8.28
Biomarkers	***Number of Grants***	***1,340***	***1,420***	***1,533***	***1,496***	***1,661***	
	Relevant Grant Dollars	454,837,605	491,516,348	507,662,741	502,778,212	538,519,084	
	Number of Contracts	***10***	***13***	***25***	***9***	***10***	
	Relevant Contract Dollars	7,734,592	7,203,277	14,609,257	5,069,362	12,318,509	
	Total Count	***1,350***	***1,433***	***1,558***	***1,505***	***1,671***	
	Total Relevant Dollars	462,572,197	498,719,625	522,271,998	507,847,574	550,837,593	4.56
Biomaterials Research	***Number of Grants***	***54***	***64***	***76***	***72***	***70***	
	Relevant Grant Dollars	14,118,242	16,497,668	23,344,253	19,950,191	21,852,233	
	Number of Contracts	***‡***	***1***	***‡***	***2***	***‡***	
	Relevant Contract Dollars	‡	149,905	‡	400,000	‡	
	Total Count	***54***	***65***	***76***	***74***	***70***	
	Total Relevant Dollars	14,118,242	16,647,573	23,344,253	20,350,191	21,852,233	13.17
Biomedical Computing	***Number of Grants***	***516***	***573***	***686***	***768***	***804***	
	Relevant Grant Dollars	251,923,719	252,725,128	269,476,921	300,632,446	313,421,927	
	Number of Contracts	***46***	***52***	***36***	***123***	***47***	
	Relevant Contract Dollars	40,076,260	61,946,642	249,348,654	175,830,676	60,014,598	
	Total Count	***562***	***625***	***722***	***891***	***851***	
	Total Relevant Dollars	291,999,979	314,671,770	518,825,575	476,463,122	373,436,525	10.71

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Bone Marrow Transplantation	***Number of Grants***	***76***	***74***	***67***	***73***	***62***	
	Relevant Grant Dollars	29,173,660	34,712,978	29,046,389	32,837,598	31,774,199	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***76***	***74***	***67***	***73***	***62***	
	Total Relevant Dollars	29,173,660	34,712,978	29,046,389	32,837,598	31,774,199	3.12
Breast Cancer Detection	***Number of Grants***	***240***	***236***	***247***	***227***	***222***	
	Relevant Grant Dollars	81,227,274	93,964,637	81,438,411	83,444,810	79,628,066	
	Number of Contracts	***‡***	***2***	***‡***	***3***	***1***	
	Relevant Contract Dollars	‡	53,073	‡	999,778	279,023	
	Total Count	***240***	***238***	***247***	***230***	***223***	
	Total Relevant Dollars	81,227,274	94,017,710	81,438,411	84,444,588	79,907,089	0.07
Breast Cancer Early Detection	***Number of Grants***	***136***	***142***	***146***	***132***	***104***	
	Relevant Grant Dollars	41,613,302	41,663,384	41,392,617	42,906,961	34,227,936	
	Number of Contracts	***‡***	***‡***	***‡***	***2***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	799,778	‡	
	Total Count	***136***	***142***	***146***	***134***	***104***	
	Total Relevant Dollars	41,613,302	41,663,384	41,392,617	43,706,739	34,227,936	-4.16
Breast Cancer Education	***Number of Grants***	***31***	***28***	***29***	***28***	***28***	
	Relevant Grant Dollars	5,272,981	5,439,597	4,543,456	4,829,069	7,592,960	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***31***	***28***	***29***	***28***	***28***	
	Total Relevant Dollars	5,272,981	5,439,597	4,543,456	4,829,069	7,592,960	12.55
Breast Cancer Epidemiology	***Number of Grants***	***97***	***92***	***94***	***87***	***71***	
	Relevant Grant Dollars	34,190,668	30,273,776	26,836,612	28,355,007	25,140,881	
	Number of Contracts	***11***	***7***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	5,829,361	37,205	‡	‡	‡	
	Total Count	***108***	***99***	***94***	***87***	***71***	
	Total Relevant Dollars	40,020,029	30,310,981	26,836,612	28,355,007	25,140,881	-10.35
Breast Cancer Genetics	***Number of Grants***	***259***	***218***	***198***	***172***	***137***	
	Relevant Grant Dollars	70,149,087	66,472,567	54,942,258	56,347,830	43,018,502	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***259***	***218***	***198***	***172***	***137***	
	Total Relevant Dollars	70,149,087	66,472,567	54,942,258	56,347,830	43,018,502	-10.92

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Breast Cancer Prevention	***Number of Grants***	***81***	***79***	***92***	***89***	***80***	
	Relevant Grant Dollars	19,450,769	18,347,556	20,549,191	19,734,699	22,991,008	
	Number of Contracts	***2***	***3***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	4,001,575	4,562,338	‡	‡	‡	
	Total Count	***83***	***82***	***92***	***89***	***80***	
	Total Relevant Dollars	23,452,344	22,909,894	20,549,191	19,734,699	22,991,008	-0.02
Breast Cancer Rehabilitation	***Number of Grants***	***60***	***62***	***69***	***72***	***54***	
	Relevant Grant Dollars	16,481,786	16,157,094	19,374,865	23,648,591	16,308,963	
	Number of Contracts	***‡***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	1,499,993	‡	‡	‡	
	Total Count	***60***	***63***	***69***	***72***	***54***	
	Total Relevant Dollars	16,481,786	17,657,087	19,374,865	23,648,591	16,308,963	1.97
Breast Cancer Screening	***Number of Grants***	***51***	***57***	***57***	***52***	***49***	
	Relevant Grant Dollars	14,653,679	15,132,034	14,338,947	19,922,792	20,246,637	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***51***	***57***	***57***	***52***	***49***	
	Total Relevant Dollars	14,653,679	15,132,034	14,338,947	19,922,792	20,246,637	9.65
Breast Cancer Treatment	***Number of Grants***	***567***	***618***	***619***	***625***	***667***	
	Relevant Grant Dollars	176,349,237	209,590,194	196,387,826	213,770,728	228,920,318	
	Number of Contracts	***2***	***2***	***4***	***‡***	***1***	
	Relevant Contract Dollars	3,485,914	2,035,240	4,020,068	‡	119,581	
	Total Count	***569***	***620***	***623***	***625***	***668***	
	Total Relevant Dollars	179,835,151	211,625,433	200,407,894	213,770,728	229,039,899	6.55
Breast Cancer — Basic	***Number of Grants***	***586***	***556***	***567***	***567***	***515***	
	Relevant Grant Dollars	166,218,155	158,766,455	155,259,816	172,808,076	151,747,531	
	Number of Contracts	***5***	***3***	***‡***	***6***	***‡***	
	Relevant Contract Dollars	3,530,301	40,722	‡	411,254	‡	
	Total Count	***591***	***559***	***567***	***573***	***515***	
	Total Relevant Dollars	169,748,456	158,807,177	155,259,816	173,219,330	151,747,531	-2.37
Cancer Stem Cells	***Number of Grants***	***396***	***417***	***411***	***397***	***373***	
	Relevant Grant Dollars	108,363,835	114,972,296	111,157,005	115,958,620	109,027,113	
	Number of Contracts	***1***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	1,475,002	‡	‡	‡	‡	
	Total Count	***397***	***417***	***411***	***397***	***373***	
	Total Relevant Dollars	109,838,837	114,972,296	111,157,005	115,958,620	109,027,113	4.49

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Cancer Survivorship	***Number of Grants***	***346***	***385***	***441***	***482***	***508***	
	Relevant Grant Dollars	167,262,525	203,631,879	238,044,537	285,280,496	278,047,831	
	Number of Contracts	***3***	***9***	***11***	***37***	***2***	
	Relevant Contract Dollars	6,505,519	16,014,755	11,940,379	27,004,668	4,165,030	
	Total Count	***349***	***394***	***452***	***519***	***510***	
	Total Relevant Dollars	173,768,044	219,646,634	249,984,916	312,285,164	282,212,861	13.87
Carcinogenesis — Environmental	***Number of Grants***	***631***	***626***	***687***	***751***	***742***	
	Relevant Grant Dollars	258,785,860	262,220,786	283,174,495	299,484,274	287,988,698	
	Number of Contracts	***20***	***20***	***8***	***8***	***5***	
	Relevant Contract Dollars	11,050,342	16,494,997	33,723,167	12,438,407	5,105,285	
	Total Count	***651***	***646***	***695***	***759***	***747***	
	Total Relevant Dollars	269,836,202	278,715,783	316,897,661	311,922,681	293,093,983	2.34
Cervical Cancer Education	***Number of Grants***	***23***	***20***	***24***	***27***	***26***	
	Relevant Grant Dollars	5,584,906	4,612,220	5,742,343	6,253,073	12,015,098	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***23***	***20***	***24***	***27***	***26***	
	Total Relevant Dollars	5,584,906	4,612,220	5,742,343	6,253,073	12,015,098	27.03
Chemoprevention	***Number of Grants***	***210***	***199***	***203***	***183***	***171***	
	Relevant Grant Dollars	70,023,623	71,362,862	72,507,610	67,095,872	67,969,703	
	Number of Contracts	***8***	***13***	***21***	***9***	***10***	
	Relevant Contract Dollars	15,912,399	19,797,086	20,876,960	16,710,594	11,478,053	
	Total Count	***218***	***212***	***224***	***192***	***181***	
	Total Relevant Dollars	85,936,022	91,159,948	93,384,569	83,806,466	79,447,756	-1.73
Chemoprevention — Clinical	***Number of Grants***	***12***	***10***	***9***	***7***	***7***	
	Relevant Grant Dollars	8,971,425	7,445,837	7,669,943	2,409,765	3,361,908	
	Number of Contracts	***‡***	***‡***	***2***	***‡***	***5***	
	Relevant Contract Dollars	‡	‡	3,114,962	‡	2,762,879	
	Total Count	***12***	***10***	***11***	***7***	***12***	
	Total Relevant Dollars	8,971,425	7,445,837	10,784,905	2,409,765	6,124,787	26.08
Chemotherapy	***Number of Grants***	***732***	***802***	***871***	***893***	***909***	
	Relevant Grant Dollars	287,462,997	316,933,597	337,533,318	375,420,336	367,026,459	
	Number of Contracts	***17***	***13***	***6***	***2***	***17***	
	Relevant Contract Dollars	14,902,930	7,708,690	5,184,714	941,602	20,432,978	
	Total Count	***749***	***815***	***877***	***895***	***926***	
	Total Relevant Dollars	302,365,927	324,642,287	342,718,031	376,361,938	387,459,437	6.42

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Child Health	***Number of Grants***	***66***	***58***	***80***	***91***	***78***	
	Relevant Grant Dollars	15,020,069	13,942,846	35,168,895	34,948,659	35,682,264	
	Number of Contracts	***‡***	***2***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	2,037,698	418,241	‡	‡	
	Total Count	***66***	***60***	***81***	***91***	***78***	
	Total Relevant Dollars	15,020,069	15,980,544	35,587,136	34,948,659	35,682,264	32.35
Childhood Cancers	***Number of Grants***	***411***	***438***	***585***	***623***	***594***	
	Relevant Grant Dollars	189,628,119	249,037,676	306,475,154	299,355,101	294,987,177	
	Number of Contracts	***2***	***2***	***1***	***6***	***‡***	
	Relevant Contract Dollars	589,442	2,476,618	1,878,258	388,536,294	‡	
	Total Count	***413***	***440***	***586***	***629***	***594***	
	Total Relevant Dollars	190,217,561	251,514,294	308,353,412	687,891,395	294,987,177	30.19
Chronic Myeloproliferative Disorders	***Number of Grants***	***66***	***55***	***60***	***62***	***49***	
	Relevant Grant Dollars	15,967,470	18,840,695	19,099,884	18,456,267	17,244,931	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***66***	***55***	***60***	***62***	***49***	
	Total Relevant Dollars	15,967,470	18,840,695	19,099,884	18,456,267	17,244,931	2.36
Clinical Trials — Diagnosis	***Number of Grants***	***154***	***154***	***151***	***124***	***116***	
	Relevant Grant Dollars	61,783,602	59,253,323	65,733,617	70,973,138	67,737,052	
	Number of Contracts	***1***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	2,125,347	2,939,599	‡	‡	‡	
	Total Count	***155***	***155***	***151***	***124***	***116***	
	Total Relevant Dollars	63,908,948	62,192,922	65,733,617	70,973,138	67,737,502	1.60
Clinical Trials — Other	***Number of Grants***	***227***	***252***	***294***	***354***	***367***	
	Relevant Grant Dollars	147,623,023	160,552,594	188,858,909	219,973,910	216,555,147	
	Number of Contracts	***8***	***6***	***9***	***11***	***3***	
	Relevant Contract Dollars	32,688,151	24,412,496	26,874,654	22,657,772	8,415,546	
	Total Count	***235***	***258***	***303***	***365***	***370***	
	Total Relevant Dollars	180,311,174	184,965,089	215,733,563	242,631,682	224,970,693	6.10
Clinical Trials — Prevention	***Number of Grants***	***93***	***104***	***139***	***133***	***143***	
	Relevant Grant Dollars	33,917,834	37,773,781	58,723,603	62,505,857	72,456,414	
	Number of Contracts	***5***	***6***	***6***	***5***	***1***	
	Relevant Contract Dollars	9,563,835	7,682,165	7,566,893	5,078,890	1,354,809	
	Total Count	***98***	***110***	***145***	***138***	***144***	
	Total Relevant Dollars	43,481,669	45,455,946	66,290,495	67,584,747	73,811,223	15.38

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Clinical Trials — Therapy	***Number of Grants***	***446***	***462***	***496***	***459***	***467***	
	Relevant Grant Dollars	345,754,242	369,134,221	343,190,499	388,573,083	361,476,520	
	Number of Contracts	***10***	***7***	***4***	***2***	***‡***	
	Relevant Contract Dollars	100,543,132	136,563,624	10,446,636	3,746,120	‡	
	Total Count	***456***	***469***	***500***	***461***	***467***	
	Total Relevant Dollars	446,297,374	505,697,845	353,637,135	392,319,203	361,476,520	-3.42
Combination Therapy	***Number of Grants***	***1,103***	***1,193***	***1,388***	***1,491***	***1,581***	
	Relevant Grant Dollars	361,206,359	408,506,690	466,604,392	540,731,253	545,533,623	
	Number of Contracts	***3***	***2***	***7***	***5***	***1***	
	Relevant Contract Dollars	2,834,416	993,782	2,658,989	943,735	659,998	
	Total Count	***1,106***	***1,195***	***1,395***	***1,496***	***1,582***	
	Total Relevant Dollars	364,040,775	409,500,472	469,263,381	541,674,988	546,193,621	10.84
Cost-Effectiveness	***Number of Grants***	***110***	***122***	***139***	***161***	***153***	
	Relevant Grant Dollars	27,980,143	29,227,852	41,549,580	46,576,856	4,784,889	
	Number of Contracts	***‡***	***‡***	***1***	***2***	***‡***	
	Relevant Contract Dollars	‡	‡	149,996	219,978	‡	
	Total Count	***110***	***122***	***140***	***163***	***153***	
	Total Relevant Dollars	27,980,143	29,227,852	41,699,576	46,796,834	47,884,889	15.42
Diabetes	***Number of Grants***	***64***	***66***	***58***	***64***	***44***	
	Relevant Grant Dollars	11,766,492	12,640,219	10,809,850	13,739,652	11,239,982	
	Number of Contracts	***‡***	***‡***	***‡***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	79,857	‡	
	Total Count	***64***	***66***	***58***	***65***	***44***	
	Total Relevant Dollars	11,766,492	12,640,219	10,809,850	13,819,509	11,239,982	0.53
Diagnosis	***Number of Grants***	***1,216***	***1,272***	***1,398***	***1,487***	***1,550***	
	Relevant Grant Dollars	595,266,675	666,808,403	701,913,262	809,810,970	801,031,329	
	Number of Contracts	***37***	***31***	***21***	***42***	***20***	
	Relevant Contract Dollars	61,672,252	53,282,401	19,276,242	47,937,100	19,959,292	
	Total Count	***1,253***	***1,303***	***1,419***	***1,529***	***1,570***	
	Total Relevant Dollars	656,938,926	720,090,804	721,189,504	857,748,070	820,990,621	6.10
DNA Repair	***Number of Grants***	***409***	***422***	***426***	***443***	***458***	
	Relevant Grant Dollars	107,893,903	119,158,685	120,767,193	137,329,333	139,979,184	
	Number of Contracts	***‡***	***1***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	150,000	991,300	‡	‡	
	Total Count	***409***	***423***	***427***	***443***	***458***	
	Total Relevant Dollars	107,893,903	119,308,685	121,758,492	137,329,333	139,979,184	6.84

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Drug Development	***Number of Grants***	***1,772***	***1,787***	***1,882***	***1,978***	***2,111***	
	Relevant Grant Dollars	680,118,152	729,568,548	754,132,073	835,004,564	847,379,964	
	Number of Contracts	***31***	***28***	***40***	***33***	***29***	
	Relevant Contract Dollars	106,973,228	110,388,736	32,805,210	45,279,687	27,616,592	
	Total Count	***1,803***	***1,815***	***1,922***	***2,011***	***2,140***	
	Total Relevant Dollars	787,091,380	839,957,283	786,937,283	880,284,251	874,996,556	2.91
Drug Discovery	***Number of Grants***	***318***	***314***	***360***	***374***	***381***	
	Relevant Grant Dollars	86,983,505	102,664,482	119,635,952	106,976,631	117,017,878	
	Number of Contracts	***10***	***9***	***8***	***13***	***5***	
	Relevant Contract Dollars	3,522,708	7,086,104	5,167,352	11,366,705	6,003,411	
	Total Count	***328***	***323***	***368***	***387***	***386***	
	Total Relevant Dollars	90,506,212	109,750,585	124,803,304	118,343,336	123,021,289	8.44
Drug Resistance	***Number of Grants***	***874***	***926***	***1,012***	***1,064***	***1,133***	
	Relevant Grant Dollars	261,870,733	286,366,510	316,801,615	352,946,475	361,374,134	
	Number of Contracts	***‡***	***‡***	***1***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	204,459	400,000	‡	
	Total Count	***874***	***926***	***1,013***	***1,065***	***1,133***	
	Total Relevant Dollars	261,870,733	286,366,510	317,006,074	353,346,475	361,374,134	8.45
Drugs — Natural Products	***Number of Grants***	***215***	***216***	***221***	***203***	***184***	
	Relevant Grant Dollars	54,246,698	53,923,677	53,238,699	55,002,966	45,918,850	
	Number of Contracts	***1***	***3***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	2,136,305	3,660,194	‡	‡	‡	
	Total Count	***216***	***219***	***221***	***203***	***184***	
	Total Relevant Dollars	56,383,003	57,583,871	53,238,699	55,002,966	45,918,850	-4.65
Early Detection	***Number of Grants***	***536***	***570***	***586***	***606***	***584***	
	Relevant Grant Dollars	256,283,853	303,451,666	300,040,995	334,435,841	292,867,415	
	Number of Contracts	***6***	***6***	***6***	***9***	***3***	
	Relevant Contract Dollars	5,328,789	6,666,906	4,213,675	6,145,473	5,195,745	
	Total Count	***542***	***576***	***592***	***615***	***587***	
	Total Relevant Dollars	261,612,642	310,118,572	304,254,670	340,581,314	298,063,160	4.03
Effectiveness Research	***Number of Grants***	***133***	***129***	***127***	***137***	***157***	
	Relevant Grant Dollars	41,402,394	47,924,884	38,294,394	45,611,226	52,828,008	
	Number of Contracts	***11***	***7***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	29,146,805	186,026	‡	‡	‡	
	Total Count	***144***	***136***	***127***	***137***	***157***	
	Total Relevant Dollars	70,549,199	48,110,910	38,294,394	45,611,226	52,828,008	-4.31

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Endocrinology	***Number of Grants***	***360***	***360***	***384***	***392***	***365***	
	Relevant Grant Dollars	97,228,106	100,568,890	107,119,244	114,683,474	109,371,735	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***360***	***360***	***384***	***392***	***365***	
	Total Relevant Dollars	97,228,106	100,568,890	107,119,244	114,683,474	109,371,735	3.94
Energy Balance	***Number of Grants***	***28***	***16***	***16***	***21***	***19***	
	Relevant Grant Dollars	6,286,953	3,473,865	3,258,250	4,022,239	4,314,181	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***28***	***16***	***16***	***21***	***19***	
	Total Relevant Dollars	6,286,953	3,473,865	3,258,250	4,022,239	4,314,181	-5.06
Epidemiology — Biochemical	***Number of Grants***	***256***	***255***	***223***	***214***	***207***	
	Relevant Grant Dollars	124,682,337	118,461,821	101,679,585	102,980,053	94,156,274	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***256***	***255***	***223***	***214***	***207***	
	Total Relevant Dollars	124,682,337	118,461,821	101,679,585	102,980,053	94,156,274	-6.61
Epidemiology	***Number of Grants***	***158***	***173***	***222***	***279***	***325***	
	Relevant Grant Dollars	85,439,631	95,193,416	104,428,768	130,163,763	162,071,238	
	Number of Contracts	***30***	***32***	***23***	***27***	***35***	
	Relevant Contract Dollars	121,666,411	117,745,294	49,300,160	58,819,693	48,906,630	
	Total Count	***188***	***205***	***245***	***306***	***360***	
	Total Relevant Dollars	207,106,043	212,938,710	153,728,928	188,983,456	210,977,868	2.39
Epidemiology — Environmental	***Number of Grants***	***163***	***147***	***138***	***129***	***106***	
	Relevant Grant Dollars	68,678,162	66,673,242	55,754,307	49,583,836	44,722,488	
	Number of Contracts	***4***	***1***	***1***	***1***	***‡***	
	Relevant Contract Dollars	1,684,591	157,967	49,394	24,996	‡	
	Total Count	***167***	***148***	***139***	***130***	***106***	
	Total Relevant Dollars	70,362,753	66,831,209	55,803,701	49,608,832	44,722,488	-10.61
Epigenetics	***Number of Grants***	***798***	***859***	***946***	***1,013***	***1,013***	
	Relevant Grant Dollars	230,130,230	269,515,321	293,352,295	326,883,216	320,315,076	
	Number of Contracts	***2***	***1***	***1***	***2***	***1***	
	Relevant Contract Dollars	329,946	80,000	80,000	5,648,943	80,000	
	Total Count	***800***	***860***	***947***	***1,015***	***1,014***	
	Total Relevant Dollars	230,460,176	269,595,321	293,432,295	332,532,159	320,395,076	8.87

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Gene Mapping — Human	***Number of Grants***	***105***	***97***	***105***	***123***	***118***	
	Relevant Grant Dollars	37,032,434	30,940,689	31,753,493	40,211,045	38,387,946	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***105***	***97***	***105***	***123***	***118***	
	Total Relevant Dollars	37,032,434	30,940,689	31,753,493	40,211,045	38,387,946	2.06
Gene Mapping — Nonhuman	***Number of Grants***	***45***	***37***	***33***	***26***	***15***	
	Relevant Grant Dollars	8,912,665	7,412,413	6,119,601	4,756,997	3,885,119	
	Number of Contracts	***‡***	***‡***	***‡***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	2,784,472	‡	
	Total Count	***45***	***37***	***33***	***27***	***15***	
	Total Relevant Dollars	8,912,665	7,412,413	6,119,601	7,541,469	3,885,119	-14.88
Gene Transfer Clinical	***Number of Grants***	***10***	***6***	***5***	***5***	***4***	
	Relevant Grant Dollars	2,673,354	1,318,434	1,607,239	1,722,613	2,280,925	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***10***	***6***	***5***	***5***	***4***	
	Total Relevant Dollars	2,673,354	1,318,434	1,607,239	1,733,613	2,280,925	2.66
Genetic Testing Research — Human	***Number of Grants***	***65***	***62***	***59***	***77***	***61***	
	Relevant Grant Dollars	23,204,606	22,217,351	32,028,580	42,371,901	25,406,864	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***1***	
	Relevant Contract Dollars	‡	‡	‡	‡	131,984	
	Total Count	***65***	***62***	***59***	***77***	***62***	
	Total Relevant Dollars	23,204,606	22,217,351	32,028,580	42,371,901	25,538,848	8.12
Genomics	***Number of Grants***	***1,096***	***1,156***	***1,274***	***1,465***	***1,541***	
	Relevant Grant Dollars	405,076,761	491,680,665	519,129,670	560,876,543	560,327,175	
	Number of Contracts	***8***	***4***	***5***	***13***	***7***	
	Relevant Contract Dollars	81,580,679	83,218,582	1,644,854	199,094,102	2,506,455	
	Total Count	***1,104***	***1,160***	***1,279***	***1,478***	***1,548***	
	Total Relevant Dollars	486,657,439	574,899,247	520,774,524	759,970,645	562,833,630	7.17
Health Literacy	***Number of Grants***	***57***	***58***	***64***	***60***	***55***	
	Relevant Grant Dollars	14,215,534	15,380,028	27,404,885	19,017,234	25,926,634	
	Number of Contracts	***1***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	1,200,000	1,200,000	‡	‡	‡	
	Total Count	***58***	***59***	***64***	***60***	***55***	
	Total Relevant Dollars	15,415,534	16,580,028	27,404,885	19,017,234	25,926,634	19.64

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Health Promotion	***Number of Grants***	***193***	***191***	***195***	***179***	***163***	
	Relevant Grant Dollars	64,108,503	62,959,503	74,943,015	69,938,681	69,980,193	
	Number of Contracts	***3***	***2***	***5***	***1***	***1***	
	Relevant Contract Dollars	582,324	790,283	301,128	2,000,000	390,181	
	Total Count	***196***	***193***	***200***	***180***	***164***	
	Total Relevant Dollars	64,690,827	63,749,786	75,244,143	71,938,681	70,370,374	2.50
Health Care Delivery	***Number of Grants***	***303***	***305***	***361***	***427***	***476***	
	Relevant Grant Dollars	187,497,187	230,065,054	251,771,190	281,554,926	294,950,384	
	Number of Contracts	***20***	***28***	***14***	***8***	***4***	
	Relevant Contract Dollars	31,462,158	35,343,565	8,317,853	1,447,821	805,667	
	Total Count	***323***	***333***	***375***	***435***	***480***	
	Total Relevant Dollars	218,959,344	265,408,619	260,089,043	283,002,747	295,756,051	8.13
Helicobacter	***Number of Grants***	***14***	***11***	***11***	***9***	***15***	
	Relevant Grant Dollars	6,687,868	5,287,620	5,686,397	4,433,641	6,711,959	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***14***	***11***	***11***	***9***	***15***	
	Total Relevant Dollars	6,687,868	5,287,620	5,686,397	4,433,641	6,711,959	3.99
Hematology	***Number of Grants***	***1,007***	***964***	***969***	***1,038***	***1,010***	
	Relevant Grant Dollars	458,813,154	481,919,759	471,321,194	498,168,234	491,448,314	
	Number of Contracts	***2***	***2***	***1***	***1***	***2***	
	Relevant Contract Dollars	1,547,327	19,191	54,994	2,000,000	2,399,955	
	Total Count	***1,009***	***966***	***970***	***1,039***	***1,012***	
	Total Relevant Dollars	460,360,481	481,938,950	471,376,188	500,168,234	493,848,269	1.84
Hematopoietic Stem Cell Research	***Number of Grants***	***236***	***204***	***196***	***201***	***172***	
	Relevant Grant Dollars	98,480,686	77,798,511	80,767,226	80,839,744	73,009,199	
	Number of Contracts	***‡***	***‡***	***‡***	***1***	***1***	
	Relevant Contract Dollars	‡	‡	‡	406,676	999,997	
	Total Count	***236***	***204***	***196***	***202***	***173***	
	Total Relevant Dollars	98,480,686	77,798,511	80,767,226	81,246,420	74,009,196	-6.37
Hormone Replacement Therapy	***Number of Grants***	***12***	***15***	***13***	***9***	***2***	
	Relevant Grant Dollars	2,570,173	2,958,043	3,029,573	2,506,125	394,227	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***12***	***15***	***13***	***9***	***2***	
	Total Relevant Dollars	2,570,173	2,958,043	3,029,573	2,506,125	394,227	-21.01

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Hospice	***Number of Grants***	***24***	***23***	***28***	***38***	***38***	
	Relevant Grant Dollars	6,543,607	7,051,315	13,027,467	14,857,743	13,937,941	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***24***	***23***	***28***	***38***	***38***	
	Total Relevant Dollars	6,543,607	7,051,315	13,027,467	14,857,743	13,937,941	25.09
Human Genome	***Number of Grants***	***686***	***726***	***886***	***1,117***	***1,150***	
	Relevant Grant Dollars	277,508,890	294,842,598	328,436,799	405,138,714	386,043,889	
	Number of Contracts	***6***	***3***	***4***	***13***	***5***	
	Relevant Contract Dollars	1,278,048	4,896,980	640,754	199,094,102	1,931,455	
	Total Count	***692***	***729***	***890***	***1,130***	***1,155***	
	Total Relevant Dollars	278,786,937	299,739,578	329,077,553	604,232,816	387,975,344	16.28
Iatrogenesis	***Number of Grants***	***218***	***228***	***273***	***284***	***272***	
	Relevant Grant Dollars	83,792,361	92,238,911	110,764,086	122,909,843	112,135,347	
	Number of Contracts	***12***	***14***	***1***	***2***	***‡***	
	Relevant Contract Dollars	8,942,518	4,245,161	951,548	5,964,026	‡	
	Total Count	***230***	***242***	***274***	***286***	***272***	
	Total Relevant Dollars	92,734,879	96,484,072	111,715,633	128,873,869	112,135,347	5.55
Imaging	***Number of Grants***	***824***	***861***	***912***	***931***	***962***	
	Relevant Grant Dollars	389,735,661	419,041,652	425,798,706	456,223,373	463,487,283	
	Number of Contracts	***13***	***5***	***7***	***16***	***9***	
	Relevant Contract Dollars	37,758,418	31,825,401	5,313,249	7,655,508	4,772,729	
	Total Count	***837***	***866***	***919***	***947***	***971***	
	Total Relevant Dollars	427,494,079	450,867,052	431,111,955	463,878,881	468,260,012	2.41
Immunization	***Number of Grants***	***346***	***366***	***476***	***682***	***740***	
	Relevant Grant Dollars	124,310,103	145,386,052	202,878,668	274,472,194	280,856,188	
	Number of Contracts	***13***	***8***	***18***	***7***	***4***	
	Relevant Contract Dollars	43,053,952	39,543,607	6,065,548	8,949,888	4,091,098	
	Total Count	***359***	***374***	***494***	***689***	***744***	
	Total Relevant Dollars	167,364,055	184,929,659	208,944,216	283,422,082	284,947,286	14.91
Immunology	***Number of Grants***	***1,489***	***1,631***	***1,853***	***2,122***	***2,287***	
	Relevant Grant Dollars	640,826,692	698,892,998	793,159,253	953,323,965	967,866,802	
	Number of Contracts	***20***	***15***	***24***	***13***	***5***	
	Relevant Contract Dollars	98,113,523	91,031,557	8,326,879	12,737,661	4,146,098	
	Total Count	***1,509***	***1,646***	***1,877***	***2,135***	***2,292***	
	Total Relevant Dollars	738,940,215	789,924,555	801,486,132	966,061,626	972,012,900	7.37

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Immunotherapy	***Number of Grants***	***716***	***842***	***1,011***	***1,221***	***1,394***	
	Relevant Grant Dollars	332,571,318	368,977,475	450,135,415	522,207,389	581,473,096	
	Number of Contracts	***6***	***6***	***18***	***12***	***5***	
	Relevant Contract Dollars	4,474,792	2,288,367	6,643,093	12,646,911	4,146,098	
	Total Count	***722***	***848***	***1,029***	***1,233***	***1,399***	
	Total Relevant Dollars	337,046,109	371,265,842	456,778,507	534,854,300	585,619,194	14.94
Inflammation	***Number of Grants***	***482***	***493***	***509***	***537***	***556***	
	Relevant Grant Dollars	116,025,025	120,560,329	128,327,461	155,890,802	143,742,888	
	Number of Contracts	***3***	***3***	***2***	***3***	***‡***	
	Relevant Contract Dollars	20,833,026	19,519,964	134,109	422,519	‡	
	Total Count	***485***	***496***	***511***	***540***	***556***	
	Total Relevant Dollars	136,858,051	140,080,293	128,461,570	156,313,321	143,742,888	1.92
Information Dissemination	***Number of Grants***	***518***	***514***	***523***	***495***	***448***	
	Relevant Grant Dollars	215,896,290	228,167,349	234,086,074	221,362,664	214,304,749	
	Number of Contracts	***25***	***16***	***2***	***1***	***3***	
	Relevant Contract Dollars	17,915,927	15,220,485	260,226	49,816	3,199,244	
	Total Count	***543***	***530***	***525***	***496***	***451***	
	Total Relevant Dollars	233,812,217	243,387,833	234,346,300	221,412,480	217,503,993	-1.72
Metastasis	***Number of Grants***	***1,307***	***1,337***	***1,385***	***1,448***	***1,497***	
	Relevant Grant Dollars	398,062,542	422,657,303	439,046,764	495,046,289	500,232,706	
	Number of Contracts	***2***	***2***	***2***	***5***	***1***	
	Relevant Contract Dollars	2,999,993	112,339	299,537	2,568,042	399,559	
	Total Count	***1,309***	***1,339***	***1,387***	***1,453***	***1,498***	
	Total Relevant Dollars	401,062,535	422,769,641	439,346,301	497,614,331	500,632,265	5.80
Microbiome	***Number of Grants***	***104***	***135***	***153***	***179***	***182***	
	Relevant Grant Dollars	36,476,639	56,410,998	49,546,365	56,460,175	62,462,791	
	Number of Contracts	***‡***	***2***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	130,750	‡	‡	‡	
	Total Count	***104***	***137***	***153***	***179***	***182***	
	Total Relevant Dollars	36,476,639	56,541,748	49,546,365	56,460,175	62,462,791	16.80
Mind/Body Research	***Number of Grants***	***25***	***21***	***24***	***16***	***18***	
	Relevant Grant Dollars	7,780,748	6,812,260	7,568,135	5,603,617	5,810,586	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***25***	***21***	***24***	***16***	***18***	
	Total Relevant Dollars	7,780,748	6,812,260	7,568,135	5,603,617	5,810,586	-5.90

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Molecular Disease	***Number of Grants***	***4,399***	***4,312***	***4,072***	***3,991***	***3,809***	
	Relevant Grant Dollars	1,931,925,940	2,053,008,956	1,925,663,390	2,003,778,069	1,819,786,941	
	Number of Contracts	***53***	***52***	***59***	***98***	***45***	
	Relevant Contract Dollars	136,964,093	175,671,451	50,132,155	464,026,699	31,842,217	
	Total Count	***4,452***	***4,364***	***4,131***	***4,089***	***3,854***	
	Total Relevant Dollars	2,068,890,033	2,228,680,407	1,975,795,545	2,467,804,768	1,851,629,158	-0.92
Molecular Imaging	***Number of Grants***	***390***	***354***	***327***	***318***	***277***	
	Relevant Grant Dollars	143,199,846	133,169,439	126,093,554	129,883,142	111,237,535	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***390***	***354***	***327***	***318***	***277***	
	Total Relevant Dollars	143,199,846	133,169,439	126,093,554	129,883,142	111,237,535	-5.91
Molecular Targeted Prevention	***Number of Grants***	***131***	***136***	***158***	***163***	***155***	
	Relevant Grant Dollars	40,249,335	46,200,693	52,588,843	57,762,149	56,686,403	
	Number of Contracts	***1***	***1***	***2***	***‡***	***‡***	
	Relevant Contract Dollars	509,347	526,781	299,499	‡	‡	
	Total Count	***132***	***137***	***160***	***163***	***155***	
	Total Relevant Dollars	40,758,682	46,727,473	52,888,342	57,762,149	56,686,403	8.79
Molecular Targeted Therapy	***Number of Grants***	***2,038***	***2,257***	***2,519***	***2,738***	***2,962***	
	Relevant Grant Dollars	742,802,310	865,086,938	943,018,481	1,095,915,792	1,148,120,993	
	Number of Contracts	***5***	***4***	***8***	***5***	***5***	
	Relevant Contract Dollars	92,251,110	128,114,856	3,150,081	1,104,926	3,149,983	
	Total Count	***2,043***	***2,261***	***2,527***	***2,743***	***2,967***	
	Total Relevant Dollars	835,053,420	993,201,794	946,168,562	1,097,020,718	1,151,270,976	8.77
Nanotechnology	***Number of Grants***	***417***	***443***	***449***	***437***	***420***	
	Relevant Grant Dollars	130,016,571	131,776,237	137,795,320	139,824,379	132,207,257	
	Number of Contracts	***5***	***4***	***3***	***4***	***1***	
	Relevant Contract Dollars	80,950,539	78,759,554	398,887	991,607	200,000	
	Total Count	***422***	***447***	***452***	***441***	***421***	
	Total Relevant Dollars	210,967,110	210,535,791	138,194,206	140,815,986	132,407,257	–9.66
Neurofibromatosis	***Number of Grants***	***17***	***18***	***20***	***16***	***14***	
	Relevant Grant Dollars	3,556,637	3,791,093	6,683,411	3,777,508	6,092,521	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***17***	***18***	***20***	***16***	***14***	
	Total Relevant Dollars	3,556,637	3,791,093	6,683,411	3,777,508	6,092,521	25.17

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Non-Hematopoietic Stem Cell Research	***Number of Grants***	***179***	***143***	***132***	***137***	***131***	
	Relevant Grant Dollars	60,699,959	40,471,293	34,680,251	36,147,893	33,988,637	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***179***	***143***	***132***	***137***	***131***	
	Total Relevant Dollars	60,699,959	40,471,293	34,680,251	36,147,893	33,988,637	-12.34
Nursing Research	***Number of Grants***	***27***	***27***	***28***	***31***	***27***	
	Relevant Grant Dollars	7,943,679	9,848,194	12,283,637	12,696,338	13,932,167	
	Number of Contracts	***‡***	***‡***	***‡***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	16,500	‡	
	Total Count	***27***	***27***	***28***	***32***	***27***	
	Total Relevant Dollars	7,943,679	9,848,194	12,283,637	12,712,838	13,932,167	15.44
Nutrition	***Number of Grants***	***303***	***305***	***321***	***335***	***319***	
	Relevant Grant Dollars	90,773,169	101,297,729	100,499,788	99,414,309	100,483,752	
	Number of Contracts	***6***	***9***	***5***	***11***	***6***	
	Relevant Contract Dollars	3,005,520	3,462,874	1,880,590	1,618,855	3,344,789	
	Total Count	***309***	***314***	***326***	***346***	***325***	
	Total Relevant Dollars	93,778,689	104,760,603	102,380,378	101,033,164	103,828,541	2.72
Nutrition Monitoring	***Number of Grants***	***19***	***21***	***24***	***22***	***11***	
	Relevant Grant Dollars	6,478,782	8,999,541	7,573,449	5,674,690	4,355,796	
	Number of Contracts	***2***	***1***	***1***	***3***	***2***	
	Relevant Contract Dollars	456,632	604,252	448,385	135,356	535,925	
	Total Count	***21***	***22***	***25***	***25***	***13***	
	Total Relevant Dollars	6,935,414	9,603,793	8,021,834	5,810,046	4,891,721	-5.34
Obesity	***Number of Grants***	***200***	***194***	***196***	***200***	***195***	
	Relevant Grant Dollars	52,003,841	51,223,096	51,490,956	59,380,632	63,992,184	
	Number of Contracts	***1***	***2***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	2,037,388	2,232,122	504,052	‡	‡	
	Total Count	***201***	***196***	***197***	***200***	***195***	
	Total Relevant Dollars	54,041,229	53,455,218	51,995,008	59,380,632	63,992,184	4.54
Occupational Cancer	***Number of Grants***	***14***	***12***	***11***	***12***	***9***	
	Relevant Grant Dollars	3,931,219	3,482,526	3,068,747	2,694,395	3,328,128	
	Number of Contracts	***‡***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	87,500	‡	‡	‡	
	Total Count	***14***	***13***	***11***	***12***	***9***	
	Total Relevant Dollars	3,931,219	3,570,026	3,068,747	2,694,395	3,328,128	-2.97

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Oncogenes	***Number of Grants***	***1,226***	***1,141***	***1,108***	***1,111***	***1,131***	
	Relevant Grant Dollars	378,546,779	359,141,456	357,538,899	355,591,456	365,065,952	
	Number of Contracts	***3***	***3***	***2***	***2***	***‡***	
	Relevant Contract Dollars	1,711,492	1,213,234	155,151	2,393,180	‡	
	Total Count	***1,229***	***1,144***	***1,110***	***1,113***	***1,131***	
	Total Relevant Dollars	380,258,271	360,354,689	357,694,050	357,984,636	365,065,952	-0.97
Oncolytic Virotherapy	***Number of Grants***	***61***	***70***	***82***	***66***	***54***	
	Relevant Grant Dollars	16,984,698	24,746,324	34,053,494	23,944,711	19,810,363	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***61***	***70***	***82***	***66***	***54***	
	Total Relevant Dollars	16,984,698	24,746,324	34,053,494	23,944,711	19,810,363	9.08
Organ Transplant Research	***Number of Grants***	***104***	***103***	***103***	***112***	***98***	
	Relevant Grant Dollars	43,054,531	47,912,539	52,525,631	56,209,753	49,406,660	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	149,849	‡	‡	
	Total Count	***104***	***103***	***104***	***112***	***98***	
	Total Relevant Dollars	43,054,531	47,912,539	52,675,480	56,209,753	49,406,660	3.96
Pain	***Number of Grants***	***53***	***58***	***76***	***96***	***90***	
	Relevant Grant Dollars	12,594,778	19,794,438	20,812,196	30,284,534	32,953,857	
	Number of Contracts	***1***	***‡***	***3***	***1***	***‡***	
	Relevant Contract Dollars	99,932	‡	1,920,403	131,575	‡	
	Total Count	***54***	***58***	***79***	***97***	***90***	
	Total Relevant Dollars	12,694,710	19,794,438	22,732,599	30,416,109	32,953,857	28.23
Palliative Care	***Number of Grants***	***50***	***54***	***73***	***78***	***77***	
	Relevant Grant Dollars	14,389,798	17,555,810	32,957,338	34,561,422	35,452,173	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***50***	***54***	***73***	***78***	***77***	
	Total Relevant Dollars	14,389,798	17,555,810	32,957,338	34,561,422	35,452,173	29.29
Pap Testing	***Number of Grants***	***22***	***18***	***18***	***12***	***9***	
	Relevant Grant Dollars	5,476,069	4,379,452	4,575,890	3,696,262	3,506,991	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***22***	***18***	***18***	***12***	***9***	
	Total Relevant Dollars	5,476,069	4,379,452	4,575,890	3,696,262	3,506,991	-9.97

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Pediatric Research	***Number of Grants***	***488***	***499***	***588***	***717***	***695***	
	Relevant Grant Dollars	227,499,715	280,431,656	347,361,731	357,289,363	352,660,656	
	Number of Contracts	***2***	***4***	***2***	***6***	***‡***	
	Relevant Contract Dollars	589,442	4,514,316	2,296,499	388,536,294	‡	
	Total Count	***490***	***503***	***590***	***723***	***695***	
	Total Relevant Dollars	228,089,157	284,945,972	349,658,230	745,825,657	352,660,656	27.05
Personalized Health Care	***Number of Grants***	***486***	***490***	***501***	***542***	***559***	
	Relevant Grant Dollars	170,929,897	170,539,038	174,575,204	213,353,043	195,755,985	
	Number of Contracts	***5***	***3***	***2***	***8***	***3***	
	Relevant Contract Dollars	44,910,814	63,079,767	398,964	1,406,732	995,963	
	Total Count	***491***	***493***	***503***	***550***	***562***	
	Total Relevant Dollars	215,840,711	233,618,805	174,974,168	214,759,775	196,751,948	-0.63
Pharmacogenetics	***Number of Grants***	***141***	***124***	***109***	***93***	***64***	
	Relevant Grant Dollars	35,728,605	33,417,628	29,010,516	32,095,254	14,036,011	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***141***	***124***	***109***	***93***	***64***	
	Total Relevant Dollars	35,728,605	33,417,628	29,010,516	32,095,254	14,036,011	-16.32
Prevention	***Number of Grants***	***733***	***778***	***877***	***979***	***1,010***	
	Relevant Grant Dollars	333,968,556	373,997,908	426,375,012	485,610,230	486,424,143	
	Number of Contracts	***29***	***29***	***33***	***27***	***38***	
	Relevant Contract Dollars	48,177,764	33,218,787	29,446,792	36,427,168	60,282,743	
	Total Count	***762***	***807***	***910***	***1,006***	***1,048***	
	Total Relevant Dollars	382,146,320	407,216,695	455,821,804	522,037,398	546,706,886	9.43
Proteomics	***Number of Grants***	***547***	***559***	***594***	***602***	***586***	
	Relevant Grant Dollars	140,517,434	158,420,435	161,344,098	154,626,572	138,046,167	
	Number of Contracts	***4***	***2***	***2***	***2***	***2***	
	Relevant Contract Dollars	81,234,900	78,521,602	111,702	2,300,581	800,000	
	Total Count	***551***	***561***	***596***	***604***	***588***	
	Total Relevant Dollars	221,752,334	236,942,036	161,455,800	156,927,153	138,846,167	-9.83
Radiation — Electromagnetic Fields	***Number of Grants***	***3***	***4***	***3***	***4***	***4***	
	Relevant Grant Dollars	811,428	989,649	692,156	1,187,780	693,663	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***3***	***4***	***3***	***4***	***4***	
	Total Relevant Dollars	811,428	989,649	692,156	1,187,780	693,663	5.48

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Radiation — Ionizing	***Number of Grants***	***58***	***55***	***56***	***46***	***35***	
	Relevant Grant Dollars	16,498,303	16,441,421	16,222,082	12,687,670	11,463,129	
	Number of Contracts	***2***	***2***	***2***	***‡***	***‡***	
	Relevant Contract Dollars	455,571	2,157,951	199,394	‡	‡	
	Total Count	***60***	***57***	***58***	***46***	***35***	
	Total Relevant Dollars	16,953,874	18,599,372	16,421,476	12,687,670	11,463,129	-8.59
Radiation — Ionizing Diagnosis	***Number of Grants***	***203***	***199***	***208***	***206***	***209***	
	Relevant Grant Dollars	71,819,401	70,963,666	71,915,134	68,820,937	74,004,028	
	Number of Contracts	***2***	***‡***	***1***	***2***	***‡***	
	Relevant Contract Dollars	343,950	‡	982,108	532,000	‡	
	Total Count	***205***	***199***	***209***	***208***	***209***	
	Total Relevant Dollars	72,163,351	70,963,666	72,897,242	69,352,937	74,004,028	0.73
Radiation — Ionizing Radiotherapy	***Number of Grants***	***384***	***389***	***419***	***416***	***441***	
	Relevant Grant Dollars	122,782,173	133,404,212	146,440,571	157,102,772	175,889,519	
	Number of Contracts	***8***	***9***	***8***	***2***	***1***	
	Relevant Contract Dollars	6,518,356	3,495,309	4,058,840	1,883,202	399,779	
	Total Count	***392***	***398***	***427***	***418***	***442***	
	Total Relevant Dollars	129,300,529	136,899,521	150,499,411	158,985,974	176,289,298	8.08
Radiation — Low-Level Ionizing	***Number of Grants***	***1***	***2***	***2***	***3***	***2***	
	Relevant Grant Dollars	25,740	298,779	431,578	502,743	433,388	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***1***	***2***	***2***	***3***	***2***	
	Total Relevant Dollars	25,740	298,779	431,578	502,743	433,388	276.97
Radiation — Magnetic Resonance Imaging	***Number of Grants***	***249***	***249***	***260***	***266***	***270***	
	Relevant Grant Dollars	86,855,863	85,378,228	87,648,412	98,331,963	105,027,714	
	Number of Contracts	***1***	***1***	***‡***	***2***	***1***	
	Relevant Contract Dollars	277,650	281,104	‡	599,778	199,302	
	Total Count	***250***	***250***	***260***	***268***	***271***	
	Total Relevant Dollars	87,133,513	85,659,332	87,648,412	98,931,741	105,227,016	4.96
Radiation — Mammography	***Number of Grants***	***58***	***56***	***61***	***66***	***58***	
	Relevant Grant Dollars	15,339,130	14,531,883	15,006,659	20,782,348	22,063,293	
	Number of Contracts	***‡***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	12,500	‡	‡	‡	
	Total Count	***58***	***57***	***61***	***66***	***58***	
	Total Relevant Dollars	15,339,130	14,544,383	15,006,659	20,782,348	22,063,293	10.66

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Radiation — Non-Ionizing	***Number of Grants***	***99***	***96***	***84***	***78***	***62***	
	Relevant Grant Dollars	25,569,233	26,339,672	24,358,812	24,033,685	20,707,532	
	Number of Contracts	***2***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	1,791,728	‡	‡	‡	‡	
	Total Count	***101***	***96***	***84***	***78***	***62***	
	Total Relevant Dollars	27,360,961	26,339,672	24,358,812	24,033,685	20,707,532	-6.60
Radiation — Non-Ionizing Diagnosis	***Number of Grants***	***313***	***307***	***310***	***314***	***316***	
	Relevant Grant Dollars	124,041,475	112,998,401	117,939,604	132,914,143	135,688,018	
	Number of Contracts	***4***	***1***	***2***	***3***	***1***	
	Relevant Contract Dollars	1,949,613	281,104	1,132,090	799,778	199,302	
	Total Count	***317***	***308***	***312***	***317***	***317***	
	Total Relevant Dollars	125,991,087	113,279,505	119,071,694	133,713,921	135,887,320	2.24
Radiation — Non-Ionizing Radiotherapy	***Number of Grants***	***146***	***156***	***163***	***162***	***160***	
	Relevant Grant Dollars	53,900,397	59,155,854	63,806,196	60,179,423	63,958,645	
	Number of Contracts	***3***	***2***	***10***	***7***	***2***	
	Relevant Contract Dollars	4,206,536	321,677	6,071,668	2,253,949	796,918	
	Total Count	***149***	***158***	***173***	***169***	***162***	
	Total Relevant Dollars	58,106,933	59,477,531	69,877,865	62,433,372	64,755,563	3.22
Radiation — UV	***Number of Grants***	***68***	***63***	***57***	***60***	***49***	
	Relevant Grant Dollars	16,146,542	16,770,517	16,613,599	17,738,292	16,067,424	
	Number of Contracts	***1***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	1,494,124	‡	‡	‡	‡	
	Total Count	***69***	***63***	***57***	***60***	***49***	
	Total Relevant Dollars	17,640,666	16,770,517	16,613,599	17,738,292	16,067,424	-2.13
Rare Diseases	***Number of Grants***	***43***	***38***	***54***	***45***	***40***	
	Relevant Grant Dollars	10,726,359	10,401,147	38,288,227	25,262,960	30,949,180	
	Number of Contracts	***1***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	49,950	‡	‡	‡	‡	
	Total Count	***44***	***38***	***54***	***45***	***40***	
	Total Relevant Dollars	10,776,309	10,401,147	38,288,227	25,262,960	30,949,180	63.28
Rehabilitation	***Number of Grants***	***129***	***139***	***152***	***158***	***125***	
	Relevant Grant Dollars	56,664,104	55,517,413	61,304,559	69,345,592	56,728,138	
	Number of Contracts	***‡***	***1***	***‡***	***2***	***‡***	
	Relevant Contract Dollars	‡	1,499,993	‡	799,682	‡	
	Total Count	***129***	***140***	***152***	***160***	***125***	
	Total Relevant Dollars	56,664,104	57,017,406	61,304,559	70,145,274	56,728,138	0.86

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Rural Populations	***Number of Grants***	***84***	***90***	***120***	***162***	***166***	
	Relevant Grant Dollars	47,225,578	58,851,993	98,480,127	122,332,054	121,483,169	
	Number of Contracts	***‡***	***1***	***‡***	***3***	***‡***	
	Relevant Contract Dollars	‡	56,000	‡	229,861	‡	
	Total Count	***84***	***91***	***120***	***165***	***166***	
	Total Relevant Dollars	47,225,578	58,907,993	98,480,127	122,561,915	121,483,169	28.87
Sexually Transmitted Diseases	***Number of Grants***	***37***	***35***	***39***	***36***	***31***	
	Relevant Grant Dollars	11,261,006	10,790,237	10,654,262	9,772,150	7,727,602	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***37***	***35***	***39***	***36***	***31***	
	Total Relevant Dollars	11,261,006	10,790,237	10,654,262	9,772,150	7,727,602	-8.66
Sleep Disorders	***Number of Grants***	***48***	***60***	***70***	***79***	***78***	
	Relevant Grant Dollars	10,817,251	18,354,414	16,970,680	22,152,566	20,934,724	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	678,153	‡	‡	
	Total Count	***48***	***60***	***71***	***79***	***78***	
	Total Relevant Dollars	10,817,251	18,354,414	17,648,833	22,152,566	20,934,724	21.46
Small Molecules	***Number of Grants***	***556***	***592***	***646***	***645***	***626***	
	Relevant Grant Dollars	128,242,096	139,220,927	166,827,632	172,925,404	169,049,159	
	Number of Contracts	***5***	***3***	***6***	***1***	***5***	
	Relevant Contract Dollars	3,629,428	3,818,665	2,109,100	535,791	823,756	
	Total Count	***561***	***595***	***652***	***646***	***631***	
	Total Relevant Dollars	131,871,523	143,039,592	168,936,732	173,461,195	169,872,915	6.79
Smoking	***Number of Grants***	***241***	***223***	***239***	***308***	***307***	
	Relevant Grant Dollars	90,945,385	89,089,847	99,065,410	118,950,299	116,262,224	
	Number of Contracts	***6***	***5***	***3***	***3***	***4***	
	Relevant Contract Dollars	2,086,550	14,152,035	31,499,932	6,144,385	3,105,324	
	Total Count	***247***	***228***	***242***	***311***	***311***	
	Total Relevant Dollars	93,031,935	103,241,882	130,565,342	125,094,684	119,367,548	7.17
Smoking Behavior	***Number of Grants***	***181***	***166***	***169***	***187***	***174***	
	Relevant Grant Dollars	68,496,317	63,263,716	68,754,459	72,779,870	66,232,558	
	Number of Contracts	***5***	***4***	***2***	***2***	***1***	
	Relevant Contract Dollars	2,070,000	1,268,250	30,989,737	6,143,845	995,470	
	Total Count	***186***	***170***	***171***	***189***	***175***	
	Total Relevant Dollars	70,566,317	64,531,966	99,744,196	78,923,715	67,228,028	2.58

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Smoking Cessation	***Number of Grants***	***101***	***109***	***133***	***155***	***154***	
	Relevant Grant Dollars	38,247,479	38,423,410	50,868,931	61,529,655	65,216,626	
	Number of Contracts	***1***	***1***	***1***	***1***	***1***	
	Relevant Contract Dollars	6,250,268	12,883,785	29,089,986	5,343,845	995,470	
	Total Count	***102***	***110***	***134***	***156***	***155***	
	Total Relevant Dollars	44,497,747	51,307,195	79,958,917	66,873,500	66,212,096	13.44
Smoking — Passive	***Number of Grants***	***15***	***16***	***12***	***14***	***15***	
	Relevant Grant Dollars	5,075,259	5,088,594	3,165,300	6,396,292	6,984,143	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***15***	***16***	***12***	***14***	***15***	
	Total Relevant Dollars	5,075,259	5,088,594	3,165,300	6,396,292	6,984,143	18.43
Smokeless Tobacco	***Number of Grants***	***15***	***15***	***13***	***46***	***36***	
	Relevant Grant Dollars	1,827,449	1,882,785	1,609,491	7,843,378	6,793,258	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***15***	***15***	***13***	***46***	***36***	
	Total Relevant Dollars	1,827,449	1,882,785	1,609,491	7,843,378	6,793,258	90.61
Structural Biology	***Number of Grants***	***619***	***580***	***573***	***547***	***537***	
	Relevant Grant Dollars	160,205,655	160,511,867	170,136,965	153,305,173	140,135,037	
	Number of Contracts	***1***	***1***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	79,804,870	78,321,602	‡	‡	‡	
	Total Count	***620***	***581***	***573***	***547***	***537***	
	Total Relevant Dollars	240,010,526	238,833,468	170,136,965	153,305,173	140,135,037	-11.93
Surgery	***Number of Grants***	***186***	***195***	***215***	***217***	***207***	
	Relevant Grant Dollars	58,892,413	61,508,704	66,631,920	70,639,872	67,853,858	
	Number of Contracts	***2***	***2***	***1***	***3***	***1***	
	Relevant Contract Dollars	1,172,218	14,539	1,137,419	2,800,331	399,559	
	Total Count	***188***	***197***	***216***	***220***	***208***	
	Total Relevant Dollars	60,064,630	61,523,242	67,769,339	73,440,203	68,253,417	3.47
Taxol	***Number of Grants***	***112***	***121***	***123***	***117***	***108***	
	Relevant Grant Dollars	21,162,390	23,999,046	24,567,763	25,130,952	19,839,123	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***112***	***121***	***123***	***117***	***108***	
	Total Relevant Dollars	21,162,390	23,999,046	24,567,763	25,130,952	19,839,123	-0.75

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Telehealth	***Number of Grants***	***242***	***273***	***312***	***366***	***365***	
	Relevant Grant Dollars	79,769,242	110,288,390	118,727,319	139,905,356	138,812,031	
	Number of Contracts	***8***	***8***	***6***	***15***	***1***	
	Relevant Contract Dollars	4,389,571	6,077,680	680,057	14,345,827	995,470	
	Total Count	***250***	***281***	***318***	***381***	***366***	
	Total Relevant Dollars	84,158,813	116,366,070	119,407,376	154,251,183	139,807,501	15.18
Therapy	***Number of Grants***	***3,625***	***3,830***	***4,112***	***4,309***	***4,544***	
	Relevant Grant Dollars	1,754,215,108	1,919,432,271	2,021,576,346	2,211,866,079	2,230,951,920	
	Number of Contracts	***64***	***68***	***88***	***71***	***81***	
	Relevant Contract Dollars	157,222,822	187,721,808	162,718,386	93,260,341	89,693,861	
	Total Count	***3,689***	***3,898***	***4,200***	***4,380***	***4,625***	
	Total Relevant Dollars	1,911,437,931	2,107,154,079	2,184,294,732	2,305,126,420	2,320,645,781	5.03
Tropical Diseases	***Number of Grants***	***8***	***8***	***8***	***12***	***11***	
	Relevant Grant Dollars	3,155,736	1,846,880	1,282,015	3,962,719	4,810,384	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***8***	***8***	***8***	***12***	***11***	
	Total Relevant Dollars	3,155,736	1,846,880	1,282,015	3,962,719	4,810,384	39.60
Tumor Markers	***Number of Grants***	***81***	***55***	***50***	***39***	***25***	
	Relevant Grant Dollars	28,002,108	14,174,253	10,847,303	10,087,428	6,773,536	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***81***	***55***	***50***	***39***	***25***	
	Total Relevant Dollars	28,002,108	14,174,253	10,847,303	10,087,428	6,773,536	-28.18
Underserved and Disparities	***Number of Grants***	***484***	***540***	***639***	***743***	***795***	
	Relevant Grant Dollars	247,578,399	324,687,212	412,442,362	493,849,542	510,652,633	
	Number of Contracts	***9***	***4***	***2***	***6***	***1***	
	Relevant Contract Dollars	5,404,861	3,581,740	522,094	1,090,111	180,716	
	Total Count	***493***	***544***	***641***	***749***	***796***	
	Total Relevant Dollars	252,983,260	328,268,952	412,964,456	494,939,653	510,833,349	19.65
Vaccine Development	***Number of Grants***	***76***	***84***	***86***	***77***	***66***	
	Relevant Grant Dollars	18,665,405	20,212,226	23,709,448	20,809,287	20,383,737	
	Number of Contracts	***1***	***1***	***3***	***1***	***1***	
	Relevant Contract Dollars	589,266	230,734	27,903	761,776	855,274	
	Total Count	***77***	***85***	***89***	***78***	***67***	
	Total Relevant Dollars	19,254,670	20,442,960	23,737,350	21,571,063	21,239,011	2.90

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Vaccine Production	***Number of Grants***	***1***	***2***	***3***	***4***	***6***	
	Relevant Grant Dollars	40,677	119,047	407,323	1,040,548	2,262,714	
	Number of Contracts	***‡***	***‡***	***‡***	***3***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	4,717,231	‡	
	Total Count	***1***	***2***	***3***	***7***	***6***	
	Total Relevant Dollars	40,677	119,047	407,323	5,757,779	2,262,714	421.92
Vaccine Research	***Number of Grants***	***103***	***106***	***112***	***108***	***124***	
	Relevant Grant Dollars	27,073,893	28,024,644	29,756,398	42,394,025	44,598,186	
	Number of Contracts	***10***	***7***	***12***	***1***	***1***	
	Relevant Contract Dollars	39,618,958	37,638,643	4,840,694	1,071,582	835,869	
	Total Count	***113***	***113***	***124***	***109***	***125***	
	Total Relevant Dollars	66,692,851	65,663,287	34,597,091	43,465,607	45,434,055	-4.67
Vaccine Testing	***Number of Grants***	***48***	***42***	***47***	***52***	***34***	
	Relevant Grant Dollars	13,896,826	11,061,812	11,899,523	17,996,942	12,197,045	
	Number of Contracts	***2***	***2***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	2,305,882	1,674,230	‡	‡	‡	
	Total Count	***50***	***44***	***47***	***52***	***34***	
	Total Relevant Dollars	16,202,707	12,736,042	11,899,523	17,996,942	12,197,045	-2.24
Virus Cancer Research	***Number of Grants***	***300***	***285***	***308***	***343***	***333***	
	Relevant Grant Dollars	133,714,813	131,441,807	130,328,650	159,960,903	160,679,335	
	Number of Contracts	***2***	***3***	***2***	***1***	***1***	
	Relevant Contract Dollars	34,560,327	33,092,240	928,436	761,776	835,869	
	Total Count	***302***	***288***	***310***	***344***	***334***	
	Total Relevant Dollars	168,275,141	164,534,046	131,257,086	160,722,679	161,515,204	0.12
Virus — Epstein-Barr	***Number of Grants***	***49***	***48***	***51***	***51***	***44***	
	Relevant Grant Dollars	18,317,870	18,236,645	18,415,472	21,951,062	21,267,201	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***49***	***48***	***51***	***51***	***44***	
	Total Relevant Dollars	18,317,870	18,236,645	18,415,472	21,951,062	21,267,201	4.15
Virus — Hepatitis B	***Number of Grants***	***13***	***19***	***17***	***19***	***17***	
	Relevant Grant Dollars	1,682,116	2,974,267	2,605,999	4,216,083	4,240,042	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***13***	***19***	***17***	***19***	***17***	
	Total Relevant Dollars	1,682,116	2,974,267	2,605,999	4,216,083	4,240,042	31.69

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 16 (cont'd). NCI Special Interest Category (SIC) Dollars for FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Virus — Hepatitis C	***Number of Grants***	***16***	***23***	***19***	***9***	***9***	
	Relevant Grant Dollars	3,352,826	4,349,788	2,845,741	1,273,208	1,665,830	
	Number of Contracts	***‡***	***‡***	***1***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	510,195	‡	‡	
	Total Count	***16***	***23***	***20***	***9***	***9***	
	Total Relevant Dollars	3,352,826	4,349,788	3,355,936	1,273,208	1,665,830	-6.08
Virus — Herpes	***Number of Grants***	***107***	***101***	***107***	***113***	***104***	
	Relevant Grant Dollars	47,186,600	41,145,977	39,272,062	45,601,103	44,045,826	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***107***	***101***	***107***	***113***	***104***	
	Total Relevant Dollars	47,186,600	41,145,977	39,272,062	45,601,103	44,045,826	-1.16
Virus — HHV8	***Number of Grants***	***53***	***51***	***51***	***58***	***54***	
	Relevant Grant Dollars	27,737,808	23,175,112	19,425,311	23,438,247	22,756,659	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***53***	***51***	***51***	***58***	***54***	
	Total Relevant Dollars	27,737,808	23,175,112	19,425,311	23,438,247	22,756,659	-3.72
Virus — HTLV-I	***Number of Grants***	***11***	***10***	***7***	***7***	***9***	
	Relevant Grant Dollars	3,899,447	3,980,369	1,535,971	3,524,763	4,227,759	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***11***	***10***	***7***	***7***	***9***	
	Total Relevant Dollars	3,899,447	3,980,369	1,535,971	3,524,763	4,227,759	22.52
Virus — Papilloma	***Number of Grants***	***149***	***142***	***156***	***175***	***156***	
	Relevant Grant Dollars	52,490,929	54,043,721	55,609,372	67,736,091	65,583,437	
	Number of Contracts	***1***	***1***	***1***	***1***	***1***	
	Relevant Contract Dollars	2,638,379	1,697,599	418,241	761,776	835,869	
	Total Count	***150***	***143***	***157***	***176***	***157***	
	Total Relevant Dollars	55,129,308	55,741,320	56,027,613	68,497,867	66,419,306	5.21
Virus — Papova	***Number of Grants***	***161***	***151***	***166***	***183***	***167***	
	Relevant Grant Dollars	56,177,300	56,892,866	59,441,700	72,600,571	69,824,723	
	Number of Contracts	***1***	***1***	***1***	***1***	***1***	
	Relevant Contract Dollars	2,638,379	1,697,599	418,241	761,776	835,869	
	Total Count	***162***	***152***	***167***	***184***	***168***	
	Total Relevant Dollars	58,815,679	58,590,465	59,859,941	73,362,347	70,660,592	5.16

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 FY2017 – FY2021 — Average Percent Change*

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

Special Interest Categories	Counts and Relevant Dollars†	2017	2018	2019	2020	2021	Average Percent Change/ Year
Virus — SV40	***Number of Grants***	***2***	***2***	***2***	***2***	***1***	
	Relevant Grant Dollars	720,567	720,567	711,858	809,500	564,867	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***2***	***2***	***2***	***2***	***1***	
	Total Relevant Dollars	720,567	720,567	711,858	809,500	564,867	-4.43
Vitamin A	***Number of Grants***	***9***	***9***	***12***	***10***	***6***	
	Relevant Grant Dollars	2,771,355	2,199,510	2,362,430	2,545,642	1,594,121	
	Number of Contracts	***‡***	***‡***	***‡***	***1***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	90,750	‡	
	Total Count	***9***	***9***	***12***	***11***	***6***	
	Total Relevant Dollars	2,771,355	2,199,510	2,362,430	2,636,392	1,594,121	-10.29
Vitamin C	***Number of Grants***	***4***	***4***	***4***	***6***	***4***	
	Relevant Grant Dollars	1,262,997	3,288,782	3,034,224	4,127,482	3,003,519	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***4***	***4***	***4***	***6***	***4***	
	Total Relevant Dollars	1,262,997	3,288,782	3,034,224	4,127,482	3,003,519	40.36
Vitamin D	***Number of Grants***	***35***	***38***	***34***	***27***	***17***	
	Relevant Grant Dollars	12,254,831	13,343,235	11,208,500	7,069,913	4,301,733	
	Number of Contracts	***‡***	***‡***	***‡***	***‡***	***‡***	
	Relevant Contract Dollars	‡	‡	‡	‡	‡	
	Total Count	***35***	***38***	***34***	***27***	***17***	
	Total Relevant Dollars	12,254,831	13,343,235	11,208,500	7,069,913	4,301,733	-20.79

* 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 17. NCI Funding of Foreign Research Grants in FY2021

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

Country/Cancer Site											
Argentina	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #					***1***						***1***
Funding $					***155,024***						***155,024***
Melanoma					155,024						155,024
Australia	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #			***1***	***1***		***2***					***4***
Funding $			***241,920***	***54,000***		***2,541,392***					***2,837,312***
Colon, Rectum						1,894,107					1,894,107
Leukemia						647,285					647,285
Melanoma			241,920								241,920
Neuroblastoma				54,000							54,000
Canada	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #			***7***		***1***	***1***	***1***	***1***		***1***	***12***
Funding $			***2,355,946***		***279,068***	***295,362***	***3,066,188***	***534,624***		***117,200***	***6,648,388***
Breast							766,547				766,547
Cervix			285,914								285,914
Colon, Rectum			53,145								53,145
Gastrointestinal Tract							766,547				766,547
Kidney			53,145								53,145
Leukemia			293,545								293,545
Lung			53,145			295,362	766,547				1,115,054
Not Site Specific*			468,460		279,068			534,624		117,200	1,399,352
Pancreas			376,878								376,878
Prostate			771,714								771,714
Urinary System							766,547				766,547
Denmark	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #			***1***								***1***
Funding $			***406,906***								***406,906***
Testis			406,906								406,906
France	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #			***2***		***1***	***2***			***2***		***7***
Funding $			***1,638,614***		***198,631***	***840,883***			***1,456,503***		***4,134,631***
Breast			758,361			269,998					1,028,359
Eye					198,631						198,631
Cervix									1,456,503		1,456,503
Hodgkin's Lymphoma						194,101					194,101
Myeloma						188,392					188,392
Not Site Specific*			880,253								880,253
Non-Hodgkin's Lymphoma						188,392					188,392
Germany	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #								***1***			***1***
Funding $								***532,409***			***532,409***
Not Site Specific*								532,409			532,409

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; there is 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 in FY2021

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

Country/Cancer Site											
South Africa	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #		***1***	***2***								***3***
Funding $		***57,959***	***432,700***								***490,659***
Breast			282,337								282,337
Cervix			150,363								150,363
Colon, Rectum		57,959									57,959
Sweden	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #	***1***		***1***								***2***
Funding $	***30,036***		***385,779***								***415,815***
Breast			131,165								131,165
Lung	15,018										15,018
Melanoma	15,018										15,018
Non-Hodgkin's Lymphoma			127,307								127,307
Sarcoma, Bone			127,307								127,307
United Kingdom	**F31**	**K43**	**R01**	**R03**	**R21**	**U01**	**U10**	**U24**	**UH3**	**UM1**	**Totals**
Grants #			***1***					***1***			***2***
Funding $			***430,702***					***321,960***			***752,662***
Brain			215,351								215,351
Head And Neck			215,351								215,351
Thyroid								321,960			321,960
Total Grants	***1***	***1***	***15***	***1***	***3***	***5***	***1***	***3***	***2***	***1***	***33***
Total $ Per Grant Type	***30,036***	***57,959***	***5,892,567***	***54,000***	***632,723***	***3,677,637***	***3,066,188***	***1,388,993***	***1,456,503***	***117,200***	***16,373,806***

Source: Research Analysis and Evaluation Branch.

Table 18. Foreign Components of U.S. Domestic Research Grants in FY2021

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

Country	Funding Mechanism																													Sub-total
	D43	F30	F31	F32	F99	K00	K07	K08	K99	P01	R00	R01	R03	R13	R21	R25	R33	R35	R37	R41	R42	R43	R44	U01	U19	U24	U54	UG1	UG3	UH3	UM1	
Argentina												1											1							1	3
Australia										1		15		1					2		1			5	1	1					27
Austria										1																					1
Bangladesh																								1							1
Belgium									1		1	5			1				1				1								10
Botswana								1				1															1				3
Brazil												5			1									1						1	8
Cambodia																								1							1
Cameroon				1																											1
Canada			1			1	1		1	4		48		3	1		1	1	2		1		1	7	1	1		3	1		79
China											1	21			1				2			1	1	3						1	31
Colombia																							1								1
Congo																											1				1
Croatia												1																			1
Czech Republic												1																			1
Denmark												10					1		1				1	2		1					16
Egypt												1				1															2
El Salvador												1																			1
Ethiopia												1		1																	2
Finland															1																1
France										1		12			1			1	2					3	1						21
Germany							1			1		22		1	1		1	2	5	1				8	1	1					45
Ghana	1											2		1																	4
Honduras																							1								1
Hong Kong												2																			2
Hungary												1																			1
Iceland																								1							1
India												5										1	1	1						2	10
Ireland												4																			4
Israel												7			3				1				1	1							13
Italy												9	2		2									1							14
Japan		1								1		8	1						1					2					1		15
Kenya								1				3		1								2		1			2			1	11
Laos															1																1
Lebanon												1																			1
Malawi	1												1														2			1	1	6
Mali	1																														1
Mexico												1												4							1	6

continued

Source: Research Analysis and Evaluation Branch.

Table 18 (cont'd). Foreign Components of U.S. Domestic Research Grants in FY2021

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

Country	Funding Mechanism																															Sub-total
	D43	F30	F31	F32	F99	K00	K07	K08	K99	P01	R00	R01	R03	R13	R21	R25	R33	R35	R37	R41	R42	R43	R44	U01	U19	U24	U54	UG1	UG3	UH3	UM1	
Netherlands		1	1		1							12							1				1	10					1			28
New Zealand										1		2																				3
Nigeria	1						1					3		2	1															1		9
Norway										1		1												2	1				1			6
Paraguay																							1									1
Peru																								1								1
Poland												1																				1
Portugal												1																				1
Qatar										1																						1
Rwanda							1																				1					2
Senegal	1																										1					2
Singapore												5						1														6
South Africa	1											5			1									1			1				1	10
South Korea				1						2		2			1									3				1				10
Spain										1		10												2		1						14
Swaziland												1																				1
Sweden		1			1							5												3	1							11
Switzerland										1		9												1			2					13
Taiwan												3																		1		4
Tanzania United Republic				1				1				1			1					1							2					7
Thailand												1																				1
Uganda	1											4		2	1									2			5			2	1	18
United Kingdom				1				1		3	1	23			1		1	1	3					4	1	1	1					42
Vietnam												1			1									1								3
Zambia												1												1								2
Zimbabwe	1																														1	2
Totals	**8**	**3**	**2**	**4**	**2**	**1**	**4**	**4**	**2**	**19**	**3**	**279**	**4**	**12**	**20**	**1**	**4**	**6**	**21**	**2**	**2**	**4**	**11**	**73**	**7**	**6**	**19**	**4**	**4**	**8**	**8**	**547***

* Because many grants have multiple foreign contributors, the total count (547) is greater than the total number of grants (405).
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, 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 14,851 applications in FY2021 requesting $5,384,211,201 in direct costs with appropriated funds. Additionally, the Board reviewed three FDA SBIR applications in FY2021.

The Board heard presentations, discussed, and provided advice on a variety of topics and NCI activities in FY2021, such as:

- NCI Director's Report
- President's Cancer Panel Report
- Legislative Report
- Why and How NCI Uses the U01 Mechanism
- Status Report: Childhood Cancer Data Initiative
- Annual Delegations of Authority
- Phase III Trail of Standard Adjuvant Endocrine Therapy +/- Chemotherapy in Patients with 1–3 Positive Nodes, Hormone Receptor-Positive (HR+) and HER2-Negative: SWOG S1007
- Structure and Function of Mammalian SWI/SNF Chromatin Remodeling Complexes in Human Cancer
- COVID-19: Developing a Vaccine During a Pandemic
- NCI Equity Inclusion Program
- Update: NCI Surveillance, Epidemiology, and End Results (SEER) Program
- Overview: Allocation of NCI Appropriated Dollars for Research
- The Sherlock-Lung Study
- Integrating Genomics into the Pediatric Oncology Clinic
- *Ad Hoc* Subcommittee on Population Science, Epidemiology, and Disparities
- Subcommittee on Planning and Budget
- *Ad Hoc* Subcommittee on Global Cancer Research
- *Ad Hoc* Subcommittee on Experimental Therapeutics

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 (BSA)

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 FY2021:

- NCI Director's Report
- President's Cancer Panel Report
- Legislative Report
- Why and How NCI Uses the U01 Mechanism
- Status Report: Childhood Cancer Data Initiative
- BSA Prevention Working Group Report
- NCI Center for Global Health – Celebrating Ten Years and Looking Ahead
- Recognition of Retiring BSA Members
- COVID-19: Developing a Vaccine During a Pandemic
- NCI Equity Inclusion Program
- Update: NCI Surveillance, Epidemiology, and End Results (SEER) Program

RFA Concepts Approved

Division of Cancer Control and Population Sciences

- Centers on Telehealth Research and Cancer-Related Care

Division of Cancer Treatment and Diagnosis

- Canine Cancer Immunotherapy Network (K9CIN)
- Radiation Oncology-Biology Integration Network (ROBIN)
- Pancreatic Ductal Adenocarcinoma (PDAC) Stromal Reprogramming Consortium (PSRC)

Office of the Director

- NCI Youth Enjoy Science (YES) Research Education Program
- A Multi-Level Approach to Connecting Underrepresented Populations to Clinical Trials (CUSP2CT)

RFA/Cooperative Agreements Approved

Division of Cancer Biology

- Program on the Origins of Gastroesophageal Cancers
- Translational and Basic Science Research in Early Lesions (TBEL) Initiative

Division of Cancer Prevention

- CASCADE: A Global Clinical Trials Network to Improve Screening and Preventive Therapy Outcomes for Cervical Cancer Among Women Living with HIV
- NCI Cancer Prevention-Interception Targeted Agent Discovery Program (CAP-IT)

Division of Cancer Control and Population Sciences

- Metabolic Dysregulation and Cancer Risk: A Transdisciplinary Approach to Obesity-Associated Cancer Research
- Exercise and Nutrition Interventions to Improve Cancer Treatment-Related Outcomes in Cancer Survivors

Office of the Director

- Implementation Science for Cancer Control in People Living with HIV (PLWH) in Low- and Middle-Income Countries

RFA Re-Issuances Approved

- Note: None for FY2021

RFA/Cooperative Agreement Re-Issuances Approved

Division of Cancer Biology

- NCI Cancer Systems Biology Consortium (CSBC)

Division of Cancer Prevention

- Early Detection Research Network (EDRN)

Division of Cancer Treatment and Diagnosis

- Clinical Proteomic Tumor Analysis Consortium (CPTAC)
- Acquired Resistance to Therapy Network (ARTNet)

Office of the Director

- Cancer Prevention, Detection, Diagnosis, and Treatment Technologies for Global Health—The Affordable Cancer Technologies (ACTs) Program

RFP Concepts Approved

Division of Cancer Prevention

- Low-Dose CT Lung Cancer Screening Image and Data Resource

Division of Cancer Treatment and Diagnosis

- Drug Development Support for the Cancer Therapy Evaluation Program

Office of the Director

- Re-competition of the NCI at Frederick Operations and Technical Support Contract of the Frederick National Laboratory for Cancer Research (FNLCR)
- Small Business Innovation Research (SBIR) Contract Topics

Program Announcements Approved

Division of Cancer Biology

- Epstein-Barr Virus (EBV) and Non-Hodgkin's Lymphoma (NHL)

Division of Cancer Prevention

- Mechanisms that Impact Cancer Risk After Bariatric Surgery
- Cancer Prevention and Control Clinical Trial Planning Grant Program

Division of Cancer Treatment and Diagnosis

- Research Projects for Molecular Imaging Inflammation in Cancer (MIIC)

Office of the Director

- Clinician Scientist Research Award (CSRA)

Program Announcements Re-Issuance Approved

- Note: None for FY2021

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; non-voting *ex officio* members include a representative from the National Cancer Advisory Board, the NCI Board of Scientific Advisors, and the NCI Board of Scientific Counselors. The NCI Facility in Frederick, Maryland, was established in 1972 as a Government-Owned Contractor-Operated (GOCO) facility. In 1975, the facility was designated 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 Frederick National Laboratory for Cancer Research (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 FNLCR and advises the Director and Deputy Directors of NCI and the Associate Director of FNLCR about the intrinsic merit of the projects and whether they should be performed at FNLCR. In addition, the Committee periodically reviews the existing portfolio of projects at FNLCR; evaluates their productivity; and 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 FY2021, including the following:

- NCI Director's Report
- FNLCR Resources to Support Extramural Research
- Status Report: NCI Serological Sciences Network for COVID-19 (SeroNet)
- RAS Initiative Progress Report
- Report from the NCI Task Force to Evaluate the NCI/U.S. Department of Energy (DOE) Collaboration
- COVID-19 SeroTracker
- FNLCR Contract Re-competition and Communicating Fredrick National Laboratory (FNL) Capabilities
- Status Report on Development of a New FNL Project
- Update: Serological Science and More at FNL
- FNL Operations and Additional Updates
- Update: NCI/DOE Collaboration–Implementation of NCI/DOE Collaboration Task Force Recommendations
- Update: NCI Experimental Therapeutics Program (NExT)
- Update: FNL Operations
- Update: SeroHub
- Communicating FNL Services to the Scientific Community – Vector Manufacturing Services and Cell Therapy Resources
- Recognition of Retiring FNLAC Members

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 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 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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Edith P. Mitchell, M.D., M.A.C.P., F.C.P.P. ..... Thomas Jefferson University

Executive Secretary

Maureen R. Johnson, Ph.D. ..... National Cancer Institute, NIH

National Cancer Advisory Board

Proposed Chair

John D. Carpten, Ph.D.* ..... University of Southern California

Acting Chair

Scott W. Hiebert, Ph.D. ..... Vanderbilt University

Members

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Francis Ali-Osman, D.Sc. ..... Duke University Medical Center
Nilofer S. Azad, M.D.* ..... John Hopkins University
Anna D. Barker, Ph.D. ..... University of Southern California
Deborah Watkins Bruner, RN, Ph.D., F.A.A.N. ..... Emory University
Yuan Chang, M.D. ..... University of Pittsburgh Cancer Institute
Luis Alberto Diaz, M.D.* ..... Memorial Sloan Kettering Cancer Center
Howard J. Fingert, M.D., F.A.C.P. ..... Consultant
Christopher R. Friese, Ph.D., R.N.* ..... University of Michigan
Lawrence O. Gostin, J.D. ..... Georgetown University
Andrea A. Hayes-Jordan, M.D., F.A.C.S., F.A.A.P. ..... University of North Carolina Children's Hospital
Amy B. Heimberger, M.D.* ..... Northwestern University Feinberg School of Medicine
Nikan Khatibi, M.D., M.B.A. ..... Ahura Healthcare Corporation
Timothy J. Ley, M.D. ..... Washington University School of Medicine in St. Louis
Electra D. Paskett, Ph.D. ..... Ohio State University
Nancy J. Raab-Traub, Ph.D. ..... University of North Carolina at Chapel Hill
Margaret R. Spitz, M.D., M.P.H. ..... Baylor College of Medicine
Susan T. Vadaparampil, Ph.D., M.P.H. ..... Moffitt Cancer Center
Ashani T. Weeraratna, Ph.D.* ..... Johns Hopkins University
Max S. Wicha, M.D. ..... University of Michigan
Karen M. Winkfield, M.D., Ph.D.* ..... Vanderbilt University

* Pending appointment.

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* Pending appointment.

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James H. Doroshow, M.D. ..... National Cancer Institute, NIH
Paulette S. Gray, Ph.D. ..... National Cancer Institute, NIH
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NCI Council of Research Advocates

Chair

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Melissa Buffalo* ..... American Indian Cancer Foundation
Annie E. Ellis ..... Ovarian Cancer Research Alliance
Danielle D. Leach, M.P.A. ..... National Brain Tumor Society
Jennifer W. Pegher ..... Association of American Cancer Institutes
Kristen C. Santiago ..... LUNGevity
Jacqueline D. Smith ..... Vertex Pharmaceuticals
Kevin J. Stemberger ..... Noble Capital Partners, LLC
Nicole E. Willmarth, Ph.D. ..... American Brain Tumor Association

Executive Secretary

Amy Williams ..... National Cancer Institute, NIH

NCI Initial Review Group Scientific Review Committees

Study Section A—Cancer Centers

Chair

Caryn Lerman, Ph.D. ..... University of Southern California

Past Chair

Richard J. Jones, M.D. ..... Johns Hopkins University

Members

Doris Mangiaracina Benbrook, Ph.D. ..... University of Oklahoma Health Sciences Center
Gerold Bepler, M.D., Ph.D. ..... Wayne State University
Mary-Ann Bjornsti, Ph.D. ..... University of Alabama at Birmingham
Arthur W. Blackstock, Jr., M.D. ..... Wake Forest University
Susan M. Blaney, M.D. ..... Baylor College of Medicine
Kathleen A. Cooney, M.D. ..... Duke University

* Pending appointment.

Bettina F. Drake, Ph.D., M.P.H. ..... Washington University School of Medicine
Bernard Mark Evers, M.D. ..... University of Kentucky
Soledad Fernandez, Ph.D. ..... Ohio State University
Robert W. Gerlach, M.P.A. ..... Dartmouth College
Nola M. Hylton-Watson, Ph.D. ..... University of California, San Francisco
Anita Y. Kinney, Ph.D., R.N. ..... Rutgers, The State University of New Jersey
Primo N. Lara, Jr., M.D. ..... University of California, Davis
James J. Mule, Ph.D. ..... Moffitt Cancer Center
Phyllis Pettit Nassi, M.S.W. ..... University of Utah
Kunle O. Odunsi, M.D., Ph.D. ..... University of Chicago
Frank G. Ondrey, M.D., Ph.D. ..... University of Minnesota
Ramon E. Parsons, M.D., Ph.D. ..... Icahn School of Medicine at Mount Sinai
Rolf F. Renne, Ph.D. ..... University of Florida
Katherine E. Slavin ..... Oregon Health and Science University
Joann B. Sweasy, Ph.D. ..... University of Arizona
Richard A. Van Etten, M.D., Ph.D. ..... University of California, Irvine
Paula M. Vertino, Ph.D. ..... University of Rochester
Richard Zellars, M.D. ..... Indiana University

Scientific Review Officer

Shamala K. Srinivas, Ph.D. ..... National Cancer Institute, NIH

Study Section F—Institutional Training and Education

Chair

Elizabeth A. Platz, Sc.D., M.P.H. ..... Johns Hopkins University

Members

Donna G. Albertson, Ph.D. ..... New York University
Andrea Martin Armani, Ph.D. ..... University of Southern California
Maria L. Avantaggiati, M.D., Ph.D. ..... Georgetown University
Subbarao Bondada, Ph.D. ..... University of Kentucky
Barbara Ann Burtness, M.D. ..... Yale University
Bruno Calabretta, M.D., Ph.D. ..... Thomas Jefferson University
Elizabeth Claire Dees, M.D. ..... University of North Carolina at Chapel Hill
Jeremy S. Edwards, Ph.D. ..... University of New Mexico
Ruth D. Etzioni, Ph.D. ..... Fred Hutchinson Cancer Research Center
Lisa C. Flowers, M.D. ..... Emory University
Brent K. Hollenbeck, M.D. ..... University of Michigan, Ann Arbor
Mark W. Jackson, Ph.D. ..... Case Western Reserve University
Aimee S. James, Ph.D., M.P.H. ..... Washington University in St. Louis
Michael C. Joiner, Ph.D. ..... Wayne State University
Kay F. Macleod, Ph.D. ..... University of Chicago
Usha Menon, Ph.D., R.N., F.A.A.N. ..... University of South Florida
Kathleen H. Mooney, Ph.D., R.N., F.A.A.N. ..... University of Utah
Scott A. Oakes, M.D. ..... University of Chicago
John A. Olson, Jr., M.D., Ph.D. ..... University of Maryland School of Medicine

Mary Elaine Reyland, Ph.D. ..... University of Colorado
Aysegul A. Sahin, M.D. ..... University of Texas MD Anderson Cancer Center
Vanessa B. Sheppard, Ph.D. ..... Virginia Commonwealth University
Juan P. Wisnivesky, M.D., M.P.H., Dr.P.H. ..... Icahn School of Medicine at Mount Sinai

Scientific Review Officer

Adriana Stoica, Ph.D. ..... National Cancer Institute, NIH

Study Section I—Career Development

Chair

Jennifer D. Black, Ph.D. ..... University of Nebraska Medical Center

Members

Ali Syed Arbab, M.D., Ph.D. ..... Augusta University
Asfar S. Azmi, Ph.D. ..... Wayne State University
Christopher J. Bakkenist, Ph.D. ..... University of Pittsburgh
Eli E. Bar, Ph.D. ..... University of Maryland School of Medicine
Carma L. Bylund, Ph.D. ..... University of Florida
Chun-Wei David Chen, Ph.D. ..... Beckman Research Institute of City of Hope
Paul Dent, Ph.D. ..... Virginia Commonwealth University
Jay Fitzgerald Dorsey, M.D., Ph.D. ..... University of Pennsylvania
Rachel L. Flynn, Ph.D. ..... Boston University
Jacqueline S. Jeruss, M.D., Ph.D. ..... University of Michigan
Tanya V. Kalin, M.D., Ph.D. ..... University of Cincinnati
Pawel Kalinski, M.D., Ph.D. ..... Roswell Park Cancer Institute
Steven J. Kridel, Ph.D. ..... Wake Forest University
Addanki Pratap Kumar, Ph.D. ..... University of Texas Health Science Center at San Antonio
Jun Luo, Ph.D. ..... John Hopkins University
Danny Manor, Ph.D. ..... Case Western Reserve University
Catherine Handy Marshall, M.D., M.P.H. ..... Johns Hopkins University
W. Keith Miskimins, Ph.D. ..... Sanford Research
Elizabeth Angela Murphy, Ph.D. ..... University of South Carolina, Columbia
William J. Murphy, Ph.D. ..... University of California, Davis
Michael I. Nishimura, Ph.D. ..... Loyola University
Michael F. Ochs, Ph.D. ..... The College of New Jersey
Dinesh S. Rao, M.D., Ph.D. ..... University of California, Los Angeles
Veronica Rodriguez-Bravo, Ph.D. ..... Mayo Clinic, Rochester
Mauricio J. Reginato, Ph.D. ..... Drexel University College of Medicine
Edward E. Schmidt, Ph.D. ..... Montana State University
Bakhos A. Tannous, Ph.D. ..... Massachusetts General Hospital
Douglas D. Thomas, Ph.D. ..... University of Illinois at Chicago
Jessie Villanueva, Ph.D. ..... The Wistar Institute
Yan Xu, Ph.D. ..... Indiana University School of Medicine
Muhammad Raza Zaidi, Ph.D. ..... Temple University
Wei Zhou, M.D. ..... Emory University

Scientific Review Officer

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

Study Section J—Career Development

Chair

Meira Epplein, Ph.D. ..... Duke University

Members

Rajesh Agarwal, Ph.D. ..... University of Colorado Cancer Center
Neil A. Bhowmick, Ph.D. ..... Cedars-Sinai Medical Center
Lorraine Tiera Dean, Sc.D. ..... Johns Hopkins University
Yibin Deng, M.D., Ph.D. ..... University of Minnesota
Dan A. Dixon, Ph.D. ..... University of Kansas Cancer Center
Andrew C. Dudley, Ph.D. ..... University of Virginia
Neil J. Ganem, Ph.D. ..... Boston University
Jennifer Hatcher, Ph.D., M.P.H., M.S.N. ..... University of Arizona
Maneesh Jain, Ph.D. ..... University of Nebraska
Lisa Schum Kahalley, Ph.D. ..... Baylor College of Medicine
Michelle Krogsgaard, Ph.D. ..... New York University
Hui-Wen Lo, Ph.D. ..... Wake Forest University
Meghan E. McGrady, Ph.D. ..... Cincinnati Children's Hospital Medical Center
Lori Rink, Ph.D. ..... Fox Chase Cancer Center
Charles R. Rogers, Ph.D., M.P.H. ..... University of Utah
Veronica Wendy Setiawan, Ph.D. ..... University of Southern California
Li Tang, M.D., Ph.D. ..... Roswell Park Cancer Institute
David D. Tran, M.D., Ph.D. ..... University of Florida
Arun P. Wiita, M.D., Ph.D. ..... University of California, San Francisco
Jennifer A. Woyach, M.D. ..... Ohio State University
Lei Zheng, M.D., Ph.D. ..... Johns Hopkins University
Gang Zhou, Ph.D. ..... Augusta University

Scientific Review Officer

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

Appendix E: NCI Initial Review Group Consultants

1. Consultants Serving as Temporary Members on IRG Study Sections in FY2021

A

Abbey, Craig K., Ph.D. ..... University of California, Santa Barbara
Andersen, Bogi, M.D. ..... University of California, Irvine
Applebaum, Mark A., M.D. ..... University of Chicago
Armani, Andrea M., Ph.D. ..... University of Southern California
Azmi, Asfar S., Ph.D. ..... Wayne State University

B

Badr, Hoda J., Ph.D. ..... Baylor College of Medicine
Barrett, Michael T., Ph.D. ..... Mayo Clinic, Arizona
Becker, Michael W., M.D. ..... University of Rochester
Benedict, Catherine, Ph.D. ..... Stanford University
Berg, Stacey L., M.D. ..... Baylor College of Medicine
Bergsbaken, Tessa, Ph.D. ..... Rutgers, The State University of New Jersey
Bernt, Kathrin M., M.D. ..... Children's Hospital of Philadelphia
Blair, Cindy Kay, Ph.D., M.P.H. ..... University of New Mexico Health Sciences Center
Blattman, Joseph N., Ph.D. ..... Arizona State University, Tempe Campus
Blobe, Gerard C., M.D., Ph.D. ..... Duke University
Bylund, Carma L., Ph.D. ..... University of Florida

C

Carrasco, Ruben D., M.D., Ph.D. ..... Dana-Farber Cancer Institute
Chiappinelli, Katherine B., Ph.D. ..... George Washington University
Coffman, Lan, M.D., Ph.D. ..... University of Pittsburgh
Cooney, Kathleen A., M.D. ..... Duke University
Costanzo, Erin, Ph.D. ..... University of Wisconsin-Madison
Cote, Michele L., Ph.D., M.P.H. ..... Wayne State University
Cremer, Miriam, M.D., M.P.H. ..... Cleveland Clinic Lerner College of Medicine of Case Western Reserve University

D

Dai, Mushui, Ph.D. ..... Oregon Health and Science University
Dayton, Paul A.., Ph.D. ..... University of North Carolina at Chapel Hill
Dean, Lorraine T., Sc.D. ..... Johns Hopkins University
Denzin, Lisa K., Ph.D. ..... Rutgers, The State University of New Jersey
Dyson, Gregory E., Ph.D. ..... Wayne State University

F

Fernandes, Rohan, Ph.D. ..... George Washington University
Fiering, Steven, Ph.D. ..... Dartmouth College
Friedman, Debra L., R.N., M.D. ..... Vanderbilt University

G

Gibbons, Don L., M.D., Ph.D. ..... University of Texas MD Anderson Cancer Center
Goldberg, Bennett B., Ph.D. ..... Northwestern University
Goldinger, Stephen D., Ph.D. ..... Arizona State University-Tempe Campus
Gu, Jian, Ph.D. ..... University of Texas MD Anderson Cancer Center

H

Hardy, Kristina K., Ph.D. ..... Children's National Medical Center

J

Jacobs, Jamie M., Ph.D. ..... Massachusetts General Hospital
Jones, Richard J., M.D. ..... Johns Hopkins University

K

Kalinski, Pawel, M.D., Ph.D. ..... Roswell Park Cancer Institute
Kapadia, Farzana, Ph.D., M.P.H. ..... New York University
Kim, Sungjune, M.D., Ph.D. ..... Moffitt Cancer Center
Kim, Youngmee, Ph.D. ..... University of Miami, Coral Gables
Kimple, Randall J., M.D., Ph.D. ..... University of Wisconsin-Madison
Kowalski, Jeanne, Ph.D. ..... University of Texas, Austin
Kushi, Lawrence H., Sc.D. ..... Kaiser Foundation Research Institute

L

Lessnick, Stephen L., M.D., Ph.D. ..... The Research Institute Nationwide Children's Hospital
Lichtor, Terence R., M.D., Ph.D. ..... Rush University Medical Center
Linkov, Faina Y., Ph.D., M.P.H. ..... University of Pittsburgh
Loerzel, Victoria, Ph.D. ..... University of Central Florida

M

Mack, Jennifer W., M.D., M.P.H. ..... Dana-Farber Cancer Institute
Maxwell, Kara N., M.D., Ph.D. ..... University of Pennsylvania
Mayo, Lindsey D, Ph.D. ..... Indiana University-Purdue University at Indianapolis
Mehrotra, Shikhar, Ph.D. ..... Medical University of South Carolina
Mermelstein, Robin J., Ph.D. ..... University of Illinois at Chicago
Miao, Yubin, Ph.D. ..... University of Colorado, Denver
Moore, Anna, Ph.D. ..... Michigan State University
Moseley, Hunter N., Ph.D. ..... University of Kentucky
Murphy, Robert F., Ph.D. ..... Carnegie-Mellon University
Muthusamy, Natarajan, Ph.D., D.V.M. ..... Ohio State University

N

Nencka, Andrew S., Ph.D. ..... Medical College of Wisconsin
Nichols, Hazel B., Ph.D. ..... University of North Carolina at Chapel Hill

O

O'Dell, Walter G., Ph.D. ..... University of Florida
O'Dorisio, M. Sue, M.D., Ph.D. ..... University of Iowa
Ochs, Michael F., Ph.D. ..... College of New Jersey

P

Payton, Jacqueline E., M.D., Ph.D. ..... Washington University
Phillips, Richard E., Ph.D., M.B.B.S. ..... Penn State University Hershey Medical Center
Phillips, Siobhan M., Ph.D., M.P.H. ..... Northwestern University at Chicago
Pieper, Russell O., Ph.D. ..... University of California, San Francisco
Pilon-Thomas, Shari, Ph.D. ..... Moffitt Cancer Center

R

Radhakrishnan, Senthil K., Ph.D. ..... Virginia Commonwealth University
Ramirez, A. Susana, Ph.D., M.P.H. ..... University of California, Merced

S

Safran, Howard, M.D. ..... Rhode Island Hospital
Satpathy, Ansuman, M.D., Ph.D. ..... Stanford University Hospital
Sayour, Elias, M.D., Ph.D. ..... University of Florida
Sengupta, Surojeet, Ph.D. ..... University of Minnesota
Sherman, Mara H., Ph.D. ..... Oregon Health and Science University

T

Thomson, Maria D., Ph.D. ..... Virginia Commonwealth University
Tomlinson, Gail E., M.D., Ph.D. ..... University of Texas Health Science Center

U

Ubil, Eric S., Ph.D. ..... University of Alabama at Birmingham

W

Wahl, Daniel R., M.D., Ph.D. ..... University of Michigan
Wallner, Lauren P., Ph.D. ..... University of Michigan at Ann Arbor
Wang, Leo D., M.D., Ph.D. ..... Beckman Research Institute of City of Hope
Wang, Lili, M.D., Ph.D. ..... Beckman Research Institute of City of Hope
Wang, Pin, Ph.D. ..... University of Southern California
Wang, Sam C., M.D. ..... University of Texas Southwestern Medical Center
Ward, Jeffrey P., M.D., Ph.D. ..... Washington University
Weissman, Bernard E., Ph.D. ..... University of North Carolina at Chapel Hill
Woloschak, Gayle E., Ph.D. ..... Northwestern University at Chicago
Wu, Yun, Ph.D. ..... State University of New York at Buffalo

X

Xi, Yaguang, M.D., Ph.D. ..... Louisiana State University Health Sciences Center

Y

Yin, Fang-Fang, Ph.D. ..... Duke University
Yuan, Jian-Min, M.D., Ph.D., M.P.H. ..... University of Pittsburgh

Z

Zakrzewski, Johannes, M.D. ..... Hackensack University Medical Center
Zhou, Wei, Ph.D. ..... Emory University
Zloza, Andrew, M.D., Ph.D. ..... Rush University Medical Center

Total Number of Reviewers: 95
Total Number of Times Reviewers Served: 125

2. Consultants Serving as *Ad Hoc* Committee Members on IRG Site Visit Teams in FY2021

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Adams-Campbell, Lucile L., Ph.D. ..... Georgetown University
Adjei, Alex A., M.D., Ph.D. ..... Mayo Clinic, Rochester
Adusumilli, Prasad S., M.D. ..... Memorial Sloan Kettering Cancer Center
Ahn, Jiyoung, Ph.D. ..... New York University School of Medicine
Amaravadi, Ravi K., M.D. ..... University of Pennsylvania
Ambrosone, Christine B., Ph.D. ..... Roswell Park Cancer Institute
Anant, Shrikant, Ph.D. ..... University of Kansas Medical Center
Aplin, Andrew E., Ph.D. ..... Thomas Jefferson University

B

Badr, Hoda J., Ph.D. ..... Baylor College of Medicine
Baker, Sharyn D., Ph.D., Pharm.D. ..... Ohio State University
Berrier, Donna, M.P.A. ..... Medical University of South Carolina
Boffetta, Paolo, M.D., M.P.H. ..... State University New York Stony Brook
Brody, Joshua D., M.D. ..... Icahn School of Medicine at Mount Sinai
Buatti, John M., M.D. ..... University of Iowa
Buckner, Jan C., M.D. ..... Mayo Clinic, Rochester

C

Califano, Andrea, Ph.D. ..... Columbia University Health Sciences
Carson, William E., M.D. ..... Ohio State University
Champion, Victoria L., Ph.D. ..... Indiana University- Purdue University at Indianapolis
Chuang, Jeffrey Hsu-Min, Ph.D. ..... Jackson Laboratory
Contessa, Joseph N., M.D., Ph.D. ..... Yale University
Corey, Seth J., M.D. ..... Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
Cote, Michele L., Ph.D., M.P.H. ..... Wayne State University
Crown, Adrienne, J.D. ..... Sanford Burnham Prebys Medical Discovery Institute
Cuttell, Douglas G., M.B.A. ..... Purdue University

D

Davisson, Vincent J., Ph.D. ..... Purdue University
Dewey, Colin N., Ph.D. ..... University of Wisconsin-Madison
Djeu, Julie Y., Ph.D. ..... University of South Florida
Doubeni, Chyke A., M.D., M.P.H. ..... Mayo Clinic, Rochester

E

Earp, Henry S., M.D. ..... University of North Carolina at Chapel Hill
Eklund, Elizabeth A., M.D. ..... Northwestern University at Chicago
Ellerbeck, Edward F., M.D., M.P.H. ..... University of Kansas Medical Center

F

Fitzpatrick, James A., Ph.D. ..... Washington University
Flocke, Susan A., Ph.D. ..... Oregon Health and Science University
Fridley, Brooke L., Ph.D. ..... Moffitt Cancer Center

G

Goldberg, Judith D., Sc.D. ..... New York University School of Medicine
Goodman, Marc T., Ph.D., M.P.H. ..... Cedars-Sinai Medical Center
Grady, William M., M.D. ..... Fred Hutchinson Cancer Research Center
Graham, Michael M., M.D., Ph.D. ..... University of Iowa
Grandis, Jennifer R., M.D. ..... University of California, San Francisco

H

Halabi, Susan, Ph.D. ..... Duke University
Hardy, Jerry L. ..... Us Too Prostate Cancer Education and Support Group
Hawk, Ernest, M.D., M.P.H. ..... University of Texas MD Anderson Cancer Center
Hazle, John D., Ph.D. ..... University of Texas MD Anderson Cancer Center
Herman, James G., M.D. ..... University of Pittsburgh
Heslop, Helen E., M.D. ..... Baylor College of Medicine
Holcombe, Randall F., M.D. ..... University of Hawaii at Manoa
Hoopes, Jack, Ph.D., D.V.M. ..... Dartmouth College
Houchen, Courtney W., M.D. ..... University of Oklahoma Health Sciences Center
Houlette, Judy K., M.A. ..... Friend for Life Cancer Support Network
Hull, Pamela C., Ph.D. ..... University of Kentucky
Hyslop, Terry, Ph.D. ..... Duke University

J

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K

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L

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Libutti, Steven K., M.D. ..... Rutgers, The State University of New Jersey
Liu, Chen, M.D., Ph.D. ..... Yale University
Lord, Edith M., Ph.D. ..... University of Rochester
Lorusso, Patricia M., D.O. ..... Yale University
Luker, Gary D., M.D. ..... University of Michigan at Ann Arbor

M

Machtay, Mitchell, M.D. ..... Penn State University Hershey Medical Center
Macleod, Kay F., Ph.D. ..... University of Chicago
Malkas, Linda H., Ph.D. ..... Beckman Research Institute of City of Hope
Manne, Sharon L., Ph.D. ..... Rutgers, The State University of New Jersey
Marcus, Adam I., Ph.D. ..... Emory University
Mermelstein, Robin J., Ph.D. ..... University of Illinois at Chicago
Mesa, Ruben A., M.D. ..... University of Texas Health Science Center
Mesecar, Andrew, Ph.D. ..... Purdue University
Messersmith, Wells A., M.D. ..... University of Colorado Denver
Mitchell, Duane A., M.D., Ph.D. ..... University of Florida Gainesville

Moore, Jonni S., Ph.D. ..... University of Pennsylvania
Mori, Motomi, Ph.D. .....St. Jude Children's Research Hospital
Murphy, William J., Ph.D. ..... University of California, Davis

N

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Newby, Joshua ..... Baylor College of Medicine
Nimer, Stephen D., M.D. .....University of Miami School of Medicine

O

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Parsons, Ramon E., M.D., Ph.D. ..... Icahn School of Medicine at Mount Sinai
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Person, Sharina D., Ph.D. ..... University of Massachusetts Medical School, Worcester
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R

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Ratliff, Timothy L., Ph.D. ..... Purdue University
Reddy, Pavan, M.D. .....University of Michigan
Rich, Jeremy N., M.D. ..... University of Pittsburgh
Richmond, Ann, Ph.D. .....Vanderbilt University
Roe, Denise J., Dr.PH. .....University of Arizona
Ryeom, Sandra W., Ph.D. ..... Columbia University Health Sciences

S

Schwartz, Ann G., Ph.D., M.P.H. .....Wayne State University
Serody, Jonathan S., M.D. ..... University of North Carolina at Chapel Hill
Shibata, Darryl K., M.D. ..... University of Southern California
Shields, Anthony F., M.D., Ph.D. .....Wayne State University
Shull, James D., Ph.D. .....University of Wisconsin-Madison
Shyr, Yu, Ph.D. ..... Vanderbilt University Medical Center
Simeone, Diane M., M.D. ..... New York University School of Medicine
Singh, Anurag K., M.D. ..... Roswell Park Cancer Institute
Small, Eric J., M.D. .....University of California, San Francisco
Spellman, Paul T., Ph.D. ..... Oregon Health and Science University
Springer, Brian C., M.H.A. .....Moffitt Cancer Center
Stapleton, Jerod L., Ph.D. ..... University of Kentucky
Stewart, Sheila A., Ph.D. .....Washington University
Sudarshan, Sunil, M.D. ..... University of Alabama at Birmingham
Sulikowski, Gary A., Ph.D. .....Vanderbilt University
Sun, Duxin, Ph.D. .....University of Michigan at Ann Arbor

T

Teitell, Michael A., M.D., Ph.D. .....University of California, Los Angeles
Turk, Mary Jo, Ph.D. ..... Dartmouth College

Tycko, Benjamin, M.D., Ph.D. .....Hackensack University Medical Center

U

Ulrich, Cornelia M., Ph.D. .....University of Utah

V

Viola, Nerissa T., Ph.D. .....Wayne State University

W

Watkins, Simon C., Ph.D. ..... University of Pittsburgh
Weiner, Louis M., M.D. ..... Georgetown University
Welch, Danny R., Ph.D. ..... University of Kansas Medical Center
Wiley, Patti, M.B.A. ..... On Wings of Angels Pediatric Foundation
Wilke, Lee Gravatt, M.D. .....University of Wisconsin-Madison
Willett, Christopher G., M.D. .....Duke University
Williams, Donna L., Dr.PH., M.P.H. .....Louisiana State University Health Sciences Center
Willis, Joseph E., M.D. ..... Case Western Reserve University
Wingard, John R., M.D. ..... University of Florida

Y

Yee, Douglas, M.D. ..... University of Minnesota
Young, Jeanne P., B.A. .....Childhood Brain Tumor Foundation

Z

Zafirovski, Aleksandar, M.B.A. .....Northwestern University at Chicago
Zahrbock, Cary, M.S.W., Lic.S.W. .....National Coalition for Cancer Survivorship
Zutter, Mary M., M.D. .....Vanderbilt University

Total Number of Reviewers: 127
Total Number of Times Reviewers Served: 147

3. Consultants Serving on Special Emphasis Panels (SEPs) in FY2021

A

Aaronson, Stuart A., M.D. ..... Icahn School of Medicine at Mount Sinai
Abazeed, Mohamed E., M.D., Ph.D. ..... Northwestern University at Chicago
Abbas, Tarek A., Ph.D. ..... University of Virginia
Abbott, Karen L., Ph.D. ..... Florida International University
Abdel-Wahab, Omar, M.D. ..... Memorial Sloan Kettering Cancer Center
Abdulkadir, Sarki A., M.D., Ph.D. ..... Northwestern University at Chicago
Abdulmalik, Osheiza Y., D.V.M. ..... Children's Hospital of Philadelphia
Ablordeppey, Seth Y., Ph.D. ..... Florida Agricultural and Mechanical University
Abounader, Roger, M.D., Ph.D. ..... University of Virginia
Abraham, George N., M.D. ..... University of Rochester
Abrams, Judith, Ph.D. ..... Wayne State University
Abrantes, Ana M., Ph.D. ..... Butler Hospital
Abyzov, Alexej, Ph.D. ..... Mayo Clinic, Rochester
Acharyya, Swarnali, Ph.D. ..... Columbia University Health Sciences
Achenie, Luke, Ph.D. ..... Virginia Polytechnic Institute and State University
Ackerson, Christopher J., Ph.D. ..... Colorado State University, Denver
Adams, Erin J., Ph.D. ..... University of Chicago
Adams, Peter D., Ph.D. ..... Sanford Burnham Prebys Medical Discovery Institute
Adekola, Kehinde, M.B.B.S. ..... Northwestern University at Chicago
Adjei, Alex A., M.D., Ph.D. ..... Mayo Clinic, Rochester
Adunyah, Samuel E., Ph.D. ..... Meharry Medical College
Adusumilli, Prasad S., M.D. ..... Memorial Sloan Kettering Cancer Center
Advani, Sunil J., M.D. ..... University of California, San Diego
Aft, Rebecca L., M.D., Ph.D. ..... Washington University
Agarwal, Ashutosh, Ph.D. ..... University of Miami School of Medicine
Agarwal, Rajesh, Ph.D. ..... University of Colorado, Denver
Aggarwal, Rahul, M.D. ..... University of California, San Francisco
Aguilar-Cordova, Estuardo, Ph.D. ..... Candel Therapeutics
Aguirre, Aitor, Ph.D. ..... Michigan State University
Ahn, Jiyoung, Ph.D. ..... New York University School of Medicine
Ahuja, Nita, M.D. ..... Yale University
Aifantis, Iannis, Ph.D. ..... New York University School of Medicine
Aikhionbare, Felix O., Ph.D. ..... Morehouse School of Medicine
Aird, Katherine M., Ph.D. ..... University of Pittsburgh
Aizenberg, Michele R., M.D. ..... University of Nebraska Medical Center
Akers, Walter J., Ph.D., D.V.M. ..... St. Jude Children's Research Hospital
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Thomas, George V., M.D. ..... Oregon Health and Science University
Thomas, Lawrence J., Ph.D. ..... Celldex Therapeutics, Inc.
Thomas, Ryan M., M.D. ..... University of Florida
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Tosteson, Tor D., Sc.D. ..... Dartmouth College
Toth, Zsolt, Ph.D. ..... University of Florida
Towner, Rheal A., Ph.D. ..... Oklahoma Medical Research Foundation
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Tucker, Erik I., Ph.D. ..... Aronora, Inc.
Tulu, Bengisu, Ph.D. ..... Worcester Polytechnic Institute
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U

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W

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Wang, Andrew Z., M.D. ..... University of Texas Southwestern Medical Center
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Wong, Albert J., M.D. ..... Stanford University
Wong, David T., D.M.D. ..... University of California, Los Angeles
Wong, Pak Kin, Ph.D. ..... Pennsylvania State University
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Wood, David K., Ph.D. ..... University of Minnesota
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Wu, Jie, Ph.D. ..... University of Oklahoma Health Sciences Center
Wu, Lang, Ph.D. ..... University of Hawaii at Manoa
Wu, Mingming, Ph.D. ..... Cornell University
Wu, Ronghu, Ph.D. ..... Georgia Institute of Technology
Wu, Shandong, Ph.D. ..... University of Pittsburgh
Wu, Teresa, Ph.D. ..... Arizona State University-Tempe Campus
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Wu, Yin, Ph.D. ..... IG Medical Imaging, LLC
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Xie, Jin, Ph.D. ..... University of Georgia
Xing, Jianhua, Ph.D. ..... University of Pittsburgh
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Yang, Jian, Ph.D. ..... Pennsylvania State University, University Park
Yang, Jing, Ph.D. ..... University of California, San Diego
Yang, Lili, Ph.D. ..... University of California, Los Angeles
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Youngblood, Benjamin A., Ph.D. ..... St. Jude Children's Research Hospital
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Zhang, Rugang, Ph.D. ..... Wistar Institute
Zhang, Rui, Ph.D. ..... University of Minnesota
Zhang, Ruiwen, M.D., Ph.D. ..... University of Houston
Zhang, Siyuan, M.D., Ph.D. ..... University of Notre Dame
Zhang, Wei, Ph.D. ..... Wake Forest University Health Sciences
Zhang, Wei, Ph.D. ..... Northwestern University at Chicago
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Zhao, Shaying, Ph.D. ..... University of Georgia
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Zheng, Guangrong, Ph.D. ..... University of Florida
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Zheng, Siyang, Ph.D. ..... Carnegie-Mellon University
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Zhu, Liang, Ph.D. ..... Eisai, Inc.
Zhu, Quing, Ph.D. ..... Washington University
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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 https://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.

F99/ K00	**The NCI Predoctoral to Postdoctoral Fellow Transition Award** To encourage and retain outstanding graduate students who have demonstrated potential and interest in pursuing careers as independent cancer researchers.
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.
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; and 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 longer-term grant support to Early-Stage Investigators (ESIs). By providing such an opportunity for longer term support to ESIs, the NCI intends to give them flexibility and opportunity for creativity and innovation, and additional time to successfully launch their careers and to become more established before having to submit renewal applications. The objective of the NCI's ESI MERIT Award is to allow eligible investigators the opportunity to obtain up to 7 years of support in two segments, with the first being an initial 5-year award and the second being based on an opportunity for an extension of up to 2 additional years, based on an expedited NCI review of the accomplishments during the initial funding segment. Investigators may not apply for an ESI MERIT award. ESIs who have submitted a single-Principal Investigator (PI) R01 application that received a score within the NCI payline are eligible for consideration for the award. NCI program staff members will identify eligible candidate applications for the ESI MERIT Award and submit them to the members of the National Cancer Advisory Board (NCAB) for consideration. If recommended by the NCAB and approved by NCI leadership, the ESI R01 will be converted to an ESI MERIT (R37) for the initial 5-year funding segment.
R38	**Stimulating Access to Research in Residency (StARR)** To recruit and retain outstanding, postdoctoral-level health professionals who have demonstrated potential and interest in pursuing careers as clinician-investigators. To address the growing need for this critical component of the research workforce, this funding opportunity seeks applications from institutional programs that can provide outstanding mentored research opportunities for Resident-Investigators and foster their ability to transition to individual career development research awards. The program will support institutions to provide support for up to 2 years of research conducted by Resident-Investigators in structured programs for clinician-investigators with defined program milestones.
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.
RL1	**Linked Research Project Grant** To support a discrete, specified, circumscribed project that is administratively linked to another project or projects and to be performed by the named investigator(s) in an area representing his or her specific interest and competencies. An RL1 award may only be disaggregated from U54 applications, and organizations may not apply for an RL1, Linked Research Project Grant. The RL1 activity code is used in lieu of the R01 for those programs that offer linked awards.

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 MSIs to generate preliminary data for a more ambitious research project.
Si2/ R00	**Lasker Clinical Research Scholar Program** This program will support the research activities during the early-stage careers of independent clinical researchers.
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.
U2C	**Resource-Related Research Multicomponent Projects and Centers Cooperative Agreements** To support multicomponent research resource projects and centers that will enhance the capability of resources to serve biomedical research. 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.
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.
UE5	**Research Education Cooperative Agreements Program** The NIH Research Education Cooperative Agreements Program (UE5) supports research education activities in the mission areas of the NIH. The overarching goal of the NCI's UE5 program is to support educational activities that complement and/or enhance the training of a workforce to meet the nation's biomedical, behavioral, and clinical cancer research needs.
UG1	**Clinical Research Cooperative Agreements—Single Project** To support single project applications conducting clinical evaluation of various methods of therapy and/or prevention (in specific disease areas). 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. NOTE: The UG1 is the single-component companion to the U10, which is used for multi-project applications only.
UG3	**Phase 1 Exploratory/Developmental Cooperative Agreement** As part of a biphasic approach to funding exploratory and/or developmental research, the UG3 provides support for the first phase of the award. This activity code is used in lieu of the UH2 activity code when larger budgets and/or project periods are required to establish feasibility for the project.

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

ACD	Advisory Committee to the Director
ACRWH	Advisory Committee on Research on Women's Health
AHRQ	Agency for Healthcare Research and Quality
AIDS	Acquired Immune Deficiency Syndrome
AISB	Applied Information Systems Branch
ARA	Awaiting Receipt of Application
AREA	Academic Research Enhancement Award
BRSG	Biomedical Research Support Grant
BSA	Board of Scientific Advisors
BSC	Board of Scientific Counselors
CATS	Concept to Award Tracking System
CBIIT	NCI Center for Biomedical Informatics and Information Technology
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
CISNET	Cancer Intervention and Surveillance Modeling Network
CIT	Center for Information Technology
CMO	Committee Management Office
CoC	Council of Councils
CRCHD	Center to Reduce Cancer Health Disparities
CSR	Center for Scientific Review
CSRA	Clinician Scientist Research Award
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
DEAIS	DEA Information System
DFO	Designated Federal Official
DPDU	DEA Processing and Distribution Unit
DRR	Division of Receipt and Referral
EDRN	Early Detection Research Network
EPMC	Extramural Program Management Committee
eRA	Electronic Research Administration
ESI	Early-Stage Investigator
eTUG	eRA Technical Users Group
FACA	Federal Advisory Committee Act
FDA	U.S. Food and Drug Administration
FFRDC	Federally Funded Research and Development 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
IC	Institute/Center
IMAT	Innovative Molecular and Cellular 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
NCI	National Cancer Institute
NCRA	NCI Council of Research Advocates (replaces DCLG)
NCRR	National Center for Research Resources
NDPA	NIH Director Pioneer Award
NExTRAC	Novel and Exceptional Technology and Research Advisory Council
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIBIB	National Institute of Biomedical Imaging and Bioengineering
NIDA	National Institute on Drug Abuse
NIH	National Institutes of Health
NIMHD	National Institute on Minority Health and Health Disparities
NRSA	National Research Service Award
OBF	Office of Budget and Finance
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 Malignancy
OIA	Outstanding Investigator Award
OPERA	Office of Policy for Extramural Research Administration
ORRPC	Office of Referral, Review, and Program Coordination
PA	Program Announcement
PAR	Reviewed Program Announcement
PCP	President's Cancer Panel
PCRB	Program Coordination and Referral Branch
PHS	Public Health Service (HHS)
PI	Principal Investigator
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
RO	Referral Officer
RPG	Research Project Grant
RPRB	Research Programs Review Branch
RTCRB	Research Technology and Contracts Review Branch
RTRB	Resources and Training Review Branch
SA	Staff Assistant
SBIR	Small Business Innovation Research
SBIRDC	SBIR Development Center
SEER	Surveillance, Epidemiology, and End Results
SEP	Special Emphasis Panel
SIC	Special Interest Category
SIG	Shared Instrumentation Grant
SPL	Scientific Program Leadership
SPORE	Specialized Program of Research Excellence
SPRS	Secure Payee Registration System
SRB	Special Review Branch
SREA	Scientific Review and Evaluation Activities
SRO	Scientific Review Officer (formerly Scientific Review Administrator)
STTR	Small Business Technology Transfer Research
T&E	Training and Education
TEP	Technical Evaluation Panel

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 https://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

https://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.

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

https://deais.nci.nih.gov/foastatus
Active RFAs, with links to detailed descriptions.

https://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).

https://grants.nih.gov/policy/early-investigators/index.htm
New and Early Stage Investigator Policies.

https://www.cancer.gov/grants-training/training
The Center for Cancer Training (CCT).

https://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

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

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

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

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

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

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

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

https://deainfo.nci.nih.gov/advisory/bsc/index.htm
Board of Scientific Counselors Charter; functional statement, and members.

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

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

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

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

https://gsspubssl.nci.nih.gov/presentations
NCI Advisory Board Presentations since 2011.

Other NIH Websites

https://www.nih.gov
NIH Home page.

https://grants.nih.gov/grants/how-to-apply-application-guide.html
Grants & Funding—Applying electronically.

https://grants.nih.gov/policy/index.htm
Grants & Funding—Grants policies and guidance.

https://grants.nih.gov/funding/index.htm
Grants & Funding—Funding opportunities and notices.

https://researchtraining.nih.gov
Extramural training mechanisms.

https://projectreporter.nih.gov/reporter.cfm
Research Portfolio Online Reporting Tools.

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