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Eliminating the Suffering and Death Due to Cancer

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Two New Studies Profile Prognostic Factors for Breast Cancer

Two new studies provide insight into the use of new and standard prognostic factors for women with breast cancer. The first, conducted by Dr. Massimo Cristofanilli and colleagues at several prominent U.S. cancer research centers, confirms the long-held hypothesis that the number of cancer cells in the blood are a direct indicator of disease severity. The results are published in the August 19 *New England Journal of Medicine*.

This research was performed using a new test—the CellSearch System—which uses antibody-coated magnetic beads followed by fluorescently labeled monoclonal antibodies to distinguish cancerous epithelial cells from leukocytes in a blood sample. The test was developed by the research sponsor, Immunicon Corp.

All 177 women in the study group had metastatic breast cancer and were starting a new course of systemic treatment. The women began the study with standard imaging of metastatic sites and a baseline test for the number of cancer cells in their blood, followed by another blood test approximately 4 weeks later and additional imaging around 10 weeks

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Director's Update

A Vital Connection to the Cancer Community

New NCAB Members

Dr. John E. Niederhuber *(reappointed as chair)*	University of Wisconsin School of Medicine
Ms. Kathryn Giusti	Multiple Myeloma Research Foundation
Mr. David H. Koch	Koch Industries
Dr. Diana Montes de Oca Lopez	University of Miami School of Medicine
Dr. Carolyn D. Runowicz	University of Connecticut Comprehensive Cancer Center
Dr. Daniel D. Von Hoff	Arizona Health Sciences Center's Cancer Therapeutics Program

One of the most effective ways in which NCI interacts with the cancer community is through our advisory boards. Next week, for instance, the National Cancer Advisory Board (NCAB) will meet for the third time this year. Among the advisory boards and committees to NCI, the NCAB plays a unique role. The NCAB advises both NCI leadership and the secretary of the Department of Health and Human Services with regard to the Institute's strategic plan and its intramural and extramural research activities. The committee's 18 members are appointed by the President.

The NCAB also is distinct from other NCI advisory boards in that it

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after baseline. A comparison of these data points, with consideration of various cancer risk factors, showed that circulating tumor cells were a useful predictor of disease progression and survival in these women. Analysis also showed that five cancer cells per 7.5 milliliters of blood was the cutoff for determining a poor prognosis or the likelihood of progression-free survival. Women above the cutoff had a significantly shorter survival period—a median of 10 months—compared with more than 18 months of progression-free survival for women below the cutoff.

The authors note that the CellSearch System is not proven as a reliable screening tool for metastatic breast cancer. They do, however, see its promise as a means of determining treatment efficacy much earlier than was previously possible—within 3 to 4 weeks of initiation—compared with the 8 to 12 weeks that imaging studies require.

"This test has the potential to change clinical management," Dr. Cristofanilli said in an interview with Reuters Health. "One day, we may be able to suggest to a patient, based on personal risk, a more aggressive treatment, a less aggressive treatment, or no treatment at all."

The second study, published in the September 1 *Journal of the National Cancer Institute* by Dr. Catherine Schairer and colleagues at the National Cancer Institute's (NCI's) Division of Cancer Epidemiology and Genetics, showed that the probability of death from breast cancer varied substantially when taking into consideration standard prognostic factors such as age at diagnosis, tumor size, estrogen receptor (ER) status, and stage of disease. Overall, probability of death from breast cancer relative to death from other causes generally declined with age within stage, but increased with advancing stage of disease, regardless of age, in both white and black patients. Young women who are diagnosed with breast cancer, and women of all ages who are diagnosed with breast cancer in its advanced stages, are more likely to die from it than from any other cause.

To develop better estimates of the risk of death from breast cancer and other causes in breast cancer patients, Dr. Schairer and her team analyzed Surveillance, Epidemiology, and End Results Program data from more than 400,000 breast cancer patients diagnosed between 1973 and 2000. They calculated probabilities over a 28-year follow-up period according to the women's age at diagnosis, stage of disease, and race. More recent data allowed additional analysis according to tumor size and ER status over an 11-year period.

"To our knowledge, this is the first comprehensive competing-risk analysis to quantify the probability of death from breast cancer and other causes after a diagnosis of breast cancer," said Dr. Schairer. "These results can provide important prognostic information to physicians and patients, and may help in weighing the risks and benefits of various treatment options, particularly in older women."

Dr. Schairer also believes that future studies, such as similar analyses for other cancers and more in-depth analyses for breast cancer according to tumor size and hormone receptor status, could generate additional valuable tools for physicians and patients. ◆

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provides secondary peer review of all grant applications to NCI over $50,000. This is a critical responsibility that ensures the NCAB is an active participant in guiding the direction of cancer research.

The NCAB's close affiliation with the President's Cancer Panel (PCP) also sets it apart. In fact, PCP members attend every NCAB meeting, typically providing an update on the panel's activities, but also often engaging in the board's discussions.

Although the NCAB is one small group of individuals, through its standing and ad hoc subcommittees and work groups, it can tap into experts in every aspect of cancer research and treatment, which significantly expands its ability to thoroughly address the issues brought before it. When a subcommittee makes recommendations (which must first be accepted by the full NCAB), the result can often be immediate and lasting. For example, in February 2003, an NCAB ad hoc working group that examined the award mechanisms for funding cancer centers (P30) and Specialized Programs of Research Excellence, or SPOREs (P50) issued an excellent report that included a number of recommendations NCI is acting on, including using cancer centers to pilot new research and dissemination programs, such as the cancer Biomedical Informatics Grid (caBIG).

Under the thoughtful leadership of NCAB chair Dr. John Niederhuber, I am confident that the NCAB will continue to have a positive and lasting impact on NCI's activities and the course of cancer research and care. The commitment and expertise of the NCAB and the other NCI advisory boards are one reason that I am confident we can achieve the 2015 goal. ◆

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

Cancer Research Highlights

Selective Use of Patients from High-Risk Clinics May Bias Study Results

People who are genetically predisposed to certain types of cancer can undergo treatments and surgeries that might reduce their risk of disease. For example, women who carry a mutation of the BRCA1 or BRCA2 genes are genetically predisposed to breast or ovarian cancer and can undergo tubal ligation or prophylactic mastectomy. Research on the effectiveness of interventions such as these can influence what physicians recommend and what individuals ultimately decide to do. In a commentary in the August 18 *Journal of the National Cancer Institute*, Dr. Sholom Wacholder of NCI warns that some of these studies may be susceptible to a bias that can misrepresent the effectiveness of the interventions.

Clinics that care for people at high risk for cancer provide a prime setting to study an intervention's efficacy because these clinics see a large number of patients who are carriers of mutated genes. Patients with these mutations who have been diagnosed with cancer typically serve as the study group; those who are carriers but have not developed cancer may be part of the study's control group.

In some studies, controls are recruited only from these high-risk clinics while study group patients are sometimes recruited from sources other than high-risk clinics to increase the number of such patients. As a result, those who were not diagnosed with cancer but previously seen at the clinic—the control group—may be more likely than the study group to have received an intervention. This discrepancy between groups, Dr. Wacholder points out, might cause the study to falsely conclude that the controls' lack of disease is a result of the intervention's effectiveness. Dr. Wacholder recommends that researchers, clinicians, and patients be wary of results from studies with this potential bias until researchers can either eliminate the bias or show that their results are not affected by it.

Breast Tumors Found to be More Aggressive in African American Women

African American women are much more likely to be diagnosed with aggressive breast cancer tumors than are white women, according to a study in the August 9 online issue of *Cancer* from researchers at Yale University School of Medicine, led by Dr. Beth Jones. The study found that there were racial differences in genetic alterations, with African American women having a greater chance of carrying changes in the p53 tumor suppressor gene. The study was funded by NCI and the U.S. Department of Defense.

While white women have the highest rate of breast cancer, African American women have the highest death rate of all races from the disease. This anomaly persists even when adjusting for age, socioeconomic status, and disease stage.

The researchers compared tumor samples from 145 African American women and 177 white women. They found that African American women were significantly more likely to have later stage tumors, larger tumors, positive lymph nodes, and tumors with higher histologic and nuclear grades—all characteristics associated with a poor outcome. "This study offers new evidence for possible racial/ethnic differences with regard to p53 alterations," wrote Dr. Jones.

In an accompanying editorial, Dr. Lisa Newman of the Breast Care Center at the University of Michigan noted that ethnic background differences in breast cancer incidence and mortality are observed worldwide. "The excellent study by Dr. Jones provides an example of how advances in medical technology are allowing the oncology community to explore population-based variation in breast carcinoma epidemiology on a more scientific level," she wrote.

Combination Therapy Holds Promise for Prostate Cancer Patients

Androgen suppression therapy (AST) combined with standard radiation therapy (RT) increases survival in men with localized prostate cancer when compared to RT alone, according to study results reported in the August 18 *Journal of the American Medical Association*. The prospective study was conducted by Dr. Anthony D'Amicio and colleagues at Brigham and Women's Hospital and the Dana Farber Cancer Institute in Boston.

Previous studies have shown the benefits of a 3-year course of combination treatment in men with locally advanced and high-risk prostate cancer. But, AST for more than 1 year is associated with negative side effects, including decreased bone mass; impairment of memory, attention, and executive functions; anemia; muscle loss in exchange for body fat; hot flashes; and impotence.

To determine the efficacy of a shorter combination therapy regimen, Dr. D'Amicio and colleagues recruited

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(Research Highlights continued from page 3)
206 participants with clinically localized prostate cancer to this trial, randomizing them to receive either 70 Gy RT alone or the same dose of RT combined with 6 months of AST. After an average follow-up of 4.5 years, results projected that the 5-year survival rate for patients in the combination-therapy arm would be 88 percent, compared to 78 percent for patients in the RT arm. The authors noted that "decreasing AST duration could profoundly impact a patient's quality of life," and suggested additional avenues of research, such as the survival benefits of additional radiation sites and higher radiation dosage in combination therapy.

High Burden of Illness Found in Cancer Survivors

Cancer survivors are more likely to report poorer health than similar individuals without cancer, according to a study published in the September 1 *Journal of the National Cancer Institute*. Cancer survivors reported significantly poorer outcomes in both quality of life and work productivity. This finding was consistent across multiple tumor types and times since diagnosis.

"What are the non-medical costs of cancer?" asks lead author Dr. Robin Yabroff of NCI's Division of Cancer Control and Population Sciences. To examine this burden of cancer, Dr. Yabroff and colleagues analyzed data from the 2000 National Health Interview Survey. A total of 1,823 cancer survivors and 5,469 age-, sex-, and educational attainment-matched control subjects were included in the study.

While prior cancer burden studies have focused mainly on the costs of treatment, this study focused on two other elements: productivity loss and quality of life. Even long-term survivors with 11 or more years since diagnosis were more likely to report more lost productivity and worse quality of life than similar individuals without cancer. "The findings are pretty compelling, and cancer burden appears to go beyond the costs of medical care," says Dr. Yabroff. This study is one component of NCI's Health Services and Economics Branch's efforts to disseminate data resources to support policy-relevant research on economic and health services research questions and improve measurement of cancer burden.

Research Links Specific ABC Transporters and Drug Efficacy

NCI scientists have identified associations between expression of individual transporters in cancer cells and the development of resistance, and sensitivity, to specific drugs. The research, published in the August 22 issue of *Cancer Cell*, details the gene expression of a 48-member family of membrane proteins called ABC transporters, for which the multidrug resistance gene MDR1 is the prototype.

ABC transporters regulate the traffic of molecules—including hormones and lipids—in and out of cells. Many of these 48 proteins transport toxic materials out of cells, conferring drug resistance. "Multidrug resistance is a major barrier to effective cancer chemotherapy," said Dr. Gergely Szakács, one of the study authors, adding "even low levels of resistance can have a significant impact on the efficacy of chemotherapy."

The study team, which also included Drs. Jean-Philippe Annereau, Michael Gottesman, and collaborators in the laboratory of Dr. John Weinstein, discovered 131 strongly correlated drug-gene pairs where the expression of a specific ABC transporter was accompanied by decreased sensitivity to particular drugs. Conversely, the expression of some ABC transporters, most notably MDR1, caused an increase in cancer cells' sensitivity to some drugs. This increase was unexpected, as MDR1 is perhaps the best-known multidrug resistance protein. Identification of drugs with increased activity in MDR1 expressing tumor cells raises the exciting possibility of eventually using such compounds against cancers expressing MDR1. The researchers advocate further investigation in order to discover more compounds that may interact in this way with MDR1 and other ABC transporters.

The research team has catalogued information about these drug-gene pairs in a database, which is available at http://discover.nci.nih.gov/ABC. The authors expect the database to spur further research into novel therapies designed to either evade or exploit the identified drug-gene associations. ◆

NCI to Launch Nanotechnology Initiative

On Monday, September 13 at 1:00 p.m., Eastern Time, NCI Director Dr. Andrew C. von Eschenbach will be joined by a panel of experts in nanotechnology to announce NCI's Alliance for Nanotechnology in Cancer, a 5-year initiative to explore the potential for integrating nanotechnology platforms into cancer research. The Alliance, which will include researchers, clinicians, and public and private organizations, will build on existing scientific knowledge to find ways to apply nanotechnology to cancer prevention, detection, diagnosis, and treatment. Scientists from across the country and around the world will participate in the event, which will be featured live via Webcast at http://videocast.nih.gov. For more information, go to: http://nano.cancer.gov. ◆

A Conversation with Dr. John E. Niederhuber

Dr. John E. Niederhuber, a professor of oncology and surgery at the University of Wisconsin School of Medicine, was recently re-appointed as chair of the National Cancer Advisory Board (NCAB). He was originally appointed in 2002.

What do you see as the NCAB's primary role or goals?

First, obviously, is that the NCAB is advisory. Our goal is to try to help to shape and inform the decision-making process at NCI. As a board made up of outstanding scientists, clinicians, and leaders from the lay community who have a vested interest in cancer, that's our key role.

Our second objective is stewardship—to provide oversight of NCI's activities. We need and want to pay attention to the Institute's financial management and to programmatic outcomes. We want to know if NCI is achieving its mission and its specific goals. We also need to understand whether the goals and the programs that have been created in the past are still relevant to today's mission and goals. And our third responsibility is advocacy. We need to be active in ensuring that NCI's visions and successes are communicated to the institute's key stakeholders, and that includes everybody from R01 grantees to Congress to the public at large.

What do you see as some of the biggest issues facing NCI and the cancer community?

I think the biggest issue is trying to maximize what we can achieve with the budget we are allotted. So we are working as closely as we can with NCI leadership to do the sort of forward thinking and planning and tough decision-making that maximizes our ability to do the kind of work we want and need to do.

What role do you think the NCAB can play in that regard?

We can do a number of things, but I think one of the most important is to serve as good advocates. We need to educate Congress and the public about the importance, at this particular point in time, of investing in the science needed to build on the gains we have made in all areas of cancer. We really need to tell our story.

This will be your second term as NCAB chair. Both personally and professionally, what attracts you to this position?

It's obviously a tremendous honor to be asked to serve as chair for 2 more years. It's a tremendous opportunity for me to reach out to outstanding scientists and community leaders and actively work with them on some of these very important issues. And hopefully, in doing so, we will be an important part of moving things forward and making real progress in both preventing cancer and making it something we can manage more effectively, to really improve people's lives. ◆

Funding Opportunities

School-Based Interventions To Prevent Obesity

PA-04-145
Application Receipt Dates: Nov. 1, 2004; Mar. 1, 2005; Jul. 1, 2005; Nov. 1, 2005; Mar. 1, 2006; Jul. 1, 2006; Nov. 1, 2006; Mar. 1, 2007; Jul. 1, 2007; Nov. 1, 2007

This PA encourages the formation of partnerships between academic institutions and school systems in order to develop and implement controlled, school-based intervention strategies designed to reduce the prevalence of obesity in childhood. This initiative also encourages evaluative comparisons of different intervention strategies, as well as the use of methods to detect synergistic interactions between different types of interventions.

This PA will use the NIH Research Project Grant (R01), Small Grant (R03), and Exploratory/ Developmental Grant (R21) award mechanisms.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2200

Inquiries: Dr. Amy Lazarus Yaroch, yarocha@mail.nih.gov

Pilot and Feasibility Program in Urology

PA-04-146
Application Receipt Dates: Nov. 1, 2004; Mar. 1, 2005; Jul. 1, 2005; Nov. 1, 2005; Mar. 1, 2006; Jul. 1, 2006; Nov. 1, 2006; Mar. 1, 2007; Jul. 1, 2007; Nov. 1, 2007

The NIDDK and NCI invite applications from investigators with research interests in urology. The primary intent of this initiative is to foster the development of high-risk pilot and feasibility research by investigators

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developing a new line of research. Information thus obtained would allow subsequent submission of R01 applications focusing on research problems relevant to the study of urologic diseases and their complications. This PA replaces PA-02-013.

This PA will use the Exploratory/Developmental Grant R21 award mechanism.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2201

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

Cancer Prevention Research Small Grant Program

PA-04-147
Application Receipt Dates: Dec. 20, 2004; Mar. 21, 2005; Jul. 21, 2005; Nov. 21, 2005; Mar. 22, 2006; Jul. 20, 2006; Nov. 20, 2006; Mar. 20, 2007; Jul. 21, 2007; Dec. 20, 2007

The Division of Cancer Prevention of NCI invites applications that address developmental research in chemoprevention agents, biomarkers, early detection, and nutrition science as well as clinical studies that focus on specific target organs. Small grants are short-term awards that provide support for pilot projects, development and testing of new methodologies, or innovative projects that provide a basis for more extended research. This PA replaces PAR-02-176.

This PA will use the NIH Small Grants Program (R03) award mechanism.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=2202

Inquiries: Dr. Padma Maruvada, maruvadp@mail.nih.gov; Dr. Harold Seifried, hs41s@nih.gov; Dr. Vernon Steele, steelev@mail.nih.gov ◆

Featured Clinical Trial

Prevention of Bone Fractures in Prostate Cancer Patients

Name of the Trial
Phase III Randomized Study of Zoledronate for the Prevention of Skeletal-Related Events in Patients With Prostate Cancer and Bone Metastases Undergoing Androgen Deprivation Therapy (CALGB-90202). See the protocol summary at http://cancer.gov/clinicaltrials/CALGB-90202.

Principal Investigator
Dr. Matthew Smith of Cancer and Leukemia Group B.

Why Is This Trial Important?
Advanced prostate cancer often spreads to bones, a condition called bone metastases. Men with bone metastases are at risk for a variety of complications, including fractures, spinal cord compression, and bone pain. The mainstay of treatment for metastatic prostate cancer is androgen deprivation therapy, a treatment that markedly reduces levels of testosterone and other androgens (male hormones) in the body.

This study will evaluate the ability of zoledronate (Zometa), one of a family of drugs known as bisphosphonates, to prevent fractures and other bone complications when administered at the same time as or shortly following androgen deprivation therapy. Currently, zoledronate is given to prostate cancer patients after androgen deprivation has stopped working.

Dr. Matthew Smith
Principal Investigator

"We know that zoledronate inhibits bone resorption and that it reduces problems such as fractures, spinal column compression, and pain associated with bone metastases," said Dr. Smith. "The question this trial is intended to answer is whether giving zoledronate to patients earlier, while they are still responding to androgen deprivation therapy, will result in improved outcomes."

Who Can Join This Trial?
Researchers seek to enroll 680 patients with confirmed diagnoses of prostate cancer and bone metastases who are undergoing androgen deprivation therapy. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/CALGB-90202.

Where Is This Trial Taking Place?
Study sites in the United States are recruiting patients for this trial. See the list of study sites at http://cancer.gov/clinicaltrials/CALGB-90202.

Who to Contact
See the list of study contacts at http://cancer.gov/clinicaltrials/CALGB-90202 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. ◆

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

Notes

New Information on Prevention Trials Available from NCI

Two new easy-to-read brochures about prevention clinical trials are now available in English and in Spanish as part of the NCI Clinical Trials Education Series:

If You Want to Find Ways to Prevent Cancer, Learn about Prevention Clinical Trials and *Si piensa que no hay forma de prevenir el cáncer...Conozca los estudios clinicos* are for people considering participation in a prevention clinical trial and are designed to be used in conjunction with a health care professional. The English version is available at http://cancer.gov/clinicaltrials/learning/about-prevention-trials; the Spanish version is available at http://cancer.gov/espanol/estudios-de-prevencion. These and other materials can be ordered online at http://cancer.gov/publications.

Elizalde Named Deputy Director for Management

David A. Elizalde was named deputy director for management (DDM) and executive officer for NCI, effective August 22. As DDM, Mr. Elizalde will lead the operations of the Office of Management, including facilitating and supporting implementation of NCI initiatives, such as the 2015 challenge goal, advanced technology initiative, and cancer bioinformatics grid (caBIG). Mr. Elizalde comes to NCI from the Centers for Medicare and Medicaid Services, where he served for the past 5 years as deputy director of the acquisition and grants group. While there, he gained extensive experience in managing acquisitions for the Medicare prescription drug discount card, information technology, and beneficiary marketing programs. Throughout his career, he has developed innovative and creative solutions to management challenges, and used staff resources and financial capital to provide superior customer service. Mr. Elizalde previously worked for the Department of Veterans Affairs and holds a bachelor's degree from Oklahoma State University, a law degree from Oklahoma City University, and a master of laws degree from DePaul University.

Future Directions for Cancer Screening Promotion

The September 1 special issue of *Cancer*, titled "Promoting Cancer Screening: Lessons Learned and Future Directions for Research and Practice," represents a collaborative effort by NCI, the American Cancer Society, and the Centers for Disease Control and Prevention (CDC) to identify lessons learned from more than 20 years of cancer screening research and promotion. The papers are intended to encourage and inform future intervention research and application efforts.

The authors point out that multilevel approaches to screening, such as telephone counseling and physician recommendation, offer the greatest potential for improving and sustaining screening rates and appropriate follow-up care. They also note that future intervention studies should include cost-effectiveness analyses and plans for dissemination, and add that it is not enough to promote the uptake of cancer screening tests—practitioners must effectively communicate the benefits and risks of screening tests, as well as test options and limitations, so that people can make informed decisions about cancer screening.

Behavioral scientists and other researchers can use the supplement, available at http://www3.interscience.wiley.com/cgi-bin/jissue/109594949, as a point from which to advance the next generation of research to promote cancer screening.

Radiation Oncology Sciences Program Staff Visit Capitol Hill

On August 17, Dr. C. Norman Coleman and staff from the NCI Radiation Oncology Sciences Program (ROSP) briefed the House Energy and Commerce Committee on the ROSP mission and its components. Staff members representing Rep. Michael Bilirakis (R-Fla.), Rep. Sherrod Brown (D-Ohio), and Rep. Chip Pickering (R-Miss.), and the American Society for Therapeutic Radiation Oncology attended.

The ROSP's intramural component provides clinical care and conducts basic and translational research on the use of imaging in radiation therapy and the effects of radiation on healthy and cancer cells. A highlight of the briefing was Dr. Kevin Camphausen's discussion of participant care in NCI-run clinical trials. Attendees also learned about the telesynergy program which increases minority access to and participation in radiation clinical trials, encourages research in cancer disparities, and develops new institutions within minority communities for long-term research efforts.

Reminder: Gerberding to Speak at NIH

On Thursday, September 16, at 1:00 p.m. in Building 10's Masur Auditorium on the NIH campus, Dr. Julie Louise Gerberding, director of CDC and administrator of the Agency for Toxic Substances and Disease Registry, will present an NCI Director's Seminar Series lecture titled, "Achieving Energy Balance: Aspiration…Inspiration…Motivation… Implementation!" The lecture will be Webcast live at http://videocast.nih.gov. Sign language interpreters will be provided. For more information go to http://cancer.gov/directorsseminarseries/Gerberding. ◆

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. 13-15	NCI Director's Consumer Liaison Group
Sept. 14-15	National Cancer Advisory Board
Sept. 27	President's Cancer Panel

Selected Upcoming Meetings of Interest

Date	Meeting	NCI Speakers
Sept. 7-8	NIH Leadership Forum	Dr. Andrew C. von Eschenbach, Director
Sept. 9-12	6th National Conference on Changing Patterns in Native Communities	Dr. Joseph F. Fraumeni, Jr., Director, Division of Cancer Epidemiology and Genetics
Sept. 13	NCI Alliance for Nanotechnology in Cancer: Scientific Roundtable	Dr. Andrew C. von Eschenbach, Director; Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships; Dr. Mauro Ferrari, Special Expert to NCI, Ohio State University
Sept. 13-14	First International Peritoneal Mesothelioma Meeting	Dr. Karen H. Antman, Deputy Director, Translational and Clinical Sciences; Dr. Raffit Hassan, Deputy Director, Laboratory of Molecular Biology, Center for Cancer Research; Dr. H. Richard Alexander, Head, Surgical Metabolism Section, Surgery Branch, 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.

NCI Cancer Bulletin staff can be reached at ncicancerbulletin@mail.nih.gov.

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