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Eliminating the Suffering and Death Due to Cancer

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WHI Estrogen-Alone Data Indicate No Overall Benefit for Disease Prevention, No Apparent Increase in Cancer Risk

Data from the Women's Health Initiative (WHI) study to investigate the effect of estrogen-alone hormone replacement therapy (HRT) on the incidence of chronic disease indicate that there is no overall benefit for disease prevention. Specifically for cancer, it showed no effect on the risk of breast or colorectal cancer. Use of estrogen did, however, increase the risk of stroke by 39 percent, a finding that prompted the decision in February by the National Institutes of Health to bring the trial to a premature end. It was slated to run through March 2005. The trial's stoppage was initially announced in early March, but the complete data from the study were not published until this week in the *Journal of the American Medical Association (JAMA)*.

Of particular interest to the cancer community is the finding that estrogen did not increase participants' risk of breast cancer during the study period. In fact, there was a trend, though not statistically significant, toward reduction in breast cancer incidence. Overall, 218 of the more than 10,000 postmenopausal women in the study—all of whom had undergone hysterectomy—developed breast cancer.

The finding of reduced incidence "was unanticipated," the WHI study authors wrote, and contrasts with the finding from several other HRT trials, including a separate WHI study of estrogen-

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Director's Update

CIRB to be Extended to Support Pediatric Trials

The annual spring meeting of the Children's Oncology Group (COG) was held in Washington, D.C., earlier this month, and I had the privilege of learning about some of the exciting work that COG researchers are currently conducting. Representative Bill Young (R-Fla.) and I had the honor of addressing the membership during its March 31 luncheon, when Rep. Young received the organization's Congressional Champion for Childhood Cancer Award in recognition of his pivotal role as Chair of the House Appropriations Committee and his leadership in supporting COG's research program to identify more effective treatments for children with cancer.

COG is a National Cancer Institute-supported clinical trials cooperative group devoted to translational and clinical research on childhood and adolescent cancers. It develops and coordinates clinical trials conducted through its 238 member institutions, which include cancer centers in the United States, Canada, Europe, and Australia. COG enrolls approximately 4,000 children and adolescents in treatment studies annually and has 70-80 studies open to patient accrual each year.

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progestin combination therapy that was stopped two years ago. In that study, which involved postmenopausal women who had not had a hysterectomy, participants on HRT were at increased risk of breast cancer and decreased risk of colorectal cancer. And in a large observational trial, the Million Women Study, published last August in *The Lancet*, women on either estrogen alone or an estrogen-progestin combination had a significantly increased risk of breast cancer, especially those in the latter group.

All women in the WHI estrogen-alone trial underwent annual clinical breast exams and mammograms, so screening differences between the placebo and treatment groups could not account for the discrepancy with the other trials, the authors wrote.

"This is a complicated study with a number of variables," noted Dr. Leslie Ford, associate director for clinical research at NCI's Division of Cancer Prevention. "There are still unanswered questions related to the baseline breast cancer risk of the women, the stage and severity of breast cancer diagnosed, and the long-term follow-up of the women. Additionally, only one type of estrogen preparation was tested.

"Postmenopausal women who have had a hysterectomy can find some peace of mind in the fact that short-term, low-dose HRT may provide effective relief of menopausal symptoms without an increase in breast cancer risk," Dr. Ford continued. "But it's important to remember that the increase in stroke in the study group was significant and that the morbidity associated with stroke can be quite severe."

Extended follow-up of study participants is planned, and "analyses of [participants'] breast cancer characteristics … may provide additional insight," the authors wrote.

Speaking about the WHI estrogen-alone trial as a whole, National Heart, Lung, and Blood Institute Acting Director Dr. Barbara Alving said, "These findings confirm that estrogen-alone therapy should not be used to prevent chronic disease. We believe the findings support current FDA recommendations that hormone therapy only be used to treat menopausal symptoms and that it be used at the smallest effective dose for the shortest possible time."

In an accompanying editorial in *JAMA*, Drs. Stephen B. Hulley and Deborah Grady, both from the University of California, San Francisco, agreed with Dr. Alving's assessment. "In the absence of evidence for an overall net benefit of postmenopausal treatment with estrogen alone, and with the evidence that estrogen plus progestin is harmful, neither therapy should be used for preventing disease." ◆

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COG's primary objectives are to define optimal treatments for children and adolescents with cancer through clinical trials; support and perform research into the etiology and biology of childhood cancers that will translate into more effective treatments; improve patients' quality of life and ensure patient access to the most advanced treatments available; and finally, share findings among member institutions and the larger cancer community to accelerate the search for cures for all major types of childhood cancer.

COG and NCI recently announced the establishment of a Pediatric Central Institutional Review Board (PedCIRB). Led by Dr. Gregory H. Reaman, COG conducted a survey of its member institutions and found a high level of support for a pediatric central IRB. NCI responded to this interest by agreeing to include pediatric protocols within NCI's Central IRB (CIRB) Initiative. PedCIRB will provide for quality review of protocols by utilizing the childhood cancer expertise available through a national IRB and will improve access to phase II and III clinical trials for children and adolescents with cancer. These priorities are fully congruent with those of the CIRB Initiative being led by NCI's Cancer Therapy Evaluation Program.

The CIRB concept has encountered some resistance in the adult clinical research community. Primarily, the slower adoption is a consequence of the reluctance of local IRBs to relinquish the responsibility they hold for reviewing patient safety within their own institutions and perceived indemnification issues related to central review. The CIRB Initiative aims to provide consistent standards for safeguarding the welfare of human research subjects, improve patient and physician access to clinical trials, and give participating institutions access to a "facilitated review process," thereby reducing local administrative burdens. The difficulties local IRBs have faced in shouldering the weight of administrative and regulatory demands on their own are known to constitute a barrier to the swift and efficient initiation and completion of large-scale, multicenter trials (See Christian MC, et al. *New England Journal of Medicine 2002*, 346:1405-1408).

Countering these limiting factors, broadening the purview of the CIRB Initiative to enhance the development and delivery of improved therapeutics for pediatric cancer patients will have a synergistic effect on accelerating development and delivery across the spectrum of all cancer types. Such synergies will prove crucial to meeting the challenge goal of eliminating the suffering and death due to cancer by 2015. Implementation of the PedCIRB will occur rapidly, with the first COG

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Cancer Research Highlights

Technique Detects Cancerous Cells' Metabolic "Fingerprints"

Using a newly developed technique of proton magnetic resonance spectroscopy for intact tissue analysis, researchers from Harvard University were able to analyze tissue samples and find metabolic "fingerprints" of prostate cancer cells—chemical signatures that also appear to be indicative of a tumor's aggressiveness. Reporting at the American Association for Cancer Research (AACR) annual meeting, Dr. Leo L. Cheng discussed the NCI-funded study, which used the new spectroscopy technique on 199 tissue samples from approximately 82 patients who had undergone prostatectomy. Results were compared to standard histopathological assessments conducted on the samples after spectroscopy study.

Overall, only 20 samples were cancerous, as defined by histopathology. Using this new technique, the researchers were able to obtain accurate metabolite measurements and, based on principal component analysis of spectroscopy data and correlation with histopathology measurements (by linear regression analysis), could identify cancerous and noncancerous tissues from the same patient. More importantly, levels of metabolic markers could be correlated with the patient's clinical status, such as the overall pathological features and stage of disease (according to the AJCC staging system).

Dr. Cheng observed that such research could eventually have important implications for patients, who often have to undergo multiple biopsies to confirm that they have prostate cancer. The histopathology of a sample can look normal, he said, "but the chemistry may not be normal. If we can establish the markers, we will find more cancers." This could prevent the need for multiple biopsies, he added, but potentially allow for early identification and treatment of more aggressive prostate cancers.

Tamoxifen and Estrogen Receptor Status in Breast Cancer

A new study shows that the estrogen receptor (ER) status of a primary breast cancer is associated with the ER status of subsequent cancer in the opposite, or contralateral, breast in patients not receiving tamoxifen treatment. NCI's Dr. Sandra Swain and colleagues published the report in the April 7 issue of the *Journal of the National Cancer Institute*.

About two-thirds of all breast cancer cells contain significant levels of receptors for the female hormone estrogen; these cancers are called ER-positive and the others are called ER-negative. ER-positive tumors tend to grow less aggressively than ER-negative tumors and are associated with a better prognosis for patients. Previously, tamoxifen treatment has been shown to reduce the risk of contralateral breast cancer by approximately 30 to 50 percent.

The current study analyzed data from three clinical trials. ER data were available for only 110 patients who developed contralateral breast cancer. Among those patients not receiving tamoxifen, almost 90 percent had both ER-positive primary and contralateral breast cancer and 70 percent had both ER-negative primary and contralateral breast cancer. "The association between the ER status of the primary cancer and the contralateral breast cancer was modest and did not reach statistical significance," according to the authors.

"The use of tamoxifen by women aged 50 years and older who had an ER-positive primary cancer appeared to reduce the risk for developing ER-positive contralateral breast cancer," said Dr. Swain. "It cannot be definitively concluded that tamoxifen provides no reduction in risk of a contralateral breast cancer for patients with an ER-negative primary cancer because of the small number of patients in the current sample and in the world literature. However, if there is a benefit it is marginal."

Tumor Growth Inhibited in Rare Thyroid Cancer

As reported at a press conference at the AACR meeting, Drs. John Copland and Robert Smallridge of the Mayo Clinic in Jacksonville, Fla., have been working with a small-molecule drug candidate shown to inhibit tumor growth up to fourfold in anaplastic thyroid cancer, a very rare and highly aggressive type of thyroid cancer. This type of cancer accounts for only one percent of all thyroid cancers but has a very poor prognosis: 90 percent of patients die within one year of diagnosis. This type of cancer does not respond to any known treatment.

Sankyo Company researchers discovered the drug candidate, RS-5444, in a screen for antitumor activity and then sought the help of specialists at the Mayo center to further study its properties. The molecule works by activating the peroxisome proliferator-activated receptor-γ (PPAR-γ)—a nuclear receptor that activates genes involved in a wide range of cellular processes, including apoptosis, cell-cycle control, carcinogenesis, and inflammation.

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PPAR-γ is a particularly attractive drug target because it has been implicated as a tumor suppressor in several human cancers. Additionally, mutations and deletions in the PPAR-γ gene have been found in other types of thyroid cancer but not in anaplastic thyroid cancer. RS-5444 tightly binds and activates PPAR-γ, which negatively regulates the cell cycle and triggers apoptosis in a p53-independent manner. The drug has shown both antitumor and chemopreventive effects in cancer cell lines and animal models but, as of yet, no clinical trials are testing the drug's efficacy in humans.

Progesterone Receptor Antagonist Inhibits Breast Cancer in Rats

At a press conference at AACR's annual meeting, Dr. Jens Hoffman of Schering AG, a German pharmaceutical company, announced recent results of the company's work with a novel progesterone receptor inhibitor that shows strong activity against breast cancer in rats.

The progesterone receptor is a transcription factor that, upon binding the steroid hormone progesterone, enters the nucleus of cells and affects the transcription of genes involved in cell proliferation.

In rodent tumor cell models, the novel drug demonstrated strong antiproliferative activity and also provided protection against carcinogen-induced breast cancer. It appears to work via multiple mechanisms distinct from those of the antiestrogen drug tamoxifen and aromatase inhibitor Arimidex; it not only stops cells from growing and dividing but also appears to induce apoptosis and cell death. Apoptosis may be triggered when the drug blocks upregulation of the epidermal growth factor receptor (EGFR). The company is currently testing the drug in early-phase clinical trials. ◆

Funding Opportunities

Notice of Availability of Administrative Supplements for Disseminating Evidence-Based Intervention Research Products

NOT-CA-04-011
Application Receipt Dates: June 30, 2004

NCI is requesting applications for administrative supplements for NCI-funded cancer control intervention research R01, P01, P50, U01, and U19 grants. These supplements have been designed to provide 1-year funding to cancer control investigators whose intervention efficacy data have been analyzed and who are conducting peer-reviewed research (with an active NCI grant award) related to the intervention program proposed for dissemination.

The supplements will support R01, P01, P50, U01, and U19 award mechanisms.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=1980

Inquiries should be addressed to the NCI Program Director for the particular R01, P01, P50, U01, or U19 for which the supplement is being requested.

Inter-Institute Program for the Development of AIDS-Related Therapeutics

NOT-AI-04-024
Letter of Intent Receipt Date: May 1, 2004
Application Receipt Date: June 1, 2004

The Inter-Institute Program (IIP) for the Development of AIDS-Related Therapeutics is cosponsored by the National Institute of Allergy and Infectious Diseases and NCI. Investigators are invited to submit proposals to this therapeutics development program. The IIP is designed to help AIDS research investigators facilitate the preclinical development of: (1) therapies for the treatment of HIV disease, AIDS-associated malignancies, opportunistic infections, and tuberculosis associated with AIDS and (2) microbicide-based prevention strategies for HIV.

The IIP does not fund grants but instead provides IIP drug development resources.

For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=1981

Inquiries: Inter-Institute Program Coordinator, iip@dtpax2.ncifcrf.gov ◆

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protocols planned for review in November 2004.

Phase II and III trials represent the crucial final steps before innovative cancer treatments can take their place as part of the clinical armamentarium. The expanded CIRB Initiative will provide an unprecedented level of support for accelerating these final steps of the discovery-development-delivery continuum. I would like to reiterate NCI's strong commitment to the entire cancer clinical research community to provide the infrastructure and support to facilitate continued improvement and expansion of all clinical trials. ◆

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

Special Report

International Fellowship Program Advancing Science and Extending Good Will

In 1959, Dr. Mieczyslaw "Ray" Chorazy came to the United States from Poland on a Rockefeller Foundation fellowship to conduct research at the University of Wisconsin on DNA uptake by eukaryotic cells. He returned to the states a little more than a year later to do research at Memorial Sloan-Kettering Cancer Center on leukemic chromosomes under another Rockefeller Foundation fellowship that lasted 15 months. Other work in the United States followed, including a four-year stint in the early 1990s, during which he was involved in research at NCI on lung cancer genetics for three months each year.

"I regard my several research visits to the states as the most enjoyable and fruitful time of my life," says Dr. Chorazy, former head of the Tumor Biology Department at the Centre of Oncology, Maria Sklodowska-Curie Memorial Institute, in Gliwice, Poland.

The opportunities presented by these fellowships, and the assistance Dr. Chorazy's U.S. colleagues have offered him and his colleagues over the years, spurred him to pursue an ambitious project that is having tremendous results. With the partial support of the NCI Office of International Affairs (OIA), the medical center in Gliwice now offers its own small fellowship program. The program is geared toward young cancer researchers from the former Soviet republics of Ukraine, Belarus, and Lithuania—all of which have seen the kind of tumult Poland experienced throughout much of the 1970s and 80s, when it was ruled by a communist regime and experienced significant economic and social upheaval.

Cancer researchers in the Gliwice program include: (sitting, left to right): Nadzeya Rabacon, Belarus; Natallia Vydra, Belarus; (standing): Valeria Piddubnyak, Ukraine; Olgha Dudaladava, Belarus; Rasa Vaitiekunaite, Lithuania; Maria Boyko, Ukraine.

"We in Poland survived the hardest economic times, thanks to continued help from our Western colleagues," he says. Help from Western research communities came in various forms, including reagents and biomaterials, subscriptions to scientific journals, and supplies and replacement parts for laboratory equipment. He and his colleagues also were often invited to attend international meetings and conferences and were charged lower registration fees—or not charged at all.

"The U.S. system of grants and fellowships has been so helpful and friendly," Dr. Chorazy adds. "In a sense, I see our fellowship program as a way to repay the moral debt that we owe to our friends in the West who helped us at the time of darkness and depression."

The program was initially launched in the early 1990s with funds from several Polish sources and the European Association for Cancer Research. Although NCI has a long-standing relationship with Poland's Institute of Oncology, dating back to the 1970s, funding for the program in Gliwice grew out of the OIA's Short-Term Scientist Exchange Program, which generally involves support for researchers from less-developed countries to come and work in U.S. laboratories for six months or less.

In 1999, former OIA director Dr. Federico Welsch worked with Dr. Chorazy and his colleagues to establish fellowship support for two researchers per year. In 2003, two additional fellowships were added. Operating the program out of Gliwice—which is in the south of Poland, near the borders of the Czech Republic and Slovakia—allows researchers who most likely would not have had the opportunity for fellowships in the United States or other countries (because of cost and other logistical issues) to gain important experiences, explains OIA international programs officer Dr. James McKearney.

The fellowship program in Gliwice fits well into OIA's goal of helping developing countries build their capacity for research, says OIA Director Dr. Joe Harford.

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"The cancer burden is growing in the developing world and, even today, approximately 90 percent of cancer cases occur outside the United States," said Dr. Harford. "Human capacity is lacking in many parts of the world, so training scientists is a key component of the globalization of cancer research."

The fellowship program "has raised unprecedented interest among our Eastern neighbors," Dr. Chorazy says. "I have been receiving constant requests both for short- and long-term fellowships from researchers in the Ukraine, Belarus, Lithuania, Slovakia, and other countries."

The U.S.-funded fellowships have some advantages over those funded by the European Union (EU), Dr. Chorazy explains, because the latter require having to navigate through significant amounts of bureaucracy and red tape and often don't involve much person-to-person interaction between EU administrators and prospective candidates.

From the early 1990s to the present, approximately 20 fellows have participated in short-term (up to 3 months) and long-term (up to 3 years) fellowships in Gliwice. Two Ukrainian fellows recently received their Ph.D. degrees, and a fellow from Belarus will defend her Ph.D. dissertation in the near future. There are four fellows in Gliwice for 2004, two from Belarus and one each from the Ukraine and Lithuania.

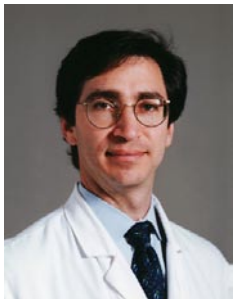
"We are lucky to have these young researchers with us. They are well-trained, very industrious, and manually gifted scientists," Dr. Chorazy says. "The researchers at the Centre of Oncology in Gliwice and our visiting fellows are very much indebted to NCI-OIA for the help and assistance they have provided. In this more and more complex world, such friendly human relations are the most heartwarming values." ◆

Featured Clinical Trial

Study of Combination Biological Therapy for Metastatic Colorectal Cancer

Name of the Trial
Phase II Randomized Study of Bevacizumab and Cetuximab With or Without Irinotecan in Patients With Irinotecan-Refractory Metastatic Colorectal Cancer (MSKCC-03135). See the protocol summary at http://cancer.gov/clinicaltrials/MSKCC-03135.

Principal Investigator
Dr. Leonard Saltz of Memorial Sloan-Kettering Cancer Center



Dr. Leonard Saltz
Principal Investigator

Why Is This Trial Important?
Colorectal cancer (cancer that occurs in the colon or the rectum) is among the most commonly diagnosed and most deadly cancers in the United States. Colorectal cancer can usually be cured if detected early; however, if it has spread (metastasized) to other parts of the body, it is often fatal. Scientists are eager to find more effective treatments or combinations of treatments for metastatic colorectal cancer.

Monoclonal antibodies, such as cetuximab (Erbitux) and bevacizumab (Avastin), are playing an increasingly important role in cancer therapy. Cetuximab targets a protein that some types of cancer need for growth. Bevacizumab interferes with the ability of a tumor to establish a blood supply. Combining cetuximab and bevacizumab with traditional chemotherapy drugs, such as irinotecan, may slow the progression of disease or even improve survival for patients with metastatic colorectal cancer.

"With this trial, we're taking the two newest targeted therapies for colorectal cancer and combining them to see if they are more effective than standard chemotherapy, either as a stand-alone treatment or in combination with irinotecan," said Dr. Saltz.

Who Can Join This Trial?
Researchers seek to enroll 150 patients aged 18 and over with metastatic colorectal cancer that has previously been treated with irinotecan. Additionally, patients must be well enough to carry out most normal, daily activities and must not be largely confined to bed or chair, and patients must be willing and able to be treated weekly at one of the participating centers conducting this trial. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/MSKCC-03135.

Where Is This Trial Taking Place?
Multiple study sites in the United States are recruiting patients for this trial. See the list of study sites at http://cancer.gov/clinicaltrials/MSKCC-03135.

Who to Contact
See the list of study contacts at http://cancer.gov/clinicaltrials/MSKCC-03135 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

Drs. Weissman and Staudt Elected to Association of American Physicians

Dr. Allan Weissman, chief of the NCI Laboratory of Protein Dynamics and Signaling, and Dr. Louis Staudt, principal investigator in NCI's Metabolism Branch, have been elected to the Association of American Physicians. Founded in 1885 by seven physicians, including Dr. William Osler, the association recognizes members for their advancement, through experimentation and discovery, of basic and clinical sciences and their application to clinical medicine.

Dr. Weissman is an international leader in regulated membrane receptor turnover and ubiquitin-mediated protein degradation, including identification of RING finger proteins as ubiquitin ligases. He also played key roles in the characterization of T-cell antigen receptor (TCR) and cloned and characterized the TCR zeta chain—a key TCR signaling component.

Dr. Staudt cloned and characterized the lymphoid-restricted transcription factor Oct-2. In his laboratory, Dr. Staudt and colleagues study the molecular pathogenesis of human lymphoid malignancies. To provide a new molecular basis for the diagnosis of malignancies, his laboratory is exploiting DNA microarray technology to profile gene expression in these cancers on a genomic scale.

Von Hoff Discusses New Approaches to Treating Cancer

Dr. Daniel Von Hoff, an internationally renowned expert in drug development who began his career as a fellow at NCI, presented several promising new methods to treat cancer at the Center for Cancer Research Grand Rounds on April 6.

Dr. Von Hoff discussed his establishment of the community oncology model at the Arizona Comprehensive Cancer Center, which integrates local oncologists with cancer centers to enable them to participate in early phase clinical studies and helps "provide all of the patients in the community access to all therapies." His model has dramatically increased patient accrual to trials and successfully integrated the community physician into cutting-edge clinical science.

Dr. Von Hoff also described the transformational rise of microarrays to analyze tumors for upregulated gene products as the conventional approach in identifying pharmacological targets. He also noted that he sees critical targets in specific downregulated gene products as well—he referred to these as "nontargets." To help mine the valuable data provided by "nontargets," Dr. Von Hoff is developing a national database that will contain information from rapid-throughput screening to determine which known drugs are effective against tumors with downregulated genes.

Pat Newman Retires

Former NCI Press Office Chief Patricia

Newman retired this month after a 33-year career with NCI. She began her career as an NCI communicator in 1971, when she joined the NCI press office as a science writer. Ten years later, she was named chief of the press office and served in that position for the next two decades. In 2001, Newman joined NCI's Center to Reduce Cancer Health Disparities and helped develop and coordinate its communication efforts, including think tank meetings and lectures, to explore issues related to cancer disparities.

Newman won numerous science writing awards for the many articles, news releases, background materials, and brochures she wrote or produced. She managed the preparation of such major reports as *Horizons of Cancer Research*, published under the sponsorship of the National Cancer Advisory Board, and served as liaison to the NIH, Department of Health and Human Services, and NCI-designated cancer centers. She spearheaded the press office's development of its online "NewsCenter" and an online magazine for the NCI Web site.

She also served, since 1999, as program advisor to the planning committee for the President's Cancer Panel. She developed communication strategies for the panel's regional meetings and performed literature research and analyses to guide their efforts in cancer patient survivorship and translational research.

NCI at Share the Health

On Saturday, April 24, NIH will sponsor a health and fitness expo at Montgomery Blair High School in Silver Spring, Md. For the past four years, the NIH Office of Community Liaison has sponsored the expo, entitled "Share the Health," to ensure that information resulting from NIH's research is made available to its neighbors.

NCI is pleased to participate in this event, which this year will include scientific poster sessions featuring the work of students from Takoma Park Middle School and Montgomery Blair High School. To encourage and stimulate these students' interest in science, NCI will have an exhibit at the expo and conduct presentations and mini-labs for young people.

This free event will be held from 10:00 a.m. to 3:30 p.m. on the 24th. Free shuttle service will be available from the Silver Spring Metro that day from 9:30 a.m. to 4:30 p.m. More information is available on the Share the Health Web site at http://sharethehealth.od.nih.gov/index.asp. ◆

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
Jun 1-3	National Cancer Advisory Board
Jun 24-25	NCI Board of Scientific Advisors

Selected Upcoming Meetings of Interest

Date	Meeting	NCI Speakers
April 18-20	3rd EORTC-NCI International Meeting on Cancer Molecular Markers From Discovery to Clinical Practice	Please refer to the NCI Calendar of Scientific Meetings at http://calendar.cancer.gov
Apr 19-20	National Minority Health Month Leadership Summit	Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities
Apr 29	Racial, Ethnic and Socioeconomic Disparities in Health: Implications for Action Conference	Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities
Apr 29-30	2nd National Steps to a HealthierUS Summit	Dr. Andrew C. von Eschenbach, Director; Mary Anne Bright, Acting Deputy Director, Office of Communications

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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