

NCI

FACT BOOK

National
Cancer
Institute

1996

U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES

NATIONAL INSTITUTES
OF HEALTH

The information set forth in this publication is compiled and amended annually by the financial management staff of the National Cancer Institute and is intended primarily for use by members of the Institute, principal advisory groups to the Institute and others involved in the administration and management of the National Cancer Program. Questions regarding any of the information contained herein may be directed to the Financial Management Branch, National Cancer Institute, 9000 Rockville Pike, Bethesda, Maryland, 20892.

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| Organization | |
| Director's Biography | 1 |
| Former Directors of the NCI | 2 |
| National Cancer Advisory Board | 3 |
| Division Boards of Scientific Counselors | 4 |
| President's Cancer Panel | 5 |
| Executive Committee Members | 5 |
| Organization Charts: | |
| National Cancer Institute | 6 |
| Office of the Director | 7 |
| Division of Basic Sciences | 8 |
| Division of Clinical Sciences | 9 |
| Division of Cancer Epidemiology and Genetics | 10 |
| Division of Cancer Prevention and Control | 11 |
| Division of Cancer Treatment, Diagnosis and Centers | 12 |
| Division of Cancer Biology | 13 |
| Division of Extramural Activities | 14 |
| Research Positions at the National Cancer Institute | 15 |
| Cancer Statistics | |
| Number of Deaths for the Five Leading Cancer Sites | 27 |
| Relationship of Cancer to the Leading Causes of Death in the U.S. | 27 |
| Estimated New Cancer Cases and Deaths | 28 |
| The Cost of Cancer | 29 |
| Average Years of Life Lost Per Person Due to Cancer Deaths | 30 |
| Five-Year Relative Survival Rates by Cancer Site | 31 |
| Cancer Mortality Rates: | |
| Changes by Year: | |
| Ages Under 65 | 32 |
| Ages Over 65 | 33 |
| United States | 34 |
| Cancer Incidence Rates | 35 |
| The Prevalence of Cancer | 36 |
| Budget Data | |
| NCI Budget | 37 |
| Program Structure | 38 |
| Extramural Funds | 39 |
| Total Dollars by Mechanism | 40 |
| Division Obligations by Mechanism | 41 |
| Reimbursement to NIH Management Fund | 42 |
| Special Sources of Funds | 43 |
| Research Dollars by Various Cancers | 44 |

| | <u>Page</u> |
|--|-------------|
| Extramural Programs | |
| Grant and Contract Awards by State | 45 |
| Foreign Research Grants and Contracts | 46 |
| Institutions Receiving More than \$10,000,000 in NCI Support | 47 |
| Cancer Centers: | |
| Funding History | 48 |
| By State | 49 |
| Specialized Programs of Research Excellence (SPORE) | 50 |
| Research Project Grants: | |
| Requested, Recommended, Awarded | 51 |
| Adjustments From Recommended Levels | 52 |
| Number of Awards | 53 |
| History by Activity | 54 |
| National Research Service Awards | 55 |
| Construction/Renovation Funding | 56 |
| Historical Trends | |
| Appropriations of the NCI | 57 |
| Bypass Budget Requests | 58 |
| Comparison of Dollars, Positions and Space | 59 |
| Personnel Resources | 60 |
| AIDS Funding by Activity | 61 |
| AIDS Funding History | 62 |
| Obligations and Outlays | 63 |

This publication may be viewed on the World Wide Web by pointing a browser to the Financial Management Branch homepage on the National Cancer Institutes website : **www.nci.nih.gov**

National Cancer Institute

Director's Biography

Richard D. Klausner, M.D.

Dr. Klausner was appointed as the Director of the National Cancer Institute (NCI) on August 1, 1995. Since 1984, he has been Chief of the Cell Biology and Metabolism Branch of the National Institute of Child Health & Human Development. Dr. Klausner received his undergraduate degree from Yale University and his medical degree from Duke University. After post-graduate medical training at Harvard, he began his research career at the National Institutes of Health in 1979.

Dr. Klausner is well known for his contributions to multiple aspects of cell and molecular biology. Over the past five years, he has been recognized as one of the 20 most highly cited scientists in the world in this burgeoning area of biology and biomedical research. Dr. Klausner's research has illuminated the genetics and biochemistry of metals as essential but toxic nutrients for virtually all forms of life, has illuminated the pathways by which molecules traffic and speak to each other within the cell, and has described novel mechanisms by which genes are regulated.

His work has been recognized with numerous honors and awards including the Outstanding Investigator Award from the American Federation of Clinical Research and the William Damashek Prize for Major Discoveries in Hematology. In 1993, Dr. Klausner was elected to the National Academy of Sciences and chaired their project, charged with writing standards for science education for the United States from kindergarten through 12th grade. This project represents the first comprehensive attempt to describe a vision of scientific literacy for all students and to provide the criteria for the educational system required to achieve the fulfillment of that vision.

Dr. Klausner is the past President of the American Society for Clinical Investigation. In October 1996 he was elected to the Institute of Medicine. He is the author of over 250 scientific articles and several books.

Former Directors of the National Cancer Institute

Dr. Samuel Broder

December 1988-March 1995

Dr. Broder joined NCI in 1972 as a Clinical Associate in the Metabolism Branch. In 1981, he became Associate Director for NCI's Clinical Oncology Program. In 1985 he led the laboratory team that discovered the therapeutic effects of AZT and other drugs now approved for the treatment of AIDS including, ddi and ddc.

Dr. Vincent T. DeVita, Jr., M.D.

January 1980 - June 1980 (Acting)
July 1980 - August 1988

Dr. DeVita joined NCI in 1963 as a Clinical Associate in the Laboratory of Chemical Pharmacology. He served NCI as head of the Solid Tumor Service, Chief of the Medicine Branch, Director of the Division of Cancer Treatment and Clinical Director prior to his appointment as Director of NCI.

Dr. Arthur Canfield Upton, M.D.

July 1977 - December 1979

Prior to his tenure as NCI Director, Dr. Upton served as Dean of the School of Basic Health Sciences at the State University of New York at Stony Brook.

Dr. Frank Joseph Rauscher, Jr., Ph.D.

May 1972 - October 1976

Dr. Rauscher served as Scientific Director for Etiology, NCI, prior to his appointment as Director of NCI in 1972.

Dr. Carl Gwin Baker, M.D.

November 1969 - July 1970 (Acting)
July 1970 - April 1972

During his tenure with PHS, Dr. Baker served as Scientific Director for Etiology, NCI, and as Acting Director of NCI prior to his appointment as Director in July 1970.

Dr. Kenneth Milo Endicott, M.D.

July 1960 - November 1969

Dr. Endicott served as Chief of the Cancer Chemotherapy National Service Center, PHS, and as Associate Director, NIH, prior to being appointed Director, NCI in July 1960.

Dr. John Roderick Heller, M.D.

May 1948 - June 1960

Dr. Heller joined PHS in 1934 and became Chief of the Venereal Disease Division prior to his appointment as Director of NCI in 1948.

Dr. Leonard Andrew Scheele, M.D.

July 1947 - April 1948

Dr. Scheele served in various capacities during his tenure with PHS prior to his appointment as Assistant Chief and, subsequently, Director of NCI in July 1947.

Dr. Roscoe Roy Spencer, M.D.

August 1943 - July 1947

Dr. Spencer became NCI's first Assistant Chief and, subsequently, was appointed Director of the Institute in 1943.

Dr. Carl Voegtlin, Ph.D.

January 1938 - July 1943

Dr. Voegtlin served as Professor of Pharmacology and Chief of the Division of Pharmacy at the Hygienic Laboratory prior to becoming the first Director of NCI in 1938.

National Cancer Advisory Board

| Appointees | Expiration of Appointment | Appointees | Expiration of Appointment | Appointees | Expiration of Appointment |
|---|---------------------------|--|---------------------------|--|---------------------------|
| Mrs. Barbara K. Rimer, Dr.P.H. Chairperson Duke University Durham, North Carolina | 2000 | Kay Dickersin, Ph.D. University of Maryland Baltimore, Maryland | 2000 | Philip S. Schein, M.D. U.S. Bioscience, Inc. West Conshohocken, Pennsylvania | 2000 |
| J. Michael Bishop, M.D. The George Williams Hopper Research Foundation San Francisco, California | 2002 | Mrs. Barbara P. Gimbel The Society of Memorial Sloan- Kettering Cancer Center New York, New York | 1998 | Phillip A. Sharp, Ph. D. Massachusetts Institute of Technology Boston, Massachusetts | 2002 |
| Richard J. Boxer, M.D. Urology Specialists, S.C. Milwaukee, Wisconsin | 2002 | Alfred L. Goldson, M.D., F.A.C.R. Howard University Hospital Washington, D.C. | 2000 | Ellen V. Sigal, Ph.D SIGAL Environmental Inc. Washington, D.C. | 1998 |
| Mrs. Zora K. Brown Cancer Awareness Program Washington, D.C. | 1998 | Frederick P. Li, M.D. Dana-Farber Cancer Institute Boston, Massachusetts | 2002 | Ms. Ellen L. Stovall National Coalition for Cancer Survivorship Silver Spring, Maryland | 2002 |
| Pelayo Correa, M.D. Louisiana State University Medical Center New Orleans, Louisiana | 1998 | Sandra Millon-Underwood, Ph.D., R.N. University of Wisconsin-Milwaukee School of Nursing Milwaukee, Wisconsin | 2002 | Vainutis K. Vaitkevicius, M.D. Barbara Ann Kermanos Cancer Institute Detroit, Michigan | 2000 |
| Robert W. Day, M.D., MPH, Ph.D Fred Hutchinson Cancer Research Center Seattle, Washington | 1998 | Ivor Royston, M.D. Sidney Kimmel Cancer Center San Diego, California | 2002 | Charles B. Wilson, M.D. Brain Tumor Research Center U.C.S.F. San Francisco, California. | 1998 |
| | | | | Executive Secretary Marvin R. Kalt, Ph. D. National Cancer Institute Bethesda, Maryland 20892 | |

EX OFFICIO MEMBERS

| | | |
|---|--|---|
| The Honorable Donna E. Shalala, Ph.D Secretary for Health and Human Services Washington, D.C. | Kenneth W. Kizer, M.D., M.P.H. Department of Veterans' Affairs Washington, D.C. | Ann Brown Consumer Product Safety Commission Bethesda, MD |
| Harold Varmus, M.D. Director, National Institutes of Health Bethesda, MD | Michael Friedman, M.D. Food and Drug Administration Rockville, MD | Kenneth Olden, M.D. National Institute of Environmental Health Sciences Research Triangle Park, NC |
| The Honorable Cynthia A. Metzler Acting Secretary of Labor Washington, D.C. | Linda Rosenstock, M.D., M.P.H. National Institute for Occupational Safety and Health Washington, D.C. | Rachel Levinson, Ph.D. Office of Science and Technology Policy Washington, D.C. |
| The Honorable Edward Martin, M.D. Acting Assistant Secretary of Defense Washington, D.C. | Ari Patrinos, Ph.D. Department of Energy Washington, D.C. | Carol M. Browner Environmental Protection Agency Washington, D.C. |

Alternates to Ex Officio Members

| | | |
|---|--|--|
| Marilyn A. Fingerhut, Ph.D. National Institute for Occupational Safety and Health Washington, D.C. | Hugh W. McKinnon, M.D. Environmental Protection Agency Washington, D.C. | Ralph E. Yodaiken, M.D. Department of Labor Washington, D.C. |
| John R. Johnson, M.D. Food and Drug Administration Rockville, MD | Col. Louis F. Diehl, M.D. Walter Reed Army Medical Center Washington, D.C. | Joseph A. Fontana, M.D., Ph. D. Baltimore VA Hospital Baltimore, MD |
| John C. Wooley, Ph.D. Department of Energy Washington, D.C. | Lakshmi C. Mishra, Ph.D. Consumer Product Safety Commission Bethesda, MD | Committee Management Officer Ms. Linda Quick-Cameron National Cancer Institute Bethesda, MD |

Board of Scientific Counselors
Intramural Programs

Subcommittee A: Clinical Sciences

| | | | |
|---------------------------|------|---|------|
| Martin D. Abeloff, M.D. | 2000 | Arthur W. Nienhuis, M.D. | 1999 |
| Chairperson | | Abraham M. Nomura, M.D. | 1999 |
| Clara D. Bloomfield, M.D. | 1998 | Robert L. Reddick, M.D. | 1998 |
| Fernando Cabanillas, M.D. | 1999 | Jonathan M. Samet, M.D. | 1999 |
| C. Norman Coleman, M.D. | 2000 | Jouni Uitto, M.D.,Ph.D. | 2000 |
| Judah Folkman, M.D. | 1999 | Samuel A. Wells, Jr., M.D. | 1998 |
| Harold Harvey, M.D. | 1999 | James K. V. Willson, M.D. | 1999 |
| Joanne Kurtzberg, M.D. | 2000 | Mimi C. Yu, Ph.D. | 1999 |
| Alexandra M. Levine, M.D. | 1998 | | |
| Albert F. Lobuglio, M.D. | 1998 | Executive Secretary-RobertD. Hammond, Ph.D. | |

Subcommittee B: Basic Sciences

| | | | |
|---------------------------|------|--|------|
| Matthew D. Scharff, M.D. | 1999 | | |
| Chairperson | | Tony Hunter, Ph.D. | 1999 |
| James P. Allison, Ph.D. | 2000 | Stanley J. Korsmeyer, M.D. | 2000 |
| Alan Bernstein, Ph.D. | 1998 | Luis Parada, Ph.D. | 2000 |
| Noel Bouck, Ph.D. | 1998 | Carol L. Prives, Ph.D. | 2000 |
| Edward Bresnick, Ph. D. | 1999 | Bruce Stillman, Ph.D. | 1999 |
| Allen Conney, Ph.D. | 1998 | Susan S. Taylor, Ph.D. | 2000 |
| Robert N. Eisenman, Ph.D. | 1998 | Jean Y.J. Wang, Ph.D. | 1999 |
| Brenda L. Gallie, M.D. | 1999 | | |
| Ira Herskowitz, Ph.D. | 1999 | Executive Secretary-Florence Farber, Ph.D. | |

Board of Scientific Advisors
Extramural Programs

| | | | |
|-------------------------------------|------|--|------|
| David M. Livingston, M.D. | 1999 | Enrico Mihich, M.D. | 1997 |
| Chairperson | | John D. Minna, M.D. | 1997 |
| Frederick R. Appelbaum, M.D. | 1997 | Nancy E. Mueller, M.D. | 1997 |
| Joan Brugge, Ph.D. | 1999 | Sharon B. Murphy, M.D. | 1999 |
| Mary Beryl Daly, M.D., Ph.D. | 1998 | Allen I. Oliff, M.D. | 1998 |
| Virginia L. Ernster, Ph.D. | 1997 | F. G. Prendergrast, M.D., Ph.D. | 1999 |
| Eric R. Fearon, M.D. | 1999 | Stuart L. Schreiber, Ph.D. | 1999 |
| Suzanne W. Fletcher, M.D. | 1997 | Joseph V. Simone, M.D. | 1999 |
| Robert E. Greenberg, M.D. | 1999 | Louise C. Strong, M.D. | 1999 |
| David D. Ho, M.D. | 1998 | Peter K. Vogt, Ph.D. | 1997 |
| Waun Ki Hong, M.D. | 1999 | Daniel D. VonHoff, M.D. | 1998 |
| Tyler Jacks, Ph.D. | 1998 | Barbara L. Weber, M.D. | 1999 |
| Amy S. Langer, M.B.A. | 1998 | Alice S. Whittemore, Ph.D. | 1998 |
| Caryn E. Lerman, Ph.D. | 1997 | William C. Wood, M.D. | 1998 |
| Joan Massague, PH.D. | 2000 | Robert C. Young, M.D. | 1997 |
| Debroah K. Mayer, MSN, OCN, FAAN | 2000 | Executive Secretary-Paulette Gray, Ph.D. | |
| Gillies W. McKenna, M.D., Ph.D. | 1998 | | |

President's Cancer Panel

Harold Freeman, M.D. 1997
Chairman
Director of Surgery
Harlem Hospital Center
New York, NY

Frances M. Visco, Esq. 1996
President
National Breast Cancer Coalition
Philadelphia, Pa.

Paul Calabresi, M.D. 1998
Professor and Chairman, Emeritus
Department of Medicine
Brown University
Rhode Island Hospital

Executive Secretary
Maureen O. Wilson, Ph.D.
Assistant Director
National Cancer Institute
31 Center Drive, Room 4A48-2473
Bethesda, MD 20892

Executive Committee Members

Dr. Richard Klausner
Director

Dr. Alan Rabson
Deputy Director

Dr. Martin Abeloff
Co-Chair, Board of Scientific Counselors

Mr. Philip D. Amoruso
Associate Director for Extramural Management

Dr. Faye Austin
Director Division of Cancer Biology

Mr. Donald Christoferson
Executive Secretary

Ms. MaryAnn Guerra
Associate Director for Intramural Management

Dr. Joseph Fraumeni
Director, Division of Cancer Epidemiology and Genetics

Dr. Peter Greenwald
Director, Division of Cancer Prevention and Control

Dr. Joe Harford
Associate Director for Special Projects

Dr. Edward Harlow
Special Advisor, Office of Science Policy

Dr. Marvin A. Kalt
Director, Division of Extramural Activities

Dr. Alfred Knudson
Special Advisor, Division of Cancer Epidemiology and Genetics

Dr. Edison Liu
Director, Division of Clinical Sciences

Dr. David Livingston
Chair, Extramural Board of Scientific Advisors

Dr. Sherry Mills
Chair, NCI Extramural Advisory Board

Ms. Cherie Nichols
Chief, Planning, Evaluation, and Analysis Branch

Dr. Matthew Scharff
Co-Chair, Board of Scientific Counselors

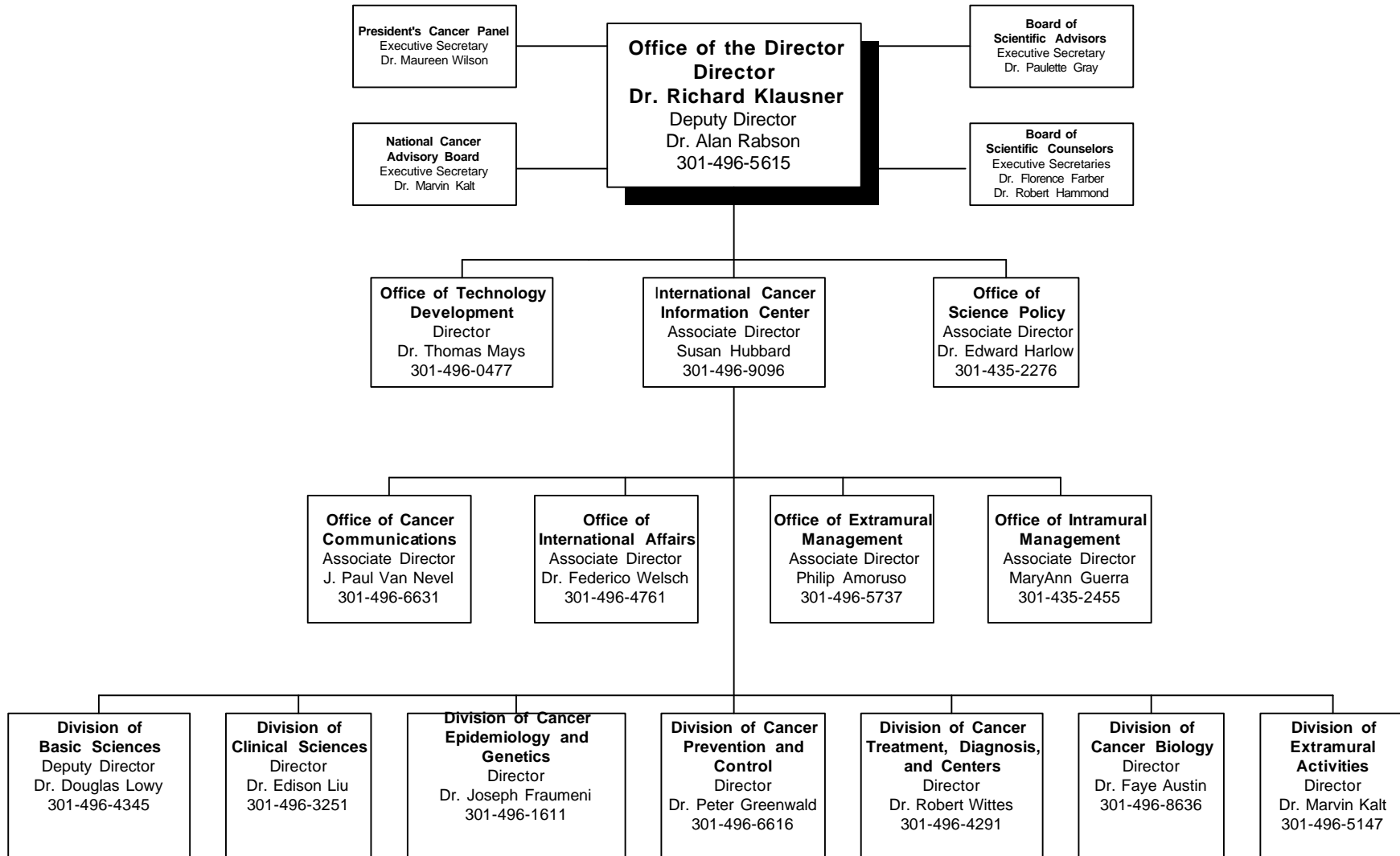
Dr. Donald Summers
Associate Director, NCI Frederick Cancer Research and Development Center

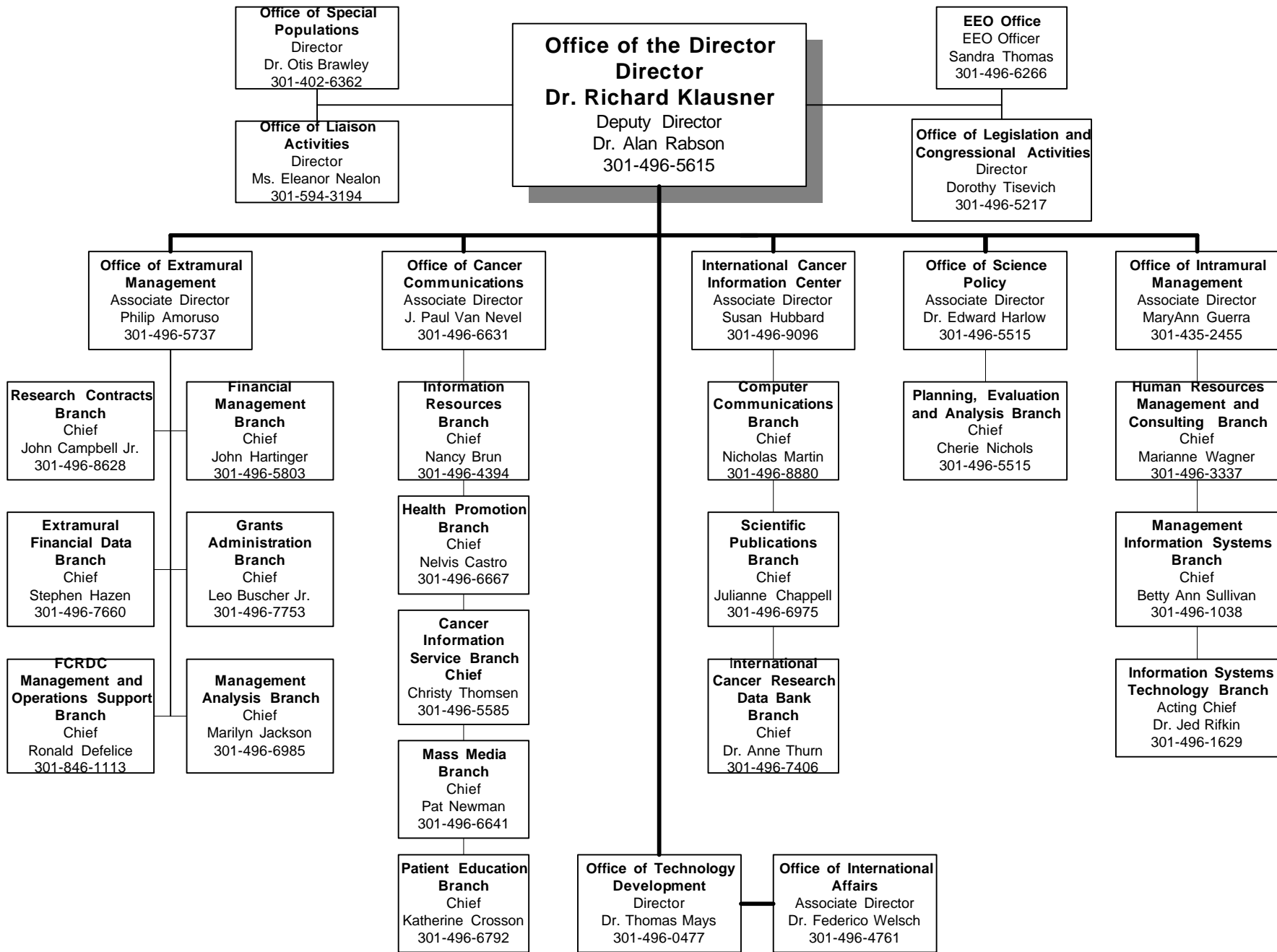
Dr. Margaret Tucker
Chair, Intramural Advisory Council

Dr. George Vande Woude
Special Advisor to the Director, Division of Basic Sciences

Dr. Robert Wittes
Director, Division of Cancer Treatment, Diagnosis, and Centers

National Cancer Institute





Division of Basic Sciences

Office of the Director

Deputy Director

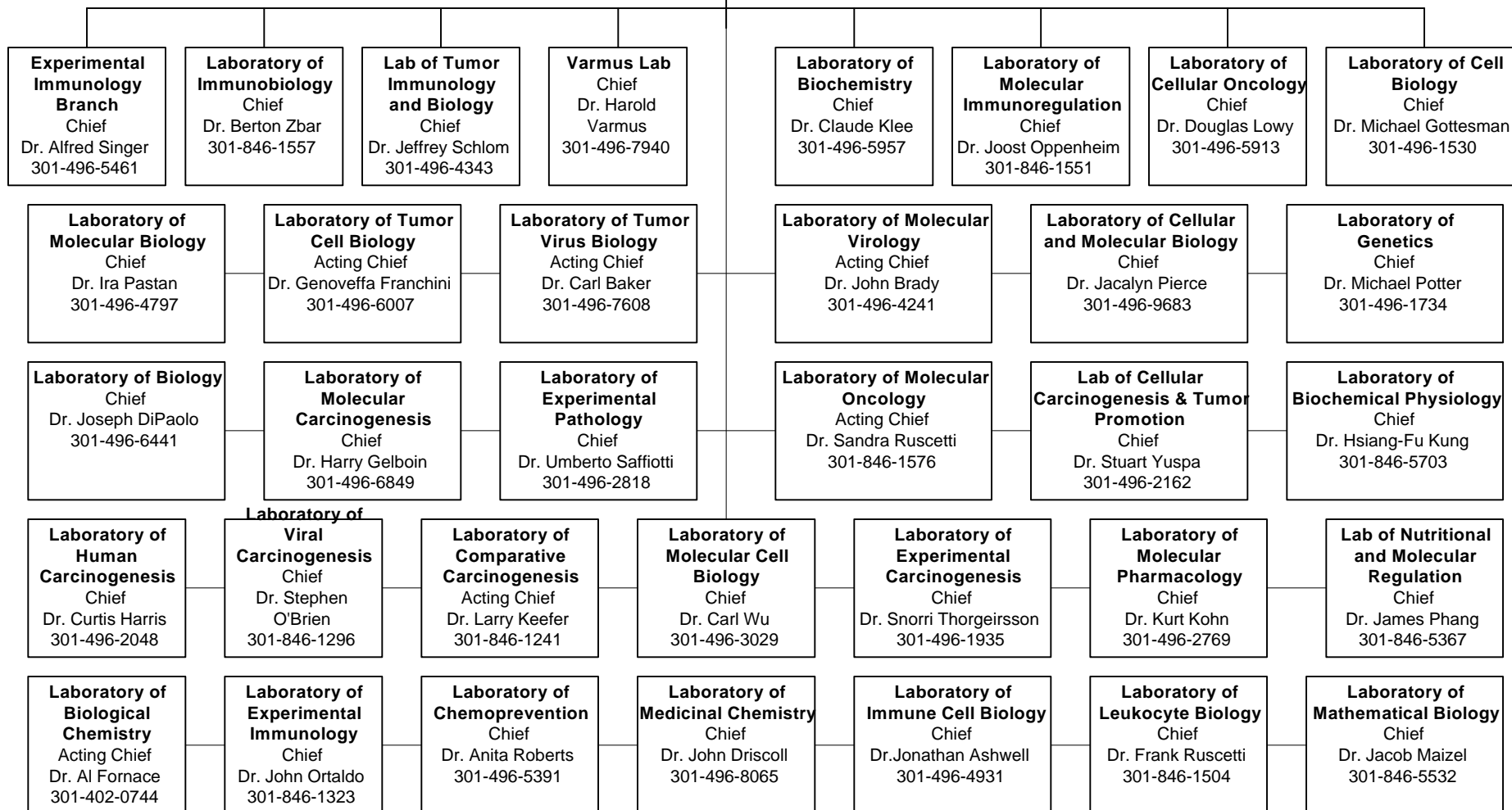
Dr. Douglas Lowy

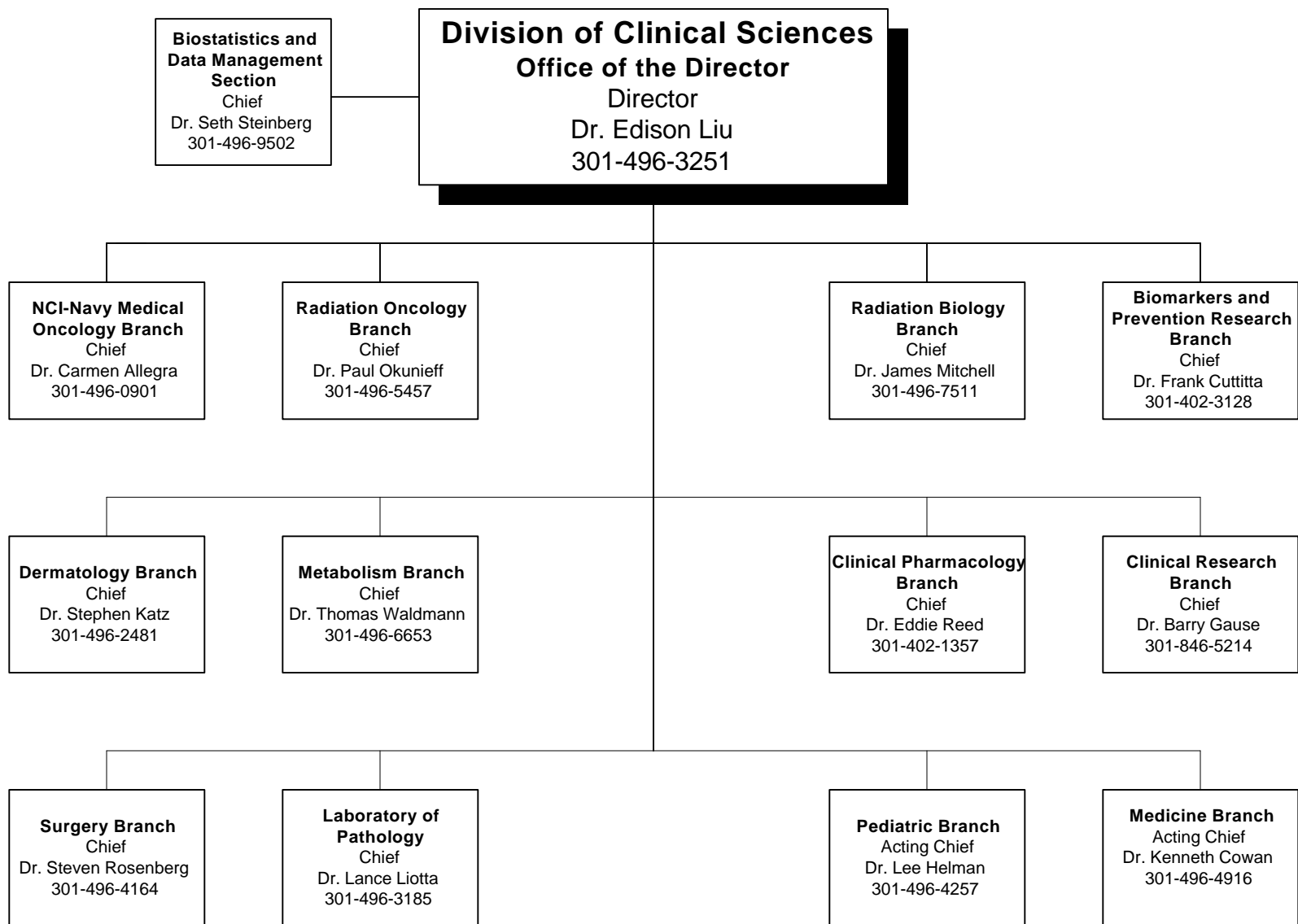
Scientific Advisor to the Director for Basic Sciences

Dr. George Vande Woude

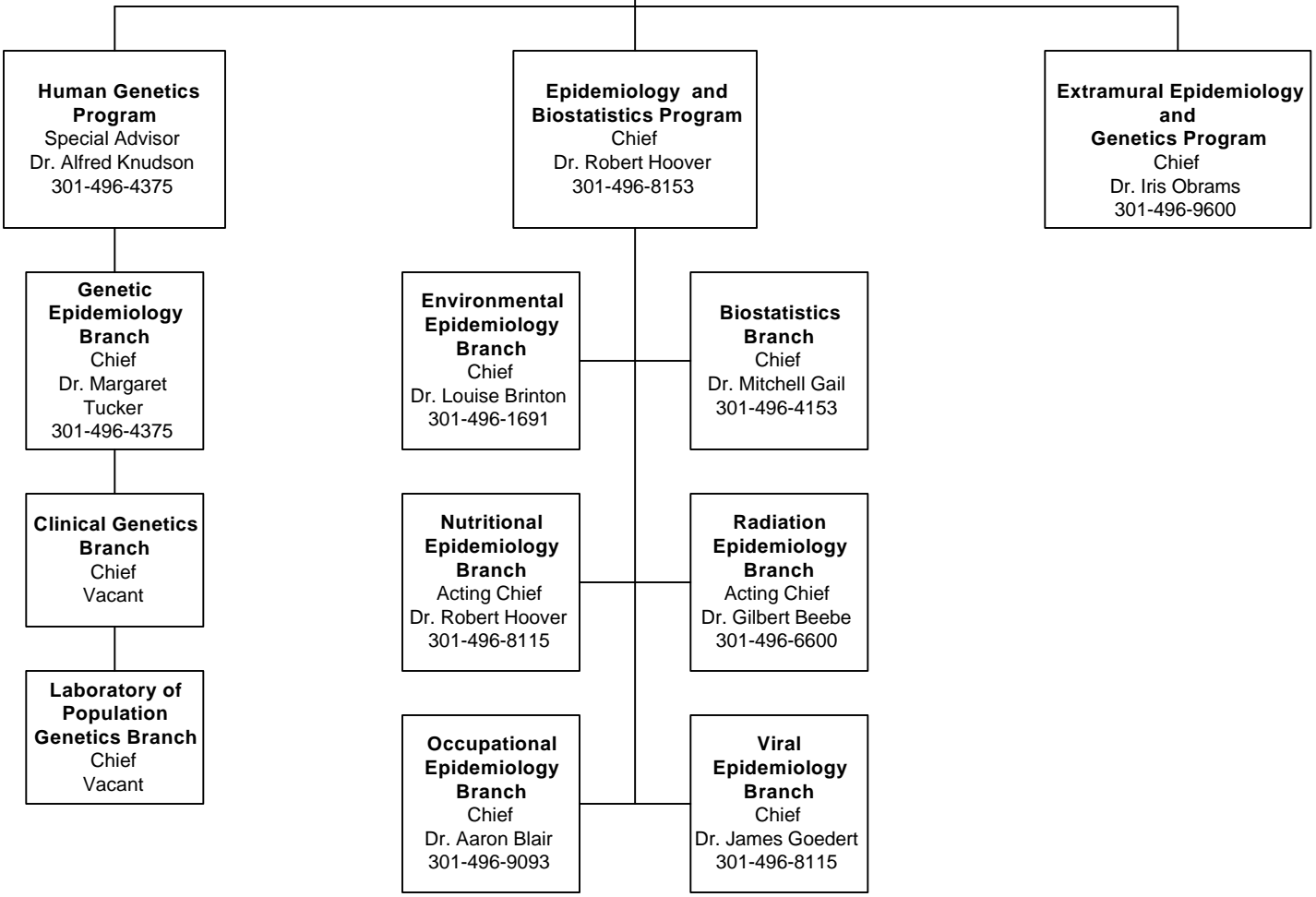
301-496-4345

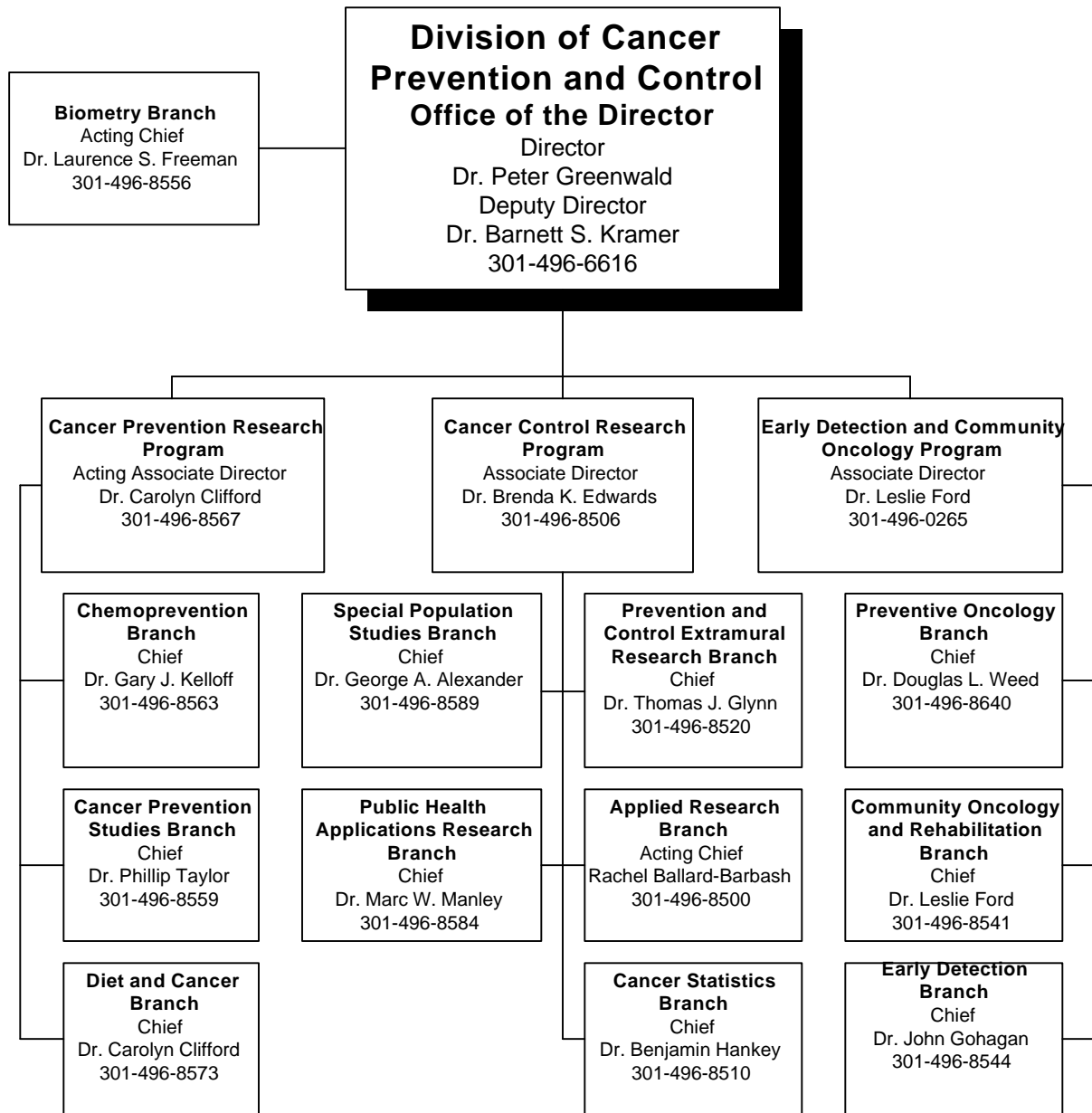
**Office of Laboratory
Animal Science**
Director
Dr. Patricia Brown
301-496-1866





**Division of Cancer
Epidemiology and Genetics
Office of the Director**
Director
Dr. Joseph Fraumeni
Deputy Director
Dr. Susan Sieber
301-496-1611

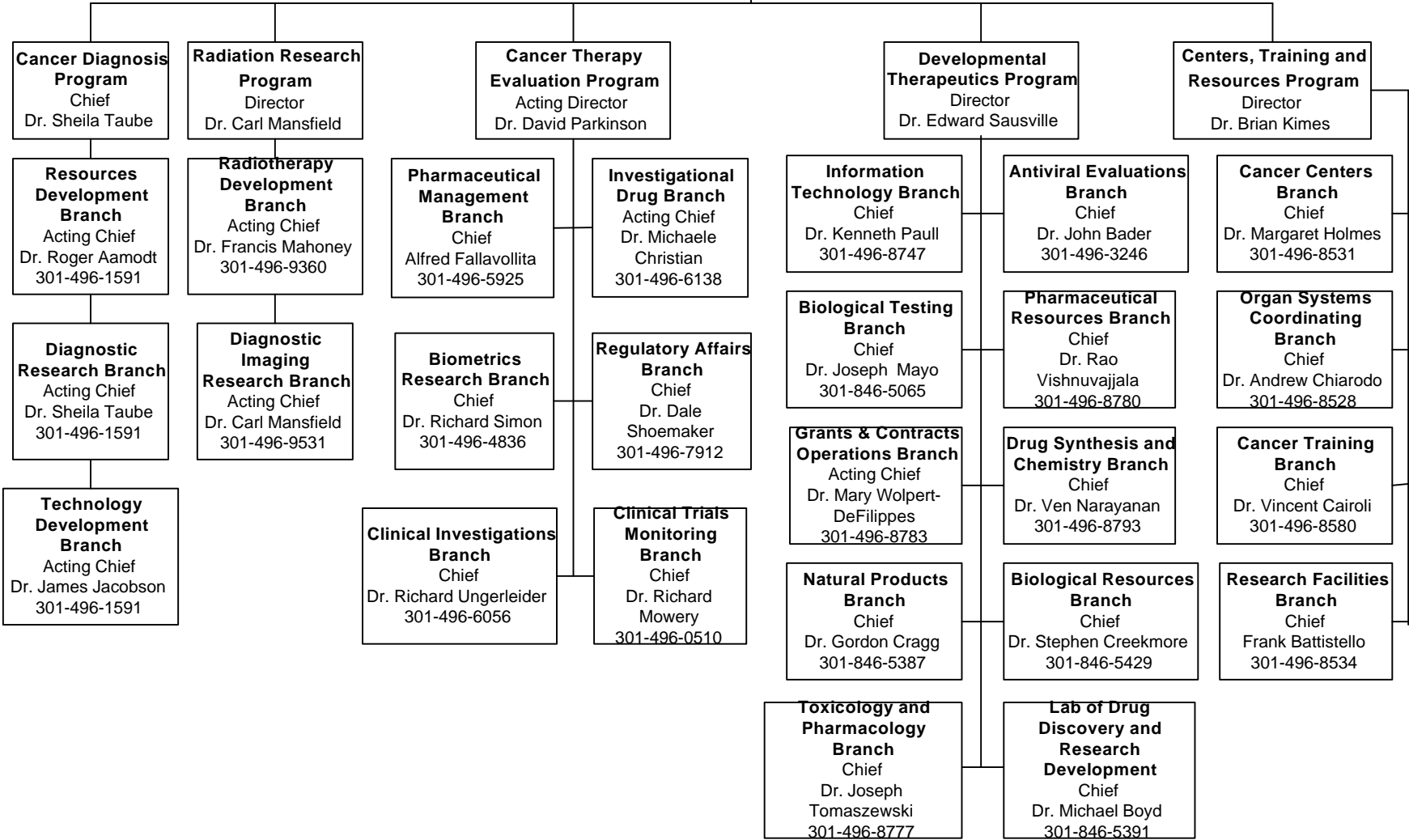




**Division of Cancer Treatment,
Diagnosis, and Centers
Office of the Director**
Director
Dr. Robert Wittes
Special Assistant
Ms. Mary McCabe
301-496-4291

Diagnostic Imaging Program
Acting Chief
Dr. Robert Wittes

Biological Resources Branch
Chief
Dr. Steve Creekmore
301-846-1098



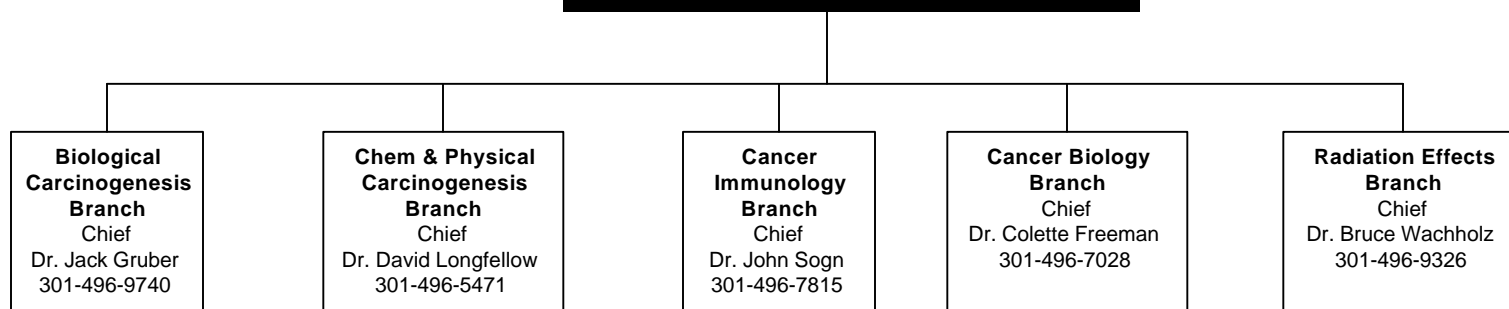
Division of Cancer Biology

Office of the Director

Director

Dr. Faye Austin

301-496-8636



**Division of Extramural
Activities**
Office of the Director
Director
Dr. Marvin Kalt
Deputy Director
Dr. Paulette Gray
301-496-5147

**Research Analysis and
Evaluation Branch**
Chief
Rosemary Cuddy
301-496-7391

**Special Review,
Referral, Resources
Branch**
Chief
Dr. Kirt Vener
301-496-7173

**Grants Review
Branch**
Acting Chief
Dr. Paulette Gray
301-496-7929

Research Positions at the National Cancer Institute¹

The National Cancer Institute recognizes that one of the most valuable resources to be drawn upon in the fight against cancer is the wealth of scientific talent available in the U.S. and around the world. In an effort to attract and maintain the highest quality scientific staff, two personnel systems are used: the

U.S. Civil Service System and the PHS Commissioned Corps. In addition, the Staff Fellowship Program and the NIH Visiting Program have been designed to meet special needs. Other special programs are available for those who qualify.

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|--|--|---|--|
| I. Civil Service | | | |
| Civil Service | Appropriate advanced education, experience and knowledge needed by NCI to conduct its programs. | Minimum starting Ph.D. - \$52,867 ² (GS-13/1) Physicians - \$61,490 ³ (GS-13/1) | Office of Personnel Management; Contact Division Director of Laboratory Chief in area of interest or the Administrative Resource Center (ARC). |
| II. Appointment of Special Experts | | | |
| Appointment of Special Experts (non-tenured, time-limited appointment which can be extended up to 4 years) | Applicants shall possess outstanding experience and ability as to justify recognition as authorities in their particular fields of activity. | Salary range is equivalent to GS-13/1 to maximum of Level IV of the Executive Schedule (\$115,700). | Final approval rests with the Division Director or Deputy Director, NCI depending on recommended action. |

¹ Does not necessarily indicate that positions are currently available at the National Cancer Institute.

² Includes a 1996 locality payment for the Washington Baltimore metro area.

³ Medical Officer (Research), GS-602 Special Rate Scale for 1996.

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|---|--|--|--|
| III. Clinical Associate Program | | | |
| A. Clinical Associates (Initial appointment for 2 years with the possibility of 1-year extension.) | Graduate of accredited medical or osteopathic school and completion of internship. Completion of 2 or 3 years of clinical training beyond the M.D. degree. Must be a U.S. citizen or a permanent U.S. resident. NOTE: Foreign M.Ds on the J-1 visa may apply and will be considered under the V.A. program. | \$38,500 1st yr \$40,500 2nd yr \$42,500 3rd yr *Salaries for individuals appointed under the Commissioned Corps program are established on an individual basis | Apply to NIH Office of Education Building 10 Room 1C-129 |
| B. Special Associate Program (PRAT). Scientists committed to research careers in pharmacologic sciences. | Appointment for 2 years. Candidates must be U.S. citizens or permanent residents of the U.S. who have been awarded a doctoral degree. The degree must be in a biomedical or related science and must have been received within the 5 years preceding the date of application. | Salary Commensurate with other Postdoctoral opportunities at the NIH. | Apply to PRAT Program, NIGMS Natcher Building Room 2AS-43 A PRAT Fact sheet is available from the PRAT Program Assistant at 301-594-3583 or fax 301-480-2802 or Natcher Bldg. 45, Room 2AS.43D or e-mail PRAT@gm1. nigms.nih.gov |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|--|---|---|---|
| IV. Visiting Program (time-limited) | | | |
| A. Visiting Fellow (Program time limitation- maximum 5 years depending on visa restrictions) | 5 years or less of relevant postdoctoral experience or training. | First year salaries range from \$25,000 to \$50,000 based on years of postdoctoral experience | Contact Division Director or Laboratory/Branch Chief in area of interest. |
| B. Visiting Associate (initial appointment of 2 year possible depending on visa restrictions) | 3 years of postdoctoral experience or training with appropriate knowledge needed by NCI. | \$29,000 - \$55,000 | Contact Division Director or Laboratory Chief in area of interest. |
| C. Visiting Scientist (initial appointment of 2 year possible depending on visa restrictions) | 6 years of postdoctoral experience with appropriate specific experience and knowledge needed. | \$42,000- \$91,000 | Contact Division Director or Laboratory Chief in area of interest. |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|--|--|--|---|
| V. Staff Fellowships | | | |
| A. Staff Fellowship (Initial appointments are typically made for two years.) | Physician or other doctoral degree equivalent who has less than 3 years of relevant professional level postdoctoral research experience. U.S. citizen or resident alien. | Physicians \$28,000- \$51,000 Other Doctoral \$28,000- \$49,000 | Contact Division Director or Laboratory Chief in area of interest or ARC. |
| B. Senior Staff Fellowship (Initial appointments are typically made for two years.) | Physician or other doctoral degree equivalent who has 3 to 7 years of relevant professional level postdoctoral research experience. U.S. citizen or resident alien. | Physicians \$39,000 - \$77,000 Other Doctoral \$34,000 - \$65,000 | Contact Division Director or Laboratory Chief in area of interest or ARC. |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|--|---|--|--|
| VI. Special Programs | | | |
| A. Guest Researcher-organization other than NIH, PHS | Usually a scientist, engineer, student or other scientifically trained specialist who would benefit from the use of NCI facilities in furthering his or her research. Cannot perform services for NCI. | Established by sponsoring organization. | Contact Division Director or Laboratory/Branch Chief in area of interest. |
| B. Commissioned Officer Student Training and Extern Program (COSTEP). Program operates year-round. Maximum 120 days per 12-month period. | U.S. citizen. Must have completed one year of study in a medical, dental, podiatry, optometry or veterinary school or a minimum of two years of baccalaureate program in a health related field such as engineering, nursing, pharmacy, etc. May be enrolled in a master's or doctoral program in a health related field (designated by the Assistant Secretary for Health). Physical requirements of PHS Commissioned Corps. Plans to return to college. | Receive the basic pay quarters (if appropriate), and subsistence allowance of a Junior Assistant Health Service Officer (pay grade 0-1). | Apply to Director, Division of Commissioned Personnel Attention: COSTEP Coordinator Room 4-35, Parklawn Building, 5600 Fishers Lane, Rockville, MD. 20857. |
| C. Fogarty International Center's Scholars-in-Residence Program. | International reputation, productivity, demonstrated ability in biomedical field. | \$90,000 for 1 year. | Nominations are submitted to FIC's Division of International Advanced Studies, Bldg. 16, Rm. 202A, (x. 64161) by Institute Director, any senior tenured member of the NIH scientific staff, or former scholar. |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|---|--|--|--|
| D. Student Temporary Employment Program | Provides employment opportunities for individuals who are enrolled or accepted for enrollment as a degree seeking student and is taking at least a half-time academic/vocational or technical course load in an accredited high school, technical or vocational school, 2 year or 4 year college or university, graduate or professional school. The individual must maintain a good academic standing and must be at least 16 years of age. Must be a U.S. citizen or a non-citizen lawfully admitted to the U.S. as a permanent resident or otherwise authorized to be employed. | Salary is commensurate with duties assigned and student's education and/or experience. | Apply to NCI Human Resources Management and Consulting Branch, EPS, Room 550, 6120 Executive Blvd., Rockville, MD 20892-7209. No deadline required for applying. |
| E. Special Volunteer Program | Volunteer service may be accepted for direct patient care, clerical assignments, technical assistance, or any other activities necessary to carry out the authorized functions of the NCI, without compensation. If under 18 volunteers must have a work permit which must be obtained prior to assignment. | N/A | Contact Division Director or Laboratory/Branch Chief in area of interest. |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|--------------------------------------|---|---|---|
| F. Student Career Experience Program | <p>Provides experience that is directly related to the student educational program and career goals. Must be 16 years of age or older, enrolled or accepted for enrollment as a degree seeking student in an accredited high school, technical or vocational school, 2 year or 4 year college or university, graduate, or professional school. The individual must maintain a good academic standing. The student must be recommended for the assignment by the school's cooperative education program coordinator and be enrolled in the program. Must be enrolled in a field of study related to the assigned work with at least half-time academic/vocational or technical course load. Must be a U.S. citizen or a non-citizen lawfully admitted to the U.S. as a permanent resident or otherwise authorized to be employed. U.S. citizenship is required for conversion to permanent employment.</p> | <p>Salary is commensurate with duties assigned and student's education and/or experience.</p> | <p>Contact NCI Human Resources Management and Consulting Branch, EPS, Room 550, 6120 Executive Blvd., Rockville, MD 20892-7209.</p> |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|---|--|---|---|
| VII. Other Training Programs | | | |
| A. Cancer Prevention Fellowship Program | <p>Must be an M.D., D.D.S., D.O., Ph.D., or other doctoral degree in a related discipline (epidemiology, biostatistics, and the biomedical, nutritional, public health, or behavioral sciences). Must be a U.S. citizen or resident alien eligible for citizenship within four years.</p> | <p>First year for an M.D., D.D.S., or D.O. \$31,000 - \$42,000 for Ph.D. \$23,000 - \$36,000.</p> | <p>Apply to Program Director, CPFP, Executive Plaza South, Room T41, MSC 7105, 6120 Executive Blvd., Rockville, MD 20852.</p> |
| B. Biotechnology Training Program | <p>Physicians with little or no experience or training in fundamental research, but with an interest in biotechnology including its application to prevention and new treatment and diagnostic techniques, would be eligible. Ph.D. scientists with little or no experience or training in clinically related programs but with an interest in clinical applications of fundamental research methodology related to biotechnology would also be eligible. Typically, these candidates will have less than three years postdoctoral experience. The Biotechnology Training Program is established for United States citizens, or resident aliens who will be eligible for U.S. citizenship within four years.</p> | <p>First year Ph.D. \$25,000 - \$38,000 Physicians \$37,000 - \$42,500</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest.</p> |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|---|--|--|---|
| C. Student Research Training Program | <p>The review and selection of candidates, as well as the day-to-day administration of the fellowships, will be the responsibility of each Administrative Resource Center. Applicants must be bona fide high school, college, graduate or medical school students be 16 years of age, have a cumulative GPA of 2.75 or above, and be either a U.S. citizen or resident alien. The length of the training fellowships may vary from 2 to 6 months, not to exceed 6 months during one 12-month period.</p> | <p>Stipends are based on education and experience at a pay range of \$900-\$2,000 per month.</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest. Application deadlines are March 1 for spring/summer months and October 1 for fall/winter months.</p> |
| D. Cancer Epidemiology and Biostatistics Training Program | <p>M.D.'s and Ph.D.'s with an interest in and an aptitude for epidemiology and/or biostatistical research in cancer. Ph.D. candidates in approved doctoral programs in epidemiology or biostatistics whose research would be the source of their dissertation. Master's level scientists whose degree is in a discipline related to epidemiology or biostatistics. Must be U.S. citizen or resident alien who will be eligible for U.S. citizenship within four years.</p> | <p>First year for M.D. and Ph.D. Mathematical Statisticians \$31,000 - \$42,000 for other Ph.D. \$23,000-\$36,000 for Master's level \$16,000 - \$20,000</p> | <p>Contact the Division of Cancer Epidemiology & Genetics' Program Coordinator, Executive Plaza North, Room 415, 6130 Executive Blvd., Rockville, MD 20852.</p> |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|---|--|---|--|
| E. Intramural Research Training Award (IRTA) | <p>(1) Postdoctoral: Appointments of 1 or 2 years with a maximum of 5 years to candidates with physician or other doctoral degree in the biomedical, behavioral or related sciences.</p> | <p>First year salaries range from \$25,000 - \$50,000 based on years of experience.</p> | <p>Contact Division Director or Laboratory Chief in area of interest.</p> |
| | <p>(2) Predoctoral: <i>Regular</i> fellowships are granted to students enrolled in Ph.D., M.D., D.D.S., D.M.D., D.V.M., or equivalent degree programs. Students will have completed their graduate course work and will engage full-time in a laboratory research program.</p> | <p>Based on years of post-baccalaureate education ranging from \$16,000 - \$21,000.</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest.</p> |
| | <p>Under the <i>Technical IRTA Program</i>, full-time fellowships may be awarded for up to 3 yrs to individuals with a bachelor or master's degree in a biomedical research discipline. The Program is designed to produce highly trained research support professionals capable of performing the latest advanced techniques in the laboratory.</p> | <p>Initial stipend is based years on degree and relevant experience, up to 3 years : Bachelor's \$16,000-\$18,000; Master's \$20,000-\$22,000</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest.</p> |
| <p>A 1-yr <i>Interim or Year-Off Award</i> may be granted to students who have been accepted into graduate or medical school and who wish to delay matriculation or to students currently enrolled who seek an interim research experience before</p> | <p>Based on years of post-baccalaureate education ranging from \$16,000 - \$21,000.</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest.</p> | |

| Position | Eligibility | Annual Salary | Mechanism of Entry |
|--|---|---|---|
| | <p>Candidates in the <i>Recent College Graduate</i> program must have graduated from an accredited college or university no more than 12 months prior to activation and must intend on applying to graduate or medical school within the next year.</p> | <p>Based on years of post-baccalaureate education ranging from \$16,000 - \$21,000.</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest.</p> |
| | <p>The <i>Student Support Program</i> is designed to provide developmental training to promising disadvantaged students, enrolled full time in high school or undergraduate studies in an accredited secondary school, college/university who have an interest in biomedical research and who may not otherwise have opportunities to work at NIH.</p> | <p>Annual stipend is based on educational level, ranging from \$6,480 for high school to \$9,720 for undergraduate student.</p> | <p>Contact Division Director or Laboratory/Branch Chief in area of interest.</p> |
| <p>F. Technology Transfer Fellowship Program</p> | <p>Physicians, Ph.D.'s, J.D.'s, individuals with a master's degree in health communications, biomedical science, behavioral science, computer science, informatics, library science, health education, marketing, journalism, English, a graduate degree in law, or a graduate degree in another discipline with legal/paralegal expertise, with little or no experience or training in technology transfer or communications research but with an interest in these areas.</p> | <p>Based on years of (1) postdoctoral experience starting at \$25,000 - \$38,000 or (2) post-Master's degree starting at \$22,000 - \$34,000.</p> | <p>Contact following program in area of interest: International Cancer Information Center, the Office of Cancer Communications, the Division of Cancer Prevention and Control, the Office of Technology Development, the Planning, Evaluation, and Analysis Branch, or the Division of Cancer Treatment, Diagnosis, & Centers</p> |

Number of Deaths for the Five Leading Cancer Sites by Age Group and Sex

| All Ages | | Under 15 | | 15-34 | | 35-54 | | 55-74 | | 75+ | |
|----------------|----------------|------------------------|-------------|------------------------|------------------------|------------------------|----------------|----------------|----------------|----------------|------------------------|
| Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| Lung | Lung | Leukemia | Leukemia | Leukemia | Breast | Lung | Breast | Lung | Lung | Lung | Lung |
| 92,489 | 56,231 | 359 | 238 | 645 | 560 | 8,771 | 9,279 | 55,421 | 31,803 | 28,122 | 18,802 |
| Prostate | Breast | Brain & CNS | Brain & CNS | Non-Hodgkin's Lymphoma | Leukemia | Colon & Rectum | Lung | Colon & Rectum | Breast | Prostate | Colon & Rectum |
| 34,865 | 43,554 | 255 | 205 | 477 | 441 | 2,508 | 5,501 | 13,689 | 18,937 | 22,465 | 16,137 |
| Colon & Rectum | Colon & Rectum | Endocrine | Endocrine | Brain & CNS | Brain & CNS | Non-Hodgkin's Lymphoma | Colon & Rectum | Prostate | Colon & Rectum | Colon & Rectum | Breast |
| 28,196 | 29,202 | 113 | 74 | 458 | 326 | 1,699 | 2,064 | 12,051 | 10,861 | 11,787 | 14,778 |
| Pancreas | Pancreas | Non-Hodgkin's Lymphoma | Bone | Colon & Rectum | Cervix | Brain & CNS | Ovary | Pancreas | Ovary | Pancreas | Pancreas |
| 12,669 | 13,774 | 63 | 44 | 209 | 323 | 1,542 | 1,823 | 6,678 | 6,159 | 4,580 | 6,909 |
| Leukemia | Ovary | Soft Tissue | Soft Tissue | Hodgkin's Disease | Non-Hodgkin's Lymphoma | Pancreas | Cervix | Esophagus | Pancreas | Leukemia | Non-Hodgkin's Lymphoma |
| 10,872 | 12,870 | 47 | 37 | 197 | 214 | 1,375 | 1,623 | 4,661 | 5,933 | 4,076 | 4,854 |

Source: Mortality tape (1993) from National Center for Health Statistics.

Relationship of Cancer to the Leading Causes of Death in the United States

| Rank | Cause | Number of Deaths | Crude Death Rate per 100,000 Population | Percent of Total Deaths |
|------|--|------------------|---|-------------------------|
| | All Causes | 2,268,046 | 879.8 | 100.0% |
| 1 | Heart Disease | 743,380 | 288.4 | 32.8 |
| 2 | CANCER | 529,877 | 205.6 | 23.4 |
| 3 | Cerebrovascular | 150,099 | 58.2 | 6.6 |
| 4 | Emphysema, Bronchitis & Asthma | 101,067 | 39.2 | 4.5 |
| 5 | Accidents | 90,415 | 35.1 | 4.0 |
| 6 | Pneumonia & Influenza | 82,809 | 32.1 | 3.7 |
| 7 | Diabetes | 53,885 | 20.9 | 2.4 |
| 8 | Human Immunodeficiency Virus Infection | 37,257 | 14.5 | 1.6 |
| 9 | Suicide | 31,084 | 12.1 | 1.4 |
| 10 | Homicide | 25,941 | 10.1 | 1.1 |
| 11 | Cirrhosis of the Liver | 25,196 | 9.8 | 1.1 |
| 12 | Nephritis & Nephrosis | 23,315 | 9.0 | 1.0 |
| 13 | Septicaem | 22,139 | 8.6 | 1.0 |
| 14 | Atherosclerosis | 17,269 | 6.7 | 0.8 |
| 15 | Aortic Aneur | 16,472 | 6.4 | 0.7 |
| | Other and Ill-Defined | 317,841 | 123.3 | 14.0 |

Source: Mortality Tape (1993) from National Center for Health Statistics.

Estimated New Cancer Cases and Deaths by Sex for All Sites 1996

| Primary Site | Estimated New Cases | | | Estimated Deaths | | |
|----------------------------------|---------------------|---------|---------|------------------|---------|---------|
| | Total | Male | Female | Total | Male | Female |
| All Sites | 1,359,150 | 764,300 | 594,850 | 554,740 | 292,300 | 262,440 |
| Oral Cavity and Pharynx | 29,490 | 20,100 | 9,390 | 8,260 | 5,380 | 2,880 |
| Lip | 3,190 | 2,500 | 690 | 110 | 80 | 30 |
| Tongue | 5,900 | 4,000 | 1,900 | 1,750 | 1,100 | 650 |
| Mouth | 11,300 | 7,200 | 4,100 | 2,400 | 1,300 | 1,100 |
| Pharynx | 9,100 | 6,400 | 2,700 | 4,000 | 2,900 | 1,100 |
| Digestive System | 222,500 | 117,800 | 104,700 | 125,410 | 67,190 | 58,220 |
| Esophagus | 12,300 | 9,400 | 2,900 | 11,200 | 8,500 | 2,700 |
| Stomach | 22,800 | 14,000 | 8,800 | 14,000 | 8,300 | 5,700 |
| Small Intestine | 4,600 | 2,400 | 2,200 | 1,140 | 540 | 600 |
| Colon | 94,500 | 45,500 | 49,000 | 46,400 | 22,700 | 23,700 |
| Rectum | 39,000 | 22,100 | 16,900 | 8,500 | 4,700 | 3,800 |
| Liver and Intrahepatic Bile Duct | 19,900 | 10,800 | 9,100 | 15,200 | 8,400 | 6,800 |
| Pancreas | 26,300 | 12,400 | 13,900 | 27,800 | 13,600 | 14,200 |
| Other Digestive | 3,100 | 1,200 | 1,900 | 1,170 | 450 | 720 |
| Respiratory System | 193,900 | 112,200 | 81,700 | 164,380 | 98,550 | 65,830 |
| Larynx | 11,600 | 9,200 | 2,400 | 4,250 | 3,300 | 950 |
| Lung and Bronchus | 177,000 | 98,900 | 78,100 | 158,700 | 94,400 | 64,300 |
| Other Respiratory | 5,300 | 4,100 | 1,200 | 1,430 | 850 | 580 |
| Bones and Joints | 2,500 | 1,200 | 1,300 | 1,380 | 770 | 610 |
| Soft Tissues | 6,400 | 3,500 | 2,900 | 3,700 | 1,800 | 1,900 |
| Melanomas Of Skin | 38,300 | 21,800 | 16,500 | 7,300 | 4,600 | 2,700 |
| Breast | 185,700 | 1,400 | 184,300 | 44,560 | 260 | 44,300 |
| Genital Organs | 407,800 | 325,700 | 82,100 | 68,890 | 41,990 | 26,900 |
| Cervix Uteri | 15,700 | | 15,700 | 4,900 | | 4,900 |
| Corpus and Uterus, NOS | 34,000 | | 34,000 | 6,000 | | 6,000 |
| Ovary | 26,700 | | 26,700 | 14,800 | | 14,800 |
| Other Female Genital | 5,700 | | 5,700 | 1,200 | | 1,200 |
| Prostate | 317,100 | 317,100 | | 41,400 | 41,400 | |
| Testis | 7,400 | 7,400 | | 370 | 370 | |
| Other Male Genital | 1,200 | 1,200 | | 220 | 220 | |
| Urinary System | 83,500 | 56,800 | 26,700 | 23,700 | 15,100 | 8,600 |
| Urinary Bladder | 52,900 | 38,300 | 14,600 | 11,700 | 7,800 | 3,900 |
| Kidney and Other Urinary | 30,600 | 18,500 | 12,100 | 12,000 | 7,300 | 4,700 |
| Eye and Orbit | 1,930 | 1,000 | 930 | 250 | 150 | 100 |
| Brain and Other Nervous System | 17,900 | 10,400 | 7,500 | 13,300 | 7,200 | 6,100 |
| Endocrine Glands | 17,030 | 4,700 | 12,330 | 1,900 | 760 | 1,140 |
| Thyroid | 15,600 | 4,000 | 11,600 | 1,210 | 440 | 770 |
| Other Endocrine | 1,430 | 700 | 730 | 690 | 320 | 370 |
| Lymphomas and Myelomas | 74,600 | 41,600 | 33,000 | 35,210 | 18,550 | 16,660 |
| Hodgkin's Disease | 7,500 | 4,000 | 3,500 | 1,510 | 850 | 660 |
| Non-Hodgkin's Lymphoma | 52,700 | 29,900 | 22,800 | 23,300 | 12,400 | 10,900 |
| Multiple Myeloma | 14,400 | 7,700 | 6,700 | 10,400 | 5,300 | 5,100 |
| Leukemias | 27,600 | 15,300 | 12,300 | 21,000 | 11,600 | 9,400 |
| Lymphocytic Leukemias | 11,000 | 6,400 | 4,600 | 6,600 | 3,700 | 2,900 |
| Myeloid Leukemias | 12,800 | 6,600 | 6,200 | 8,900 | 5,000 | 3,900 |
| Other Leukemias | 3,800 | 2,300 | 1,500 | 5,500 | 2,900 | 2,600 |
| All Other Sites | 50,000 | 30,800 | 19,200 | 35,500 | 18,400 | 17,100 |

Source: Cancer Facts & Figures-1996, American Cancer Society, Atlanta, Georgia 1996. Excludes basal and squamous cell skin and in situ carcinomas except urinary bladder. Incidence projections are based on rates from the NCI SEER Program 1979-92.

The Cost of Cancer

The direct cost of cancer is derived from the figures for care of patients. It does not include the cost of the productivity lost while individuals are away from their work due to treatment of disability or the value of lost productivity due to premature death. Figures for the direct cost of cancer and for all health care for 1990 are as follow:

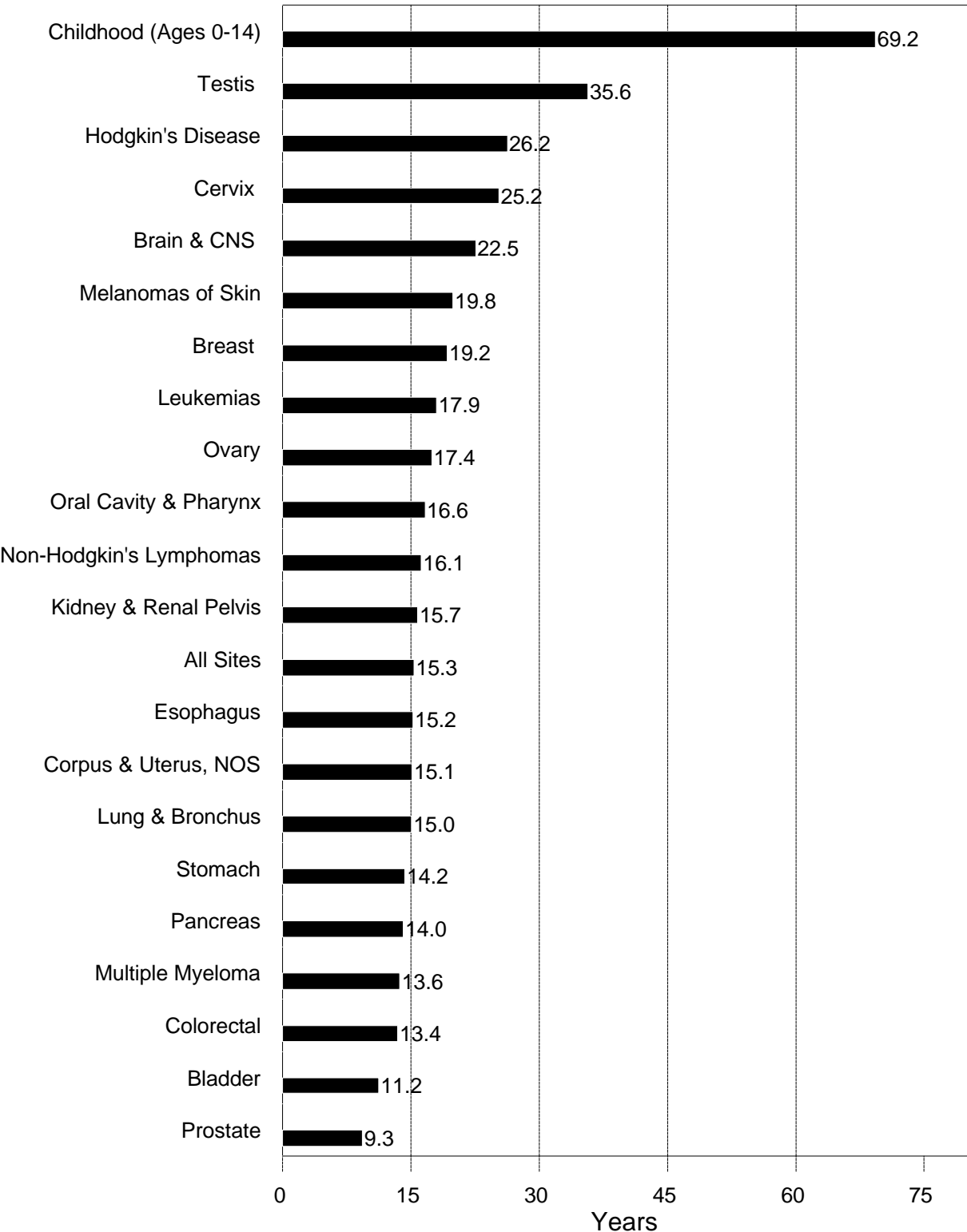
(in Millions)

| All Costs | Direct Cost |
|--|--------------------|
| All Cancers | \$ 35,256 |
| All Health Care | \$585,300 |
| Percent Relationship of Cancer to Total | 6% |

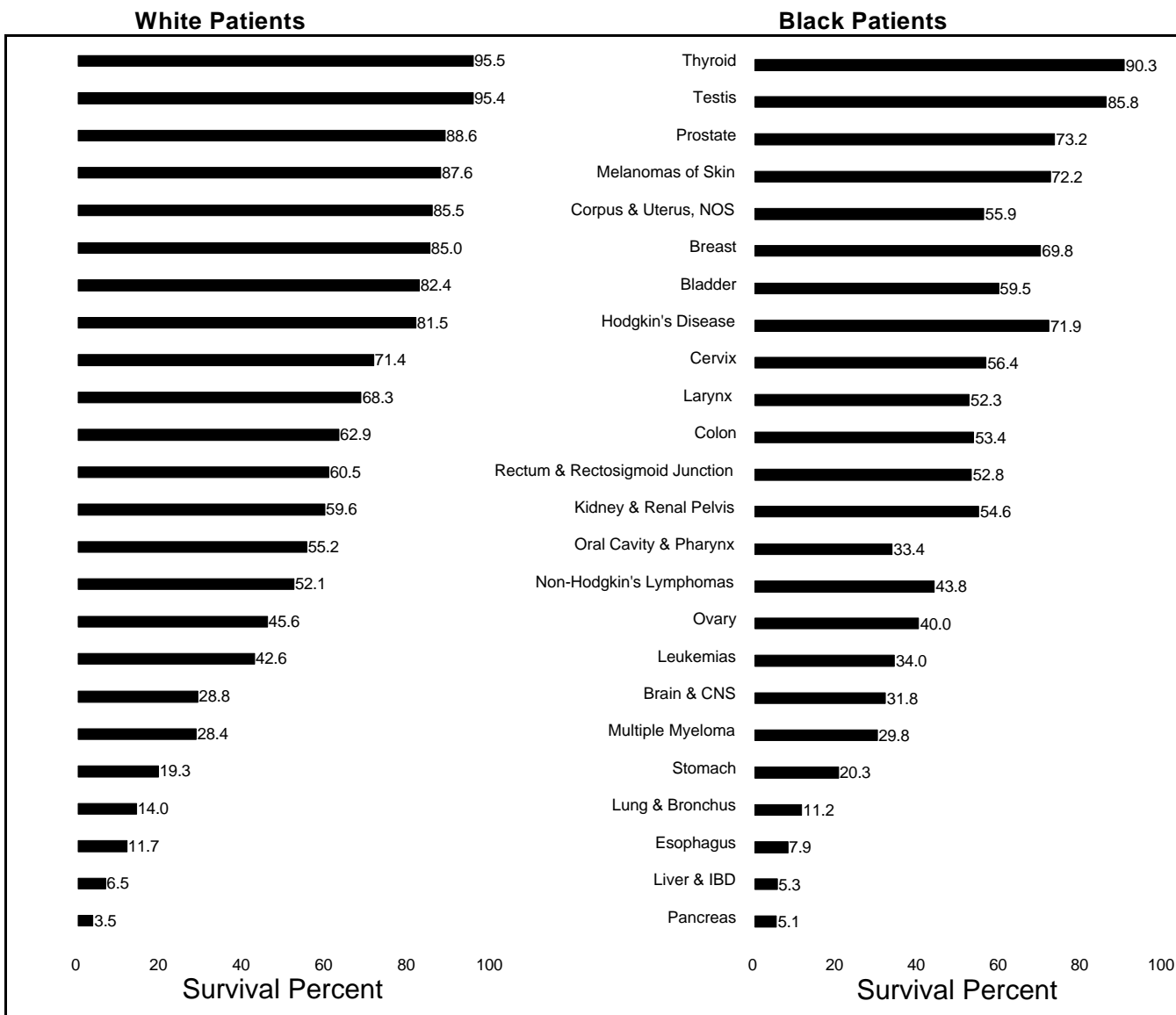
Sources:

Brown, M.L. The National Economic Burden of Cancer: An Update.
Journal of the National Cancer Institute, 1990, 82:1881-1814.
Office of the Actuary, Health Care Financing Administration.

**Average Years of Life Lost
Per Person Dying of Cancer
All Races, Both Sexes, 1993**

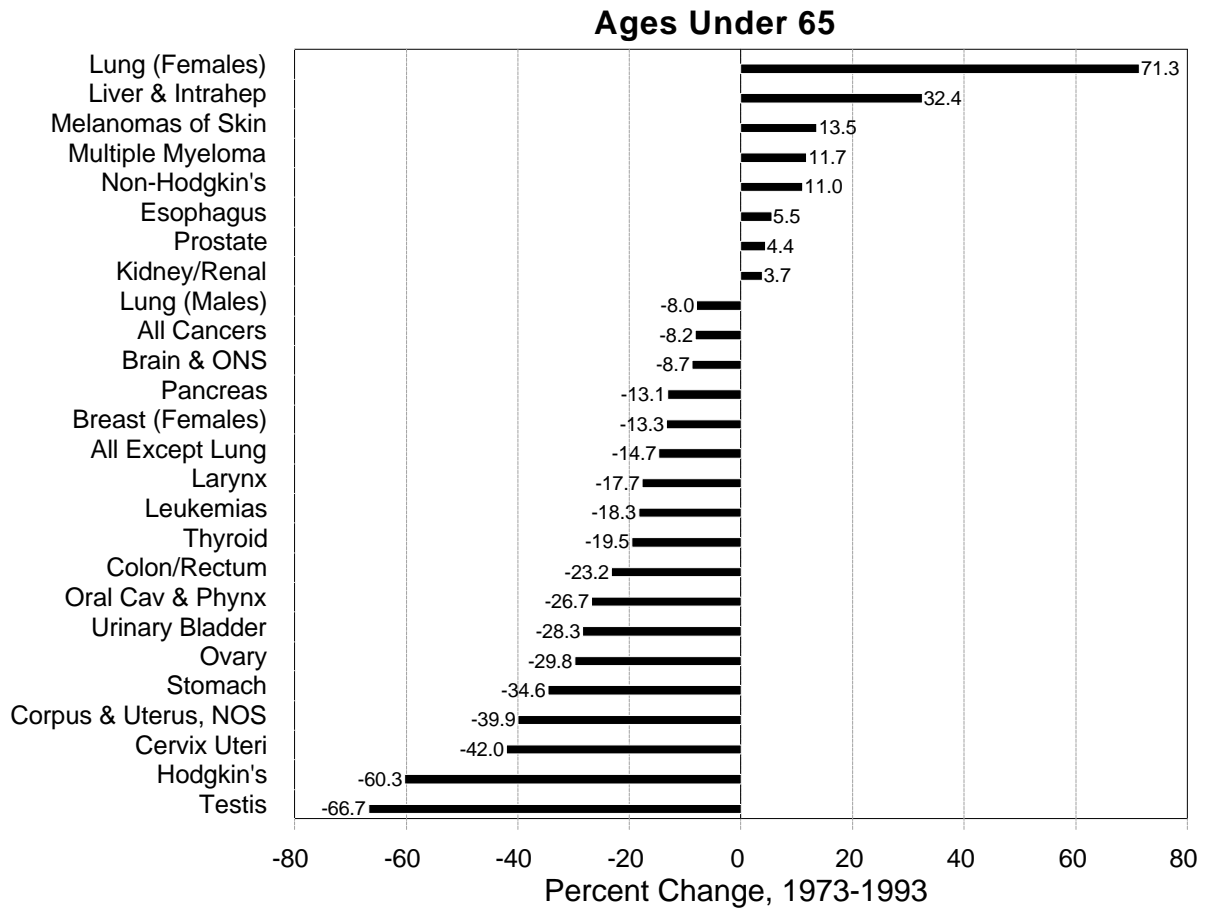


**5 Year Relative
Survival Rates, by Site
White and Black Patients
1986 to 1992**



Data From SEER Program
1986-1991
Males and Females

**Cancer Mortality Rates
Changes from 1973 to 1993
(Ages Under 65)**

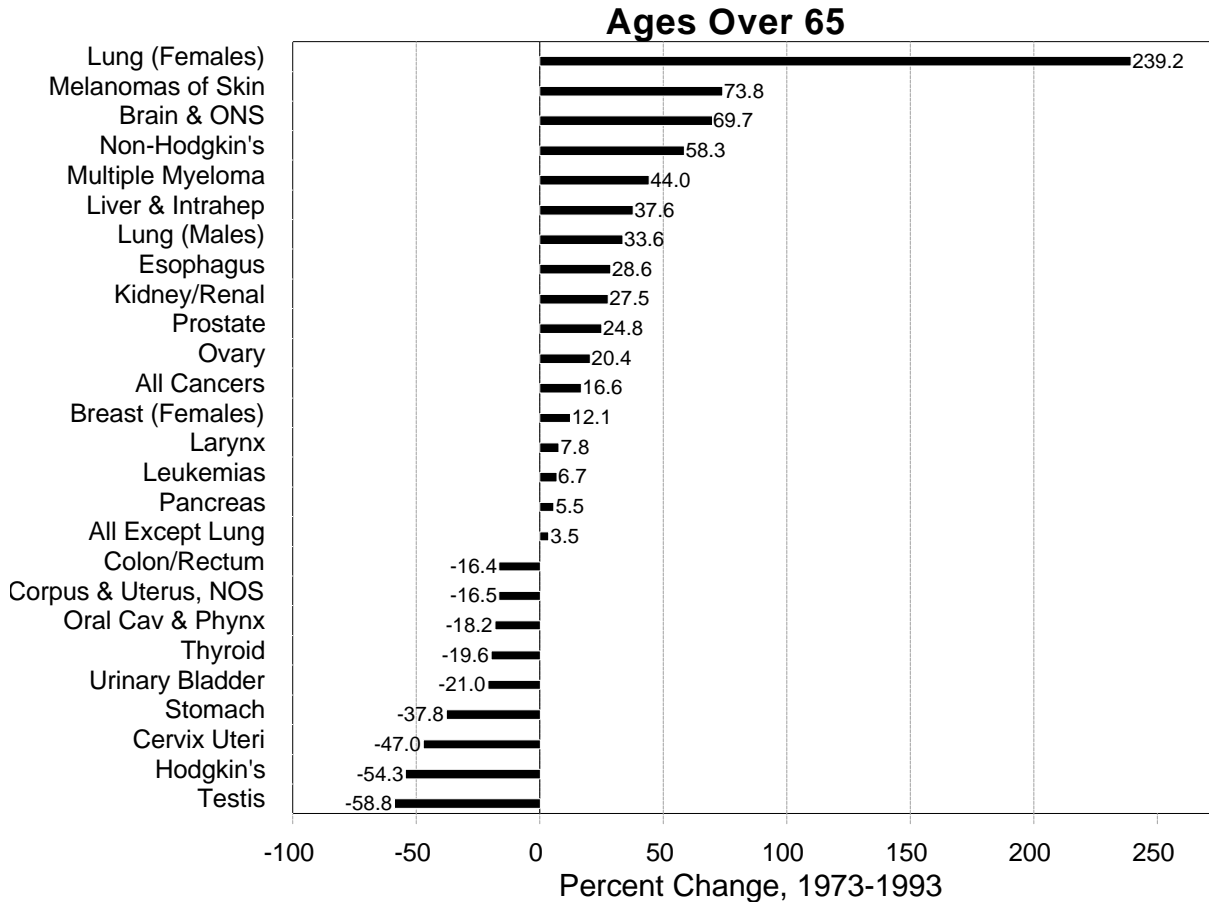


Note:

Progress and problems:

This graph illustrates percent changes in the annual death rate for a wide range of cancers. Cancers to the right of the zero axis have had increased cancer mortality rates, those to the left have had decreased mortality rates. If the graph is turned counter-clockwise, on its side, the bars pointing down show the major tumors in which a significant reduction in annual death rate has occurred. Progress is apparent: a reduction has occurred in the annual death rates since 1973 in both common and uncommon cancers. This definitely shows progress in the age group under 65, albeit more progress needs to be made.

Cancer Mortality Rates
Changes from 1973 to 1993
(Ages Over 65)



Note:

Progress and problems:

Comparing this chart to that for individuals under 65, it is clear that not as much progress is being made in reducing cancer death rates in older groups. The cancer deaths to the right of the zero axis have risen, those to the left have decreased. This graph should be compared to the accompanying graph addressing changes in mortality rates for people under age 65. Issues such as low-income, patterns of medical care, and other related factors are thought to be important considerations in the older population.

Cancer Mortality Rates

United States, 1989-1993

| Cancer Site | Mortality Rate per 100,000 | | Ratio |
|----------------------------------|----------------------------|--------|---------------|
| | Blacks | Whites | Blacks/Whites |
| All Sites | 226.9 | 169.0 | 1.3 |
| Males | 317.0 | 212.3 | 1.5 |
| Females | 168.5 | 140.2 | 1.2 |
| Esophagus | 8.1 | 3.1 | 2.6 |
| Cervix Uteri | 6.6 | 2.5 | 2.6 |
| Larynx | 2.8 | 1.2 | 2.3 |
| Prostate | 54.7 | 24.3 | 2.3 |
| Multiple Myeloma | 6.0 | 2.8 | 2.1 |
| Stomach | 8.8 | 4.1 | 2.1 |
| Oral Cavity & Pharynx | 5.1 | 2.7 | 1.9 |
| Corpus & Uterus, NOS | 5.9 | 3.2 | 1.8 |
| Liver & Intrahepatic Bile Duct | 4.4 | 2.7 | 1.6 |
| Pancreas | 12.1 | 8.2 | 1.5 |
| Thyroid | 0.4 | 0.3 | 1.3 |
| Colon & Rectum | 23.4 | 18.1 | 1.3 |
| Lung & Bronchus | 61.7 | 49.3 | 1.3 |
| Males | 104.7 | 72.0 | 1.5 |
| Females | 32.0 | 32.7 | 1.0 |
| Breast (females) | 31.3 | 26.6 | 1.2 |
| <50 years | 8.9 | 5.6 | 1.6 |
| >50 years | 100.2 | 91.4 | 1.1 |
| Urinary Bladder | 3.3 | 3.3 | 1.0 |
| Kidney & Renal Pelvis | 3.4 | 3.5 | 1.0 |
| Leukemias | 6.0 | 6.5 | 0.9 |
| Hodgkin's Disease | 0.5 | 0.6 | 0.8 |
| Ovary | 6.5 | 8.0 | 0.8 |
| Non-Hodgkin's Lymphoma | 4.6 | 6.6 | 0.7 |
| Brain & Other Nervous | 2.5 | 4.5 | 0.6 |
| Testis | 0.1 | 0.3 | 0.3 |
| Melanomas of Skin | 0.4 | 2.5 | 0.2 |
| All Sites Except Lung & Bronchus | 165.2 | 119.6 | 1.4 |
| Males | 212.4 | 140.3 | 1.5 |
| Females | 136.5 | 107.5 | 1.3 |

NOTE: The annual number of cancer deaths per 100,000 persons is derived from estimates of the National Center for Health Statistics, adjusted to the 1970 US population age distribution.

Cancer Incidence Rates United States, 1989-1993

| Cancer Site | Incidence Rates per 100,000 | | Ratio |
|----------------------------------|-----------------------------|--------|---------------|
| | Blacks | Whites | Blacks/Whites |
| All Sites | 446.8 | 407.9 | 1.1 |
| Males | 608.4 | 494.1 | 1.2 |
| Females | 337.4 | 351.6 | 1.0 |
| Esophagus | 9.7 | 3.5 | 2.8 |
| Multiple Myeloma | 9.3 | 4.1 | 2.3 |
| Liver & Intrahepatic Bile Duct | 5.1 | 2.6 | 2.0 |
| Stomach | 12.0 | 6.5 | 1.8 |
| Larynx | 7.0 | 4.2 | 1.7 |
| Cervix Uteri | 12.6 | 7.9 | 1.6 |
| Pancreas | 13.1 | 8.7 | 1.5 |
| Lung & Bronchus | 78.6 | 58.3 | 1.3 |
| Males | 122.1 | 79.2 | 1.5 |
| Females | 47.3 | 42.9 | 1.1 |
| Prostate | 211.7 | 150.7 | 1.4 |
| Oral Cavity & Pharynx | 13.8 | 10.5 | 1.3 |
| Colon & Rectum | 52.6 | 46.7 | 1.1 |
| Colon | 40.8 | 33.4 | 1.2 |
| Rectum | 11.8 | 13.3 | 0.9 |
| Kidney & Renal Pelvis | 9.9 | 9.2 | 1.1 |
| Breast (females) | 97.3 | 112.8 | 0.9 |
| <50 years | 34.2 | 32.7 | 1.0 |
| >50 years | 292.1 | 360.0 | 0.8 |
| Leukemias | 8.9 | 10.5 | 0.8 |
| Hodgkin's Disease | 2.4 | 3.1 | 0.8 |
| Non-Hodgkin's Lymphomas | 11.1 | 15.7 | 0.7 |
| Corpus & Uterus, NOS | 15.0 | 22.4 | 0.7 |
| Ovary | 10.5 | 15.9 | 0.7 |
| Thyroid | 2.9 | 4.8 | 0.6 |
| Brain & Other Nervous | 3.8 | 6.8 | 0.6 |
| Urinary bladder | 10.0 | 18.2 | 0.5 |
| Testis | 0.7 | 5.3 | 0.1 |
| Melanomas of Skin | 0.7 | 13.4 | 0.1 |
| All Sites Except Lung & Bronchus | 368.2 | 349.7 | 1.1 |
| Males | 486.3 | 414.9 | 1.2 |
| Females | 290.1 | 308.7 | 0.9 |

NOTE: The annual number of new cancer cases per 100,000 persons is derived from NCI's SEER Program, adjusted to the 1970 US population age distribution.

**The Prevalence of Cancer:
Estimated Number of Persons
Diagnosed With Cancer
United States, 1996**

| | 1996 Estimated Prevalence | | |
|----------------------|----------------------------------|--------------|----------------|
| | Total | Males | Females |
| ALL SITES | 7,996,138 | 3,298,748 | 4,697,390 |
| All Sites (Age 0-14) | 151,166 | 76,268 | 74,898 |
| Bladder | 572,253 | 420,553 | 151,700 |
| Brain | 87,564 | 47,104 | 40,460 |
| Buccal | 204,480 | 127,375 | 77,105 |
| Colon | 833,980 | 385,889 | 448,091 |
| Hodgkin's | 154,428 | 82,060 | 72,368 |
| Kidney | 194,876 | 116,782 | 78,094 |
| Larynx | 126,380 | 101,266 | 25,114 |
| Leukemia | 138,319 | 76,952 | 61,367 |
| Lung | 380,708 | 202,548 | 178,160 |
| Melanoma | 459,712 | 221,599 | 238,113 |
| Non Hodgkin's | 286,517 | 142,650 | 143,867 |
| Pancreas | 23,208 | 11,102 | 12,106 |
| Rectum | 361,703 | 191,800 | 169,903 |
| Stomach | 73,141 | 39,781 | 33,360 |
| Thyroid | 203,107 | 49,732 | 153,375 |
| Prostate | 968,371 | 968,371 | |
| Testis | 125,806 | 125,806 | |
| Breast | 1,952,866 | | 1,952,866 |
| Cervix | 201,441 | | 201,441 |
| Corpus | 510,215 | | 510,215 |
| Ovary | 183,319 | | 183,319 |

NOTE: Previous published prevalence national estimates of cancer have been revised using age-specific cancer rates. There has been no decline in prevalence-the number of cancer survivors has increased during recent years.

**Fiscal Year
1996 Budget**

(Dollars in Thousands)

A. Actual Obligations Resulting From Appropriated Funds:

| | |
|--|------------------|
| FY 1996 Appropriation | \$2,251,084 |
| Real transfer from other NIH Institutes through the NIH Director's one-percent transfer authority | 6,951 |
| Rescission in accordance with P.L. 103-134 | (3,084) |
| Lapse | (11) |
| Actual Obligations Subtotal | 2,254,940 |

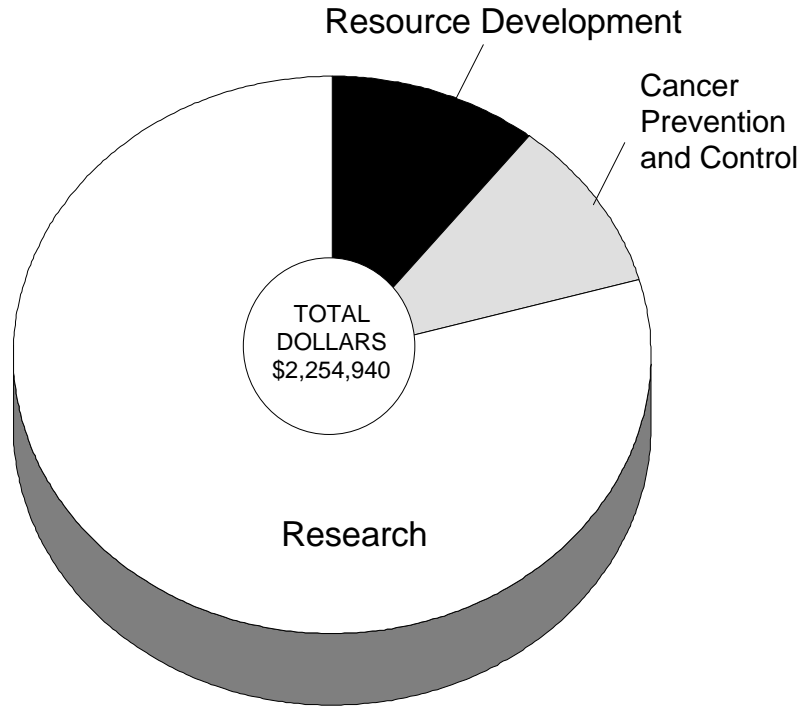
B. Reimbursable Obligations:

| | |
|---|---------------|
| AIDS Reimbursement from Office of the Director, NIH | 1,403 |
| Other Reimbursements | 12,810 |
| Reimbursements | 14,213 |

C. Total NCI Obligations: \$2,269,153

**Program Structure
Fiscal Year 1996**

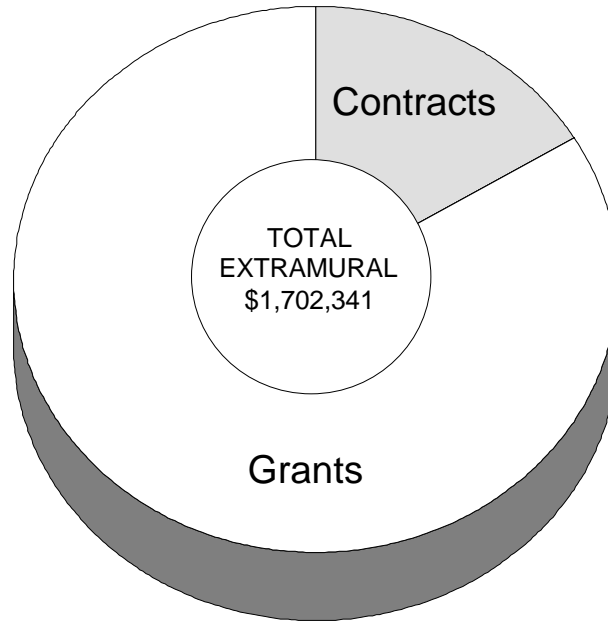
(Dollars in Thousands)



| Budget Activity | Dollars | Percent |
|--------------------------------------|--------------------|---------------|
| Research: | | |
| Cancer Causation | \$633,739 | 28.1% |
| Detection and Diagnosis Research | 125,072 | 5.5% |
| Treatment Research | 684,933 | 30.4% |
| Cancer Biology | 345,482 | 15.3% |
| Subtotal Research | 1,789,226 | 79.3% |
| Resource Development: | | |
| Cancer Centers Support | 164,859 | 7.3% |
| Research Manpower Development | 71,083 | 3.2% |
| Construction | 3,223 | 0.1% |
| Subtotal Resource Development | 239,165 | 10.7% |
| Cancer Prevention and Control | 226,549 | 10.0% |
| Total NCI | \$2,254,940 | 100.0% |

**Extramural Funds
Fiscal Year 1996**

(Dollars in Thousands)



| | Dollars | Percent |
|-------------------------------------|--------------------|----------------|
| Contracts: | | |
| SBIR Contracts | \$1,165 | 0.1% |
| Research and Development Contracts | 165,169 | 9.7% |
| Cancer Control Contracts | 110,152 | 6.5% |
| Construction Contracts | 1,500 | 0.1% |
| Subtotal Contracts | 277,986 | 16.3% |
| Grants: | | |
| Research Project Grants | 1,034,530 | 60.8% |
| Cancer Centers/SPORES | 163,073 | 9.6% |
| Training Activities | 41,170 | 2.4% |
| Other Research Grants | 122,924 | 7.2% |
| Cancer Control Grants | 61,158 | 3.6% |
| Construction Grants | 1,500 | 0.1% |
| Subtotal Grants | 1,424,355 | 83.7% |
| Total Extramural Funds | 1,702,341 | 100.0% |
| Total Intramural/RMS/Control | 552,599 | |
| Total NCI | \$2,254,940 | |

Total NCI Dollars by Mechanism
Fiscal Year 1996

(Dollars in Thousands)

| | | Number | Amount | Percent of Total |
|--|-----------|---------------|---------------|-------------------------|
| Research Grants: | | | | |
| Research Project Grants: | | | | |
| Traditional | Awards: | 1,964 | \$496,719 | 22.0% |
| Program Projects | | 144 | 182,609 | 8.1% |
| FIRST Awards | | 388 | 41,170 | 1.8% |
| MERIT Awards | | 110 | 37,070 | 1.6% |
| Outstanding Investigator Grants | | 65 | 62,550 | 2.8% |
| RFAs | | 268 | 66,102 | 2.9% |
| Cooperative Agreements | | 226 | 88,962 | 3.9% |
| Shannon Awards | | 14 | 984 | 0.0% |
| Small Grants | | 85 | 5,443 | 0.2% |
| Exploratory/Developmental Grants | | 46 | 9,599 | 0.4% |
| Program Evaluation | | 0 | 7,679 | 0.3% |
| SBIR Grants | | 180 | 35,643 | 1.6% |
| Subtotal, Research Project Grants | | 3,490 | 1,034,530 | 45.9% |
| Cancer Centers Grants | | 55 | 138,422 | 6.1% |
| SPOREs | | 12 | 24,651 | 1.1% |
| Subtotal, Centers | | 67 | 163,073 | 7.2% |
| Other Research Grants: | | | | |
| Career Program | | | | |
| RCDA-KO4 | | 17 | 1,139 | 0.1% |
| Clinical Oncology-K12 | | 19 | 3,041 | 0.1% |
| Physician Investigator-K11 | | 41 | 3,527 | 0.2% |
| Preventive Oncology-KO7 | | 24 | 2,098 | 0.1% |
| Clinical Investigator-KO8 | | 84 | 6,578 | 0.3% |
| Subtotal, Career Program | | 185 | 16,383 | 0.7% |
| Cancer Education Program | | 75 | 9,821 | 0.4% |
| Clinical Cooperative Groups | | 157 | 89,244 | 4.0% |
| Minority Biomedical Support | | 0 | 1,874 | 0.1% |
| Scientific Evaluation | | 2 | 4,534 | 0.2% |
| Continuing Education Grants | | 0 | 114 | 0.0% |
| Conference Grants | | 47 | 954 | 0.0% |
| Subtotal, Other Research Grants | | 466 | 122,924 | 5.5% |
| Subtotal, Research Grants | | 4,023 | 1,320,527 | 58.6% |
| NRSA Fellowships | Trainees: | 1,543 | 41,170 | 1.8% |
| Research and Development Contracts: | | | | |
| R&D Contracts | Awards: | 195 | 165,169 | 7.3% |
| SBIR Contracts | | 4 | 1,165 | 0.1% |
| Subtotal, Contracts | | 199 | 166,334 | 7.4% |
| Intramural Research: | | | | |
| Intramural Research | FTEs: | 1,336 | 281,607 | 12.5% |
| NIH Management Fund | | | 125,284 | 5.6% |
| Subtotal, Intramural Research | | 1,336 | 406,891 | 18.0% |
| Research Management & Support: | | | | |
| Research Management & Support | FTEs: | 656 | 87,069 | 3.9% |
| NIH Management Fund | | | 13,762 | 0.6% |
| Subtotal, RMS | | 656 | 100,831 | 4.5% |
| Cancer Prevention and Control: | | | | |
| Cancer Control Grants | | | 61,158 | 2.7% |
| Cancer Control Contracts | | | 110,152 | 4.9% |
| Inhouse | FTEs: | 188 | 42,939 | 1.9% |
| NIH Management Fund | | | 1,938 | 0.1% |
| Subtotal, Prevention and Control | | 188 | 216,187 | 9.6% |
| Construction | | 0 | 3,000 | 0.1% |
| Total NCI | FTEs: | 2,180 | \$2,254,940 | 100.0% |

**Division Obligations
by Mechanism
Fiscal Year 1996**

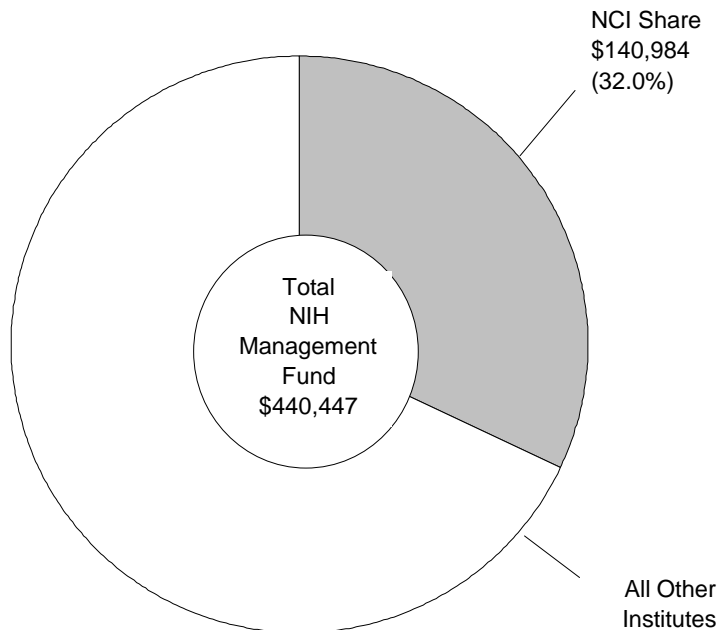
(Dollars in Thousands)

| | DBS | DCS | DCEG | DCTDC | DCB | DCPC | DEA | OD | Research Grants | Program Support(1) | TOTAL NCI |
|-------------------------------------|-----------|----------|----------|-----------|---------|-----------|----------|-----------|-----------------|--------------------|-------------|
| Research Grants: | | | | | | | | | | | |
| Research Project Grants | | | | | | | | | \$998,887 | | \$998,887 |
| SBIR Grants | | | | | | | | | 35,643 | | 35,643 |
| Subtotal, Research Project Grants | | | | | | | | | 1,034,530 | | 1,034,530 |
| Cancer Centers Grants | | | | \$138,422 | | | | | | | 138,422 |
| SPOREs | | | | 24,651 | | | | | | | 24,651 |
| Subtotal, Centers | | | | 163,073 | | | | | | | 163,073 |
| Other Research Grants: | | | | | | | | | | | |
| Career Program | | | | 16,000 | | | \$383 | | | | 16,383 |
| Cancer Education Program | | | | 9,821 | | | | | | | 9,821 |
| Clinical Cooperative Groups | | | | 89,244 | | | | | | | 89,244 |
| Minority Biomedical Support | | | | | | | 1,874 | | | | 1,874 |
| Scientific Evaluation | | | | | | | 4,534 | | | | 4,534 |
| Continuing Ed. Train. Grants | | | | | | | | | 114 | | 114 |
| Conference Grants | | | | | | | | | 954 | | 954 |
| Subtotal, Other Research Grants | | | | 115,065 | | | 6,791 | | 1,068 | | 122,924 |
| Subtotal, Research Grants | | | | 278,138 | | | | | 1,035,598 | | 1,320,527 |
| NRSA Fellowships | | | | 41,132 | | | 38 | | | | 41,170 |
| Research and Development Contracts: | | | | | | | | | | | |
| R&D Contracts | | | \$9,362 | \$50,681 | \$3,806 | \$16,500 | 1,177 | \$69,727 | | \$13,916 | 165,169 |
| SBIR Contracts | | | | | | | | 1,165 | | | 1,165 |
| Subtotal, Contracts | | | 9,362 | 50,681 | 3,806 | 16,500 | 1,177 | 70,892 | | 13,916 | 166,334 |
| Intramural Research: | | | | | | | | | | | |
| Intramural Research | \$127,580 | \$90,520 | 38,259 | 3,408 | | | | 19,589 | | 2,251 | 281,607 |
| NIH Management Fund | | | | | | | | | | 125,284 | 125,284 |
| Subtotal, Intramural Research | 127,580 | 90,520 | 38,259 | 3,408 | | | | 19,589 | | 127,535 | 406,891 |
| Research Management & Support: | | | | | | | | | | | |
| Research Management & Suppt. | | | 1,602 | 17,486 | 4,269 | | 7,809 | 37,815 | | 18,088 | 87,069 |
| NIH Management Fund | | | | | | | | | | 13,762 | 13,762 |
| Subtotal, RMS | | | 1,602 | 17,486 | 4,269 | | 7,809 | 37,815 | | 31,850 | 100,831 |
| Cancer Prevention and Control: | | | | | | | | | | | |
| Cancer Control Grants | | | | | | 61,158 | | | | | 61,158 |
| Cancer Control Contracts | | | | | | 93,502 | | 16,650 | | | 110,152 |
| Inhouse | | | | | | 17,918 | | 21,781 | | 3,240 | 42,939 |
| NIH Management Fund | | | | | | | | | | 1,938 | 1,938 |
| Total Prevention & Control | | | | | | 172,578 | | 38,431 | | 1,938 | 216,187 |
| Construction | | | | 1,500 | | | | 1,500 | | | 3,000 |
| Division Totals | \$127,580 | \$90,520 | \$49,223 | \$392,345 | \$8,075 | \$189,078 | \$15,815 | \$168,227 | \$1,035,598 | \$175,239 | \$2,254,940 |

(1) Includes Central Assessments for DHHS-NIH General Expense, Management Fund, and Program Evaluation

**NIH Management Fund
Reimbursement
Fiscal Year 1996**

(Dollars in Thousands)



| DISTRIBUTION OF NCI PAYMENT | | |
|--|------------------|---------------|
| | Dollars | Percent |
| Clinical Center | \$92,199 | 65.4% |
| Division of Research Grants | 5,639 | 4.0% |
| Division of Computer Research and Technology | 7,869 | 5.6% |
| GSA Rental Payments for Space | 7,482 | 5.3% |
| Other Research Services | 27,795 | 19.7% |
| Total, NCI Payment | \$140,984 | 100.0% |

The Management Fund provides for the financing of certain common research and administrative support activities which are required in the operations of NIH:

Clinical Center: Admissions and followup, anesthesiology, diagnostic x-ray, nuclear medicine, clinical pathology, blood bank, rehabilitation medicine, pharmacy, medical records, nursing services, patient nutrition service, housekeeping services, laundry, and social work

Division of Research Grants: initial scientific review of applications, assignment of research grant applications to institutes

Division of Computer Research and Technology: Research and development program in which concepts and methods of computer science are applied to biomedical problems

GSA Rental Payments for Space: building rental including utilities and guard services

Other Research Services: procurement, safety, engineering, biomedical engineering, veterinary resources, and library

Special Sources of Funds

CRADAs

As a result of the Federal Technology Transfer Act of 1986, government laboratories are authorized to enter into Cooperative Research and Development Agreements (CRADAs) with private sector entities. Licensing agreements are usually incorporated into the CRADA document, which addresses patent rights attributable to research supported under the CRADA.

CRADA Receipts Deposited to the U.S. Treasury (dollars in thousands)

| | Carryover from Prior Year | Receipts | Obligations |
|------|---------------------------------|----------|-------------|
| 1991 | \$52 | \$115 | \$66 |
| 1992 | 101 | 1,627 | 466 |
| 1993 | 1,262 | 2,509 | 1,582 |
| 1994 | 2,189 | 2,248 | 1,917 |
| 1995 | 2,570 | 2,653 | 1,478 |
| 1996 | 3,745 | 2,229 | 1,394 |
| 1997 | 4,580 | | |

Royalty Income

NCI retains a portion of the royalty income generated by the patents related to NCI-funded research. A major portion of this royalty income is used to reward employees of the laboratory, to further scientific exchange and for education and training in accordance with the terms of the Act. Receipts are also used to support the costs of processing and collecting royalty income. Support is also provided to cover expenses associated with technology transfer efforts in NCI and NIH.

Royalty Income Funding History (dollars in thousands)

| Years Available | Collections* | Inventor Payments | Other** |
|--------------------|--------------|----------------------|---------|
| 1990/1991 | \$1,452 | \$871 | \$581 |
| 1991/1992 | 2,084 | 431 | 1,653 |
| 1992/1993 | 2,105 | 451 | 1,654 |
| 1993/1994 | 5,700 | 983 | 4,717 |
| 1994/1995 | 11,244 | 1,235 | 10,009 |
| 1995/1996 | 9,031 | 953 | 8,078 |
| 1996/1997 | 13,598 | 2,175 | 11,423 |

* Does not include assessments by NIH and NTIS.

** To be used for the furtherance of technology transfer

Research Dollars by Various Cancers

(Dollars in Millions)

The National Cancer Institute reports how NCI appropriated funds are spent in a number of different categories or classifications including specific cancer sites, cancer types, diseases related to cancer, as well as types of research mechanisms. The table below represents funding levels for frequently requested research areas. These research areas do not represent the entire NCI research portfolio. Funding for these areas can overlap and do not add to the total NCI budget. For example, dollars for a clinical trial on breast cancer research would be included in both the Breast Cancer and Clinical Trial lines in the table below. Similarly a basic cancer research project may be relevant to cervical, uterine and ovarian cancers and funding totals for that project would thus be included in the figures for all three sites. However, not all basic research is included in the cancer site coding since scientists cannot always predict the outcome of a basic research project and its applicability to a particular type of cancer.

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------------|
| | Actual | Actual | Actual | Actual | Actual | Actual | Actual | Estimate | President's Budget |
| Total NCI* | \$1,644.3 | \$1,712.7 | \$1,947.6 | \$1,978.3 | \$2,076.2 | \$2,130.3 | \$2,254.9 | \$2,381.1 | \$2,441.7 |
| AIDS | \$149.2 | \$160.9 | \$165.7 | \$173.0 | \$213.0 | \$217.4 | \$225.4 | \$224.7 | \$224.3 |
| Brain & Central Nervous System | 29.8 | 31.5 | 32.5 | 40.5 | 41.7 | 43.0 | 41.6 | 44.2 | 46.3 |
| Breast Cancer | 81.0 | 92.7 | 145.0 | 211.5 | 267.6 | 308.7 | 317.5 | 332.9 | 338.9 |
| Cancer Prevention & Control | 80.5 | 90.8 | 114.9 | 112.6 | 153.9 | 205.0 | 226.0 | 248.7 | 251.0 |
| Cervical Cancer | 21.9 | 22.3 | 30.7 | 42.2 | 42.3 | 45.5 | 51.6 | 54.0 | 56.0 |
| Clinical Trials | 246.0 | 254.4 | 314.5 | 326.8 | 339.0 | 384.8 | 393.8 | 403.9 | 412.6 |
| Colorectal Cancer | 51.2 | 56.5 | 69.2 | 74.2 | 83.1 | 96.5 | 98.0 | 99.0 | 100.0 |
| Hodgkins Disease | 7.5 | 7.8 | 6.7 | 6.8 | 6.7 | 7.8 | 8.0 | 8.4 | 8.8 |
| Leukemia | 50.4 | 60.1 | 64.6 | 74.2 | 77.7 | 77.5 | 79.3 | 83.0 | 86.0 |
| Liver Cancer | 28.3 | 29.8 | 30.7 | 37.5 | 37.9 | 38.0 | 31.4 | 33.2 | 34.7 |
| Lung Cancer | 65.1 | 68.7 | 76.3 | 92.9 | 106.4 | 113.9 | 119.4 | 123.3 | 128.2 |
| Melanoma | 21.2 | 26.2 | 24.8 | 29.8 | 33.4 | 31.8 | 36.0 | 37.3 | 38.3 |
| Non Hodgkin's Lymphoma** | | | 33.4 | 40.1 | 38.7 | 39.7 | 49.9 | 51.5 | 52.7 |
| Ovarian Cancer | 10.5 | 13.6 | 20.7 | 32.5 | 33.5 | 33.9 | 36.5 | 39.0 | 40.6 |
| Prostate Cancer | 13.2 | 13.8 | 31.4 | 51.1 | 56.1 | 64.3 | 71.7 | 74.0 | 77.5 |
| Uterine Cancer | 6.5 | 7.0 | 7.8 | 6.3 | 7.2 | 7.7 | 8.1 | 8.6 | 9.0 |

* Includes AIDS funding

** Data related to NCI spending for Non Hodgkin's Lymphoma was not collected until Fiscal Year 1992

**Grant and Contract
Awards by State
Fiscal Year 1996**

| State | Grants | | Contracts | | Total NCI |
|----------------------|--------|-------------|-----------|-----------|-------------|
| | Number | Amount | Number | Amount | Amount |
| Alabama | 49 | \$19,650 | 14 | \$8,437 | \$28,087 |
| Alaska | 3 | 317 | | | 317 |
| Arizona | 40 | 19,069 | 1 | 197 | 19,266 |
| Arkansas | 13 | 2,510 | | | 2,510 |
| California | 532 | 202,850 | 18 | 67,567 | 270,417 |
| Colorado | 61 | 16,128 | 3 | 3,122 | 19,250 |
| Connecticut | 55 | 18,133 | 3 | 3,251 | 21,384 |
| Delaware | 4 | 860 | | | 860 |
| District of Columbia | 68 | 22,099 | 8 | 3,036 | 25,135 |
| Florida | 49 | 11,541 | 2 | 1,400 | 12,941 |
| Georgia | 35 | 6,854 | 5 | 2,306 | 9,160 |
| Hawaii | 13 | 6,346 | 4 | 1,976 | 8,322 |
| Idaho | | | | | |
| Illinois | 144 | 45,337 | 6 | 1,814 | 47,151 |
| Indiana | 33 | 7,482 | 3 | 1,253 | 8,735 |
| Iowa | 16 | 4,264 | 6 | 4,582 | 8,846 |
| Kansas | 16 | 3,800 | 7 | 4,660 | 8,460 |
| Kentucky | 25 | 3,919 | 1 | 687 | 4,606 |
| Louisiana | 19 | 3,393 | 1 | 150 | 3,543 |
| Maine | 8 | 3,072 | 1 | 829 | 3,901 |
| Maryland | 128 | 41,719 | 74 | 85,560 | 127,279 |
| Massachusetts | 370 | 146,378 | 8 | 5,001 | 151,379 |
| Michigan | 145 | 40,882 | 11 | 11,236 | 52,118 |
| Minnesota | 88 | 34,549 | 7 | 8,204 | 42,753 |
| Mississippi | 5 | 597 | | | 597 |
| Missouri | 69 | 14,335 | 7 | 3,088 | 17,423 |
| Montana | 2 | 277 | | | 277 |
| Nebraska | 24 | 8,411 | | | 8,411 |
| Nevada | 6 | 977 | | | 977 |
| New Hampshire | 36 | 11,248 | | | 11,248 |
| New Jersey | 50 | 15,662 | 3 | 2,854 | 18,516 |
| New Mexico | 9 | 2,126 | 5 | 3,545 | 5,671 |
| New York | 407 | 153,007 | 15 | 8,253 | 161,260 |
| North Carolina | 148 | 53,119 | 14 | 6,659 | 59,778 |
| North Dakota | 2 | 444 | | | 444 |
| Ohio | 131 | 33,876 | 4 | 2,815 | 36,691 |
| Oklahoma | 8 | 1,257 | 1 | 780 | 2,037 |
| Oregon | 24 | 5,751 | | | 5,751 |
| Pennsylvania | 302 | 112,976 | 6 | 3,166 | 116,142 |
| Rhode Island | 21 | 6,842 | 1 | 879 | 7,721 |
| South Carolina | 17 | 3,139 | 1 | 985 | 4,124 |
| South Dakota | 4 | 587 | | | 587 |
| Tennessee | 85 | 28,056 | 2 | 1,179 | 29,235 |
| Texas | 287 | 92,840 | 9 | 5,482 | 98,322 |
| Utah | 35 | 9,642 | 4 | 1,831 | 11,473 |
| Vermont | 15 | 5,070 | 1 | 160 | 5,230 |
| Virginia | 65 | 24,855 | 6 | 4,120 | 28,975 |
| Washington | 153 | 69,443 | 7 | 6,524 | 75,967 |
| West Virginia | 7 | 861 | 2 | 1,467 | 2,328 |
| Wisconsin | 86 | 24,707 | 6 | 3,947 | 28,654 |
| Wyoming | | | | | |
| Total | 3,912 | 1,341,257 | 277 | 273,002 | 1,614,259 |
| Puerto Rico | 1 | 238 | | | 238 |
| US Virgin Islands | | | | | |
| Total | 3,913 | \$1,341,495 | 277 | \$273,002 | \$1,614,497 |

Excludes Manpower Development and Foreign grants

**NCI Foreign Research
Grants and Contracts
Fiscal Year 1996**

(Dollars in Thousands)

| Country | Grant | | Contract | | Total NCI Awards | Percent of Total Dollars Awarded |
|--------------------------|-----------|----------------|-----------|----------------|------------------|----------------------------------|
| | Number | Amount | Number | Amount | | |
| Australia | 6 | \$1,204 | | | \$1,204 | 9.4% |
| Belgium | 2 | 460 | | | 460 | 3.6% |
| Canada | 26 | 3,457 | 2 | \$274 | 3,731 | 29.2% |
| China | | | 2 | 124 | 124 | 1.0% |
| Costa Rica | | | 2 | 385 | 385 | 3.0% |
| Denmark | | | 3 | 405 | 405 | 3.2% |
| Finland | 2 | 391 | 3 | 974 | 1,365 | 10.7% |
| France | 1 | 657 | | | 657 | 5.1% |
| Israel | 3 | 390 | | | 390 | 3.0% |
| Italy | 1 | 260 | | | 260 | 2.0% |
| Jamaica | | | 1 | 800 | 800 | 6.3% |
| Japan | | | 2 | 347 | 347 | 2.7% |
| New Zealand | | | 2 | 866 | 866 | 6.8% |
| Republic of South Africa | 1 | 103 | | | 103 | 0.8% |
| Sweden | 2 | 568 | 3 | 424 | 992 | 7.8% |
| Trinidad | | | 1 | 386 | 386 | 3.0% |
| United Kingdom | 3 | 314 | | | 314 | 2.5% |
| Total Foreign | 47 | \$7,804 | 21 | \$4,985 | \$12,789 | 100.0% |

**Institutions Receiving More than
\$10,000,000 in NCI Support
Fiscal Year 1996**

(Dollars in Thousands)

| State | Institution | Grants | Contracts | Construction | Total NCI | |
|----------------------|--|-------------------------------------|-----------|--------------|-------------|--------|
| Alabama | University of Alabama System | \$17,217 | \$3,105 | | \$20,322 | |
| Arizona | University of Arizona | 15,997 | 197 | | 16,194 | |
| California | University of California System | 84,239 | 2,216 | | 86,455 | |
| | Science Applications International Corporation | | 56,049 | | 56,049 | |
| | Stanford University | 26,524 | | | 26,524 | |
| | University of Southern California | 20,454 | 2,328 | | 22,782 | |
| | La Jolla Cancer Research Foundation | 12,339 | | | 12,339 | |
| | Scripps Research Institute | 11,245 | | | 11,245 | |
| | University of Colorado System | 9,258 | 1,391 | | 10,649 | |
| Colorado | University of Colorado System | 9,258 | 1,391 | | 10,649 | |
| Connecticut | Yale University | 17,893 | 1,074 | | 18,967 | |
| District of Columbia | Georgetown University | 11,890 | 1,963 | | 13,853 | |
| Illinois | University of Chicago | 18,924 | | | 18,924 | |
| | Northwestern University | 13,133 | | | 13,133 | |
| Maryland | Johns Hopkins University | 35,807 | 2,166 | | 37,973 | |
| Massachusetts | Dana-Farber Cancer Institute | 32,364 | | | 32,364 | |
| | Harvard University | 23,140 | | | 23,140 | |
| | Massachusetts General Hospital | 17,639 | | \$5,243 | 22,882 | |
| | Brigham and Women's Hospital | 17,397 | | | 17,397 | |
| Michigan | University of Michigan at Ann Arbor | 22,389 | 2,400 | | 24,789 | |
| | Wayne State University | 11,235 | 1,982 | | 13,217 | |
| Minnesota | University of Minnesota | 19,574 | 3,023 | | 22,597 | |
| | Mayo Foundation | 13,607 | 4,032 | | 17,639 | |
| Missouri | Washington University | 10,845 | 402 | | 11,247 | |
| New Hampshire | Dartmouth College | 11,244 | | | 11,244 | |
| New York | Memorial Sloan-Kettering | 34,371 | 1,457 | | 35,828 | |
| | Columbia University | 19,037 | | | 19,037 | |
| | New York University | 14,827 | 528 | | 15,355 | |
| | Yeshiva University | 14,192 | | | 14,192 | |
| | American Health Foundation | 10,053 | | | 10,053 | |
| | New York State Dept. of Health | 16,061 | 2,634 | | 18,695 | |
| | North Carolina | University of North Carolina System | 24,104 | 1,049 | | 25,153 |
| | | Duke University | 25,380 | 805 | | 26,185 |
| | | Organon Teknika Corporation | 28 | 19,698 | | 19,726 |
| | Ohio | Case Western Reserve University | 17,916 | 2,289 | | 20,205 |
| Pennsylvania | University of Pittsburgh | 23,161 | 904 | | 24,065 | |
| | University of Pennsylvania | 19,677 | | | 19,677 | |
| | Fox Chase Cancer Center | 23,472 | 1,039 | | 24,511 | |
| | Thomas Jefferson University | 15,104 | | | 15,104 | |
| | Allegheny Health. Education and Research | 12,450 | | | 12,450 | |
| | St. Jude Children's Research Hospital | 14,688 | | | 14,688 | |
| Tennessee | Vanderbilt University | 11,503 | | | 11,503 | |
| Texas | University of Texas System | 67,211 | 5,213 | | 72,424 | |
| | Cancer Therapy and Research Center | 17,054 | | | 17,054 | |
| Utah | Utah State Higher Education System | 9,335 | 1,831 | | 11,166 | |
| Washington | Fred Hutchinson Cancer Research Center | 48,614 | 4,086 | | 52,700 | |
| | University of Washington | 15,313 | 1,179 | | 16,492 | |
| Wisconsin | University of Wisconsin System | 22,948 | 1,355 | | 24,303 | |
| | Total | \$950,853 | \$126,395 | \$5,243 | \$1,082,491 | |

Cancer Centers Funding History

| Fiscal Year | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Center Support | \$110,481,000 | \$127,351,000 | \$123,930,000 | \$136,269,000 | \$131,231,000 | \$138,422,000 |
| Annual Growth | 5.0% | 15.3% | -2.7% | 10% | -3.7% | 5.48% |

NCI Cancer Centers support the research infrastructure and promote multidisciplinary research programs at the most outstanding academic and free-standing institutions throughout the nation. As a group, they are engaged in all aspects of cancer research, including basic, clinical, and prevention, control and population-based research. Of the 55 Cancer Center Support Grants (CCSGs) awarded in FY 1996, 10 were to basic laboratory centers, 1 was to a consortium center, 18 were to clinical centers, and 26 were to comprehensive centers. In addition, 3 Cancer Center Planning Grants, initially funded in FY 1995, continued in FY 1996. The Cancer Center Planning Grants initiative was begun in FY 1992 and reissued in FY 1994 to increase geographical distribution of cancer centers in under-represented areas of the country.

The Cancer Centers Program has been active in developing and promoting initiatives designed to fulfill the broad mission of the NCI as well as to stimulate scientific areas of especially high priority. From 1992 through 1994 the NCI funded sixteen planning grants (P20s) to help institutions develop cancer centers in underserved geographic areas of the country. In 1994, the Program, in collaboration with the National Institute of Environmental Health Sciences (NIEHS) and the National Institute on Aging (NIA), stimulated the development of multidisciplinary research programs in breast cancer, using the R21 exploratory grant mechanism. In 1995, in collaboration with the NIEHS, similar efforts were made to stimulate research in prostate cancer. In 1997, the Program invested \$11 million in two areas: development of research programs in AIDS-related malignancies and support of innovative research projects in cancer genetics. It also supported supplements to help cancer centers develop their genetic counseling capabilities.

The Cancer Centers Program has collaborated over the last several years with the Office of Research on Minority Health at the level of the Director, NIH, to support special projects focusing on the problem of cancer in minority populations. The program supported networks and conferences for native Americans and provided additional support to several centers for pilot research projects on genetics of cancer among minority populations. The Program has also provided additional support to its minority consortium cancer center, which is made up of the Charles R. Drew University of Medicine and Science, Morehouse School of Medicine and Meharry Medical College.

In 1996, the Cancer Centers Program underwent a major evaluation by an external advisory group of scientific and administrative experts. The report of this Cancer Centers Review Group contained numerous recommendations for strengthening the Program in general and for modifying how the NCI recognizes NCI-designated Comprehensive Cancer Centers. In response to this report, new guidelines are being formulated and commented upon by the biomedical community. These new guidelines are designed to involve less reporting and paperwork in the application process, provide greater flexibility to centers how funds are used to pursue new research opportunities, and focus the review of centers more on the quality of the science and the contributions of the center to scientific progress of importance to cancer. In addition, the report focused the comprehensive designation on the broad research capabilities of the center, encouraging the NCI to find a suitable approach for fostering outreach and education activities. These guidelines will be completed in FY 97.

Cancer Centers by State (P30 Core Grants)

| State | Grantee Institution | Type | Awarded | |
|--|--|--|---------------|-----------|
| Alabama | University of Alabama at Birmingham | Comprehensive | \$4,385,496 | |
| Arizona | University of Arizona | Comprehensive | 1,708,549 | |
| California | Beckman Research Institute/City of Hope | Clinical | 1,940,581 | |
| | Burnham Institute | Lab/Basic | 1,546,946 | |
| | Salk Institute for Biological Sciences | Lab/Basic | 1,961,655 | |
| | University of California at Los Angeles | Comprehensive | 3,750,998 | |
| | University of California at San Diego | Clinical | 1,702,696 | |
| | University of California, Irvine Clinical Cancer Center | Clinical | 1,555,869 | |
| | University of Southern California | Comprehensive | 4,004,413 | |
| Colorado | University of Colorado Health Sciences Center | Clinical | 2,901,930 | |
| Connecticut | Yale University | Comprehensive | 1,809,493 | |
| District of Columbia | Georgetown University | Comprehensive | 2,175,007 | |
| Hawaii | University of Hawaii at Manoa | Clinical | 1,076,180 | |
| Illinois | Northwestern University | Clinical | 1,699,081 | |
| | University of Chicago | Clinical | 2,402,667 | |
| Indiana | Purdue University West Lafayette | Lab/Basic | 651,081 | |
| Maine | Jackson Laboratory | Lab/Basic | 1,674,671 | |
| Maryland | Johns Hopkins University | Comprehensive | 4,541,816 | |
| Massachusetts | Dana-Farber Cancer Institute | Comprehensive | 3,832,020 | |
| | Massachusetts Institute of Technology | Lab/Basic | 1,954,521 | |
| Michigan | University of Michigan at Ann Arbor | Comprehensive | 2,993,265 | |
| | Barbara Ann Karmanos Cancer Institute/Wayne State University | Comprehensive | 172,652 | |
| Minnesota | Mayo Foundation | Clinical | 2,444,067 | |
| Nebraska | University of Nebraska Medical Center | Lab/Basic | 1,049,587 | |
| New Hampshire | Dartmouth College | Comprehensive | 1,756,398 | |
| New York | Cold Spring Harbor Laboratory | Lab/Basic | 2,635,553 | |
| | Columbia University New York | Comprehensive | 3,204,287 | |
| | Kaplan Cancer Center/NYU | Clinical | 2,911,108 | |
| | Roswell Park Memorial Institute | Comprehensive | 2,164,548 | |
| | Memorial Sloan-Kettering | Comprehensive | 6,292,634 | |
| | University of Rochester | Clinical | 1,722,709 | |
| | American Health Foundation | Lab/Basic | 2,903,479 | |
| | Albert Einstein College of Medicine | Clinical | 3,688,799 | |
| | North Carolina | Duke University | Comprehensive | 4,122,249 |
| | | University of North Carolina Chapel Hill | Comprehensive | 3,039,332 |
| Ohio | Wake Forest University/Bowman Gray Sch. of Medicine | Comprehensive | 1,639,582 | |
| | Case Western Reserve University | Clinical | 2,552,829 | |
| Pennsylvania | Ohio State University | Comprehensive | 2,013,045 | |
| | Fox Chase Cancer Center | Comprehensive | 6,207,292 | |
| | Thomas Jefferson University | Clinical | 1,471,933 | |
| | University of Pennsylvania | Comprehensive | 3,157,093 | |
| | University of Pittsburgh | Comprehensive | 2,504,380 | |
| Tennessee | Wistar Institute of Anatomy and Biology | Lab/Basic | 3,196,435 | |
| | St. Jude Children's Research Hospital | Clinical | 4,121,189 | |
| | Drew-Meharry-Morehouse Consortium Cancer Center | Consortium | 675,207 | |
| Texas | Vanderbilt University | Clinical | 1,571,173 | |
| | San Antonio Cancer Institute | Comprehensive | 1,711,334 | |
| | M.D. Anderson Cancer Center/Univ. of Texas | Comprehensive | 2,821,692 | |
| Utah | Huntsman Cancer Institute/University of Utah | Clinical | 1,375,448 | |
| Vermont | University of Vermont | Comprehensive | 91,212 | |
| Virginia | University of Virginia | Clinical | 1,270,711 | |
| | Medical College of Virginia/VCU | Clinical | 854,864 | |
| Washington | Fred Hutchinson Cancer Research Center | Comprehensive | 5,291,465 | |
| Wisconsin | McArdle Laboratory for Cancer Research | Lab/Basic | 2,797,348 | |
| | University of Wisconsin Madison | Comprehensive | 2,997,690 | |
| Total P30s | | 55 | 136,698,259 | |
| Planning Grants | | | 723,000 | |
| NCI Co-funded Awards with other NIH Institutes | | | 1,000,741 | |
| Total Cancer Centers | | | \$138,422,000 | |

Specialized Programs of Research Excellence SPORES

In 1992, the NCI established the Specialized Programs of Research Excellence (SPORES) to promote interdisciplinary research and to speed the bidirectional exchange between basic and clinical science in order to move basic research findings from the laboratory to applied settings involving patients and populations. The ultimate goal of the SPORE program is to bring novel ideas that have the potential to reduce cancer incidence and mortality, improve survival, and to improve the quality of life to clinical care settings.

Laboratory and clinical scientists work collaboratively to plan, design and implement research programs that impact on cancer prevention, detection, diagnosis, treatment and control. To facilitate this research, each SPORE develops and maintains specialized resources that benefit all scientists working on the specific cancer site, as well as SPORE scientists. An additional SPORE element is a career development program that recruits scientists both within and outside the SPORE institution to enlarge the cadre of laboratory and clinical scientists dedicated to translational research on human cancer. SPORES meet annually to share data, assess research progress, identify new research opportunities and establish priorities for research most likely to reduce incidence and mortality and to increase survival.

In 1996, NCI funded a total of 12 SPORES and co-funded 6 SPORES for a total of \$24,651,000. SPORES are funded through specialized center grants, P50s. Twelve institutions received full support as P50 SPORES. NCI co-funded three P50s from the National Institute of Diabetes and Digestive and Kidney Diseases using \$501,000 of NCI support, and three P50s from the National Institute of Dental Research were co-funded using \$1,042,000 of NCI support. In the upcoming years, NCI may increase the use of the SPORE mechanism to include funding for other major cancer sites.

| <u>Site</u> | <u>Type</u> | <u>Number of Awards</u> | <u>Amount of Funding</u> |
|------------------|-------------------------------|-------------------------|--------------------------|
| Breast | P50 | 6 | \$12,028,000 |
| | Total Breast | 6 | 12,028,000 |
| Gastrointestinal | P50 | 1 | 1,611,000 |
| | Total Gastrointestinal | 1 | 1,611,000 |
| Lung | P50 | 3 | 4,587,000 |
| | Total Lung | 2 | 4,587,000 |
| Prostate | P50 | 3 | 4,882,000 |
| | Total Prostate | 3 | 4,882,000 |
| NIDDK | P50 | 3 | 501,000 |
| NIDR | P50 | 3 | 1,042,000 |
| | Total Co-funds | 6 | 1,543,000 |
| | Total SPORES | | \$24,651,000 |

Total Research

(Dollars in Thousands)

Project Grants

Fiscal Years 1990-1996

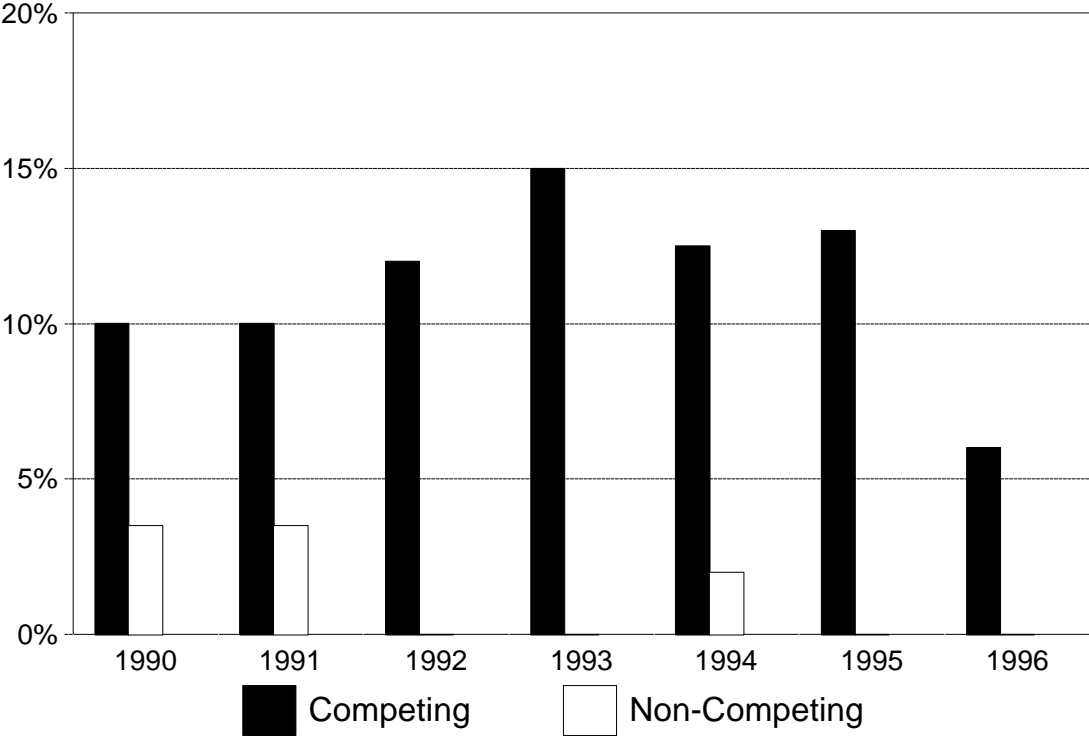
| Fiscal Year | Type Awarded | Requested | | Awarded | | Success Rate |
|-------------|-----------------------|-----------|-----------|--------------|------------------|--------------|
| | | No. | Amt. | No. | Amt. | |
| 1990 | Competing | | | | | |
| | New..... | 2,193 | \$527,256 | 421 | \$82,656 | |
| | Renewal..... | 849 | 278,541 | 302 | 87,497 | |
| | Board Supplement..... | 15 | 2,837 | 5 | 991 | |
| | Subtotal..... | 3,057 | 808,634 | 728 | 171,144 | 23.8% |
| | Non-Competing..... | | | 2,288 | 568,336 | |
| | Total..... | | | 3,016 | 739,480 | |
| 1991 | Competing | | | | | |
| | New..... | 2,195 | \$512,665 | 513 | \$102,364 | |
| | Renewal..... | 837 | 286,858 | 323 | 94,231 | |
| | Board Supplement..... | 8 | 1,161 | 4 | 421 | |
| | Subtotal..... | 3,040 | 800,684 | 840 | 197,016 | 27.6% |
| | Non-Competing..... | | | 2,207 | 594,532 | |
| | Total..... | | | 3,047 | 791,548 | |
| 1992 | Competing | | | | | |
| | New..... | 2,508 | \$612,369 | 664 | \$119,091 | |
| | Renewal..... | 815 | 332,428 | 398 | 133,413 | |
| | Board Supplement..... | 23 | 3,704 | 17 | 1,347 | |
| | Subtotal..... | 3,346 | 948,501 | 1,079 | 253,851 | 32.2% |
| | Non-Competing..... | | | 2,231 | 620,006 | |
| | Total..... | | | 3,310 | 873,857 | |
| 1993 | Competing | | | | | |
| | New..... | 3,173 | \$746,912 | 644 | \$114,227 | |
| | Renewal..... | 891 | 328,657 | 340 | 107,949 | |
| | Board Supplement..... | 75 | 8,554 | 7 | 1,698 | |
| | Subtotal..... | 4,139 | 1,084,123 | 991 | 223,874 | 23.9% |
| | Non-Competing..... | | | 2,346 | 692,436 | |
| | Total..... | | | 3,337 | 916,310 | |
| 1994 | Competing | | | | | |
| | New..... | 3,643 | \$787,824 | 657 | \$118,403 | |
| | Renewal..... | 935 | 342,068 | 308 | 110,723 | |
| | Board Supplement..... | 20 | 3,311 | 4 | 733 | |
| | Subtotal..... | 4,598 | 1,133,203 | 969 | 229,859 | 21.1% |
| | Non-Competing..... | | | 2,436 | 704,665 | |
| | Total..... | | | 3,405 | 934,524 | |
| 1995 | Competing | | | | | |
| | New..... | 3,345 | \$789,560 | 645 | \$119,760 | |
| | Renewal..... | 1,048 | 403,577 | 375 | 127,065 | |
| | Board Supplement..... | 21 | 7,502 | 10 | 1,537 | |
| | Subtotal..... | 4,414 | 1,200,639 | 1,030 | 248,362 | 23.3% |
| | Non-Competing..... | | | 2,333 | 704,374 | |
| | Total..... | | | 3,363 | 952,736 | |
| 1996 | Competing | | | | | |
| | New..... | 3,071 | \$733,313 | 682 | 142,249 | |
| | Renewal..... | 947 | 367,270 | 422 | 139,995 | |
| | Board Supplement..... | 10 | 1,921 | 5 | 694 | |
| | Subtotal..... | 4,028 | 1,102,504 | 1,109 | 282,938 | 27.5% |
| | Non-Competing..... | | | 2,381 | 751,592 | |
| | Total..... | | | 3,490 | 1,034,530 | |

Note: RPGs include R01 traditional grants, P01 program projects, R23 new investigator research awards, R29 FIRST awards, R35 Outstanding Investigator Grants, R37 MERIT awards, U01 Cooperative Agreement awards, R01 and U01 awards of Request for Applications, R03 small grants, R21 Exploratory/Developmental Grants R41/R42 Small Business Technology Transfer Grants and R43/R44 Small Business Innovative Research awards.

Success rate is the number of awarded grants divided by the number of awards requested. Requested data from 1986 through 1990 includes all submitted application. Beginning in 1991, the requested data excludes applications not recommended for further review by the Division of Research Grants.

1993 requested data was updated since printing the 1993 Factbook.

**Research Project Grants
Adjustments from Recommended Levels
Fiscal Years 1990-1996**

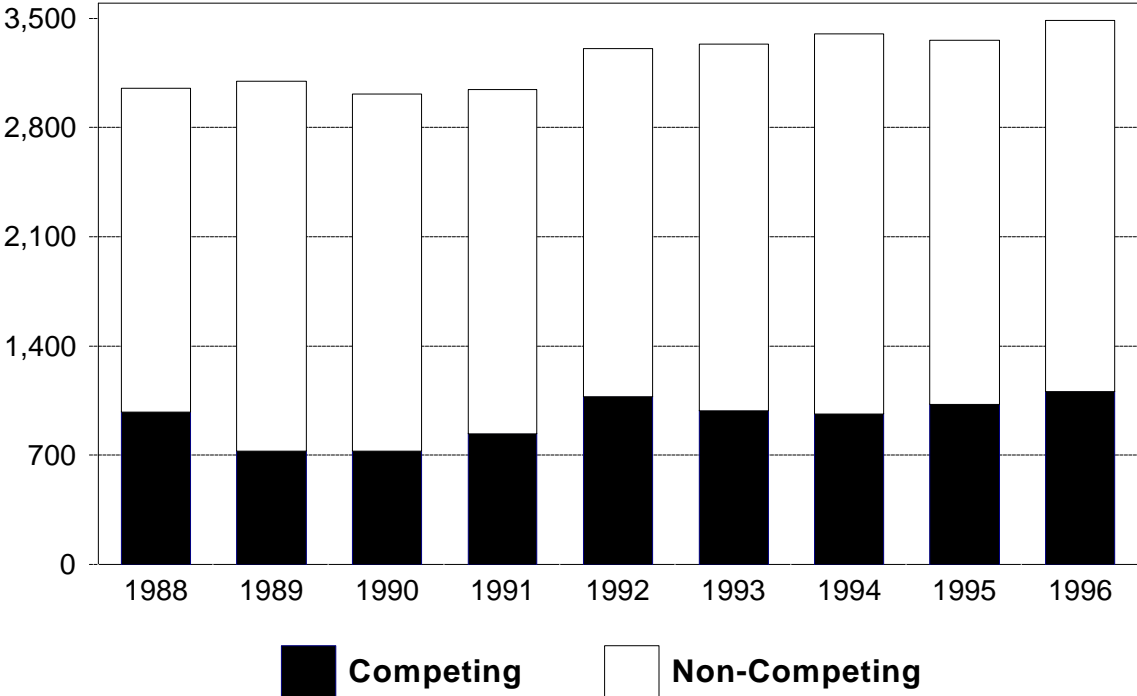


| TYPE | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---------------|-------|-------|-------|-------|-------|-------|------|
| Competing | 10.0% | 10.0% | 12.0% | 15.0% | 12.5% | 13.0% | 6.0% |
| Non-Competing | 3.5% | 3.5% | 0.0% | 0.0% | 2.0% | 0.0% | 0.0% |

NOTE: Future year (non-competing) approved amounts are reduced by the average percentage reductions applied during the competing grant cycle. The percent reductions shown are taken against this adjusted base. FY 1992 and 1993 non-competing awards were paid at the committed level.

Research Project Grants
Number of Awards
Fiscal Years 1988-1996

Number of Awards



| TYPE | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Competing | 979 | 728 | 728 | 840 | 1,079 | 991 | 969 | 1,030 | 1,109 |
| Non-Competing | 2,078 | 2,374 | 2,288 | 2,207 | 2,231 | 2,346 | 2,436 | 2,333 | 2,381 |
| Total | 3,057 | 3,102 | 3,016 | 3,047 | 3,310 | 3,337 | 3,405 | 3,363 | 3,490 |

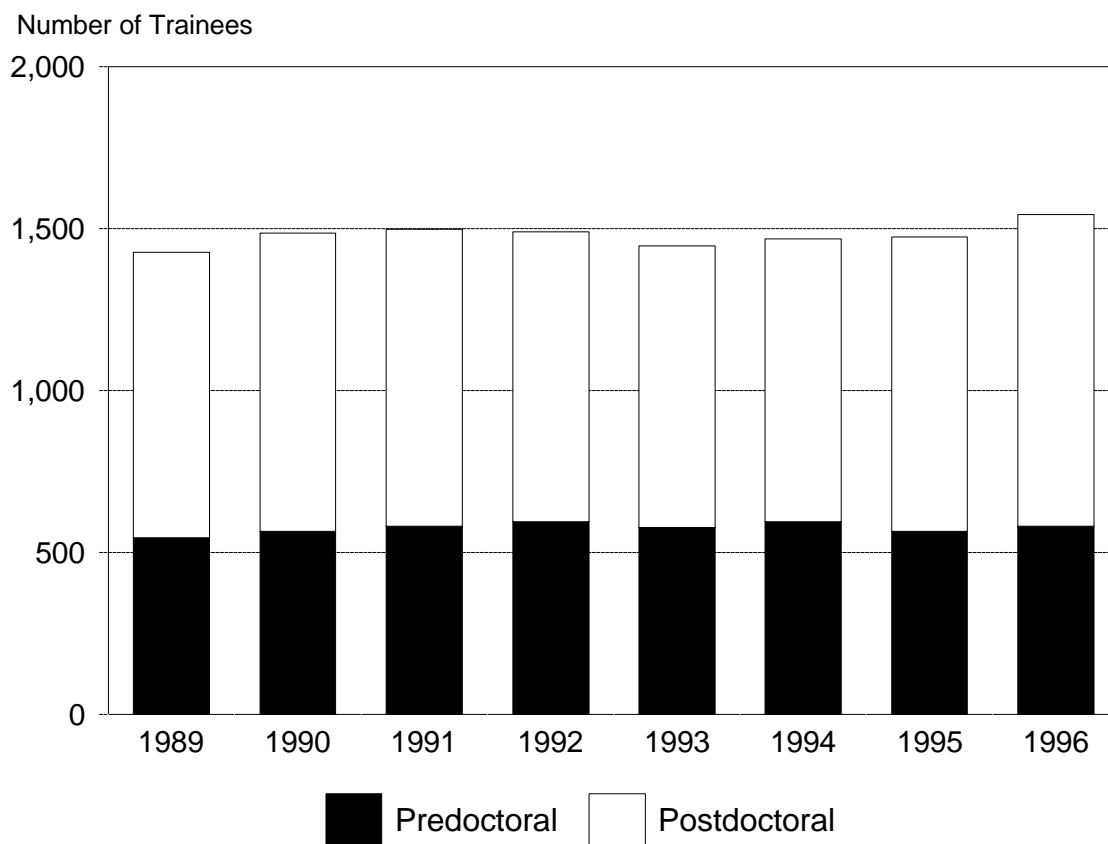
**Research Project Grants
Awarded
History by Activity
Fiscal Years 1991-1996**

(Dollars in Thousands)

| TYPE | 1991 | | 1992 | | 1993 | | 1994 | | 1995 | | 1996 | |
|--------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|--------------------|
| | Number | Amount | Number | Amount | Number | Amount | Number | Amount | Number | Amount | Number | Amount |
| R01 | 1,949 | \$381,932 | 2,050 | \$424,954 | 1,955 | \$430,203 | 1,914 | \$434,612 | 1,808 | \$439,122 | 1,964 | \$504,398 |
| P01 | 165 | 190,470 | 183 | 205,330 | 176 | 202,852 | 163 | 184,852 | 149 | 171,524 | 144 | 182,609 |
| R35 | 84 | 62,137 | 76 | 59,878 | 75 | 61,337 | 72 | 61,369 | 67 | 63,032 | 65 | 62,550 |
| R37 | 163 | 43,687 | 162 | 47,414 | 166 | 51,633 | 154 | 48,699 | 142 | 45,125 | 110 | 37,070 |
| U01 | 85 | 32,431 | 123 | 44,171 | 171 | 56,199 | 232 | 75,444 | 253 | 81,771 | 226 | 88,962 |
| R29 | 316 | 29,494 | 309 | 29,726 | 291 | 29,053 | 312 | 32,610 | 342 | 36,014 | 388 | 41,170 |
| RFA | 154 | 37,435 | 208 | 45,107 | 282 | 63,267 | 319 | 70,879 | 314 | 72,409 | 268 | 66,102 |
| R41/R42 R43/R44 | 131 | 13,962 | 199 | 17,277 | 215 | 20,401 | 179 | 22,773 | 191 | 32,485 | 180 | 35,643 |
| R03 | | | | | | | 46 | 2,393 | 44 | 2,488 | 85 | 5,443 |
| R21 | | | | | | | 5 | 353 | 34 | 7,640 | 46 | 9,599 |
| R55 | | | | | 6 | 1,365 | 9 | 540 | 19 | 1,126 | 14 | 984 |
| TOTAL | 3,047 | \$791,548 | 3,310 | \$873,857 | 3,337 | \$916,310 | 3,405 | \$934,524 | 3,363 | \$952,736 | 3,490 | \$1,034,530 |

- R01 Research Project (Traditional)**
To support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing his/her specified interest and competencies.
- P01 Research Program Projects**
For the support of a broadly based, multidisciplinary, often long-term research program which has a specific major objective or a basic theme. A program project is directed toward a range of problems having a central research focus in contrast to the usually narrower thrust of the traditional research project.
- R35 Outstanding Investigator Grants**
To provide long-term support to an experienced investigator with an outstanding record of research productivity. This support is intended to encourage investigators to embark on long-term projects of unusual potential in a categorical program area.
- R37 Method to Extend Research in Time (MERIT) Award**
To provide long-term grant support to investigators whose research competence and productivity are distinctly superior and who are highly likely to continue to perform in an outstanding manner. Investigators may not apply for a MERIT award. Program staff and/or members of the cognizant National Advisory Council/Board will identify candidates for the MERIT award during the course of review of competing research grant applications prepared and submitted in accordance with regular PHS requirements.
- U01 Research Project (Cooperative Agreement)**
To support a discrete, specified, circumscribed project to be performed by the named investigator(s) in an area representing his/her specific interest and competencies.
- R29 First Independent Research Support and Transition (FIRST) Award**
To provide a sufficient initial period of research support for newly independent biomedical investigators to develop their research capabilities and demonstrate the merit of their research ideas.
- RFA Request for Applications**
A formal statement which invites grant or cooperative agreement applications in a well-defined scientific area to accomplish specific program purposes and indicates the amount of funds set aside for the competition and/or the estimated number of awards to be made.
- R41 Small Business Technology Transfer (STTR) Grants - Phase I**
To establish the technical merit and feasibility of R&D ideas which may ultimately lead to a commercial product(s) or service(s).
- R42 Small Business Technology Transfer (STTR) Grants - Phase II**
To establish the technical merit and feasibility of R&D ideas which may ultimately lead to a commercial product(s) or service(s).
- R43 Small Business Innovative Research (SBIR) Grants - Phase I**
To support projects, limited in time and amount, to establish the technical merit and feasibility of R&D ideas which may ultimately lead to a commercial product(s) or service(s).
- R44 Small Business Innovative Research (SBIR) Grants - Phase II**
To support in-depth development of R&D ideas whose feasibility has been established in Phase I and which are likely to result in commercial products or services.
- R03 Small Grants**
To provide research support specifically limited in time and amount for studies in categorical program areas. Small grants provide flexibility for initiating studies, which are generally for preliminary short-term projects and are non-renewable.
- R21 Exploratory/Developmental Grants**
To encourage the development of new research activities in categorical program areas. Support generally is restricted in level of support and in time.
- R23 New Investigator Research Awards**
To support basic and clinical studies so that newly trained investigators remain active during the development stage of their careers.
- R55 Shannon Awards**
To provide discrete limited support to scientists whose research applications fall short of the cutoff for funding yet are at the "margin of excellence" whereby the perceived quality of the grant is statistically indistinguishable from grants that are funded.

National Research Service Awards
Fiscal Years 1988-1996

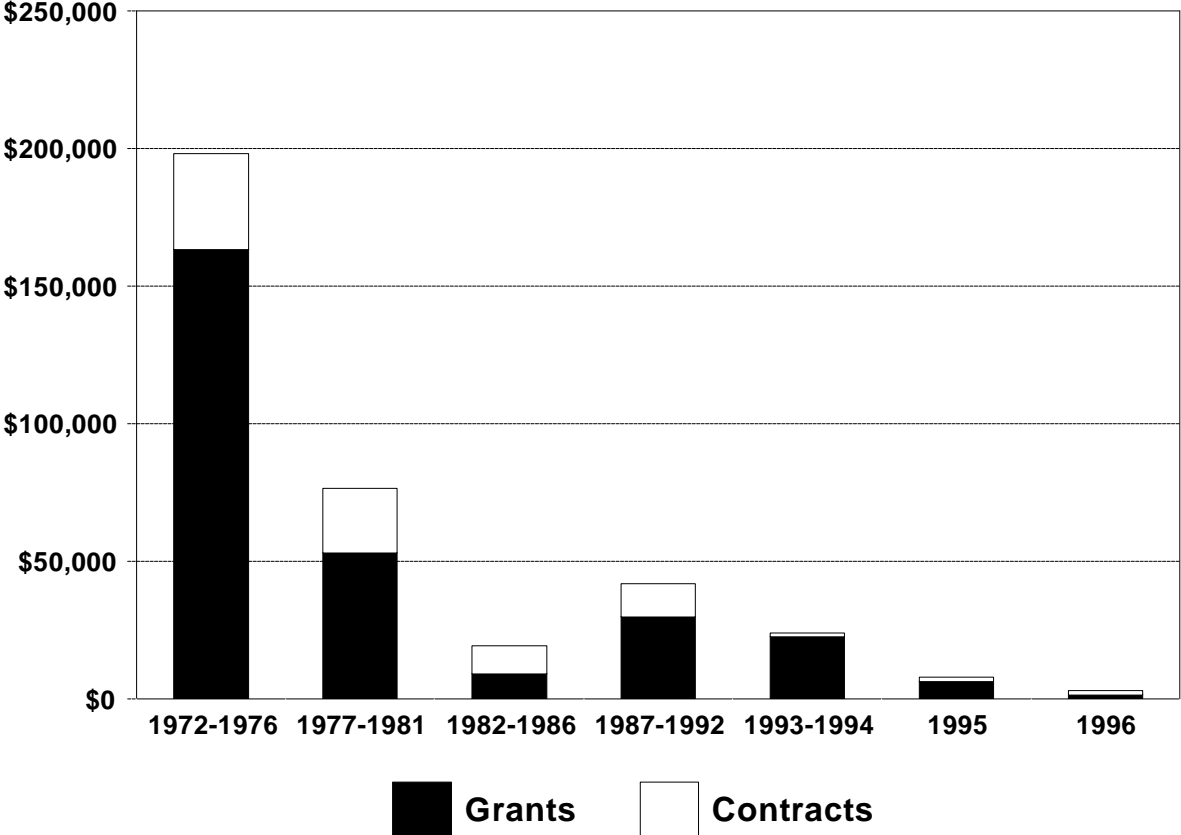


| TYPE | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Predoctoral | 548 | 567 | 584 | 597 | 578 | 596 | 567 | 584 |
| Postdoctoral | 880 | 918 | 913 | 894 | 868 | 873 | 907 | 959 |
| Total | 1,428 | 1,485 | 1,497 | 1,491 | 1,446 | 1,469 | 1,474 | 1,543 |

Construction/Renovation Funding

Fiscal Years 1972-1996

(Dollars in Thousands)



| TYPE | 1972-1976 | 1977-1981 | 1982-1986 | 1987-1992 | 1993-1994 | 1995 | 1996 |
|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|
| Grants | \$163,433 | \$53,293 | \$9,225 | \$30,068 | \$22,629 | \$6,570 | \$1,500 |
| Contracts | 34,644 | 23,232 | 10,093 | 11,935 | 1,398 | 1,430 | 1,500 |
| Total | 198,077 | 76,525 | 19,318 | 42,003 | 24,027 | 8,000 | 3,000 |

Appropriations of the NCI 1938-1997

| | | |
|-------------------------|-----------------------|----|
| 1938 through 1968..... | \$1,690,550,220 | |
| 1969..... | 185,149,500 | |
| 1970..... | 190,486,000 | |
| 1971..... | 230,383,000 | |
| 1972..... | 378,794,000 | |
| 1973..... | 492,205,000 | |
| 1974..... | 551,191,500 | |
| 1975..... | 691,666,000 | 1 |
| 1976..... | 761,727,000 | |
| "TQ"..... | 152,901,000 | 2 |
| 1977..... | 815,000,000 | |
| 1978..... | 872,388,000 | 3 |
| 1979..... | 937,129,000 | |
| 1980..... | 1,000,000,000 | 4 |
| 1981..... | 989,355,000 | 5 |
| 1982..... | 986,617,000 | 6 |
| 1983..... | 987,642,000 | 7 |
| 1984..... | 1,081,581,000 | 8 |
| 1985..... | 1,183,806,000 | |
| 1986..... | 1,264,159,000 | 9 |
| 1987..... | 1,402,837,000 | 10 |
| 1988..... | 1,469,327,000 | 11 |
| 1989..... | 1,593,536,000 | 12 |
| 1990..... | 1,664,000,000 | 13 |
| 1991..... | 1,766,324,000 | 14 |
| 1992..... | 1,989,278,000 | 15 |
| 1993..... | 2,007,483,000 | 16 |
| 1994..... | 2,082,267,000 | |
| 1995..... | 2,135,119,000 | 17 |
| 1996..... | 2,251,084,000 | 18 |
| 1997..... | 2,382,532,000 | 19 |
| Total | | |
| (1938-1997)..... | 36,186,517,220 | |

Transition Quarter ("TQ") --

July 1, 1976 through September 30, 1976. The interim period in changing of the Federal Fiscal Year from July 1 through June 30 to October 1 through September 30.

- ¹ Includes \$18,163,000 for training funds provided by Continuing Resolution.
- ² Includes \$3,201,000 for training funds provided by Continuing Resolution.
- ³ Includes \$20,129,000 for training funds provided by Continuing Resolution.
- ⁴ 1990 appropriation authorized under a Continuing Resolution.
- ⁵ Reflects 1981 rescission of \$11,975,000.
- ⁶ Amount included in continuing resolution. Includes \$47,988,000 transferred to the National Institute of Environmental Health Sciences for the National Toxicology Program.
- ⁷ Appropriated under Continuing Resolution and Supplemental Appropriation Bill.
- ⁸ Includes \$23,861,000 for training funds provided by a Continuing Resolution and \$4,278,000 in a Supplemental Appropriation Bill.
- ⁹ Includes \$6,000,000 from a Supplemental Appropriation Bill.
- ¹⁰ Authorized under Omnibus Continuing Resolution.
- ¹¹ Authorized under Omnibus Continuing Resolution.
- ¹² Appropriation prior to reduction contained in G.P. 517 (-\$19,122,000) and G.P. 215 (-\$2,535,000) and P.L. 100-436, Section 213, (-\$1,013,000).
- ¹³ Appropriation prior to reduction contained in P.L. 101-166 (-\$6,839,000) and P.L. 101-239 (-\$22,829,000).
- ¹⁴ Appropriation prior to reductions in P.L. 101-517 (-\$8,972,000 for salary and expense reduction; -\$42,568,000 for across-the-board reduction).
- ¹⁵ Appropriation prior to reductions in P.L. 102-170 (-\$21,475,000 for salary and expense reduction; -\$1,262,000 for travel reduction; \$15,000,000 transferred to other institutes for cancer research).
- ¹⁶ Appropriation prior to reductions in P.L. 102-294 (-\$16,060,000 for .8% reduction to all line items, -\$9,933,000 for S&E reduction, -\$139,000 for consultant services reduction).
- ¹⁷ Appropriation prior to reductions in PL 103-211 (-\$1,883,000 for Procurement Reduction; -\$116,000 for SLUC Reduction; -\$1,052,000 for Bonus Pay Reduction). Includes \$218,199,000 of AIDS funding.
- ¹⁸ Includes \$225,790,000 of AIDS funding.
- ¹⁹ Includes \$224,983,000 of AIDS funding.

**By-Pass Budget
Requests
Fiscal Years 1973-1998**

| Fiscal Year | Request |
|------------------------|----------------|
| 1973..... | \$550,790,000 |
| 1974..... | 640,031,000 |
| 1975..... | 750,000,000 |
| 1976..... | 898,500,000 |
| 1977..... | 948,000,000 |
| 1978..... | 955,000,000 |
| 1979..... | 1,036,000,000 |
| 1980..... | 1,055,000,000 |
| 1981..... | 1,170,000,000 |
| 1982..... | 1,192,000,000 |
| 1983..... | 1,197,000,000 |
| 1984..... | 1,074,000,000 |
| 1985..... | 1,189,000,000 |
| 1986..... | 1,460,000,000 |
| 1987..... | 1,570,000,000 |
| 1988..... | 1,700,000,000 |
| 1989..... | 2,080,000,000 |
| 1990..... | 2,195,000,000 |
| 1991..... | 2,410,000,000 |
| 1992..... | 2,612,000,000 |
| 1993..... | 2,775,000,000 |
| 1994..... | 3,200,000,000 |
| 1995..... | 3,600,000,000 |
| 1996..... | 3,640,000,000 |
| 1997..... | 2,977,000,000 |
| 1998..... | 2,702,500,000 |

NOTE: Following the original passage of the National Cancer Act in December, 1971, a provision was included for the Director of the National Cancer Institute to submit a budget request directly to the President; hence it has come to be called the Bypass Budget. The Budget submitted for 1973 was the initial submission.

**Comparison of Dollars,
Positions and Space
Fiscal Years 1974-1996**

| | Dollars | | Positions | | Space** | |
|------|--------------------------|--|---|--|--|--|
| | Obligations(\$000's) | Percent of Increase Over Prior Year | Actual Full-Time Permanent Employees | Percent of Increase Over Prior Year | Allocated Space (Square Feet) | Percent of Increase Over Prior Year |
| 1974 | 581,149 | | 1,805 | | 381,436 | |
| 1975 | 699,320 | 20.3% | 1,849 | 2.4% | 382,485 | 0.3% |
| 1976 | 760,751 | 8.8% | 1,955 | 5.7% | 387,324 | 1.3% |
| 1977 | 814,957 | 7.1% | 1,986 | 1.6% | 428,285 | 10.6% |
| 1978 | 872,369 | 7.0% | 1,969 | -0.9% | 491,725 | 14.8% |
| 1979 | 936,969 | 7.4% | 1,973 | 0.2% | 493,156 | 0.3% |
| 1980 | 998,047 | 6.5% | 1,837 | -6.9% | 467,730 | -5.2% |
| 1981 | 989,338 | -0.9% | 1,815 | -1.2% | 472,633 | 1.0% |
| 1982 | 986,564 | -0.3% | 1,703 | -6.2% | 477,782 | 1.1% |
| 1983 | 986,811 | 0.0% | 1,731 | 1.6% | 484,093 | 1.3% |
| 1984 | 1,081,460 | 9.6% | 1,698 | -1.9% | 466,890 | -3.6% |
| 1985 | 1,177,853 | 8.9% | 1,596 | -6.0% | 466,890 | 0.0% |
| 1986 | 1,210,284 | 2.8% | 1,573 | -1.4% | 465,790 | -0.2% |
| 1987 | 1,402,790 | 15.9% | 1,642 | 4.4% | 465,790 | 0.0% |
| 1988 | 1,468,435 | 4.7% | 1,708 | 4.0% | 458,556 | -1.6% |
| 1989 | 1,570,342 | 6.9% | 1,701 | -0.4% | 483,778 | 5.5% |
| 1990 | 1,644,330 * | 4.7% | 1,837 | 8.0% | 489,604 | 1.2% |
| 1991 | 1,712,669 | 4.2% | 1,921 | 4.6% | 499,396 | 2.0% |
| 1992 | 1,947,571 | 13.7% | 2,042 *** | 6.3% | 477,067 | -4.5% |
| 1993 | 1,978,340 | 15.5% | 1,951 *** | -4.5% | 493,186 | 3.4% |
| 1994 | 2,076,218 | 6.6% | 1,840 *** | -5.7% | 472,545 | -4.2% |
| 1995 | 2,129,369 | 7.6% | 1,767 *** | -4.0% | 510,466 | 8.0% |
| 1996 | 2,254,940 | 8.6% | 1,841 *** | 4.2% | 544,613 | 6.7% |

* Includes \$10,130 which was transferred to NCI from other NIH Institutes to partially fund several grants responding to a NIH Construction RFA.

** Does not include space at the Frederick Cancer Research and Development Center.

*** Source NIH TDCS 866

**Personnel
Resources
Fiscal Years
1986-1996**

| Fiscal Year | --Number of Full Time Equivalents-- | | | Number of Employees |
|-------------|-------------------------------------|------|-------|---------------------|
| | Cancer | AIDS | Total | |
| 1985 | 2,145 | 85 | 2,230 | 2,195 |
| 1986 | 2,003 | 98 | 2,101 | 2,096 |
| 1987 | 1,981 | 129 | 2,110 | 2,272 |
| 1988 | 2,137 | 146 | 2,283 | 2,302 |
| 1989 | 1,985 | 188 | 2,173 | 2,201 |
| 1990 | 1,960 | 232 | 2,192 | 2,322 |
| 1991 | 2,045 | 300 | 2,345 | 2,437 |
| 1992 | 2,219 | 306 | 2,525 | 2,604 |
| 1993 | 2,184 | 300 | 2,484 | 2,425 |
| 1994 | 2,081 | 301 | 2,382 | 2,307 |
| 1995 | 1,936 | 283 | 2,219 | 2,250 |
| 1996 | 1,949 | 231 | 2,180 | 2,301 |

**Acquired Immunodeficiency
Syndrome (AIDS)
Funding by Activity
Fiscal Year 1996**

(Dollars in Thousands)

By Mechanism:

| | |
|---------------------------------|---------------|
| Research Project Grants | \$87,059 |
| Cancer Center Grants | 9,216 |
| Cooperative Clinical Groups | 1,252 |
| Other Grants | 30 |
| R&D Contracts | 48,438 |
| Intramural Research | 68,574 |
| Research Management and Support | <u>10,791</u> |
| Total, NCI | \$225,360 |

By Research Thrust:

| | |
|----------------------------------|---------------|
| Cancer Causation | \$73,557 |
| Detection and Diagnosis Research | 2,319 |
| Treatment Research | 83,939 |
| Cancer Biology | <u>56,329</u> |
| Total Research | 216,144 |
| Cancer Center Grants | <u>9,216</u> |
| Total, NCI | \$225,360 |

By Division:

| | |
|--|---------------|
| Division of Basic Science | \$21,137 |
| Division of Clinical Science | 14,098 |
| Division of Cancer Epidemiology & Genetics | 11,702 |
| Division of Cancer Treatment, Diagnosis & Centers | 35,050 |
| Frederick Cancer Research and Development Center | 27,703 |
| Office of the Director/Division of Extramural Activities | 7,198 |
| Research Project Grants | 87,059 |
| Conference Grants | 30 |
| NIH Management Fund* | <u>21,383</u> |
| Total, NCI | \$225,360 |

**Supports common services shared within the NIH; in AIDS the Management Fund is used principally for support costs associated with NCI's activities at the NIH Clinical Center.*

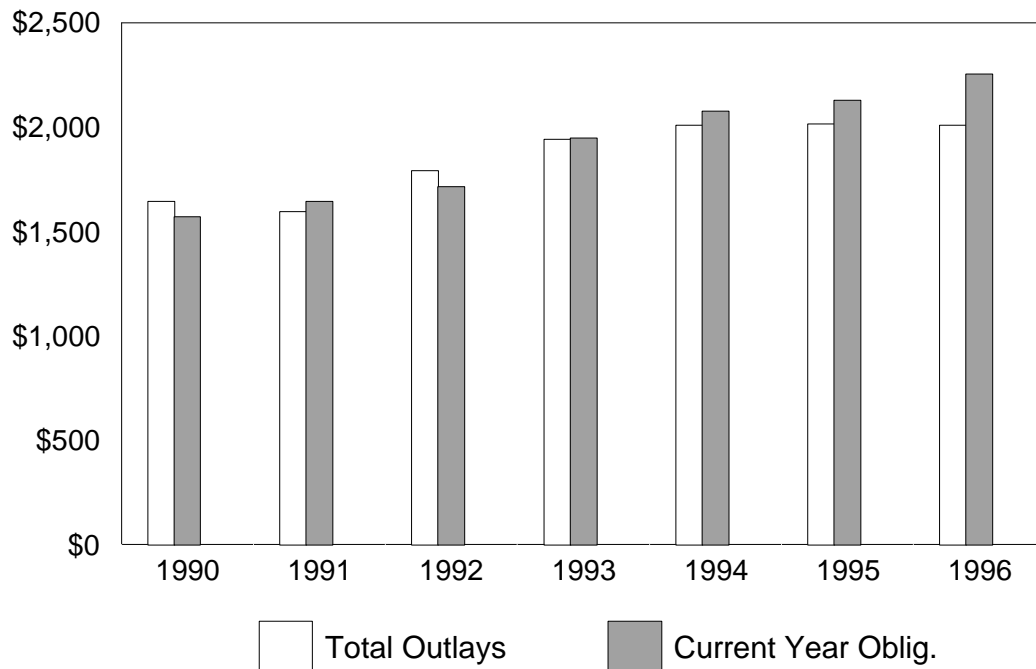
Acquired Immunodeficiency Syndrome (AIDS) *(Dollars in Thousands)*
Funding History
Fiscal Years 1983-1996

| Fiscal Year | NCI Amount | NIH Amount | % NCI To NIH |
|--------------------|-------------------|-------------------|---------------------|
| 1983 | \$9,790 | \$21,668 | 45% |
| 1984 | 16,627 | 44,121 | 38% |
| 1985 | 26,874 | 63,737 | 42% |
| 1986 | 45,050 | 134,667 | 33% |
| 1987 | 63,755 | 260,907 | 24% |
| 1988 | 89,944 | 473,285 | 19% |
| 1989 | 122,247 | 627,076 | 19% |
| 1990 | 150,304 | 740,509 | 20% |
| 1991 | 160,869 | 799,821 | 20% |
| 1992 | 165,668 | 1,047,294 | 16% |
| 1993 | 173,029 | 1,073,957 | 16% |
| 1994 | 212,868 | 1,298,996 | 16% |
| 1995 | 217,430 | 1,333,600 | 16% |
| 1996 | 225,360 | 1,411,860 | 16% |

Note:

Effective 1992 funding for the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) was included

National Cancer Institute Obligations and Outlays Fiscal Year 1990-1996



| \$ in Millions | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|--------------------------|-------|-------|-------|---------|---------|---------|---------|
| Prior Year Outlays | \$885 | \$856 | \$831 | \$1,099 | \$1,108 | \$1,016 | \$1,007 |
| Current Year Outlays | 759 | 739 | 961 | 843 | 901 | 1,000 | 1,003 |
| Total Outlays | 1,644 | 1,595 | 1,792 | 1,942 | 2,009 | 2,016 | 2,010 |
| Current Year Obligations | 1,570 | 1,644 | 1,713 | 1,948 | 2,076 | 2,129 | 2,255 |

- Obligations:** Orders placed, grants awarded, contract increments funded, salaries earned and similar financial transactions which legally utilize or reserve an appropriation for expenditure.
- Outlays:** Payments (cash or checks) made from appropriations.