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Eliminating the Suffering and Death Due to Cancer

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NCAB Discusses Future of Cancer Technology at NCI

"There is an extraordinary evolution going on in biomedical technology," said Dr. Eric Lander, co-chair with Dr. Leland Hartwell of the National Cancer Advisory Board (NCAB) ad hoc Subcommittee on Biomedical Technology Working Group, as he began his presentation at the Board's meeting on September 14. Dr. Lander discussed the Working Group's 2004 agenda, which focused on specific ways to take advantage of the potential power of technology through projects, initiatives, and structures that would have an effect all across cancer.

Dr. Lander's presentation and all public NCAB sessions are available online at: http://videocast.nih.gov/PastEvents.asp?c=998

The NCAB Biomedical Technology Subcommittee established the Working Group to advise the Board, National Cancer Institute (NCI) Director Dr. Andrew C. von Eschenbach, and senior leadership on the development and application of biomedical technologies to cancer. Before this meeting, the Working Group enlisted the help of outside experts and developed subgroups to examine specific aspects and themes related to cancer and advancing technologies.

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Director's Update

Communication: An Important Cornerstone of Success

Last week NCI released its inaugural annual report, *The Nation's Progress in Cancer Research* for 2003, available at www.cancer.gov/aboutnci/annualreport. This new communication tool describes some of the successes from NCI-supported research published in late 2002 and 2003—highlights that are representative of the discovery, development, and delivery continuum and illustrate the progress we are making toward the 2015 goal.

The development of an annual report is just one example of the evolution of how NCI communicates with its key constituencies, including the public. We have reached a crossroads in the battle against cancer, so it is vital that we communicate effectively with all of our stakeholders to provide evidence-based guidance and inform them about the latest happenings that affect their lives.

NCI's communication strategy is based on a two-pronged approach: first, we proactively disseminate information on

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Reminding the Board that these are tentative recommendations and that several issues remain to be discussed by Working Group members, Dr. Lander noted that a number of themes identified by the subgroups overlapped, particularly in comprehensive characterization of the genomic basis of cancer and in the molecular detection of cancer.

Regarding the genomic basis of cancer, Dr. Lander noted that there is "always a new oncogene lurking out there, waiting to be discovered." But, because the number of different types of cancer is limited, for each type researchers can determine which genes are mutated in at least 5 percent of those cancers.

"Drug companies and academic researchers are increasingly coming up with strategies for translating a significant fraction…of important targets into therapeutics, and a larger fraction into important diagnostics," Dr. Lander said. He suggested that a cancer-focused program similar to the Human Genome Project could dramatically accelerate this process. Dr. Lander noted that this effort will require coordination of many different groups.

Regarding the molecular detection of cancer, he highlighted proteomics, saying that the "technology remains slow and expensive." He suggested that NCI might push forward proteomics by focusing its application, and also said that the "push" from technology developers needs to be supported by a "pull" from the cancer community, such as mandatory use of new technology in collaborative settings.

Dr. Lander ended by saying that a report on the Working Group's findings will most likely be ready at the December 2004 NCAB meeting.

Board members responded enthusiastically to the presentation. "This is one of the most exciting groups and processes in terms of their vision and thinking about the future and about how we can have a dramatic impact on this disease," said Dr. John Niederhuber, NCAB chair.

There were also questions. "I'd like to speak up to strongly endorse what Dr. Lander is saying here," said new NCAB member David H. Koch, "but, I worry that a big organization like the National Cancer Institute has a lot of inertia and can't change very quickly to support breakthroughs… In short, How do we make the NCI elephant dance like a ballerina?"

Dr. Lander answered, "In many ways, I would suggest that in completely restructuring an elephant, it might be best to focus on a part of it first. What we will attempt to do in the report is to lay out the structures that we believe are necessary to get these jobs done." ◆

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current NCI initiatives, breaking cancer news, and other cancer topics. We are also prepared, however, to react and respond to scientific and programmatic issues as they arise.

For example, NCI has been a leader in using the Internet to deliver easy-to-read information for the public on cancer prevention, diagnosis, treatment, and survivorship. We also provide important educational resources geared toward the lay public and professionals, such as the clinical trial education series and publications from the Cancer Information Service.

At the other end of the communication spectrum are NCI's efforts to inform our stakeholders and the public about the rapidly changing cancer research enterprise. Last week, for example, NCI held a press briefing to tell reporters about the launch of the NCI Alliance for Nanotechnology in Cancer. During the event, journalists received important background information on this exciting initiative and had the chance to ask questions of NCI leadership and some of the world's leading experts on nanotechnology.

The *NCI Cancer Bulletin* also plays a central role in our communication strategy. NCI has an important story to share, and the *Bulletin* is proving to be an effective means of getting our story out. A recently completed survey of *Bulletin* readers revealed widespread satisfaction with this new publication, evidenced by the doubling of its subscription base from approximately 8,000 to more than 16,000 since it was launched in January.

Yet another crucial communication vehicle is the annual professional judgment plan and budget proposal, *The Nation's Investment in Cancer Research*, a publication that presents NCI's strategic priorities and outlines the funding we believe is needed to achieve our goals and build on our success in the upcoming fiscal year. Our new annual report will serve as a companion piece to this document. The plan and budget proposal for Fiscal Year 2006 is expected to be available in late October and will be framed around the seven strategic priority areas under the 2015 goal. The accompanying annual report, focused on achievements of 2004, will be available in early 2005.

I encourage you to read these publications and I welcome any feedback you may have on them and other NCI communications. The purpose of all of our communications is to meet our stakeholders' needs and we believe that, by using the right mix of communication tools and outreach, we can be more transparent and more responsive and continue to engender the trust and support of the entire cancer community as we all push forward to achieve an elusive but achievable goal. ◆

Dr. Andrew C. von Eschenbach
Director, National Cancer Institute

Cancer Research Highlights

Alcohol Consumption Not Linked to Bladder Cancer Risk

Researchers at Boston University Medical School and NCI found no association between alcohol consumption and bladder cancer risk in a study of 10,125 people. However, beer consumption was significantly associated with a reduced risk of the cancer, while hard liquor and wine were not.

The results, published in the September 15 *Journal of the National Cancer Institute*, were based on records from the Framingham Heart Study—an extensive, population-based study begun in 1948 and funded by the National Institutes of Health's (NIH) National Heart, Lung, and Blood Institute. Participants in the study have been repeatedly interviewed about their alcohol consumption and smoking habits.

For each of the 122 bladder cancer cases included in the study, Dr. Luc Djoussé of the Boston University School of Medicine and his colleagues selected as many as 5 control subjects matched by age, sex, and smoking status and frequency. Smoking is known to be a strong risk factor for bladder cancer. They categorized subjects by average grams of alcohol consumed per day, from zero to 48—one drink contains about 12 grams.

While most studies have not found an association between alcohol consumption and bladder cancer risk, two have provided evidence suggesting a connection in men. The authors speculate that this may be due to the difficulty in controlling for smoking in these studies and note that the population in the Framingham study is characterized by moderate drinking—only 7 percent consumed more than four drinks a day. They suggest further study to confirm the significant association they found between beer consumption and reduced risk of bladder cancer.

NCI Web Site Wins Health & Medical Media Award

NCI's Web site, www.cancer.gov, has won the 2004 International Health & Medical Media Award—the FREDDIE—in the Web site category. Now in its 30th year of competition, the prestigious FREDDIE awards are sponsored by medical publisher MediMedia. The goal of the FREDDIE awards is to promote excellence in videos, films, DVDs, CD-ROMs, and Web sites that address health and medical issues for both consumers and health care professionals.

Winning this FREDDIE puts NCI in excellent company. Previous FREDDIE winners include the Discovery Health Channel, ABC News, Home Box Office, Dateline NBC, and many others.

"Our staff continually meet the challenge of finding innovative ways to present all of NCI's information and resources to the public. It's very exciting for the cancer.gov Web site, its staff, and other NCI staff who are responsible for Web site content to be recognized in this way," said Nelvis Castro, director of NCI's Office of Communications, which manages cancer.gov.

To see the full list of this year's winners and finalists in all categories, visit http://www.thefreddies.com. ◆

EGFR Mutations Occur Frequently in Never-Smokers Diagnosed with Lung Cancer

A high percentage of individuals considered "never-smokers" who develop lung cancer have mutations in one specific receptor protein, according to a new study appearing in the September 7 *Proceedings of the National Academy of Sciences*. These mutations are present in the kinase domain of the epidermal growth factor receptor (EGFR), and they are also associated with sensitivity to the drugs gefitinib and erlotinib.

The research team from Memorial Sloan-Kettering Cancer Center and Washington University School of Medicine, funded in part by NCI, checked the sequences of EGFR from tumors known to respond to gefitinib or erlotinib treatment. They found EGFR mutations in 12 out of 17 drug-sensitive tumor samples. In contrast, none of the 18 drug-resistant tumors examined contained an EGFR mutation. A majority of these mutations were found in one of two conserved regions on the receptor, both of which were near the activation site.

Most of the mutation-positive tumors came from patients classified as never-smokers, so the researchers next examined the frequency of EGFR mutations in relation to smoking rates. EGFR mutations were present in 7 of 15 samples derived from never-smokers, while only 4 of 81 samples derived from current or former smokers contained an EGFR mutation. Interestingly, 3 of the EGFR mutations among the current-smoker

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Special Report

The Hunt for Better Symptom Relief

In July 2002, a panel of experts gathered on the NIH campus to assess the state of the science on how clinicians manage the three most common symptoms of cancer treatment. The panel was disturbed by what it found. "Currently, cancer-related pain, depression, and fatigue are under treated and this situation is simply unacceptable," panel chair Dr. Donald Patrick, from the University of Washington, said at the time. "There are effective strategies to manage these symptoms and all patients should have optimal symptom control."

The committee meeting and resulting report marked a watershed moment for palliative care, says Dr. Ann O'Mara, a program officer in the NCI Division of Cancer Prevention. Palliative care, especially the management of symptoms of active cancer treatment, has become a burgeoning area of research. Current areas of investigation range from testing new treatments for nausea and hot flashes to how to more effectively use symptom management practice guidelines.

Although pain, fatigue, and depression have been studied most heavily, greater attention is now being paid to a range of symptoms, including sexual dysfunction, bladder inflammation, mucositis, hot flashes, loss of appetite, and sleep disorders. Through the NCI Community Clinical Oncology Program, more than 50 protocols are testing new agents for cancer treatment symptoms, including complementary and alternative approaches such as acupressure and mindfulness relaxation.

An area of intense investigation is the treatment of cognitive and psychosocial problems resulting from cancer treatment. Researchers at the Comprehensive Cancer Center of Wake Forest University, for example, recently completed a phase I trial using the Alzheimer's drug donepezil (Aricept) in patients who had undergone whole brain radiation and had three common cognitive function problems: slowing of thinking, short-term memory loss, and difficulty expressing themselves in language. The 24-patient pilot study, the results of which will be presented in November at the Society for Neuro-Oncology annual meeting, was an "overwhelming success," according to the study's leader, Dr. Edward G. Shaw. Patients had a dramatic improvement in energy level, decrease in depression and anxiety, and better memory and concentration.

"We were surprised at how dramatic the effect was and, of course, the patients were extremely pleased," Dr. Shaw says. "These people are now able to return to a more normal life."

Eliminating Barriers

Although finding more effective treatments is important, many researchers and clinicians believe the more pressing need is ensuring that existing interventions for symptoms are delivered to patients.

"We have a lot of data on what the barriers are, and there are a lot of them," says Dr. O'Mara. They range from a lack of systems in treatment facilities and clinical practices for effectively addressing symptoms to poor communication between patients and physicians. "It's very clear that most clinicians don't ask patients about their symptoms," she adds.

This communication breakdown is often exacerbated by physicians' limited time with patients and poor reimbursement for symptom management. Patients also are often reluctant to mention their symptoms to their clinicians. "They want their doctor to focus on their cancer," says Dr. Ann Berger, chief of the Pain and Palliative Care Service at the NIH clinical center.

With the release earlier this year of a request for applications (RFA), NCI launched an important new effort to eliminate or reduce some of these barriers. "With this RFA, we're asking investigators to design studies … that help improve the delivery of a particular standard of care for a particular symptom," Dr. O'Mara says.

Pain is a classic example of an area in need of improvement. Clinicians understand how to measure pain and have a better understanding of its impact on morbidity and mortality. "We also know that there are a lot of good therapies out there, but patients are still suffering from a lot of pain," Dr. O'Mara comments. In a recent study that involved more than 240 veterans being treated for both solid tumors and hematologic cancers, for example, the pain prevalence rate was 52 percent.

It's expected that some of the research generated by the RFA will examine methods for improving patients' and caregivers' understanding and use of symptom interventions, new models of care coordination, and novel strategies to improve symptom management in underserved populations. Some approaches may have an information technology component, such as a study currently being conducted at the University of

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Washington comparing outcomes between patients who receive usual care and those who receive care by clinicians using a computerized pain assessment and decision support tool.

As more data on optimal use of existing and new interventions become available, there is an obvious corresponding need the RFA is intended to address. "Hopefully," says Dr. O'Mara, "it will generate the kind of results that ensure more cancer patients get the symptom relief they need." ◆

(Research Highlights continued from page 3)
samples came from patients with limited exposure to smoke; they were not long-term heavy smokers.

"Collectively, these data show that adenocarcinomas from never smokers comprise a distinct subset of lung cancers, frequently containing mutations within the TK domain of EGFR that are associated with gefitinib and erlotinib sensitivity," stated the authors.

Gerberding Outlines Obesity Epidemic

Dr. Julie Louise Gerberding, Director of the Centers for Disease Control and Prevention (CDC), was the keynote speaker at the NCI Director's Seminar Series on September 16. In her talk, "Achieving Energy Balance: Aspiration…Inspiration…Motivation…Implementation!" Dr. Gerberding began by highlighting the growing discrepancy between advances in modern medicine and the general health decline of the United States. She showed the alarming trends in the nation's obesity epidemic, and discussed how this problem affects all life stages. With approximately 65 percent of Americans defined as clinically overweight, Dr. Gerberding stressed that obesity should be thought of less as a chronic disease, with more emphasis placed on quicker response, preparedness, and the importance of bridging the gap between the obesity problem and an individual's understanding of it. She noted that CDC is working on many levels across various disciplines to reverse this trend and highlighted CDC's new research initiatives and the need for increased collaboration among government agencies, industry, and other partners.

Dr. Gerberding became director of CDC and the administrator of the Agency for Toxic Substances and Disease Registry (ATSDR) in July 2002. Prior to her appointments at CDC and ATSDR, Dr. Gerberding was Acting Deputy Director of the National Center for Infectious Diseases. She joined CDC in 1998 as Director of the Division of Healthcare Quality Promotion, where she developed CDC's patient safety initiatives and other programs to prevent infections, antimicrobial resistance, and medical errors in health care settings. ◆

Increasing Fruit and Vegetable Consumption through Grocery Stores and Other Settings

Researchers at Emory University and NCI have collaborated in presenting strategies for increasing daily recommended servings of fruits and vegetables. These recommendations stem from a September 26-27, 2002 workshop cosponsored by the Centers for Disease Control and Prevention and the American Cancer Society. Experts from the government and private sectors, produce and food service industries, and academic researchers attended the Fruit and Vegetable Environment, Policy, and Pricing Workshop, and worked to identify interventions, strategies, and existing programs to improve efforts in increasing fruit and vegetable consumption. In a supplement to the September 2004 *Preventive Medicine*, Dr. Karen Glanz of Emory University and Dr. Amy Yaroch of NCI present an overview of environmental, policy, and pricing strategies that can be applied in grocery stores and other community settings.

Grocery stores are a valuable untapped resource in exerting change in eating habits; the authors note that recent studies have found not only that fruit and vegetable intake in adults increased in proportion to additional grocery stores within a census tract, but that availability of healthy foods in stores is associated with adherence to healthier diets. Additionally, grocery stores now account for almost one-fifth of all take-out foods, thus contributing to their importance in Americans' food choices.

Interventions that can be implemented in grocery stores to promote good health, provide product information, lower costs, and offer product diversity include: point-of-purchase information; reduced prices and coupons; increased availability, variety, and convenience; and promotion and advertising. Other community settings such as churches, child care centers, and neighborhoods have implemented similar programs to increase fruit and vegetable consumption. These types of strategies have shown promise in emphasizing the need for proper nutrition through fruit and vegetable intake, but limited evaluations have yielded mixed results in terms of their effectiveness. The authors note "there is a need to further develop valid and reliable measures of supermarket environments beyond the excellent but limited work of the early 1990s." ◆

Funding Opportunities

Research on Malignancies in AIDS and Acquired Immune Suppression

PA-04-157
Application Receipt Dates: January 2, May 1, September 1, 2005; January 2, May 1, September 1, 2006; January 2, May 1, September 1, 2007

The purpose of this initiative is to stimulate research that will improve our understanding of the biological basis of development and progression of cancer in the context of Human Immunodeficiency Virus (HIV) infection and Acquired Immune Deficiency Syndrome (AIDS) or acquired immune suppression not associated with HIV infection such as organ transplantation. NCI and the National Institute of Dental and Craniofacial Research seek to encourage novel approaches to discovery and preclinical development of novel therapeutic agents and biomarkers for early diagnosis and monitoring of disease progression.

This funding opportunity will use the NIH exploratory/development (R21) award mechanism and the NIH investigator-initiated research project grants (R01) award mechanism.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2260

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Featured Clinical Trial

Immunotoxin Therapy for Advanced Solid Tumors

Name of the Trial

Phase I Study of SS1(dsFv)-PE38 Immunotoxin in Patients with Advanced Mesothelin-Expressing Malignancies (NCI-03-C-0243). See the protocol summary at http://cancer.gov/clinicaltrials/NCI-03-C-0243.

Principal Investigator

Dr. Raffit Hassan, NCI Center for Cancer Research.

Dr. Raffit Hassan
Principal Investigator

Why Is This Trial Important?

Mesothelin is a protein that is found on the outside of normal mesothelial cells. These cells are present in tissues that surround the lungs (pleura), the heart (pericardium), and the abdomen (peritoneum). Mesothelin is also found in large amounts in several different types of cancer, including mesothelioma and ovarian and pancreatic adenocarcinoma.

Researchers at NCI are investigating mesothelin as a possible target for immunotherapy (treatment to stimulate the immune system's ability to fight cancer). A new drug called SS1(dsFv)-PE38 (or SS1P) targets cells that make mesothelin and delivers a toxin to them that will kill the cells. This trial will test the safety of SS1P in patients who have advanced mesothelin-expressing cancers.

"Mesothelin is highly expressed on a number of tumors, and it appears to play a role in cancer spread," said Dr. Hassan. "These characteristics make it a very important molecule for targeted therapies.

"SS1P is the first targeted therapy for mesothelioma, an aggressive cancer and one for which there is no effective treatment currently available," added Dr. Hassan.

Who Can Join This Trial?

Researchers seek to enroll 10 to 15 patients with advanced, mesothelin-expressing solid tumors. See the full list of eligibility criteria at http://cancer.gov/clinicaltrials/NCI-03-C-0243.

Where Is This Trial Taking Place?

This study is taking place at the NIH Warren G. Magnuson Clinical Center in Bethesda, Md.

Who to Contact

For more information, call the NCI Clinical Studies Support Center (CSSC) at 1-888-NCI-1937. The CSSC provides information about cancer trials taking place on the NIH campus in Bethesda, Md. The call is toll free and confidential. ◆

An archive of "Featured Clinical Trial" columns is available at http://cancer.gov/clinicaltrials/ft-all-featured-trials.

Notes

5 A Day and Prostate Cancer Awareness Month

September is National Prostate Cancer Awareness Month and National 5 A Day for Better Health Month. Go online to learn more about these programs and related awareness activities. For more information on prostate cancer, visit http://www.cancer.gov/cancertopics/types/prostate. For more information on the national 5 A Day for Better Health Program, visit http://5aday.gov/.

Communication Research Centers Discuss Progress

The third meeting of NCI's Centers of Excellence in Cancer Communication Research (CECCR) investigators took place September 2-3 in Madison, Wis., hosted by members of the University of Wisconsin, Madison CECCR and NCI's Health Communication and Informatics Research Branch. Center researchers, NCI staff, and expert consultants discussed research progress and methodological issues. Trans-center working groups also discussed opportunities surrounding collaboration, evaluation, dissemination, and management. Funded in 2003, the P50 CECCR initiative awarded grants to four centers to develop new theories, methods, and interventions for cancer communication to narrow the gap between discovery and application, while focusing efforts on diverse or underserved populations.

Led by Dr. David H. Gustafson, the University of Wisconsin, Madison CECCR is exploring the attributes of a successful, interactive cancer communication Web-based program and the impact such a program can have on patient and caregiver quality of life, as well as caregiver burden. The University of Michigan center, headed by Dr. Victor Strecher, is developing an efficient model for generating tailored health behavior interventions, as well as how these messages can be used in prevention and control materials and how different interventions impact behavior.

Dr. Robert Hornik leads the Effects of Public Information on Cancer Center at the University of Pennsylvania in its research to investigate the various impacts that information seeking, advertising messages, family history, and targeted cancer information have on health behavior change.

The center at St. Louis University, led by Dr. Matthew Kreuter, aims to enhance cancer communications to African American audiences by making messages compatible with cultural beliefs, norms, and values. The center mixes disciplinary strengths in anthropology, epistemology, and journalism to investigate the effectiveness of narrative story telling and targeted messaging within specialized media.

In April 2005, CECCR investigators will meet in St. Louis, Mo. For more information on the centers and their research, visit http://cancercontrol.cancer.gov/hcirb/ceccr/.

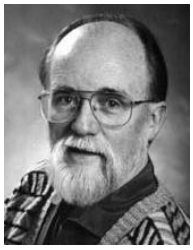
New Web Site Provides Information on Radiation Exposure

The American College of Preventive Medicine (ACPM) recently launched a new Web site for physicians and other health professionals: www.iodine131.org. The site provides scientific information about radiation exposure from iodine 131 (I-131) and is a gateway to additional information and resources about I-131 radiation exposure and related health effects.

NCI served on the ACPM I-131 Education Advisory Committee and provided expert content review of the Web site and other materials. To learn more about NCI's initiatives related to radiation exposure due to nuclear testing fallout, go to www.cancer.gov/i131.

Randomized Control Trials in Evaluation Lecture

On Tuesday, September 14, Dr. Michael Quinn Patton presented "The Debate about Randomized Controls as the Gold Standard in Evaluation," reviewing the strengths and weaknesses of randomized experiments in evaluation. Dr. Patton is a nationally recognized expert in the field of utilization-focused evaluation, and focused his lecture on how evaluation is practiced, understood, and utilized to improve programming. He discussed how research and evaluation are different and therefore need to be assessed using unique criteria. He argued that considering randomized control trials (RCT) the gold standard for proving effectiveness distorts the evaluation process itself and dictates that emphasis be placed on adherence to RCT methodology rather than the methodology that is best suited for answering the research questions. Dr. Patton continued by discussing several alternatives to using RCT for evaluation, and provided historical examples where other approaches have been successful in proving effectiveness of programs and interventions. He concluded the lecture by stating that the gold standard should be the method that is most appropriate, not any one methodical orthodoxy or rigidity.



An archive of Dr. Quinn-Patton's talk can be viewed at http://videocast.nih.gov/PastEvents.asp?c=4. ◆

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

Date	Advisory Committee
Sept. 27	President's Cancer Panel

Selected Upcoming Meetings of Interest

Date	Meeting	NCI Speakers
Sept. 27-28	2nd Uterine Cancer Biology Symposium—Translational Research and Clinical Management of Uterine Cancers	Dr. J. Carl Barrett, Director, Center for Cancer Research; Dr. Edward L. Trimble, Clinical Investigation Branch, Cancer Therapy Evaluation Program, Division of Cancer Diagnosis and Treatment
Oct. 6-7	Summit for Success Regional Conference	Dr. Andrew C. von Eschenbach, Director
Oct. 6-8	The Advancing Practice, Instruction, and Innovation Through Informatics Conference (APIII 2004)—Frontiers in Oncology and Pathology Informatics	Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships; Dr. Jules Berman, Cancer Therapy Evaluation Program, Division of Cancer Treatment and Diagnosis; Dr. Ken Buetow, Director, NCI Center for Bioinformatics
Oct. 6-10	American Association for Cancer Research Special Conference: Advances in Proteomics in Cancer Research	Dr. J. Carl Barrett, Director, Center for Cancer Research; Dr. Sudhir Srivastava, Chief, Cancer Biomarkers Research Group, Division of Cancer Prevention; Dr. Lance A. Liotta, Chief, Laboratory of Pathology, Center for Cancer Research; Dr. Emanuel Petricoin, Co-Director, Clinical Proteomics Initiative, Center for Cancer Research; Dr. John N. Weinstein, Laboratory of Molecular Pharmacology, Center for Cancer Research

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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