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Bypass Budget Omits Needless Words: Faster Progress To Cost \$421 Million More

As symbols go, the NCI Bypass Budget warrants respect: the document gives the NCI Director a chance to give the US President a summary of opportunities in cancer research.

The document has never been an easy read. It has challenged the reader to sift through 500-plus pages of heavy narrative laden with the jargons of science and bureaucracy.

The fiscal 1998 Bypass Budget, now circulated in draft form, breaks this tradition, along with several others. The document is slim, clearly (Continued to page 2)

In Brief

Jefferson Cancer Center Receives \$10 Million Donation, Renamed Kimmel Cancer Center

THOMAS JEFFERSON University has received a \$10 million donation from the Sidney Kimmel Foundation to support cancer research at the Jefferson Cancer Center. To commemorate the donation, the center and its research institute were renamed the Kimmel Cancer Center of Jefferson Medical College and the Kimmel Cancer Institute. The NCIdesignated clinical cancer center was founded in 1991. Its director is Carlo Croce. . . . JUDITH WESTMAN was appointed director of the Clinical Cancer Genetics Program at the Arthur G. James Cancer Hospital and Research Institute at Ohio State University. Westman was on the medical staff at Children's Hospital of Columbus. She is an associate professor of clinical pediatrics at Ohio State. . . . MARK DELACURE was appointed head of the Department of Head and Neck Oncology and Plastic Surgery at Roswell Park Cancer Institute. He has been at Roswell Park since 1994 in the microsurgery program. . . . FINAL REPORT of the Commission on Research Integrity: Integrity and Misconduct in Research is available from Henrietta Hyatt-Knorr, executive secretary of the Commission on Research Integrity, Rockwall II, Suite 700, 5515 Security Ln., Rockville, MD 20852, tel: 301/443-3400, fax: 301/443-5351, e-mail: hyatt@osophs.ssw.dhhs.gov. The report is available on the World Wide Web at http://phs.os.dhhs.gov/phs/ori/ori_home.html. . . . CANCER CENTERS Support Grant list provided to The Cancer Letter by the NCI Cancer Centers Branch and published in the March 22 issue inadvertently omitted Georgetown University Lombardi Cancer Center.

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Page Length, Funding Request Smaller In New Bypass Budget

(Continued from page 1)

written, and even illustrated. Only 78 pages long, the Bypass Budget is 468 pages shorter than last year's document.

The final version of the budget is expected to be released in May, NCI officials said.

For the first time, NCI has split its wish list into two components: the funds required to maintain existing programs and the funds for launching new initiatives.

Would you like the Institute to merely continue its existing programs into 1998?

That will require an additional \$152 million over the President's budget proposal for fiscal 1997.

Would you like to increase funding for investigator-initiated research, make advances in developmental diagnostics and detection technology, launch initiatives in cancer genetics, and develop preclinical models?

That will be another \$269.5 million.

Altogether, the Bypass Budget proposes an appropriation of \$2.7 billion for fiscal 1998, which is \$421.5 million above the President's budget for 1997.

By comparison, last year NCI proposed the Bypass Budget of \$2.977 billion for fiscal 1997, \$758 million above what was then the President's version

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of the budget for 1996.

A year earlier, the Bypass Budget for 1996 was \$3.640 billion, exceeding the estimated 1995 budget by \$1.452 billion. That year's document was a recordsetter: with the length of 618 pages, it was the heaviest Bypass Budget in NCI history, more than double the FY 1991 level of 294 pages.

Wonder and Heartache

"Both wonder and heartache," the latest Bypass Budget begins, sounding rather like a folk song.

"The wonder has come both from our success in treating certain tumors and from our astonishing new knowledge of how cancer cells work... The heartache comes from what we haven't been able to do."

As he worked to reinvent the document, NCI Director Richard Klausner missed few opportunities for humor at the expense of Bypass Budgets past.

The most recent of these opportunities presented itself March 21, at a joint meeting of the newly formed Board of Scientific Advisors and the Board of Scientific Counselors.

At the meeting, BSA Chairman David Livingston attempted to illustrate the difference between the Bypass Budgets by first lifting the new, slim document, then the thick, old one.

"Be careful there," cautioned Klausner. "You're not as strong as you used to be."

Comedy aside, NCI appears to be betting that a more modest, elegantly stated request for additional funding for cancer research could, in fact, bring additional funding.

"We have asked for a relatively small maintenance increase, and then we describe five extraordinary investment opportunities," Klausner said at the BSA and BSC meeting. "These opportunities are not based on political pressures, not based on the demands of one group or another. While we can't promise when we can halve the mortality of cancer, we can promise to create new knowledge.

"[The budget describes] why the opportunity arose, what the plan would be, what the goals are, what the milestones are, what we can achieve, what it would cost, and the consequences to the nation of waiting versus making the investment now.

"It is written so that it is readable and enjoyable for yeast geneticists and lawmakers. It is written so that it speaks to the people who actually are going to have to support us, and that is, the American people," Klausner said.

The Opportunities

The budget identifies five areas where "new investments will pay the largest dividends." The five areas are:

Investigator-Initiated Research.

The Institute's goal is to "expand the number of investigator-initiated research pool grants by over 30 percent to capture the opportunities of the new ideas as rapidly as possible."

The budget proposes spending an additional \$75 million in 1998, \$138 the following year, and \$204 on the year 2000. This funding level establishes the increased funding for investigator-initiated research as the Institute's top priority.

Overall, the goal is to move the payline from the 25th to the 33rd percentile and increase the number of training positions from 1,700 to 2,050.

Developmental Diagnostics.

The Institute's goal is to "develop diagnostic tests that will allow treatment choice to be based on the fundamental properties of a tumor cell."

The budget proposes spending \$79 million in 1998, \$91 million the following year, and \$102 million in the year 2000.

Detection Technologies.

The Institute's goal is to "develop new methodologies that will allow the detection of much smaller numbers of tumor cells than ever before; discover and develop techniques that will further increase the precision, accuracy, and scope of imaging diagnosis; and integrate imaging further into the practice of clinical oncology."

The budget proposes spending \$69 million in 1998, \$86.5 million the following year, and \$104 million in the year 2000.

The funds would be spent to "improve early detection methodology through identification of the unique secreted proteins and mutant genes in body fluids after exposure to tumor cells as well as improve diagnostic imaging technology to become more sensitive and specific in order to detect the fewest number of tumor cells possible."

Cancer Genetics.

The Institute's goal is "to identify within five years every major human gene predisposing to cancer, transform medical practice with this knowledge, and address the psychosocial, ethical and legal issues associated with cancer genetics."

The budget proposes spending \$31.5 million in fiscal 1998, \$49 million the following year, and \$68.5

million in the year 2000.

According to the budget, these funds would allow the Institute to "expand and integrate basic, clinical and epidemiologic research, facilities and training in cancer genetics to identify and characterize genes responsible for inherited predisposition to cancer; develop diagnostic tests for alterations in these genes; provide training in genetic counseling and in cancer genetics for health professionals; and develop the informatics for collecting, storing, analyzing and integrating the resulting molecular, epidemiologic and clinical data."

Preclinical Models of Cancer.

The Institute's goal is to "create animal models of human cancers and build the experimental foundation to use these models effectively, and to develop the infrastructure and procedures to make these models available to all researchers."

The budget proposes spending \$15 million in 1998, \$32.5 million the following year, and \$40 million in the year 2000.

New NCI Advisory Boards Appointed, Begin Review

NCI last week convened the first meeting of two advisory boards that will review the Institute's extramural and intramural programs.

—The Board of Scientific Advisors will provide guidance to NCI's extramural research program.

—The Board of Scientific Counselors will oversee NCI's intramural research program.

The new groups replace four Boards of Scientific Counselors that advised the Institute's divisions.

NCI Director Richard Klausner last year reorganized the Institute's divisions to separate extramural from intramural research components, and streamline the intramural program. The reorganization was recommended by the National Cancer Advisory Board, which, in a report, described the intramural program as "a fragmented, feudal structure" (**The Cancer Letter**, July 14, 1995).

Consolidating extramural and intramural oversight into two advisory boards would prevent future fragmentation within each program, Klausner said at a joint meeting of the boards March 21.

"We want this institution to work in an interactive way, both across divisions and between intramural and extramural [programs]," he said. "We don't want the boards to become special interest groups, which can happen when you have a funding agency overseen by those whom it funds."

BSA Chairman David Livingston, of Dana-Farber Cancer Institute, said boards will help NCI continue its renewal.

"We have been invited to take part in the renaissance of the people's cancer institute," Livingston said. "While the work will be hard, it should be productive and should benefit what I hope will be an open tube of discovery that begins in an ice bucket, or on a plate with yeast or worms, or, for those people who are interested in flies, under a dissecting microscope looking at flies, and goes all the way to people and then back again."

NCAB Chairman Barbara Rimer used an analogy from photography to describe the role of her board compared to the work of the new advisory boards. "The NCAB is like a wide-angled lens to get the big picture of the National Cancer Institute," Rimer said. "The BSC and the BSA are like a telephoto lens zooming in on specific parts of the NCI."

Eight Months Of Change

Over the past eight months, NCI has put into place most of the recommendations contained in the NCAB's Bishop-Calabresi report, Klausner said to the advisory boards.

"We've restructured the institution so that at every level, it is driven by the rules, the behavior, the culture of science," Klausner said. "This institution must be a seamless part of the biomedical enterprise, which means it must listen to all who have something to offer."

Klausner said that since last August, the Institute has:

- —Established a new internal governing structure by enlarging the Executive Committee to include more NCI officials as well as advisors from outside the agency, and formed an intramural advisory board and an extramural advisory board.
- —Established a new external advisory structure by forming the BSA and BSC.
- —Restructured the Institute's divisions in order to separate intramural and extramural programs.
- —Restructured the intramural research program to improve the autonomy and accountability of principal investigators. As part of this process, NCI published a booklet, "Intramural Organization and Principles," that for the first time defines positions and organizational structures within the intramural

research program.

- —Increased funding for investigator-initiated research grants.
- —Established the process of Accelerated Executive Review for rapid approval of a certain percentage of unamended grant applications that just miss the payline (see page 7).
- —Reformed the administrative structure to reduce hierarchy and push decision-making down to the lowest level possible.
- —Signed an agreement with the Department of Defense through which the military's health system, CHAMPUS, will cover the clinical care costs for military and dependent patients on NCI-approved clinical trials.
 - -Wrote a new bypass budget.

"There has been a lot of change," Klausner said to the advisory groups. "The change has taken place, not in a struggle with this Institute, but it has been embraced by this Institute.

"People are nervous about what all the changes will mean, and reasonably so. We will make some mistakes, we have let it be known that we want to hear both good news and bad news.

"Bringing in advisory bodies is to bring in people as partners," Klausner said. "There cannot be in this enterprise good guys and bad guys. We have to work together.

"We are open, the institution is open. We can agree on the principles of excellence and accountability, of openness to ideas, of listening to people within the institution and outside."

NCI Board of Scientific Advisors

NCI officials said not all of the members appointed to the boards had completed the federal appointments process. Thus, the Institute released lists of "proposed" board members.

The BSA would consist of 32 members, who are experts in their fields and who have had prior leadership experience, Livingston said.

"As a group, we represent each of the major extramural research constituencies, including consumers," Livingston said. "We are geographically and ethnically diverse."

The BSA plans to hold three meetings a year, and may establish subcommittees to study special topics.

Currently, four major reviews of NCI extramural programs are either underway or are about to be

started under the auspices of the BSA:

- —Cancer Centers Review Group, chaired by Joseph Simone.
- —Cancer Prevention, chaired by Edward Bresnick.
 - —Clinical Trials, chaired by James Armitage.
- —Drug Development, chaired by Edward Scolnick and Stuart Schrieber.

The board also plans to send several members to annual meetings of professional societies to present information about their work and to solicit comment from their colleagues.

Proposed members of the Board of Scientific Advisors are:

Chairman, David Livingston, Dana-Farber Cancer Institute.

Fred Appelbaum, Fred Hutchinson Cancer Research Center; David Bragg, University of Utah School of Medicine; Joan Brugge, Ariad Pharmaceuticals Inc.; Mary Beryl Daly, Fox Chase Cancer Center; Lawrence Einhorn, Indiana University Medical Center; Virginia Ernster, University of California, San Francisco.

Eric Fearon, University of Michigan Medical Center; Suzanne Fletcher, Harvard Medical School; Robert Greenberg, Dartmouth Medical School; David Ho, New York University School of Medicine; Waun Ki Hong, M.D. Anderson Cancer Center; Tyler Jacks, Massachusetts Institute of Technology.

Amy Langer, National Alliance of Breast Cancer Organizations; Caryn Lerman, Lombardi Cancer Research Center; Edison Liu, University of North Carolina Lineberger Comprehensive Cancer Center.

Gillies McKenna, Hospital of the University of Pennsylvania; Enrico Mihich, Roswell Park Memorial Institute; John Minna, Simmons Comprehensive Cancer Center; Nancy Mueller, Harvard School of Public Health; Sharon Murphy, Children's Memorial Hospital; Allen Oliff, Merck Research Laboratories; Franklyn Prendergast, Mayo Clinic.

Stuart Schreiber, Harvard University; Joseph Simone, Memorial Sloan-Kettering Cancer Center; Louise Strong, M.D. Anderson Cancer Center; Peter Vogt, Scripps Research Institute; Daniel Von Hoff, Cancer Therapy & Research Center; Barbara Webber, University of Pennsylvania Medical School; Alice Whittemore, Stanford University; William Wood, Emory University Hospital.

Paulette Gray, deputy director, NCI Division of

Extramural Activities, is executive secretary of the board.

NCI Board of Scientific Counselors

The BSC has been divided into two subcommittees:

—Subcommittee A, chaired by Martin Abeloff, will have oversight for the Division of Clinical Sciences and the Division of Cancer Epidemiology and Genetics.

Abeloff also is chairman of a search committee to select a new director for the Division of Clinical Sciences. Philip Pizzo, acting director of the division, announced his plans to leave NCI this summer to take the position of physician-in-chief at Children's Hospital in Boston.

Interviews with candidates are scheduled to begin soon, Abeloff said.

—Subcommittee B, chaired by Edward Harlow, has oversight for the Division of Basic Sciences. The division contains 210 principal investigators, organized into 33 laboratories or branches.

The subcommittees met in closed session last week to review personnel, space and resources in intramural program, NCI officials said.

Proposed members of the Board of Scientific Counselors are:

Chairman, BSC Subcommittee A, Martin Abeloff, Johns Hopkins Oncology Center.

Chairman, BSC Subcommittee B, Edward Harlow, Massachusetts General Hospital Cancer Center.

James Allison, University of California, Berkeley; Alan Bernstein, Mt. Sinai Hospital; Clara Bloomfield, Roswell Park Cancer Institute; Noel Bouck, Northwestern University Medical School; Edward Bresnick, University of Massachusetts Medical Center.

Norman Coleman, Harvard Medical School; Allan Conney, Rutgers University.

Elizabeth Eisenhauer, NCI Canada Clinical Trials Group, Queens University; Robert Eisenman, Fred Hutchinson Cancer Research Center.

Judah Folkman, Harvard Medical School; Brenda Gallie, University of Toronto; Harold Harvey, Pennsylvania State University; Ira Herskowitz, University of California, San Francisco; Peter Howley, Harvard Medical School; Tony Hunter, Salk Institute for Biological Studies.

Stanley Korsmeyer, Washington University

School of Medicine; Joanne Kurtzberg, Duke University Medical Center; Alexandra Levine, University of Southern California, Norris Cancer Hospital; Albert LoBuglio, University of Alabama at Birmingham Comprehensive Cancer Center.

Arthur Nienhuis, St. Jude Children's Research Hospital; Abraham Nomura, Kuakini Medical Center; Luis Parada, University of Texas Southwestern Medical Center at Dallas; Carol Prives, Columbia University.

Robert Reddick, University of North Carolina, Chapel Hill; Jonathan Samet, Johns Hopkins University; Matthew Scharff, Albert Einstein College of Medicine; Bruce Stillman, Cold Spring Harbor Laboratory; Susan Taylor, University of California, San Diego.

Jouni Uitto, Thomas Jefferson University; Jean Wang, University of California, San Diego; Samuel Wells, Washington University; James Willson, Case Western Reserve University; Mimi Yu, University of Southern California, Norris Comprehensive Cancer Center.

NCI Plans New Consortium For Cancer Genetics Studies

NCI plans to create a national consortium intended to introduce genetic testing into the clinic, Institute Director Richard Klausner said.

The consortium is expected to utilize the existing clinical trials mechanisms, create "centers of excellence" nationwide, and rely on oncologists, family physicians and nurses in implementing nationwide protocols, Klausner said at a recent meeting of the Association of Community Cancer Centers.

Additional details of the NCI plans as well as the views of extramural advisors to the Institute are expected to be aired April 5, at the first meeting of the Cancer Genetics Working Group.

"The charge I am setting for [the working group] is to recommend to me by the end of April 5 a mechanism that will be a model where we learn to create a new national infrastructure to incorporate thousands and thousands of health care providers [into] a cancer genetics network through which we will recommend that cancer genetics testing takes place," Klausner said.

At least one company, OncorMed Inc. of Rockville, MD, began marketing genetic tests for hereditary breast cancer earlier this year, and at least one more, Myriad Genetics Inc. of Salt Lake City, UT, is getting ready to introduce its test for predisposition to the disease (**The Cancer Letter**, Jan 26).

Since FDA has been reluctant to regulate genetic testing, many observers warn that the promising technology could go awry and may, in fact, not benefit patients.

"Companies are convincing you to start doing genetic testing," Klausner said to ACCC members March 15. "I believe we are not ready. As a geneticist I can tell you there is just too much we don't know."

The answers would emerge through a national consortium, Klausner said.

"We will look for family practitioners, oncologists, nurses who want to join this national consortium," he said. "We will have centers of excellence, probably around the country, and we will use this infrastructure to provide education, to provide information, to provide some standardized national protocols."

Klausner said one of NCI's goals is to identify every major predisposition gene to cancer in the next five years.

"We are going to have to make sure that we will expand the clinical trials in prevention, early detection and treatment that will address the millions of individuals whose genetic script in fact does determine to the 75 or to 95 percent certainty level that they will get cancer," Klausner said.

"This is an enormous challenge," Klausner said. "We are going to respond to it by creating a national network that I think is going to be a model for integrating in a simple way the research enterprise with the point at which patients seek guidance, advice, and care."

The NCI Cancer Genetics Working Group will be chaired by Alfred Knudson, special advisor to the NCI Division of Cancer Epidemiology & Genetics, and Barbara Weber of the University of Pennsylvania.

Other members are: Kenneth Buetow, of the Division of Population Science at Fox Chase Cancer Center; Francis Collins, director of the NIH National Center for Human Genome Research; Joseph Fraumeni, director of the NCI Division of Cancer Epidemiology and Genetics; Judy Garber, of the Division of Cancer Epidemiology & Control at Dana-Farber Cancer Institute; Ruthann Giusti, of the NCI Division of Cancer Treatment, Diagnosis & Centers; David Goldgar, chief of the Unit of Genetic

Epidemiology at the International Agency for Research on Cancer; Ellen Gritz, of the Department of Behavior Science at M.D. Anderson Cancer Center; Mary Jo Kahn, of the National Breast Cancer Coalition; Caryn Lerman, director of Behavioral Research Medicine & Psychiatry at Georgetown University Lombardi Cancer Research Center; Edison Liu, of the University of North Carolina Lineberger Cancer Center; David Livingston, of the Dana-Farber Cancer Institute; Lillian Nail, of the University of Utah College of Nursing; Ken Offit, of the Memorial Sloan-Kettering Cancer Center; Barbara Rimer, chairman of the National Cancer Advisory Board; Karen Rothenberg, of the NIH Office of Research on Women's Health; Jonathan Samet, of Johns Hopkins University; Louise Strong, of M.D. Anderson Cancer Center; Samuel Wells, of Washington University School of Medicine, and Robert Wittes, Director of the NCI Div. of Cancer Treatment, Diagnosis, and Centers.

NCI Starts Accelerated Review R01s That Just Miss Payline

NCI has issued an announcement of its implementation of a process of accelerated executive review of R01 grant applications (**The Cancer Letter**, Feb. 9, 1996).

Following is the text of the announcement, which appeared in the March 22 NIH Guide to Grants and Contracts:

As an experiment in reinvention of its extramural programs, NCI announces its intent, through the use of solicited applicant responses and an accelerated executive review exceptions process, to consider for funding meritorious original unamended type 1 and type 2 research project grant (R01) applications that receive a score that is within a defined percentile zone near established grant pay lines.

Each fiscal year, NCI intends to establish separate percentile zones for: (1) basic and (2) patient oriented research project applications beyond the anticipated R01 payline that will be subject to accelerated executive review by the NCI Executive Committee for award as an exception. This policy is subject to the availability of sufficient funds and a sufficient number of applications of clear and unambiguous merit in these categories.

The standard payline for percentiled R01 awards will be set based upon a formula to be determined annually after a final budget has been established for a fiscal year. For FY 1996, a zone beyond the payline has been established that equals approximately four

percentile points for basic science and 10 percentile points for patient oriented R01 research applications. NCI estimates that approximately 130 unamended R01 applications might be within the stated distances of the anticipated R01 pay line in FY 1996. Thus, this process potentially may result in award for up to 40 percent of the anticipated eligible applications.

This paradigm is being adopted to expedite funding of high quality, innovative research. It is hoped that this program will substantially raise the number of clinical research applications submitted and funded. For applications where peer review has identified easily addressable concerns, it will avoid for many investigators attendant delay (eight months for a full amendment) and uncertainty of funding, and will lessen the burden on peer reviewers. For clinical research applications, it will permit more timely and effective use of unique cohorts and resources that often are temporally unique assets.

Definition of Patient Oriented Research

Patient Oriented Research applications for these purposes will be defined as follows: Research conducted with human subjects and/or on material of human origin such as tissues, specimens, and cognitive phenomena for which an investigator or colleague directly interacts with human subjects. This area of research includes: development of new technologies, mechanisms of human disease, therapeutic interventions, clinical trials, epidemiologic and biobehavioral studies, and outcomes and health services research.

Accelerated executive review will apply to original (unamended) submissions of competing type 1 and type 2 R01 applications. It will not apply to applications submitted in response to RFAs. R01 applications receiving only raw scores due to ad hoc review will be assigned derived percentiles based on the average of the scores of all R01 applications reviewed by the Division of Research Grants.

Inquiries: For questions on this process, applicants may contact the NCI program director sending the original communication. General policy questions may be directed to: Dr. Marvin Kalt, Division of Extramural Activities, NCI, 6130 Executive Blvd Suite 600 EPN, Bethesda, MD 20892-7405, e-mail: kaltm@dea.nci.nih.gov

NCI Contract Awards

Title: Second malignant neoplasms following cancer of the ovary and testis. Contractors: Danish Cancer Society, \$114,558; Finnish Cancer Registry, \$72,800.

Title: Second primary lung malignancies following breast cancer or Hodgkin's disease. Contractors: University of Iowa, Iowa State Cancer Registry, \$143,347; University Hospital, Uppsala, Sweden, \$85,225.

Cancer Meetings Listed For April, May, June

April

American Radium Society Annual Meeting—March 31-April 3, San Francisco. Contact ARS, tel: 215/574-3179.

NCI Initial Review Group: Subcommittee C—Preclinical and Basic Studies—April 1-3, Holiday Inn, Georgetown, Washington, DC, 7:30 a.m. Closed. Contact: Virginia Wray, tel: 301/496-9236.

NIH Consensus Development Conference on Cancer of the Cervix—April 1-3, Natcher Conference Center, NIH Campus, Bethesda, MD. Contact Annette Besignano, TRI, tel: 301/770-0610, fax: 301/468-2245.

Angiogenesis Antagonists: New Cancer Strategies—April 1-2, Boston, MA. Contact Cambridge Healthtech Institute, tel: 617/630-1300.

UNC Lineberger Comprehensive Cancer Center Annual Symposium—April 1-2, Chapel Hill, NC. Contact Sarah Rimmer, tel: 919/966-3036.

National Cancer Pain Initiative Convention—April 11-14, Houston, TX. Contact Pam Hamre, conference services, tel: 713/792-2222.

Hereditary Predisposition to Cancer—April 12, Memphis, TN. Contact Univ. of Tennessee, Memphis, tel: 901/448-6354.

Federation of American Societies for Experimental Biology—April 14-18, Washington, DC. Contact FASEB, tel: 301/530-7010.

NCI Initial Review Group: Subcommittee E—Prevention and Control—April 17, Doubletree Hotel, Rockville, MD, 8 a.m. Closed. Contact: Sally Mulhern, tel: 301/496-7413.

American Cancer Society National Conference on Cancer Prevention and Early Detection—April 18-20, Washington, DC. Contact Andy Cannon, tel: 404/329-7606.

Advances in AIDS Research and Therapy—April 19, Frederick, MD. Contact Patti Hall, Foundation for Advanced Cancer Studies, tel: 410/658-2882, fax: 410/658-3799.

American Association for Cancer Research—April 20-24, Washington, DC. Contact AACR, tel: 215/440-9300.

International Congress on Breast Disease: Senologic International Society—April 28-May 2, Houston, TX. Contact Conference Services, tel: 713/792-2222.

May

Oncology Nursing Society Annual Congress—May 2-5, Philadelphia, PA. Contact ONS, 501 Holiday Dr., Pittsburgh, PA 15220, tel: 412/921-7373, ext. 225, fax: 412/921-6565.

American Urological Association Annual Meeting—May 4-9, Orlando, FL. Contact AUA, tel: 410/727-1100.

National Breast Cancer Coalition Fourth Annual Advocacy Training Conference—May 5-6, Washington, DC. Contact NBCC, tel: 202/296-7477.

American Thoracic Society/American Lung Association International Conference—May 10-15, New Orleans, LA. Contact American Thoracic Society, tel: 212/315-8700.

American Society of Clinical Oncology Annual Meeting—May 18-21, Philadelphia, PA. Contact ASCO, tel: 312/644-0828.

Multidisciplinary Radiation Oncology Conference—May 23-24, Philadelphia, PA. Contact Fox Chase Cancer Center, tel: 215/728-5358, fax: 215/728-5359.

June

National Cancer Survivors Day—June 2 in communities across the US. Contact National Cancer Survivors Day Foundation, tel. 615/794-3006.

Critical Issues is Tumor Microcirculation, Angiogenesis and Metastasis—June 3-7, Boston, MA. Contact Carol Lyons, Massachusetts General Hospital, tel: 617/726-4083, fax: 617/726-4172.

International Workshop on Telomerase Activity and Early Detection of Cancer—June 6-7, Bethesda, MD. NIH Natcher Building. Contact Linda Bremerman, tel: 301/496-8526, e-mail: BremermL@dcpcepn.nci.nih.gov.

Computer Assisted Radiology—June 6-9, Denver, CO. Contact Society for Computer Applications in Radiology, tel: 703/716-7548.

Pezcoller Symposium: Genomic Instability and Immortality in Cancer—June 17-19, Trento, Italy. Contact Dr. E. Mihich, Roswell Park Cancer Institute, tel: 716/845-8225, fax: 716/845-4542, e-mail: Toscani@sc3101.med.buffalo.edu.

UICC Training Course in Cancer Research—June 20-26, University of Tieste, Italy, and University of Rijeka, Croatia. Contact UICC Executive Director in Geneva, tel: 41-22-809-1911, fax: 41-22-809-1810.