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CCSG Guidelines to Build on Working Group Recommendations

During a Feb. 18 meeting of the National Cancer Advisory Board's (NCAB's) Subcommittee on Cancer Centers, National Cancer Institute (NCI) officials presented a status report on Cancer Center Support Grant (CCSG) issues, including draft revisions to the CCSG guidelines. The report follows recommendations for improving the award mechanisms that fund NCI-designated cancer centers (P30 grants) and Specialized Programs of Research Excellence, or SPOREs, (P50 grants) developed by a subcommittee ad hoc working group. Dr. Karen Antman, on an intergovernmental personnel appointment to assist NCI in implementing the working group's recommendations, and Dr. Linda Weiss, chief of the NCI Cancer Centers Branch, gave the report.

As recommended, several operational changes are in the works to increase center leaders' involvement in strategic planning. The working group also recommended that cancer centers be used for piloting new research and dissemination programs, something that Dr. Antman stressed is already underway. More than 50 cancer centers, for example, are participating in the development of the cancer Biomedical Informatics Grid (caBIG) initiative, and many others have received U54 awards to form partnerships with institutions that serve a large minority population. In 2003, nearly $21 million in awards

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Director's Update

Molecular Epidemiology: A Time for Strategic Partnerships

Epidemiology has been depicted as a scientific approach that moves slowly, but with great force. However, by incorporating the powerful new tools being generated by recent advances in genomics and molecular sciences, epidemiology has an unparalleled opportunity to move more quickly and with greater force than ever. To foster this approach, NCI has designated "molecular epidemiology" as a strategic priority area to meet the director's 2015 challenge goal. Poised to accelerate knowledge about the genetic and environmental components of cancer induction and progression, it will also help identify new preventive, diagnostic, and therapeutic interventions.

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

An integral feature of this initiative is the planning and development of strategic partnerships that link epidemiologists with one another and with genomicists and other investigators

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were made to cancer centers for innovative programs like these, she said.

A number of noteworthy changes to the CCSG guidelines are under consideration. As recommended by the working group, NCI intends to revise the guidelines to allow P30 funding for staff salary support for clinical investigators who actively engage in clinical trials. Several options also are under consideration for creating new categories to provide better geographic distribution of cancer centers, such as allowing two facilities that alone could not qualify for a P30 award to form an affiliation and jointly receive an award. The possibility of existing cancer centers developing formal affiliations with non-P30 institutions, particularly those in underserved areas, is also being considered.

"We're already being consulted regarding models that are similar..." to the latter option, Dr. Weiss said. "We're trying to establish criteria for those kinds of affiliations to assist in review." Both of these options are still evolving and will continue to be refined over the coming months, she added.

Another significant change recommended by the working group is eliminating site visits as part of the P30 application review. Such a revision would eliminate the need for site visits for some established centers, but it would also present some challenges, NCI staff said, including the need for careful and complete cancer center award applications and longer parent committee meetings.

All of these revisions will continue to be vetted internally at NCI and are tentatively scheduled for review at the next NCAB meeting. Implementation of the P30/P50 working group's recommendations on the SPORE guidelines will follow the CCSG revisions by a few months. The full report and recommendations are available at http://deainfo.nci.nih.gov/advisory/ncab/p30-p50/. ◆

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from the clinical, basic, and population sciences. This transdisciplinary team-based approach responds to a growing consensus in the scientific community that the full potential of genomic and other emerging technologies will require large-scale epidemiologic studies.

The study designs should have the efficiencies and power to identify common low-penetrant susceptibility genes and their interactions with exogenous or endogenous exposures gleaned from questionnaires and biospecimen collections. This can be accomplished through consortia that combine the resources of several cohort and/or case-control studies in a coordinated approach that enables rapid replication of positive findings using independent datasets. This strategy avoids the cumbersome and expensive trial-and-error process that now occurs when false-positive findings from individual studies appear in the literature. When reproducible findings emerge in the consortia, pooling of datasets provides the statistical power to quantify the risks associated with specific gene variants and exposures and to enable subset analyses that uncover gene-gene and gene-environment interactions.

One such unique partnership is the *Consortium of Cohorts*, an international collaboration of intramural and extramural investigators responsible for 23 independently funded population cohorts encompassing 1.2 million individuals. Each cohort has extensive information on known or suspected risk factors as well as biospecimens (including germline DNA) collected prior to diagnosis of cancer, and each has (or will soon have) thousands of individuals who have developed cancer. Through a joint planning process, this consortium provides an integrative framework for nested case-control studies of specific cancers arising within the cohorts to systematically evaluate molecular and biochemical biomarkers of susceptibility and early-stage disease.

On Feb. 10-11, members of the consortium met at NIH to discuss progress and future directions. A status report was given for an initial study conducted among 600,000 individuals in 10 cohorts that have the largest number of cancer cases. This study is focusing on the risk of breast cancer (7,000 cases) and prostate cancer (9,000 cases) associated with variations in hormone- and growth factor-related genes, as well as their interactions with risk factor data and circulating levels of hormones and growth factors. The meeting also provided an opportunity to discuss new high-throughput genotyping technologies that can be used for candidate gene approaches and genome-wide searches as well as linkage-based studies. This discussion was informed by a presentation by Dr. Francis Collins, director of the Human Genome Research Institute, on the status of the International HapMap Project, which holds promise as a research tool for future studies in genetic and molecular epidemiology.

Other types of strategic partnerships are under development, including *case-control consortia* that involve investigators responsible for population- or hospital-based case-control studies, with special attention to the less common cancers that cannot be easily evaluated in cohort studies. Intramural and extramural investigators have already joined forces in a coordinated series of ongoing case-control studies focused on non-Hodgkin's lymphoma and on brain tumors. In addition, a number of scientists interested in familial cancer have formed

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Cancer Research Highlights

Recombinant Toxic Antibody Shows Promise against Cancers

In the Feb. 15 issue of *Cancer Research*, NCI researchers Dr. Masanori Onda, Dr. Ira Pastan, and colleagues report the anticancer activity of their recombinant immunotoxin (RIT) against human breast cancer, osteosarcoma, and neuroblastoma cell lines. This work was done in collaboration with Dr. Nai-Kong Cheung at Memorial Sloan-Kettering Cancer Center who isolated the original antibody. A RIT is a fragment of a genetically altered monoclonal antibody that is fused to a toxin. These compounds hold potential as anticancer therapeutics because they combine the specific targeting of an antibody with the cytotoxic effects of a plant or bacterial toxin. Dr. Pastan's group has previously completed phase I clinical trials for two other RITs in patients with leukemia, Hodgkin's disease, and lymphoma. Very high complete response rates were observed in drug resistant hairy cell leukemia with RIT BL22. The new RIT, called 8H9(Fv)-PE38, uses the same toxin as these two previous molecules in conjunction with a different specific antibody. Not only did this RIT show anticancer activity in cell lines, but it also demonstrated specific antitumor activity in mouse xenograft models for human breast cancer and osteosarcoma.

The researchers slightly modified 8H9(Fv)-PE38 in order to increase its stability and yield as well as to make it a better drug candidate. This new RIT was tested for toxicity in monkeys, since mouse studies have not always been useful in predicting human toxicities. Based on these experiments, Dr. Onda indicated that the RIT "has low toxicity for liver and is worthy of further clinical development."

Gene May Prove Significant Target for Treating Multiple Myeloma

A gene that is known to promote cancer appears to play a very important role in the development of multiple myelomas and may prove to be a fruitful target for therapies aimed at treating these blood cancers, according to a study published in the February 2004 *Cancer Cell*. Multiple myeloma is the second most prevalent blood cancer after non-Hodgkin's lymphoma, representing approximately 1 percent of all cancers and 2 percent of all cancer deaths.

Studies have established that abnormal forms of the gene implicated in the study, c-maf, are present in approximately 5-10 percent of patients with multiple myeloma. However, in the *Cancer Cell* study, led by Dr. Louis M. Staudt of the Metabolism Branch in the NCI Center for Cancer Research, researchers were surprised to find that the normal form of c-maf was present in more than 50 percent of the multiple myeloma cell lines and in exactly 50 percent of the bone marrow samples they analyzed.

Based on these findings, the research team attempted to delineate what role c-maf may play in myeloma progression, including tumor growth. In both laboratory tests and mice, c-maf was vital to myeloma cell proliferation. In addition, c-maf increased the production of an adhesion protein that helps myeloma cells interact with normal cells in the bone marrow, known as stromal cells. Myeloma cells rely heavily on signals from stromal cells to proliferate and survive. Perhaps most important was the finding that in immunodeficient mice, inhibiting c-maf actually prevented myeloma cell progression and tumor development.

"Our results indicate that overproduction of c-maf is one of the most common abnormal events associated with myeloma," said Dr. Staudt. "Further, our finding that inhibition of c-maf blocks myeloma proliferation and tumor formation makes c-maf an intriguing and exciting novel target for future therapies."

Regular Aspirin Use May Lower Hodgkin's Risk

Researchers at the Harvard School of Public Health, Yale University School of Medicine, and the Johns Hopkins Medical Institutions have found indications that regular aspirin use may protect against Hodgkin's lymphoma by inhibiting a transcription factor that is necessary for immune function and the survival of Hodgkin's lymphoma cells.

In the population-based, case-control study—published in the Feb. 18 issue of the *Journal of the National Cancer Institute*—regular aspirin use was associated with a 40 percent reduced risk of Hodgkin's lymphoma, as compared with nonregular aspirin use. The association was consistent across subgroups of age, sex, race, religion, smoking history, and analgesic use. Unlike aspirin, the use of other nonsteroidal anti-inflammatory drugs (NSAIDS), such as ibuprofen, was not statistically significantly associated with Hodgkin's lymphoma risk. However, regular acetaminophen use, compared with nonregular use, was

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associated with a consistently higher risk of Hodgkin's lymphoma.

The research team, led by Dr. Ellen Chang at the Harvard School of Public Health (now with the Karolinska Institute in Sweden), concluded that the findings "may indicate that properties exclusive to aspirin are responsible for its relationship with Hodgkin's lymphoma," particularly aspirin's ability to inhibit the transcription factor NF-κB. The study should be interpreted with caution, the researchers noted, because of limitations such as the fact that patients were only questioned about the last five years of medication use and an "insufficient power for detailed dose-response analyses." ◆

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an international *family-based consortia*. Current emphasis is placed on those familial syndromes where high-penetrant genes have eluded discovery, or where opportunities exist to identify genetic and environmental modifiers of inherited risk. The most recent intramural/extramural partnership of this kind centers on studies of familial chronic lymphocytic leukemia.

There are many complex scientific, administrative, and cultural challenges involved in developing these team-based transdisciplinary partnerships, which seemingly run counter to the traditional model of individual investigators or groups that work independently. However, the two strategies are really complementary and synergistic, speeding the discovery of causal agents and pathways, early detection markers, and interventions designed to prevent and control cancer. ◆

Guest Editorial
Dr. Joseph F. Fraumeni, Jr.
Director, NCI Division of Cancer Epidemiology and Genetics

Legislative Update

Congressional Briefing on the NCI SEER Program

At the request of Senator Edward M. Kennedy's (D-Mass.) office, on behalf of the Senate Committee on Health, Education, Labor, and Pensions, a congressional briefing was held on Feb. 11, 2004, to inform minority staff about NCI's Surveillance, Epidemiology, and End Results (SEER) Program. Drs. Brenda Edwards, Jon Kerner, Ben Hankey, and Martin Brown from NCI's Division of Cancer Control and Population Sciences explained the types of data collected by SEER, how the data are used, and the extreme care given to collecting quality data elements—all of which make the program a unique resource for analysis and prediction of cancer information. Discussion about the ongoing collaborative interaction between SEER and the Centers for Disease Control and Prevention Registry and the high-profile initiatives undertaken jointly in the last five years helped clarify how the two organizations interact and continue to improve the data-collection system. Also discussed were the high level of sophistication and skill required for SEER data collection and analysis, and the need to focus on building SEER's work force capacity.

Medicare Prescription Drug, Improvement, and Modernization Act of 2003

This Medicare reform act became law (Public Law 108-173) on Dec. 8, 2003 and implementation plans are under way. A provision of the act, under the Health Care Infrastructure Improvement Program, establishes a loan program to provide loans to qualifying hospitals for construction and improvement of infrastructure. Qualifying hospitals are engaged in research on the causes, prevention, and treatment of cancer and are NCI-designated cancer centers, or are designated as a state's official cancer center. Funds may be used to improve the health care infrastructure of the hospital, including construction, renovation, or other capital improvements. Funding for this program authorizes appropriations of $200 million to be available from Jul. 1, 2004 through Sept. 30, 2008.

Intellectual Property Protection and Collaborative Research

Many research advocates are concerned that a loophole in intellectual property law will discourage collaboration among institutions, both public and private. However, a bill gaining momentum in Congress may close the loophole. The Cooperative Research and Technology Enhancement (CREATE) Act of 2003 (HR 2391) cleared the House Judiciary Committee on Jan. 21 and appears to be headed to the floor with bipartisan support. The loophole arises from a 1997 federal circuit court decision allowing a third party to challenge the validity of a patent achieved through collaboration. CREATE is intended to promote communication among researchers at multiple organizations, discourage those who would use the discovery process to harass co-inventors voluntarily collaborating on research, and accelerate the commercial availability of new inventions. ◆

Special Report

Integrative Cancer Biology Program: Tackling Cancer's Complexity

In mid-January, a fierce snowstorm crippled much of the greater Washington, D.C. area—closing schools and businesses and forcing the federal government and most county governments to advise their employees to stay home. Nevertheless, more than 70 investigators from across the United States managed to find their way to NCI for an informational meeting about its new Integrative Cancer Biology Program (ICBP) and the opportunities for research that it may present.

"The interest in this program bodes well for its future," says Dr. Dinah Singer, director of the NCI Division of Cancer Biology. The goal of the ICBP is to promote the analysis of cancer as a complex biological system. Building on the expanding cache of knowledge about cells' "parts," or their constituent components, explains Dr. Singer, initiatives launched through ICBP will focus on concepts and methods that target the "whole"—biological systems and their integrated behavior. Doing so will require an increasing interdependence among cancer biologists, scientists from other fields that consider complex systems, and scientists with expertise in computational biology, because the success of integrative biology will rely heavily on developing robust computer models of biological systems.

"One of the major aims of the ICBP," Dr. Singer says, "is to facilitate the emergence of integrative cancer biology as a distinct field, with the ultimate goal of developing predictive computational models of various cancer processes that can be applied to the development of cancer interventions.

"We now appreciate that cancer is a disease of genes and we understand the regulation and function of a huge number of these genes and their protein products," she continues. "In many cases, we have a detailed understanding of how proteins interact, both structurally and functionally in regulatory, signaling, and metabolic pathways. What we are lacking is a systematic approach to integrate various kinds of data and processes into a comprehensive model where we can analyze the complex biological systems that are cancer."

Modeling Complexity

Integrative cancer biology is a subset of another burgeoning field, systems biology. Both are addressing questions of complexity—honing in on the structural and functional relationships among components of biological processes and attempting to quantify their interactions and measure how they change over time in response to various stimuli, such as environmental or genetic influences.

"The recognition that cancer is a complex disease is not a new one," says Dr. Dan Gallahan, associate director and chief of the division's Structural Biology and Molecular Applications Branch (SBMAB). "But until now, our ability to analyze this complexity has been limited both by the availability of large-scale data sets and appropriate mathematical approaches for manipulating the data." But over the past few years, things have changed. Large-scale data sets are now available, and the mathematics exists to construct multivariate, scalable models of complex systems that are dynamic and predictive.

"The challenge is to derive knowledge and understanding from them," Dr. Gallahan stresses. Computer-based modeling is used in areas such as mechanical and electrical engineering to design and test a variety of complex systems, such as printed microcircuits, jet planes, and cars. The advances in mathematics, engineering, and technology make it possible to begin developing simulations of cells and organs in individuals with and without cancer. The vision for the future, he says, is the development of individualized computer models that will help to predict, prevent, and treat cancers.

Collaboration a Must

Collaboration among a broad array of scientists clearly is vital to the success of the ICBP. "Through ICBP, research programs will be established that bring together cancer biologists and scientists from fields such as mathematics, physics, information technology, imaging sciences, and computer science to work on a common cancer biology program," says Dr. Jennifer Couch, SBMAB program director. "These programs will tackle a diverse array of issues, from gene expression to metabolic and signaling networks to more temporal processes like cancer initiation, progression, and metastasis."

Through the ICBP initiative, large, NCI-funded, multi-investigator teams will address questions of cancer complexity with a wide scope of research activities, Dr. Couch

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explains. These programs will go beyond research, though. They also will be responsible for establishing training and outreach programs that will further develop the field by actively disseminating new findings about cancer complexity and educating future investigators in the necessary approaches and skills. Although the programs will operate independently, they will be linked through a central focus on cancer, a common bioinformatics infrastructure, and an NCI-sponsored coordinating committee.

"We hope to create a community of interactive and collaborative cancer biology researchers that extends beyond the scope of the funded programs," Dr. Couch says. "A key aspect of the program will be the accessibility of the data and models to the larger research community."

The success of the January meeting, Dr. Singer says, clearly indicates that there is a sincere and eager interest in ICBP and systems biology in the research community.

"The emergence of integrative cancer biology as a field will be instrumental in fostering the growth of predictive and preventive medicine," she says. "As we continue to expand our knowledge about basic and clinical cancer biological processes, the area of integrative cancer biology will serve to synthesize this information into a comprehensive picture of cancer, paving the way for rational approaches to dealing with this disease."

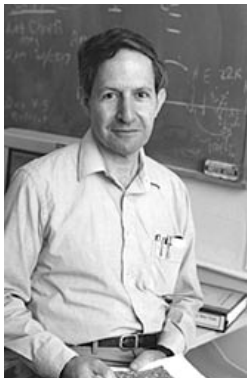
For further information, please see RFA CA-04-013, Integrative Cancer Biology Program and the ICBP online. ◆

Featured Clinical Trial

Study of Kidney Cancer Genetics in Ashkenazi Jewish Families

Name of the Trial
Genetic Study of Patients with Inherited Urologic Malignancies (NCI-89-C-0086). See the protocol summary at http://cancer.gov/clinicaltrials/NCI-89-C-0086.

Investigators
Dr. W. Marston Linehan, principal investigator, and Dr. Berton Zbar, associate investigator of NCI's Center for Cancer Research



Dr. Berton Zbar
Associate Investigator

Why Is This Trial Important?
Approximately 32,000 people each year in the U.S. are diagnosed with kidney cancer. While a number of risk factors have been associated with kidney cancer, such as smoking, obesity, and high blood pressure, previous studies suggest that genes may also play a strong role in determining who will develop this disease.

In this study, researchers will analyze blood and tissue samples from persons with suspected or confirmed inherited kidney cancer. Researchers are especially interested in enrolling Ashkenazi Jews from families that have at least two members with this disease. Due to their history, Ashkenazi Jews share a similar genetic makeup. Researchers hope this similarity will help them find a new gene associated with kidney cancer.

"This study continues NCI's work to discover genes that may contribute to the development of kidney cancer," said Dr. Zbar. "Subsequently, we hope to develop a diagnostic test that would identify people at greater risk for developing the disease so that preventive measures can be taken or the disease can be treated before it has had a chance to metastasize."

Who Can Join This Trial?
This trial currently seeks to recruit 50-100 Ashkenazi Jewish families with two or more family members affected by kidney cancer. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/NCI-89-C-0086.

Where Is This Trial Taking Place?
The study is taking place at the National Institutes of Health (NIH) Warren G. Magnuson Clinical Center in Bethesda, MD.

Who to Contact
For more information, contact Shyla Hale, study coordinator, at 1-800-949-6704 or hales@mail.ncifcrf.gov. The call is toll-free and completely confidential. ◆

You may see this and previously published "Featured Clinical Trial" columns at http://cancer.gov/clinicaltrials/ft-all-featured-trials.

Notes

Berg Joins Division of Cancer Prevention

Dr. Christine D. Berg has joined NCI's Division of Cancer Prevention (DCP) as a senior program director within the Community Oncology and Prevention Trials Research Group. In this position, she coordinates clinical research at leading Community Clinical Oncology Program (CCOP) sites across the United States. CCOPs work to improve cancer treatment, ameliorate treatment toxicities, and develop cancer prevention strategies. Dr. Berg also will chair the DCP Cancer Prevention and Control Concept Review Group and will be exploring novel and innovative strategies for streamlining the clinical trials process.

Previously, Dr. Berg served as the first and only full-time medical director of the Suburban Hospital Cancer Program in Bethesda Md., where she coordinated the opening of a dedicated outpatient facility and developed the clinical research program. Before joining Suburban Hospital she served as chief of the Lung and Upper Aerodigestive Cancer Research Group, also in DCP. Dr. Berg also has served in leadership positions at the Lombardi Cancer Center, Georgetown University Medical Center.

von Eschenbach Updates NCAB

On Feb. 18, NCI Director Dr. Andrew von Eschenbach presented his director's update at the National Cancer Advisory Board meeting. Dr. von Eschenbach began his talk by describing four new deputy director positions established in the Office of the Director. These four deputies will have duties and responsibilities for overseeing NCI's initiatives that collectively span the discovery, development, and delivery continuum of the cancer research program. The new deputy directors will share executive responsibilities with Dr. von Eschenbach and interact with the NCI division directors on various strategic initiatives and other programmatic activities.

Dr. von Eschenbach also spoke about the launch of the *NCI Cancer Bulletin* and the redesign of cancer.gov, both important communication vehicles for the institute. He addressed issues regarding NCI's budget and funding of new strategic initiatives such as the cancer biomedical informatics grid (caBIG), and also gave updates on several meetings including the NCI intramural principal investigators retreat, the joint board retreat, and the upcoming cancer center directors' retreat. Dr. von Eschenbach also recognized the exemplary contributions to NCI and the National Cancer Program of several outgoing NCAB members: Mr. Stephen Duffy, Dr. Elmer Huerta, Dr. Susan Love, Dr. Larry Norton, and Dr. Amelie Ramirez.

NCI Launches caBIG

On Feb. 19, NCI launched the cancer Biomedical Informatics Grid (caBIG), an informatics infrastructure that will link the teams of cancer researchers and enable them to better share data and tools, according to agreed upon standards. Several hundred informatics experts and cancer researchers representing cancer centers, academia, government, and private industry met for the first time to discuss the design and implementation of this large-scale bioinformatics engineering project that has become a top NCI priority. Supervised and managed by NCI, caBIG is a voluntary and open source program that will eventually link individual researchers and institutions, effectively creating the World Wide Web of cancer research. caBIG has been designed and built in partnership with NCI-designated cancer centers to address common needs ranging from clinical trials management to tissue banks and pathology tools. caBIG promises to accelerate progress in all aspects of cancer research—from etiologic research to prevention, early detection, and treatment. For more information on caBIG, please visit http://caBIG.nci.nih.gov.

Aziz Honored for Advancing Survivorship Research

Dr. Noreen M. Aziz, program director, Office of Cancer Survivorship, NCI Division of Cancer Control and Population Sciences, has received the Professor of Survivorship Award from the Susan G. Komen Breast Cancer Foundation. This annual award is granted to leading researchers and educators whose work furthers the understanding of the complex issues related to surviving breast cancer. Awardees are appointed for a one-year period and receive a grant to advance their research work.

Dr. Aziz was recognized for initiating and promoting NCI's research priorities and efforts related to cancer survivorship and follow-up care. Recently, she coordinated a request for proposals for an initiative on the concerns of long-term survivors, many of whom are breast cancer survivors. Dr. Aziz has authored several peer-reviewed papers outlining cancer survivorship as a challenge and opportunity and has organized two international conferences on post-treatment follow-up care of cancer survivors. She currently oversees more than 60 ongoing research studies and also pursues her personal research on cancer survivorship issues and the prognostic role of weight gain on breast and other hormonally dependent cancers. ◆

Featured Meetings

This is a list of selected scientific meetings sponsored by NCI and other organizations. For locations and times and a more complete list of scientific meetings, including NCI's weekly seminars and presentations open to the public, see the NCI Calendar of Scientific Meetings at http://calendar.cancer.gov.

NCI Advisory Committee Upcoming Meetings, March 2004

Date	Advisory Committee
Mar 15-16	Clinical Sciences and Epidemiology—Subcommittee 1, Board of Scientific Counselors, NCI
Mar 15-16	Basic Sciences—Subcommittee 2, Board of Scientific Counselors, NCI
Mar 15-16	NCI Board of Scientific Advisors

Selected Upcoming Meetings of Interest

Date	Meeting	NCI Speakers
Feb 25-26	Central Florida Health Care Coalition's 11th Annual National Conference	Dr. Ellen Feigal, Acting Director, Division of Cancer Treatment and Diagnosis
Feb 26-28	The Last Miles of the Way Home: National Conference to Improve End-of-Life Care for African Americans	Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities
Feb 27-Mar 3	25th High Country Nuclear Medicine Conference	Dr. Ellen Feigal, Acting Director, Division of Cancer Treatment and Diagnosis; Dr. Dan Sullivan, Associate Director, Cancer Imaging Program, Division of Cancer Treatment and Diagnosis
Mar 1-2	Molecular Cancer Therapeutics: Celebrating 30 Years of United States–Japan Cooperation in Cancer Research	Dr. Joe B. Harford, Director, Office of International Affairs; Dr. Anita Roberts, Chief, Laboratory of Cell Regulation and Carcinogenesis; Dr. Steven Rosenberg, Surgery Branch Chief, Center for Cancer Research
Mar 1-3	45th Annual Clinical Conference—Multidisciplinary Care: The Present and Future	Dr. Andrew C. von Eschenbach, Director
Mar 3	Cancer Nanotechnology Symposium—Nanotechnology: Visualizing and Targeting Cancer	Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships
Mar 4	Cancer Nanotechnology Symposium—Nanotechnology: Enabling Breakthroughs in Cancer Early Detection and Therapeutics	Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships
Mar 9-12	UCSF Comprehensive Cancer Center's Cancer Prevention Seminar	Dr. Peter Greenwald, Director, Division of Cancer Prevention
Mar 17-18	Imaging in Oncology	Dr. Ellen Feigal, Acting Director, Division of Cancer Treatment and Diagnosis

NCI Exhibits

NCI Exhibits are presented at various professional and society meetings. Further information about the NCI Exhibits Program can be found at http://exhibits.cancer.gov.

This *NCI Cancer Bulletin* is produced by the National Cancer Institute (NCI). NCI, which was established in 1937, leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

For more information on cancer, call 1-800-4-CANCER or visit http://cancer.gov.

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