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Eliminating the Suffering and Death Due to Cancer

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Major Breast Cancer Prevention Study Enters Final Stretch

Study Results Could Come in Mid-2006

The largest North American breast cancer prevention trial ever undertaken, the Study of Tamoxifen and Raloxifene (STAR), nears completion as the 18,000th woman joined the trial late last month. One thousand more women are needed to finish this important trial, which started in 1999 and is being carried out at more than 500 sites in the United States, Canada, and Puerto Rico. The 19,000th participant should be enrolled by July, five years after the study began.

STAR results could be ready as early as mid-2006, predict researchers from the National Surgical Adjuvant Breast and Bowel Project (NSABP), the network of investigators conducting the trial, and the National Cancer Institute (NCI), which is funding the study.

"Prompt completion of STAR will be a critical step in our ability to prevent breast cancer in women at increased risk of the disease," said Dr. Leslie Ford, associate director for clinical research in NCI's Division of Cancer

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Director's Update

Nanotechnology: Building Cross-Disciplinary Research Teams to Enable Advanced Technologies

Over the past year, NCI has been developing several major strategic advanced technology initiatives—including the cancer Biomedical Informatics Grid (caBIG), proteomics, biomarkers, and nanotechnology—to accelerate progress across the cancer discovery, development, and delivery continuum. Nanotechnology, the science of creating useful materials, devices, and systems by manipulating matter on the nanoscale (a nanometer is 1 billionth of a meter), has the potential to yield new devices that could transform cancer prevention, early detection, imaging, and smart therapeutics. Nanotechnology, and all of these crosscutting "cancer enterprise" programs, will require cross-disciplinary teams to fully integrate and deploy advanced technologies that will ultimately revolutionize discovery, enable development, and reduce the burden of cancer.

Dr. Anna Barker
Deputy Director, Advanced Technologies and Strategic Partnerships

Our first two regional Cancer Nanotechnology Symposia were an important step in exploring how to develop teams able to leverage the promise of

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Prevention, who oversees STAR.

The study is designed to determine whether raloxifene (Evista®), an osteoporosis prevention and treatment drug, is as effective as tamoxifen (Nolvadex®) in reducing breast cancer risk and if it has fewer side effects. It is the follow-up study to the landmark Breast Cancer Prevention Trial (BCPT), published in 1998, which led to tamoxifen being approved by the U.S. Food and Drug Administration for risk reduction in women at increased risk for developing breast cancer.

STAR includes postmenopausal women who are at increased risk for breast cancer due to a family history of breast cancer and a combination of personal medical factors. These factors are used to estimate a woman's individual risk for developing the disease in the next five years and in her lifetime.

Originally, 22,000 postmenopausal women were sought for STAR. That number was based on volunteers having at least a 1.7 percent chance of developing invasive breast cancer within five years—about 17 women per 1,000. But STAR enrollees have about twice the minimum risk, or a 3.5 percent chance of developing cancer within that time period—35 per 1,000 women—so the Data and Safety Monitoring Board (DSMB) overseeing the trial recommended a decreased study size. (See table).

Breast Cancer Risk of Women in the STAR Trial	
Five-year Breast Cancer Risk	**% of Women in STAR Who Fall into This Risk Category**
1.7%-1.9%	11.0
2.0%-2.9%	30.2
3.0%-4.9%	31.5
5.0% or greater	27.3
Age Range	**% of Women in STAR in This Age Range**
35-49	9.2
50-59	49.7
60+	40.9

"This greater risk means that fewer women are required to see prevention effects from the drugs," explained Dr. Norman Wolmark, chairman of the NSABP and of the Department of Human Oncology at Allegheny General Hospital in Pittsburgh, Pa. So, in October 2003, NCI and NSABP agreed with the DSMB recommendation that only 19,000 women would be recruited for STAR.

Women enrolled in STAR are randomly assigned to receive either 20 mg of tamoxifen or 60 mg of raloxifene daily. They also have regular follow-up examinations until the results of the trial are known.

The 18,000th participant, Maxine Watson of Mesquite, Tex., hopes that joining STAR through the Baylor-Sammons Cancer Center in Dallas will reduce her risk of developing breast cancer. "My sister is a breast cancer survivor, so my other sister and I decided to participate in STAR because we wanted to make a contribution to breast cancer research," said Ms. Watson. "Regardless if I am the first or the eighteen thousandth woman who joined, I feel it's a privilege and an honor to make a contribution to the STAR trial."

For more information about the study or to locate a STAR center in the United States and Puerto Rico, contact NCI's Cancer Information Service at 1-800-4-CANCER (1-800-422-6237). In Canada, contact the Canadian Cancer Society's Cancer Information Service at 1-888-939-3333.

Alternately, women can visit http://www.breastcancerprevention.com to calculate their breast cancer risk or find more information about STAR. ◆

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nanotechnology, and ultimately other advanced technologies, to detect, prevent, and treat cancer. At the symposia, scientists, engineers, chemists, and clinicians from two leading cancer centers exchanged ideas to develop a common understanding of nanotechnology and its potential applications to cancer. The meeting also highlighted problems in cancer research that may benefit from these technologies now and in the future. On March 3 and 4, Dr. Geoffrey Wahl, professor of biology, Salk Institute for Biological Studies, and Dr. Lee Hartwell, director, Fred Hutchinson Cancer Research Center, hosted these symposia in La Jolla, Calif. and Seattle, Wash., respectively. We hope these types of meetings will facilitate and optimize the development of the cross-disciplinary, and even cross-sector, teams required to integrate potentially transformational advanced technologies.

Dr. Mauro Ferrari, professor of biomedical engineering and internal medicine at Ohio State University, and an expert in the field of biomedical nanotechnology, is leading the development of NCI's strategic plan for cancer nanotechnology, the Cancer Nanotechnology Plan (CNP). Dr. Ferrari and the NCI nanotechnology team attended last week's meetings. The priorities and strategies discussed at these symposia, along with extensive input from other intramural and extramural representatives, will be incorporated into the CNP to help guide NCI's efforts in nanotechnology. This plan will build on our existing nanotechnology programs, including the Innovative Molecular Analysis Technologies Program, the Unconventional Innovations Program, and the Fundamental Technologies for Biomolecular Sensors Program, managed by NCI's Office of Technology and Industrial Relations (OTIR).

The critical need for interdisciplinary teams that can integrate nanotechnology into cancer research was discussed at length during the symposia.

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Cancer Research Highlights

Study Examines Combined Hormone Therapy and Colorectal Cancer

A link between relatively short-term use of estrogen and progestin has been associated with decreased risk for colorectal cancer in postmenopausal women by investigators with the Women's Health Initiative (WHI). Observational studies have long shown an association, but they involved postmenopausal women taking estrogen alone or compared women taking estrogen alone with those on combination therapy. In the 1990s, WHI enrolled more than 16,000 healthy, postmenopausal women and randomly assigned them to receive estrogen plus progestin or a placebo. The trial was stopped in 2002 because the general health risks associated with combination hormone therapy outweighed the benefits. Yet investigators again observed an association between the combination therapy and a decreased risk for colorectal cancer.

In the latest study, published in the March 4 *New England Journal of Medicine*, WHI investigators have further compared the incidence, stages, and types of colorectal cancers between the hormone group and the placebo group. Fewer invasive colorectal cancer cases were diagnosed for the hormone group, 43 compared with 72. Even after data were adjusted for history of colorectal cancer and number of first-degree relatives with colorectal cancer, the number of cases observed in the hormone group was lower than that for the placebo group. However, investigators also noted that the cancers diagnosed for women in the hormone group were more advanced and showed more lymph node involvement than those diagnosed in the placebo group. The reason for this is unclear, but the study's findings support a wider implementation of bowel screening among postmenopausal women taking hormone therapy, the study author's wrote.

WHI Estrogen-Alone Study Stopped, No Increase in Breast Cancer Seen

The National Institutes of Health (NIH) last week announced that it was halting the estrogen-alone study of the WHI after reviewing the data and concluding that, on its own, estrogen doesn't appear to increase or decrease the risk of heart disease—a primary end point of the study.

Participants in the estrogen-alone study had an increased risk of stroke. All 11,000 participants were postmenopausal women who had had a hysterectomy. "The NIH has determined that the [estrogen-alone study] results would not likely change if the estrogen trial continued to its planned completion in 2005," said WHI Director Dr. Barbara Alving in an NIH press release. "Furthermore, enough data have been obtained to assess the overall risks and benefits of the use of estrogen in this trial."

The review also showed that estrogen did not increase participants' risk of breast cancer during the study period, in contrast to findings from a separate WHI study of estrogen-progestin combination therapy that was stopped two years ago. In that study, which involved postmenopausal women who had not had a hysterectomy, participants on hormone replacement therapy were at increased risk for breast cancer, coronary heart disease, stroke, and blood clots but at decreased risk for colorectal cancer (see related story on this page) and hip fractures. A detailed analysis of the estrogen-alone study data is under way, with complete results expected to be published in two months.

Early Post-Treatment Breast Cancer Survivors Function Well Emotionally but Experience Physical Problems

Women who have finished breast cancer treatment and are transitioning to survivorship often feel emotionally and mentally stable but still experience a broad range of physical symptoms, according to a study published in the March 3 *Journal of the National Cancer Institute*.

The study, which involved 558 women who had just finished primary breast cancer treatment, found that regardless of what treatment patients received—mastectomy or lumpectomy, with or without chemotherapy—they reported good emotional functioning during this early recovery period. However, many patients reported physical problems such as muscle stiffness, aches and pains, and difficulty concentrating, especially those who underwent mastectomy or chemotherapy. Sexual functioning was worse for women who had had chemotherapy, no matter the type of surgery.

"Having a better understanding of how patients navigate this transitional period is increasingly important

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(Cancer Highlights continued from page 3)

[given the current longer adjuvant treatment period and short-term toxicity]," the researchers wrote. "It is clear that more attention must be paid to the symptoms that women report at the end of treatment because they are associated with poorer physical and emotional well-being."

Genetic Basis for Chromosomal Instability Discovered in Human Colorectal Cancer

Though a large fraction of human cancers commonly contain an abnormal number of chromosomes, scientists have not been able to identify a genetic basis for this phenomenon, called aneuploidy. A study published by Harith Rajagopalan and colleagues in the March 4 issue of *Nature* is the first to show that a specific mutation, in the *hCDC4* gene, can cause aneuploidy in human colorectal cancer cells. *hCDC4*, also known as Fbw7 and Archipelago, is believed to play a role in cell cycle regulation and had been previously proposed to play a role in genetic instability. The investigators showed that *hCDC4* was mutated in over 10 percent of the colorectal cancer tumors studied. They also discovered mutations in precancerous adenomas, which suggests that these mutations can occur prior to a cancer cell's conversion to malignancy.

"Aneuploidy…has been recognized as a hallmark of human cancer for nearly a century; however, the mechanisms responsible for this abnormality have remained elusive," the researchers note. "Our results suggest that mutational inactivation of *hCDC4* is likely to be a chief cause of chromosomal instability in cancers and that this mutation can occur at an early stage." ◆

Featured Clinical Trial

Colorectal Cancer Prevention Study in People with Familial Adenomatous Polyposis

Name of the Trial

Phase II Randomized Study of Celecoxib with or without Eflornithine for the Prevention of Colorectal Cancer in Participants with Familial Adenomatous Polyposis of the Colorectum (MDA-ID-00109). See the protocol summary at http://cancer.gov/clinicaltrials/MDA-ID-00109.

Dr. Patrick Lynch
Principal Investigator

Principal Investigator

Dr. Patrick Lynch of the University of Texas M. D. Anderson Cancer Center

Why Is This Trial Important?

Cancers of the colon and rectum are the fourth most commonly diagnosed cancers and rank second among the causes of cancer death in the United States. An inherited condition called familial adenomatous polyposis (FAP) increases the risk of colon cancer. FAP is characterized by numerous polyps (protruding growths) forming on the inside walls of the colon and rectum. Most people diagnosed with FAP undergo colectomy—surgical removal of all or part of the colon.

Researchers are interested in developing drugs that may offer an additional measure of protection to patients with FAP who either have or have not yet had a colectomy. In this study, researchers are trying to determine if the use of the drugs celecoxib and eflornithine may be an effective way to prevent colorectal cancer in patients who have FAP.

"What makes this study different is that we are pursuing a combination treatment that builds on previous studies of nonselective as well as selective COX-2 inhibitors," said Dr. Lynch. "Those previous studies have shown mixed responses in terms of efficacy from individual drugs, with response rates averaging around 30 percent. With this combination therapy, we hope to achieve synergy and, consequently, to effect a greater reduction in polyp burden than with a single agent alone."

Who Can Join This Trial?

Researchers seek to enroll 120 patients between the ages of 18 and 65 who have been diagnosed with FAP. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/MDA-ID-00109.

Where Is This Trial Taking Place?

Study sites in the United States and England are enrolling patients in this trial. See the list of study sites at http://cancer.gov/clinicaltrials/MDA-ID-00109.

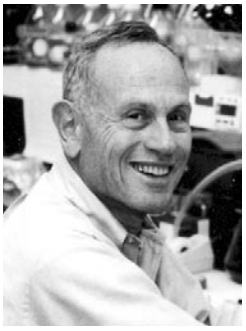
Who to Contact

See the list of study contacts at http://cancer.gov/clinicaltrials/MDA-ID-00109 or call the NCI's Cancer Information Service at 1-800-4-CANCER (1-800-422-6237). 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.

Special Report

New Strategies in Cancer Prevention and Treatment



This special report is based on an October 2003 grand rounds presentation by Dr. Michael B. Sporn.

Dr. Sporn headed NCI's chemoprevention laboratory from its inception in 1978 until 1995. He is the current Oscar M. Cohn '34 Professor of Pharmacology and Medicine, Dartmouth Medical School and Eminent Scholar, NCI's Center for Cancer Research.

Development of modern chemotherapy for cancer originated in a unique translational environment at NIH more than 50 years ago. The opening of the Clinical Center in 1953 allowed Drs. Roy Hertz, Griff Ross, and Mort Lipsett to demonstrate convincingly—for the first time—that total cure of an advanced, potentially lethal cancer (choriocarcinoma) could be accomplished with chemotherapy.

This achievement led to the successful development at NCI of modern combination chemotherapy for leukemia and lymphoma. These were truly translational investigations. The animal studies that developed these new combination therapies were initiated on the NIH campus by Dr. Lloyd Law and colleagues and then translated for the first time into clinical reality by Drs. Tom Frei, Jay Freireich, and their Clinical Center colleagues. These collaborative studies are a model of the kind of cooperation between basic science and clinical application that is still needed to achieve NCI's goal of eliminating suffering and death due to cancer.

It has become clear, however, that the same paradigms for development and testing of cytotoxic agents that worked so well for the treatment of childhood leukemia will not suffice for the control of common malignancies that affect major organs—carcinoma of the lung, colon, pancreas, breast, and prostate—which collectively account for more than half of all cancer deaths.

The process through which leukemia develops is very different from the process by which these other carcinomas develop, explains Dr. Michael B. Sporn, who coined the term "chemoprevention" and is a pioneer in cancer prevention research. "We need to rethink our assumptions concerning control of carcinoma and place more emphasis on control of disease in its earliest, preinvasive stages," he says. "The disease itself is 'carcinogenesis,' an evolving process ultimately leading to the invasive state we call 'cancer.' This process is potentially more manageable in its earliest stages, before it becomes invasive. Most efforts to control cancer focus on treatment of end-stage, invasive, and metastatic disease, rather than on in its prevention."

Given this backdrop, the development of new prevention strategies is of paramount importance. To that end, research now is focusing on new molecular and cellular techniques for assessing individuals' cancer risk; identification of new molecular targets for prevention; and development of new drugs to suppress the carcinogenic process, either at its inception or in its initiated but preinvasive stages.

New diagnostics that take advantage of advances in proteomics and nanotechnology are needed to evaluate the extent of an individual's cancer risk and the efficacy of preventive drugs, adds Dr. Sporn. "Identifying individuals at risk for cancer as early as possible in the pathogenesis of their disease and then evaluating the efficacy of a preventive intervention as quickly as possible is essential if we are to have a real impact," he says.

Although such a preventive strategy holds great promise, it also will be exceedingly challenging. Scientifically speaking, explains Dr. Sporn, this strategy is intrinsically more complex than the classical clinical approach of waiting for relatively advanced disease to manifest itself and starting treatments that can be more easily evaluated because the patient is already symptomatic.

"The complexities of this new approach to prevention provide NCI with an opportunity to play a leadership role in a national effort to prevent cancer," he says. "NCI has the unique ability to make the long-term commitments to prevention. It has unique resources, in terms of the scientific and clinical talents of its staff, as well as its world-class laboratories and new clinical facilities. In such a national effort, NCI will act as a bridge whereby basic scientific knowledge can be applied in a translational manner to reach an ultimate goal." ◆

Notes

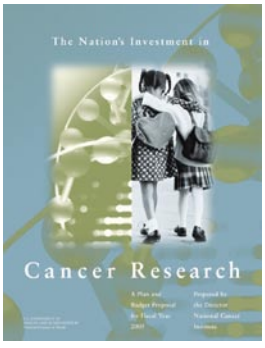
Symptom Management and Palliative Care Research Opportunities

Research in symptom management and palliative care goes far beyond traditional end-of-life issues and extends across the cancer continuum. NCI is making efforts to close research gaps through funding opportunities, training, and partnerships and has added a page to its cancer.gov Web site that will assist symptom management and palliative care investigators in locating and pursuing new funding opportunities in these areas.

NCI's Palliative Care Working Group coordinates the page http://cancer.gov/researchfunding/announcements/symptommanagement, which lists areas of encouraged research from various NIH institutes and centers in one place. With this page, researchers can identify the latest funding opportunities in symptom management and palliative care.

NCI also offers a range of postdoctoral training opportunities in these areas, which are posted at http://cancer.gov/cancertraining. Established investigators, junior faculty, and postdoctoral candidates from underrepresented groups can visit http://cancer.gov/minorityopportunities for grant opportunities.

An Invitation to Help Chart the Future of Cancer Research



Each year, cancer researchers, health care providers, and advocates have an opportunity to participate in charting the future of cancer research. The Nation's Investment in Cancer Research has become even more important to accelerate and focus our efforts to eliminate the suffering and death due to cancer, considering the limited resources and continued urgency to achieve our goals.

The document articulates priorities and outlines strategic directions for NCI and the National Cancer Program. It is used to communicate to the president and Congress what is needed to move cancer research forward, ensure that research is translated into evidence-based interventions, and move interventions into public health programs and medical practice. If you have not received the solicitation for input on the Nation's Investment in Cancer Research for Fiscal Year 2006, please e-mail bypassreview@mail.nih.gov.

NCI Director's Seminar Series to Highlight Biotechnology

Carl B. Feldbaum, president of the Biotechnology Industry Organization (BIO) will be the next featured speaker of the NCI Director's Seminar Series. The talk, "Biotechnology and NCI: Partners in Bringing Patients the Next Generation of Cancer Therapy," will take place on March 19 at 2 p.m. in Masur Auditorium on the NIH campus. As with other speakers in this series, Mr. Feldbaum is a nationally known leader involved in work that directly affects NCI's challenge goal to eliminate the suffering and death due to cancer by 2015. BIO represents more than 1,000 biotechnology companies, academic institutions, state biotechnology centers, and related organizations in all 50 states and in 33 nations.

Courtesy of Biotechnology Industry Organization (BIO). Photo by Peter Krogh.

Mr. Feldbaum will provide an overview of the biotechnology industry, including its accomplishments in the development of cancer therapies, how the industry operates, and how it is financed. He will also address the importance of collaboration among industry, government, and academia and will discuss issues such as conflict of interest and the taxpayer's fair rate of return on the investment in research. The meeting will be webcast live at http://videocast.nih.gov. For more information visit http://cancer.gov/directorscorner.

C-Change Releases Survey on Cancer Attitudes

At a March 3 Washington, D.C. meeting hosted by former President George H. W. Bush and Senator Diane Feinstein, a national organization released a survey showing that Americans fear cancer more than any other major disease. The organization, C-Change, found that virtually every American has been touched by cancer and that only 28 percent know that 70 percent of cancers are preventable. The survey also found that 42 percent of Americans believe that if someone develops cancer, he or she will most likely die from it, although 82 percent reported knowing a survivor. Regarding clinical trial participation, approximately 80 percent said they would enroll in a trial if they were diagnosed with cancer, in stark contrast to the 3 to 5 percent of cancer patients who currently participate. C-Change was originally formed as the National Dialogue on Cancer in 1998. C-Change Board Chair Dr. LaSalle Leffall, Jr. said the organization has evolved from a group driven by dialogue into one seeking action. ◆

Funding Opportunities

Pathogenesis and Treatment of Lymphedema and Lymphatic Diseases

PA-04-071
Application Receipt Dates: June 1, 2004; Oct. 1, 2004; Feb. 1, 2005; June 1, 2005; Oct. 1, 2005; Feb. 1, 2006; June 1, 2006; Oct. 1, 2006

NCI invites qualified researchers to submit applications for research project grants to investigate the pathogenesis and new treatments for primary and secondary lymphedema. Research is also needed on the pathophysiology of the disorders of skin and subcutaneous tissue secondary to chronic lymphedema, as well as lymphedema that results from cancers and cancer treatment, with an ultimate goal to develop more targeted and effective therapies.

The PA will use the NIH individual research project grant (R01) award mechanism.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=1920

Inquiries: Dr. Suresh Mohla, mohlas@mail.nih.gov

In Vivo Cellular and Molecular Imaging Centers (ICMICs)

PAR-04-069
Letter of Intent Receipt Date: June 22, 2004; June 21, 2005
Application Receipt Dates: July 22, 2004; July 22, 2005

The NCI Cancer Imaging Program invites applications for new or competing P50 Research Center Grants for ICMICs. The 5-year P50 ICMIC grants described are designed to bring together interdisciplinary scientific teams to lead the nation in cutting-edge cancer molecular imaging research with clinical relevance, provide unique core facilities to support oncology imaging research, provide flexibility to respond to exciting pilot research opportunities, and provide interdisciplinary career development opportunities for investigators new to the field of molecular cancer imaging.

This PAR will use the NIH P50 Specialized Centers Grant Mechanism.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=1921

Inquiries: Dr. Anne E. Menkens, am187k@nih.gov ◆

Join the Tour of Hope with Lance Armstrong

The Bristol-Myers Squibb Tour of Hope™ will champion the race toward a cure for cancer this fall, and you can be a part of it. Applications for joining the 20-member Bristol-Myers Squibb Tour of Hope™ Team will be available on March 15 at http://www.tourofhope.org. The Tour is an extraordinary bicycle ride across the country that will mobilize America to speed the search for a cure. Applications are due Sunday, April 4 at 11:59 pm EDT.

(Director's Update continued from page 2)

For example, one of the teams at the La Jolla symposium, represented by Dr. Leroy Hood, president of the Institute for Systems Biology (ISB), presented a compelling rationale for the role of inter- and cross-disciplinary teams in developing nanodevices that support systems-based cancer investigations. Dr. Hood is working with Dr. James Heath, professor of chemistry at the California Institute of Technology (Caltech), and others at the University of California, Los Angeles, ISB, and Caltech on the NanoSystems Biology Alliance, an initiative complementary to CNP. The Alliance seeks to integrate nanotechnology and microfluidics with cancer biology to develop new tools to create testable biological models that will elucidate the complex interrelationships among genes, RNA, and proteins within the cancer cell.

The integration of advanced technologies into cancer biology is a critical strategic priority for NCI. To extract maximum value from these technologies, NCI is seeking broad participation from the intramural and extramural communities in its planning efforts. The Cancer Nanotechnology Symposia represent an important mechanism for obtaining this type of input to build the strongest possible nationwide action plan for cancer research.

We will further explore the challenges of building cross-disciplinary teams and the development and integration of advanced technologies into the discovery, development, and delivery continuum in future issues of the *NCI Cancer Bulletin*. ◆

Guest Editorial by
Dr. Anna Barker
Deputy Director, Advanced Technologies and Strategic Partnerships

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	Annual Joint Meeting of the NCI Board of Scientific Advisors and Board of Scientific Counselors
Mar 15	Clinical Sciences and Epidemiology—Subcommittee 1, Board of Scientific Counselors, NCI
Mar 15	Basic Sciences—Subcommittee 2, Board of Scientific Counselors, NCI
Mar 15-16	NCI Board of Scientific Advisors

Selected Upcoming Meetings of Interest

Date	Meeting	Speakers
Mar 9-12	UCSF Comprehensive Cancer Center's Cancer Prevention Seminar	Dr. Peter Greenwald, Director, Division of Cancer Prevention
Mar 13	Update 2004: Cancer Research and Treatment	Dr. J. Carl Barrett, Director, Center for Cancer Research
Mar 14-16	28th Annual Meeting of the American Society of Preventive Oncology	Dr. Robert T. Croyle, Director, Division of Cancer Control and Population Sciences
Mar 17-18	Imaging in Oncology	Dr. Ellen Feigal, Acting Director, Division of Cancer Treatment and Diagnosis
Mar 19	Director's Seminar Series: Biotechnology and NCI: Partners in Bringing Patients the Next Generation of Cancer Therapy	Carl B. Feldbaum, President, Biotechnology Industry Organization
Mar 24-27	25th Anniversary Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine	Dr. Robert T. Croyle, Director, Division of Cancer Control and Population Sciences
Mar 24-28	9th Biennial Symposium on Minorities, the Medically Underserved & Cancer	Dr. Andrew C. von Eschenbach, Director; Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships; Dr. Mark Clanton, Deputy Director, Cancer Care and Delivery Systems; Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities

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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