NATIONAL CANCER INSTITUTE

NCI Cancer Bulletin

Eliminating the Suffering and Death Due to Cancer

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NIH to Examine Ethics Policies

Recently, the National Institutes of Health (NIH) has come under scrutiny for how the agency manages its ethics program. Specifically, the House Committee on Energy and Commerce questioned how NIH interprets federal regulations that permit federal employees to participate in outside activities and receive compensation and the statutes that define what a conflict of interest is. In response to these concerns, NIH Director Dr. Elias Zerhouni has developed a strategy—reviewed and approved by institutes' deputy ethics coordinators—that calls for the review of outside activities dating back five years. Dr. Zerhouni has stated that "all employees at NIH have the obligation to disclose these arrangements. To the best of our knowledge, they have done so." NIH's plan also calls for the establishment of a new NIH ethics advisory committee, the appointment of a blue-ribbon panel to examine NIH ethics policies and practices, and a review

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Director's Update

Pancreatic Cancer Research: New Tools Will Aid Larger Efforts

Last month brought new hope to the research community in the form of two studies focused on genetically engineered mouse models of pancreatic cancer. Pancreatic ductal adenocarcinoma is among the most lethal human malignancies, with a median survival time of 6 months; only 5 percent of patients achieve five years of survival. This dismal prognosis is thought to be related to the absence of early detection methods. Characterization of early-stage disease has been limited by a lack of appropriate models for research.

In the first study, a team of researchers from the Dana-Farber Cancer Institute reported that they had developed a bioengineered mouse model that contains two "signature mutations" seen in the human form of pancreatic

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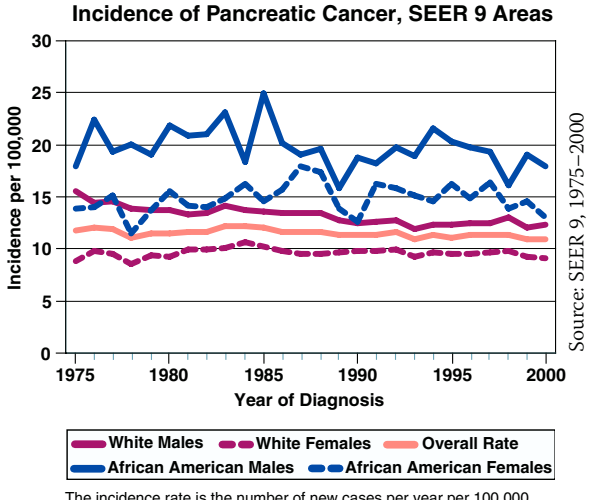


The incidence rate is the number of new cases per year per 100,000 persons. It is age-adjusted to the 2000 U.S. standard population.

(*Director's Update continued from page 1)*
cancer. Just as they do in humans, the mutated genes in the mouse model work together to allow the development of premalignant lesions, which in turn lead to full-blown disease.

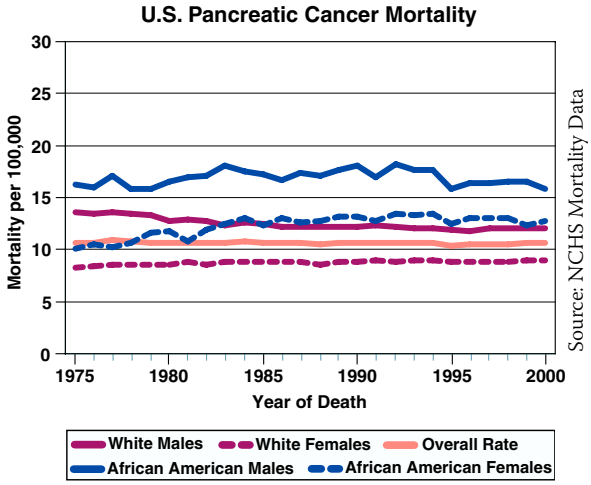
In the second study, a research team from the Abramson Cancer Center of the University of Pennsylvania developed a pancreatic cancer mouse model that, again, leads to the development of premalignant lesions in the same fashion as occurs in humans. The research team also found there is a proteomic marker for the presence of the precancerous lesion.

These new mouse models offer hope of more novel discoveries. For example, one of the models with premalignant lesions that have an identifiable proteomic signature shows us that we now may be able to identify early markers in the blood of patients with early pancreatic cancer. The other model allows us to better understand the interaction of genetic mutations that promote the development of malignant lesions, which may help us develop new therapies that can inhibit malignant tumor growth.

In addition to this promising research, NCI has been pursuing more rigorous national efforts to reduce the suffering and death due to pancreatic cancer. Since 1997, NCI has increased funding for pancreatic cancer research more than threefold, from $10.2 million to $33.1 million in 2003.

Of course, ensuring sufficient resources is only part of the challenge. We are also committed to providing strong leadership that is fueled by diverse expertise from across the cancer research community. In response to recommendations from the Pancreatic Cancer Progress Review Group, a panel of prominent scientists and advocates, NCI developed a strategic plan focusing on six key areas: improvements in the health of the pancreatic cancer research field; understanding of tumor biology; risk, prevention, screening, and diagnosis; therapy; communications and health care delivery; and resource priorities.

This strategic plan is guiding NCI's efforts in the discovery, development, and delivery of more effective pancreatic disease interventions. In basic research, for instance, researchers funded by NCI are investigating a relationship among aberrant DNA methylation, abnormal gene transcription, and clinicopathological features of pancreatic cancers.



The mortality rate is the number of deaths per year per 100,000 persons. It is age-adjusted to the 2000 U.S. standard population.

On the development front, researchers at NCI's Center for Cancer Research are leading a phase I clinical trial to evaluate the effect of a novel class of agents that target the chaperone molecule of many signaling molecules involved in malignancies, including pancreatic cancer.

NCI also supports delivery in the form of advanced clinical trials. For example, NCI's Cancer Therapy Evaluation Program is sponsoring phase II and III trials comparing new and existing therapies. In 2003, the Eastern Cooperative Oncology Group launched a phase III trial to evaluate the synergistic effects of oxaliplatin, a chemotherapeutic agent that is effective in treating metastatic colorectal cancer, when combined with standard gemcitabine therapy. In addition, phase III trials set to launch this year will evaluate new agents, the monoclonal antibodies cetuximab and bevacizumab, in combination with gemcitabine. The trial to evaluate bevacizumab grew out of NCI's continuing collaboration with Genentech, Inc. NCI and Genentech also are working together to develop new phase II trials combining bevacizumab with other targeted drugs for patients with pancreatic cancer.

Other important efforts include the recent formation of the Gastrointestinal Malignancy Faculty. This faculty has recruited multidisciplinary clinicians and is early in the process of developing a clinic for patients with malignant and benign pancreatic tumors. All aspects of treatment, including surgery, chemotherapy, and radiotherapy, will be available. The faculty is in the early stages of its work and I am confident that its members will make valuable advances in the area of pancreatic disease.

One notable feature of all these efforts is the highly focused collaboration of basic and clinical researchers, of scientific, financial, and policy planners, and of intramural and extramural NCI researchers. In addition we have benefited from the valuable input from pancreatic cancer survivor groups. I commend each of them for their hard work and dedication. I look forward to the day when our patients no longer suffer and die from pancreatic cancer. ◆

Andrew C. von Eschenbach, M.D.
Director, National Cancer Institute

(*Ethics Policies continued from page 1)*
of financial disclosure requirements for NIH personnel. As a component of NIH, the National Cancer Institute (NCI) recognizes the importance of having a strong ethics program and looks to benefit from NIH's efforts.

The National Cancer Act of 1971 set out to assist NCI in becoming more effective in the fight against cancer. In establishing the National Cancer Program, the National Cancer Act instructed NCI to "encourage and coordinate cancer research by industrial concerns" and to "establish or support the large-scale production or distribution of specialized biological materials and other therapeutic substances." Over the past three decades, this authorizing language has allowed NCI to collaborate with private industry, jump-start research initiatives, develop innovative therapies, and fill gaps in research that industry has not pursued. Likewise, Dr. Zerhouni has stated that "collaborations between public and private scientists and institutions are essential to translating our discoveries into effective treatments and in attracting and retaining outstanding scientists to government service."

"Without question, the ability to collaborate with private industry and develop new therapies is the source of countless advances in biomedical research and has improved the quality of health care available today," said Dr. Andrew C. von Eschenbach, NCI director. "NCI must maintain the highest ethical standards in its collaborations with private industry so the public's trust is never misplaced."

NCI has always valued the public trust bestowed upon the institute and has continually sought to protect it through the institute's ethics program. NCI has a long-standing comprehensive ethics program in place that strictly adheres to the federal regulations and statutes that set the standard for ethical conduct in government. All Cooperative Research and Development Agreements (CRADAs), sponsored travel, and outside activities, along with confidential and public financial disclosure reports, are reviewed by NCI's Ethics Office. CRADAs are reviewed to ensure fair access and that no conflict of interest exists for NCI employees involved with the project. Outside activities, such as consultancies, are scrutinized by the Ethics Office to identify real and apparent conflicts of interest and for ways in which the activity could impact the employee's official duties and workload with NCI. All identified real or apparent conflicts of interest are addressed by the institute on a case by case basis. Additionally, official duty activities with outside organizations are examined to ensure consistency with the NCI mission as well as all laws and regulations. These efforts are only one part of how the NCI ethics program works to protect the public trust.

NIH has an ethics training and outreach program. New employees are required to complete training on the rules of ethics for public service and are instructed on how to contact the NIH Ethics Office when questions arise; the NCI Ethics office serves as the primary resource for NCI. As part of an ongoing review of all approved outside activities, the NCI Ethics Office works to keep division directors informed of their employees' related activities.

NCI will work with the rest of the NIH to uphold the highest standards for patient safety, ethical practices, and scientific excellence. ◆

Cancer Research Highlights

Journal Highlights 40th Anniversary of Surgeon General's Report

A special report in the January 15, 2004, *New England Journal of Medicine* (*NEJM*) titled "Tobacco Control in the Wake of the 1998 Master Settlement Agreement" marks the 40th anniversary of the first Surgeon General's report, *Smoking and Health*. The 1964 Surgeon General's

report was America's first widely publicized official recognition that cigarette smoking is a cause of cancer and other serious diseases.

In this *NEJM* report, Dr. Steven Schroeder, past president of the Robert Wood Johnson Foundation and current director and chair of the board of directors of the American Legacy Foundation, reviews and evaluates the 1998 Master Settlement Agreement (MSA) and summarizes the effectiveness of current tobacco control policies, including cigarette taxation, clean-indoor-air initiatives, smoking cessation programs, and international trade policies. The special report demonstrates that while the MSA was a landmark event for tobacco control, it was far from a panacea.

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(*Cancer Highlights continued from page 3)*
In 1998, the attorneys general of 46 states and five U.S. territories reached an agreement with four tobacco companies to recover the costs of the states' Medicaid programs for treating tobacco-related illnesses and to settle other types of lawsuits, such as consumer protection and antitrust litigation. The MSA awarded the states $206 billion, to be paid over 25 years. The MSA also required the elimination of youth-targeted advertising and increased the public disclosure of internal industry documents, among other provisions.

In general, the MSA did not specify how states must spend their funds. Schroeder explores how states have chosen to use their funds—most of which have not gone toward tobacco control-related programs. The only MSA funds specifically earmarked were for the creation of the American Legacy Foundation, to develop national programs that address the health effects of tobacco use. Legacy is responsible for the "truth" campaign, which Schroeder calls "the most important national countermarketing effort in 30 years."

It now has been 40 years since the first Surgeon General's report on smoking and health and over five years since the MSA. Although much progress has been made, there are still 46 million current smokers in the United States, and 440,000 of them die each year from smoking, making it the single largest preventable cause of death. Another 8.6 million people suffer from tobacco-related diseases such as emphysema and heart disease. Smoking is currently the leading cause of cancers of the lung, bladder, larynx, esophagus, and mouth and is highly associated with the development of cancers of the pancreas, cervix, and kidney. And smoking is increasingly concentrated in populations with low incomes and relatively little education, further increasing the health disparities gap that NCI —and the Department of Health and Human Services as a whole— seek to eliminate.

"While overall U.S. smoking rates have slightly declined in recent years, substantial work remains in order to reach the department's health goals for the nation," said Dr. Cathy Backinger, acting branch chief of NCI's Tobacco Control Research Branch (TCRB).

For more information on smoking-related research and findings, visit TCRB's Web page at http://tobaccocontrol.cancer.gov. For more information on the MSA, go to http://www.naag.org/issues/tobacco/index.php?sdpid=919. For help with smoking cessation, please go to http://smokefree.gov or call the NCI's Smoking Quitline at 1-877-44U-QUIT (1-877-448-7848).

Mouse Models Closely Mimic Human Pancreatic Cancer

NCI's Mouse Models of Human Cancers Consortium (MMHCC) has provided support for the following studies of mouse models that may provide insight into pancreatic cancer in humans. (See this week's Director's Update for more information on pancreatic cancer research.)

In the December 17, 2003, *Genes & Development*, scientists led by Dr. Ronald DePinho at the Dana-Farber Cancer Institute, reported that they had developed a bioengineered mouse model containing two "signature mutations": an activated form of the *Kras* gene and a deletion of the *Ink4a* tumor suppressor gene. The resulting mice develop very aggressive PDA that is lethal in about three months. Because the two genetic changes are so common in human PDA, these researchers are now using the mice to try combinations of available therapies and to identify and test novel interventions.

Meanwhile, in the December 2003 *Cancer Cell*, researchers led by Dr. David Tuveson, from the Abramson Cancer Center of the University of Pennsylvania, describe a mouse model they developed by engineering a mutation in the *Kras* gene. This mutation "recapitulates the cardinal features" of PDA, the scientists report. These researchers have already examined blood serum from the mice with initial stages of PDA for reproducible patterns of protein changes that may herald the presence of very early disease. Studies are under way to identify the proteins and determine if they are informative for detection of human PDA, said Dr. Cheryl Marks, NCI program director for the MMHCC.

Study Examines Breast Cancer Screening Techniques

NCI's Clinical Genetics Branch is conducting the Breast Imaging Study, which evaluates the use of several new and promising breast cancer screening techniques in women at high genetic risk of breast cancer. The study is critical to improve screening for breast cancer among women who have mutations in breast cancer susceptibility gene *BRCA1* or *BRCA2*. New techniques being evaluated include breast scanning using magnetic resonance imaging (MRI), positron emission tomography (PET), and breast ductal lavage. Women who carry *BRCA1* or *BRCA2* mutations are eligible to join the study, as well as women who have a first- or second-degree relative with breast or ovarian cancer related to BRCA mutations. More information can be found at http://breastimaging.cancer.gov. ◆

Special Report

Recombinant Cancer Vaccines Offering Promise

Although currently there are no approved therapeutic cancer vaccines, the success of ongoing research in this area could very well change that within the next decade. One area of research that is proving particularly fruitful is the development of recombinant vaccines for use either alone or as an adjunct to existing cancer therapy. These vaccines have had promising results in early clinical studies, explained Dr. Jeffrey Schlom, chief of the Laboratory of Tumor Immunology and Biology, NCI Center for Cancer Research (CCR), during the first CCR Grand Rounds of 2004.

Much of the work to date on recombinant vaccines has focused on targeting several different tumor-associated antigens (TAAs), Dr. Schlom said. One specific TAA, carcinoembryonic antigen (CEA), has been used as a prototype for vaccine design and development because it is overexpressed in the vast majority of colorectal, pancreatic, and nonsmall cell lung cancers, as well as other carcinomas such as breast cancer.

Of the strategies that have been tested in early clinical trials to date, five have proven effective at boosting the body's immune response, Dr. Schlom said. Included among these strategies is the use of two types of poxvirus as vectors to deliver the CEA vaccine to the tumor site and injecting granulocyte macrophage-colony stimulating factor (GM-CSF) at the vaccination site as an adjuvant, to heighten the immune response to the CEA vaccine.

In a small, randomized clinical trial, researchers found that a "booster" approach—administering one CEA vaccine followed later by a second, different CEA vaccine—more effectively induced a CEA-specific T-cell response than use of either vaccine alone. "There was also a statistical correlation between the induction of these T-cell responses and prolonged survival," Dr. Schlom noted.

Dr. Jeffrey Schlom
Chief, Laboratory of Tumor Immunology and Biology

Following the positive results from early trials, recombinant vaccines were constructed containing both CEA genes and three costimulatory molecules, or TRICOM, and tested in preclinical trials.

"Compared to the vaccines devoid of costimulation or containing one or two costimulatory molecules, these vaccines were far superior in terms of antitumor effects and T-cell activation," Dr. Schlom said. Also, the cytokine, GM-CSF, he added, appeared to play a particularly important role in improving the strategy's efficacy.

Researchers at NCI and major cancer centers across the country have continued to further enhance vaccines. For example, an agonist epitope has been added to CEA and CEA-TRICOM vaccines after it proved to further boost T-cell response compared to a CEA vaccine that relies on a native CEA epitope.

Clinical trials testing these various vaccine strategies are ongoing, Dr. Schlom said. In a collaborative clinical trial that has recently completed recruitment at Georgetown University, the CEA-TRICOM vaccines induced stable disease in 40 percent of advanced cancer patients four months after treatment. Increased survival was again seen in those patients who received a combination vaccine regimen along with a GM-CSF adjuvant.Meanwhile, several clinical trials using recombinant prostate-specific antigen (PSA)-based vaccines are ongoing in patients with various stages of prostate cancer, for instance, and a phase I trial has been launched using PSA-TRICOM vaccines.

These recombinant vaccines also are being tested in combination with other therapeutic regimens. In one preclinical model, Dr. Schlom said, the combined use of a TRICOM vaccine and local radiation demonstrated dramatic antitumor effects.

Looking forward to a time when therapeutic vaccines make their way into clinicians' armamentarium for cancer treatment, Dr. Schlom stressed that there indeed may be "fundamental differences" between the vaccines and conventional therapies.

"The immune response to a vaccine may indeed be a dynamic process that may or may not lead to the eradication of tumor," he said, "but may be sufficient to arrest tumor growth and induce a stable disease state leading to increased survival." ◆

Featured Clinical Trial

Depsipeptide Trial for T-Cell Lymphoma

Name of the Trial

Phase II Study of FR901228 (Depsipeptide) in Patients With Cutaneous T-Cell Lymphoma, Relapsed Peripheral T-Cell Lymphoma, or Other Mature T-Cell Lymphoma (NCI-01-C-0049). See the protocol summary at http://cancer.gov/clinicaltrials/NCI-01-C-0049.

Principal Investigators

Dr. Susan E. Bates and Dr. Richard Piekarz of the NCI's Center for Cancer Research in Bethesda, Md.

Dr. Richard Piekarz and Dr. Susan E. Bates
Principal Investigators

Why Is This Trial Important?

T-cell lymphoma is a disease in which certain cells of the immune system (called T lymphocytes) become cancerous. T cells are one type of white blood cell that attacks virus-infected cells, foreign cells, and cancer cells. T cells also produce a number of substances that regulate the immune system. Cancerous T cells may grow in the lymph nodes; or they can grow in the skin, where the disease is called cutaneous T-cell lymphoma, mycosis fungoides, or Sezary syndrome.

This trial is trying to find out if depsipeptide can help bring about remission in patients with T-cell lymphoma. Depsipeptide is a new type of anticancer agent derived from bacteria. Preliminary results from this trial are encouraging, and the study is now seeking additional patients.

"This trial is very exciting because it involves a new class of anticancer drugs that can change the way cells grow," said Dr. Bates. "Whereas many chemotherapy drugs work by causing damage to cells, depsipeptide turns on genes in cancer cells that inhibit cell growth and eventually cause the cancer cells to die."

Who Can Join This Trial?

The depsipeptide trial seeks to enroll an additional 50 patients over the age of 18 who have T-cell lymphoma. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/NCI-01-C-0049.

Where Is This Trial Taking Place?

This study is being conducted at the National Institutes of Health campus in Bethesda, Md., as well as other sites. See the list of study sites at http://cancer.gov/clinicaltrials/NCI-01-C-0049.

Who to Contact

See the list of study contacts at http://cancer.gov/clinicaltrials/NCI-01-C-0049 or call the NCI's Clinical Studies Support Center (CSSC) at 1-888-NCI-1937 (1-888-624-1937). The CSSC provides information about cancer trials taking place on the National Institutes of Health campus in Bethesda, Md. The call is toll-free and completely confidential. ◆

NCI's Center for Cancer Research

This week's "Featured Clinical Trial" is one of about 150 clinical trials currently under way at NCI's Center for Cancer Research (CCR). CCR was created in March 2001 by merging two vital components of NCI's Intramural Research Program—the Division of Basic Sciences and the Division of Clinical Sciences. The merger is an important step toward NCI's goal of promoting closer links between basic researchers and clinical investigators, thereby enhancing their opportunities for both scientific discovery and translational research (bench-to-bedside and bedside-to-bench).

CCR is composed of more than 300 principal investigators in 54 laboratories, branches, and programs. As one of the world's largest cancer research centers, CCR takes advantage of the breadth of its researchers to foster interdisciplinary programs and facilitate translational research.

CCR's clinical trials take place at the National Institutes of Health Clinical Center in Bethesda, Md. All study-related health care for patients is provided at no charge. Patients who do not live locally must pay to travel to the initial screening visit but once they've enrolled in a study, NCI will arrange and pay for their subsequent transportation. Travel expenses are similarly covered for a parent or guardian of a participating child or minor.

For more information about CCR, please visit the CCR Web site at http://ccr.nci.nih.gov. For information about CCR clinical trials, call 1-888-NCI-1937 (1-888-624-1937), Monday through Friday, 9:00 a.m. to 5:00 p.m. Eastern time. ◆

NCI Notes

NCI's Planning Document for FY05 Available

NCI's Plan and Budget Proposal for Fiscal Year 2005, *The Nation's Investment in Cancer Research*, outlines an action plan and related resource requirements to maximize progress in the upcoming fiscal year as the institute reaches toward the goal of eliminating the suffering and death due to cancer.

Each year, NCI prepares a plan for building on research successes, supporting the cancer research workforce with the technologies and resources it needs, and ensuring that research discoveries are applied to improve human health. This annual plan is provided directly to the President of the United States for formulating the budget request to Congress. This document is made available to NCI staff; the research community; professional organizations; advisory groups; cancer information, education, and advocacy organizations; and public and private policymakers.

The FY05 plan includes continued investment in nine research priorities in core scientific and public health areas. It can be viewed online at http://cancer.gov/pdf/nci_2005_plan or can be ordered as hard copy through the NCI Publications Locator at https://cissecure.nci.nih.gov/ncipubs/.

People

Dr. Barbara Vonderhaar has been appointed chief, Mammary Biology and Tumorigenesis Laboratory, Center for Cancer Research. After postdoctoral training in mammary gland biology at NIH, Dr. Vonderhaar joined NCI, where she has conducted pioneering research on the role of prolactin in breast cancer. Her current studies focus on local, hormonally driven growth regulatory mechanisms associated with normal mammary gland development and tumorigenesis. As laboratory chief, Dr. Vonderhaar will oversee research on development, differentiation, and tumorigenesis in the mammary gland, with an emphasis on multidisciplinary approaches encompassing areas such as endocrinology, molecular genetics, stem cell biology, growth factors, oncogenes, cell signaling, and animal model systems to understand the pathology of breast cancer.

Dr. K. "Vish" Viswanath, acting associate director, Behavioral Research Program (BRP), Division of Cancer Control and Population Sciences, left NCI on January 3, 2004, to continue his professional and academic interests at the Harvard School of Public Health and the Dana-Farber Cancer Institute.

To fill this leadership role, **Dr. Scott Leischow**, chief of the Tobacco Control Research Branch (TCRB) since 2000, has been named the new acting associate director of BRP. Prior to joining NCI, Dr. Leischow was an associate professor of public health at the University of Arizona and the director of the Arizona Program for Nicotine and Tobacco Research. He earned M.A. and Ph.D. degrees in health education from the University of Maryland at College Park and then completed a postdoctoral fellowship in behavioral pharmacology at the Johns Hopkins University, Department of Psychiatry.

Dr. Cathy Backinger has been named as the TCRB acting branch chief, a role familiar to her, as she held the position for a year prior to Dr. Leischow's arrival. Since coming to TCRB in 1998, Dr. Backinger has been responsible for the development and implementation of extramural research programs in smokeless tobacco and youth tobacco prevention and cessation. Dr. Backinger joined NCI from the Food and Drug Administration's Center for Devices and Radiological Health. She earned an M.P.H. degree from the University of Michigan and a Ph.D. degree in health policy from the University of Maryland, Baltimore County. ◆

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.

2004 NCI Advisory Committee Upcoming Meetings January–March

Date	Advisory Committee
Jan 22	Advisory Committee to the Director, NCI
Feb 17-19	National Cancer Advisory Board
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	Speaker(s)
Jan 20-21	NCI-Sponsored Roundtable—Leveraging Multisector Technology Development Resources and Capabilities to Accelerate Progress Against Cancer	Dr. Andrew C. von Eschenbach, Director Dr. Anna Barker, Deputy Director for Strategic Scientific Initiatives
Jan 28	Building the Interface of Nanotechnology and Cancer Imaging Research Symposium	Dr. Anna Barker, Deputy Director for Strategic Scientific Initiatives
Jan 29-30	Fifth National Forum on Biomedical Imaging in Oncology	Dr. Ellen Feigal, Acting Director, Division of Cancer Treatment and Diagnosis
Jan 30-Feb 1	American Psychosocial Oncology Society First Annual Conference: Advancing Multidisciplinary Approaches to Psychosocial Oncology	Dr. Andrew C. von Eschenbach, Director
Feb 2	Director's Seminar Series: Progress with a Purpose	Dr. Mark B. McClellan, Commissioner of Food and Drugs, U.S. Food and Drug Administration

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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