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Eliminating the Suffering and Death Due to Cancer

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NCI Program Will Spend $95 Million to Reduce Cancer in Minorities

The National Cancer Institute (NCI) recently launched a new program to reduce cancer deaths among minority and underserved populations through $95 million in grants that will fund community-based projects in geographically and culturally diverse areas of the country.

The new initiative, the Community Networks Program (CNP), was announced on May 6 by Health and Human Services (HHS) Secretary Michael Leavitt. It is part of NCI's ongoing efforts to understand why some population groups—often minorities and the poor—have higher cancer rates than others, and to eliminate disparities by involving local communities in education, research, and training.

"To win the war against cancer we need to better understand the areas where we know that people are dying at higher rates, and we need to find ways to target these communities with culturally relevant approaches," said Dr. Harold Freeman, director of NCI's Center to Reduce Cancer Health Disparities (CRCHD), which oversees CNP.

CNP will include up to 25 projects that reach African Americans, American Indians and Alaska Natives, Hawaiian Natives and other

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Director's Update

Women and Cancer: Celebrating Advances, Planning for Progress

Just 2 weeks ago we learned that two trials testing trastuzumab (Herceptin) against early-stage, HER2-positive breast cancer were being stopped early because the combination of trastuzumab and standard chemotherapy reduced cancer recurrence risk by more than half compared with chemotherapy alone.

The findings represent the latest step in a sustained journey of progress in preventing, diagnosing, and treating cancer in women (see "Notes," p. 7)—certain to be a topic at the health education and other events scheduled as part of National Women's Health Week.

There is still much work to be done to blunt cancer's impact on women.

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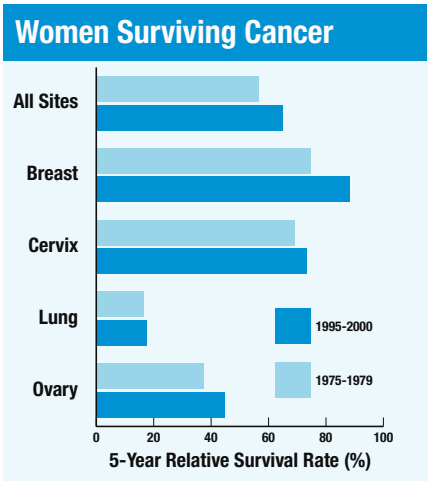

(Minorities continued from page 1)
Pacific Islanders, Asians, Hispanics/Latinos, and the rural poor. Twelve grantees will concentrate in local areas, seven in regional ones, and six in national programs.

"It's clear that strategies for preventing cancer are most effective when tailored to a particular community," commented Dr. Freeman. "We have to find ways to apply what we've discovered about reducing cancer deaths on a local level."

Each CNP project will form an advisory group that will serve as the "voice of the community" to seek information from the community and deliver results back to it. Grantees will also work closely with policy makers and nongovernmental funding sources. CNP grantees and NCI will train investigators, identify potential research opportunities, and ensure that research findings are disseminated broadly.

Considerable research has been done on cancer disparities over the last 5 years through the Special Populations Networks program, also overseen by CRCHD. That program, which ends this year, focused on raising awareness about disparities and forging partnerships between research institutions and communities.

The CNP initiative requires grantees to apply the research and show progress toward the goal. "With this program, we are having grantees actually reduce cancer disparities in their communities," said Dr. Kenneth Chu, CNP program director. "Efforts like CNP are vital to ensuring that those who are closest to the problem are closest to the solution."

The aim is to find ways to stimulate people in these communities to adopt proven strategies or interventions for reducing cancer deaths. These include programs to eliminate smoking and increase healthy lifestyles, as well as to screen for the early detection of breast, cervical, and colorectal cancers.

Each CNP project will have three phases. The first phase will focus on developing infrastructure for reducing cancer disparities; the second will include pilot research projects in which local investigators can develop and test interventions. The third phase will focus on ways to sustain interventions once the CNP funds expire.

While cancer is the focus of the program, researchers are optimistic that what they learn can be applied to reducing health disparities in general. "We are building an infrastructure and the skills communities need to address a broad range of health disparities," said Dr. Chu. ◆

(Director's Update continued from page 1)
Nearly 663,000 women will be diagnosed with cancer this year, and 275,000 will die. That said, the late 1990s saw cancer incidence rates in women begin to dip after 9 years of stable rates, while mortality rates have sunk for 8 of the top 15 cancers in women.

Breast cancer is an excellent example of progress, based on our increasing knowledge of molecular oncology, including the results seen with aromatase inhibitors to treat estrogen receptor-positive breast cancer and the lessons learned about the role of exercise and diet in prevention.

But breast cancer is by no means a solo success story. For cervical cancer, in addition to the advances made with HPV vaccines, NCI also is funding research to test whether a new DNA test can effectively triage equivocal Pap test interpretations. And then there are the critical efforts of NCI's CRCHD to address disparities in cervical cancer mortality among minority groups and underserved populations.

As noted in NCI's 2004 annual *Report to the Nation*, for the first time since statistics have been collected, lung cancer incidence rates among women are declining. To maintain this progress, an NCI-led group of experts last year released *Women, Tobacco, and Cancer: An Agenda for the 21st Century*. The report provides a blueprint for reducing and eliminating the harmful effects of smoking in women which extend far beyond lung cancer to cancers of the cervix, bladder, kidney, and other sites.

NCI is funding efforts to develop proteomic-based screening tests to detect ovarian cancer at early stages when it is more treatable. Research to develop a high-throughput assay may help to identify women at high risk for endometrial cancer recurrence who might benefit from adjuvant therapy in addition to surgery.

Meanwhile, many of NCI's Specialized Programs of Research Excellence (SPOREs) are developing biomarkers and new treatments for breast, ovarian, cervical, and uterine cancer. Through the NCI Mouse Models of Human Cancer Consortium, we are making progress in developing mouse models that more closely mimic human cancers that uniquely affect women.

I'd like to extend my sincere gratitude to the NCI Office of Women's Health for providing guidance to NCI's research programs related to women's health activities and helping advance research on women's cancers. From committed advocates to basic researchers, we have worked as a community to achieve important progress in this area, and I'm confident that the next decade will bring more of the same. ◆

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

Spotlight

Lung Cancer in Women—Could it be a Hormone Problem?

While recent reports have shown that, overall, cancer incidence and mortality are decreasing, they have also revealed a disturbing trend: although lung cancer incidence in men has been steadily decreasing since its peak in the late 1980s, it continued to increase in women after this time and didn't take a downward turn until 2000. The number of men dying from the disease has been falling, but lung cancer deaths among women have held relatively steady.

Incidence and mortality aren't the only differences when it comes to lung cancer. Among those who smoke, women are more likely to get small-cell lung cancer, a particularly aggressive form of the disease, than they are to get non-small-cell lung cancer (NSCLC), while their male counterparts have an equal risk of developing the two. Female smokers are also more likely to develop adenocarcinoma, a glandular form of lung cancer similar to that found in the breast, than are men. And among people who have never smoked but developed lung cancer, more than twice as many of them are women as are men.

"These patterns suggest that there might be different pathways through which the disease develops in men and women," says Dr. Jill Siegfried, a professor in the pharmacology department and head of the NCI-funded Lung SPORE at the University of Pittsburgh Cancer Institute. To identify the point of divergence, Dr. Siegfried and her SPORE team are looking at one of the most basic factors in female physiology: the estrogen receptor.

Estrogen receptors, which stimulate cell growth and division in the presence of the hormone estrogen, are most commonly found in female reproductive organs such as the ovaries and the breasts. But these receptors are found in other tissues, too, including the hypothalamus in the brain, the esophagus, the colon, the nervous system, and the lungs. The receptor comes in two forms (alpha and beta) and they differ not only in function, but also in tissue prevalence. In lung tissue, beta receptors are the most common and may play a role in the development of alveoli, the clusters of tiny sacs in the lung where gasses are exchanged between blood and inhaled air.

Research indicates that estrogen doesn't necessarily initiate malignancy in lung tissue, but rather may fuel subsequent tumor growth by heightening cell proliferation and hindering apoptosis. *In vitro* studies showed that exposure to the hormone increased tumor size, while exposure in the presence of estrogen receptor blockers did not. There's also evidence that estrogen receptors can interact with oncogenes and other growth factor pathways, such as that of the epidermal growth factor receptor (EGFR), which are linked to cancer. But Dr. Siegfried warns that this is still very new territory in lung cancer research. "If you think about breast cancer, researchers have been studying estrogen receptors for 40 years," she says. "We've only just opened this window."

While it isn't clear just how estrogen receptors are linked to lung cancer, the Pittsburgh Lung SPORE has found that estrogen-blocking drugs hold promise for slowing the disease. *In vitro* studies testing fulvestrant (Faslodex), an estrogen receptor blocker, with gefitinib (Iressa), the EGFR blocker, showed that the combination decreased NSCLC proliferation by up to 90 percent while increasing apoptosis twofold. Now the Lung SPORE is testing these two drugs in a phase I clinical trial. "So far, we've had no adverse effects," says Dr. Siegfried, "and we have seen some clinical responses, some lasting for quite a while." The next step is to plan a phase II trial comparing another EGFR blocker, erlotinib (Tarceva), alone and in combination with fulvestrant. "We're hoping to show that there will be at least a 50 percent increase, if not a doubling, in the response rate" to erlotinib with the addition of the estrogen receptor blocker, Dr. Siegfried says.

As more is learned about the etiology of lung cancer and the role of estrogen receptors, it is likely that researchers will find new ways to manipulate and block the various destructive pathways that underscore this disease. "That's the promise of the future," says Dr. Siegfried. And while her research on estrogen receptors is currently limited to women, because of studies showing that lung tumors can synthesize estrogen directly, drugs that work against lung cancer by blocking estrogen receptors may also hold promise for men with the disease. ◆

Cancer Research Highlights

Combined Chemo Regimen Improves Pancreatic Cancer Outcomes

Pancreatic cancer has a very poor prognosis, with a 1-year survival rate after standard chemotherapy treatment of 17 to 28 percent. But a new Italian study shows that when gemcitabine is administered with three other chemotherapy drugs—cisplatin, epirubicin, and fluorouracil—the combination, called PEFG, doubles survival and causes few side effects. These results were published online on May 9 in *The Lancet Oncology*.

Fifty-two patients were randomized to the PEFG treatment arm of the study and 47 patients received the standard gemcitabine treatment. Twenty-seven patients in the PEFG arm stopped treatment before completion because of progressive disease, refusal, or a doctor's advice; 37 patients in the control group stopped treatment for similar reasons.

Patients who remained in the PEFG group survived longer than those in the gemcitabine group after 4 months (60 percent vs. 28 percent), 1 year (38.5 percent vs. 21.3 percent), and 2 years (11.5 percent vs. 2.1 percent). Also, patients who received PEFG generally tolerated their treatment better than those in the control group, although two blood disorders, neutropenia and thrombocytopenia, were more common with PEFG.

The authors caution that these findings should be investigated with more patients and note that data on quality of life with treatment was not analyzed with conventional statistical testing. But their conclusion is optimistic: "[Despite limitations], our findings are important because PEFG had manageable toxic effects, did not negatively affect quality of life, and maintained a statistically and clinically relevant outcome advantage."

Study Shows Hormone Reactivates Metastasis Suppressor Genes

A new study by NCI researchers provides strong evidence that the expression of genes that help suppress breast cancer tumor metastases can be increased by the administration of high doses of a hormone used in a common female contraceptive, Depo-Provera. Results of the study by researchers from the Laboratory of Pathology in the NCI Center for Cancer Research are reported in the May 4 *Journal of the National Cancer Institute (JNCI)*.

In two independent experiments using a breast cancer mouse model that reliably duplicates the cancer's metastatic potential, administration of the hormone medroxyprogesterone acetate (MPA) decreased the formation of metastases compared with control mice. Nm23-H1, a member of the Nm23 family of metastasis suppressor genes, was expressed at high levels in 43 percent of lesions from MPA-treated mice, compared with only 13 percent of lesions in untreated mice.

In cell-line studies, MPA reduced the formation of tumor cell colonies, a crucial step in the development of full-blown metastases, by 40 to 50 percent. This effect was blocked by inhibition of Nm23-H1 expression. The metastatic inhibitory effects of MPA were ascribed to its interaction with the glucocorticoid receptor.

The findings, the researchers wrote, validate "a molecular mechanism of action" and "suggest that MPA should be reevaluated" as a potential treatment in aggressive, hormone receptor-negative breast cancer.

Cervical Cancer Screening in HMOs

More than half of cervical cancer cases among 833 women in 7 managed care plans were attributed to lack of Pap testing, according to researchers from NCI's Cancer Research Network. The study, published in the May 4 *JNCI*, identified all invasive cervical cancer diagnoses made between January 1995 and December 2000 among women who were long-term members of the plans. They then reviewed each woman's medical records for the 3 years prior to diagnosis.

Although 55 percent of cases were linked to a lack of screening, in 31 percent of the cases the Pap test did not detect a presymptomatic cancer or premalignant abnormality; in 12 percent of cases, a premalignant abnormality was detected, but cancer diagnosis was delayed because of follow-up failure. Women older than 39 and women living in a high-poverty area or with low educational levels had significantly higher odds of not having had a Pap test.

The authors suggest that access to health care, adherence to recommendations, and screening test performance may be issues for which interventions might be developed. They note that to reduce invasive cervical cancer among women with access to screening and treatment, Pap screening adherence should be increased. Additionally, new or improved strategies in specimen collection in the clinic and in interpretation in the cytology lab might allow better detection of cervical abnormalities.
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HNPCC Screening Test Developed

The researchers who discovered the genetic mutations responsible for hereditary non-polyposis colon cancer (HNPCC)—also called Lynch syndrome—are now developing a series of screening tests for the disease, based on a study reported in the May 5 *New England Journal of Medicine*. Lynch syndrome causes about 3 to 4 percent of colon cancers.

Dr. Albert de la Chapelle and colleagues at the Ohio State University Comprehensive Cancer Center write that "molecular screening of patients with colorectal adenocarcinoma for the Lynch syndrome identified mutations in patients and their family members that otherwise would not have been detected."

The team screened 1,066 colon cancer patients with two different techniques to highlight microsatellite instabilities, a hallmark of Lynch syndrome in which certain easily identifiable regions of the genome lengthen or shorten. Although the team did not compare the techniques directly, immunohistochemical staining and the genotyping method gave similar results. Each method identified 21 of 23 patients that carried the Lynch syndrome mutations.

Family members of the Lynch syndrome patients were then counseled and offered the screening tests. Of these, 117 chose to be tested and 52 (44 percent) were found to carry the telltale mutations.

In an accompanying editorial, Drs. Henry T. Lynch and Patrick M. Lynch write that the new screening process is an improvement over one existing standard, "the Amsterdam criteria," which relies on clinical observations. Only 3 of the 23 patients with Lynch syndrome in the new study met the Amsterdam criteria, they note. ◆

A Conversation with Dr. Wanda K. Jones

Dr. Jones is Deputy Assistant Secretary for Health and Director, Office on Women's Health, HHS. She spoke with the NCI Cancer Bulletin *about National Women's Health Week, which takes place May 8–14, 2005.*

What is National Women's Health Week?

National Women's Health Week is a national effort by an alliance of organizations to raise awareness about manageable steps women can take to improve their health. The focus is on the importance of incorporating simple preventive and positive health behaviors into everyday life. It encourages awareness about key health issues among all women, including those with disabilities and from minority communities.

During National Women's Health Week, almost 2,000 events and health screenings will take place around the country. It will be recognized by mayors and governors in towns and municipalities across 37 states.

How does the Office on Women's Health educate women about their cancer health?

The HHS Office on Women's Health helps women understand the age-appropriate preventive screenings for many diseases and conditions, including cancer, as recommended by the U.S. Preventive Services Task Force. Mammography and Pap smears are key screening tests for early detection of breast and cervical cancers. In fact, the Pap smear can help prevent cervical cancer by indicating precancerous lesions that are easily treated to keep them from progressing to cancer. Colorectal cancer screening also is important; it's the third leading cause of cancer death in women. And we remind women to check their skin monthly, because skin cancer is the most commonly diagnosed cancer, and it's easily treatable.

We deliver these messages primarily through our National Women's Health Information Center—http://www.4woman.gov, 1-800-994-9662, TDD 1-888-220-5446—which can help women connect to the many HHS resources. We also have a network of HHS Regional Office staff; model programs that focus on women's health, clinical care, and preventive services at academic health centers; and a variety of community sites in rural and frontier areas.

Has there been any change in women's attitudes about cancer in the past decade?

Women seem much more likely to discuss cancer, to network with other women cancer survivors, and to let their political leadership know the importance of sustaining the war on cancer. Even so, too many women still think breast cancer is their major health threat, while ignoring the threat of lung and colorectal cancers, and even cervical and skin cancers. We need to do more to help women understand the larger picture of cancer risk and prevention. ◆

Featured Clinical Trial

First-Line Therapy for Postmenopausal Women with Metastatic Breast Cancer

Name of the Trial

Phase III Randomized Study of Anastrozole with or without Fulvestrant as First-Line Therapy in Postmenopausal Women with Metastatic Breast Cancer (SWOG-S0226).

See the protocol summary at http://cancer.gov/clinicaltrials/SWOG-S0226.

Dr. Rita S. Mehta
Principal Investigator

Principal Investigators

Dr. Rita S. Mehta, Southwest Oncology Group, and Dr. Theodore Vandenberg, National Cancer Institute of Canada.

Why Is This Trial Important?

In women with breast cancer, cancer cell growth may be promoted by estrogen (referred to as hormone-sensitive disease). Postmenopausal women whose tumors are hormone sensitive often take an antiestrogen drug following initial treatment of their cancer. The most common antiestrogen drug used is tamoxifen, which blocks the binding of estrogen to its receptors inside cells. Recent studies, however, indicate that another drug, anastrozole, is more effective than tamoxifen and has fewer side effects. Anastrozole reduces estrogen levels in the body by inhibiting production of the hormone, thereby suppressing hormone-sensitive tumor growth. If breast cancer progresses while a patient is on hormonal therapy, fulvestrant, a drug that lowers estrogen receptor levels, may be given.

In this phase III trial, researchers are comparing the effectiveness of anastrozole alone or in combination with fulvestrant as first-line therapy in treating postmenopausal women who have hormone-sensitive, metastatic breast cancer.

"This study will show us whether there is an added benefit to combining fulvestrant with anastrozole as a first-line therapy," said Dr. Mehta. "Furthermore, this type of regimen may ultimately serve as a treatment for earlier breast cancer."

Who Can Join This Trial?

Researchers seek to enroll 690 postmenopausal women with advanced metastatic breast cancer and whose tumors are hormone sensitive. See the full list of eligibility criteria for this trial at http://cancer.gov/clinicaltrials/SWOG-S0226.

Where Is This Trial Taking Place?

Multiple study sites in the United States and Canada are recruiting patients for this trial. See the list of study sites at http://cancer.gov/clinicaltrials/SWOG-S0226.

Contact Information

See the list of study contacts at http://cancer.gov/clinicaltrials/SWOG-S0226 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.

Special Report

NCI's Cancer Research Network Studies Prophylactic Mastectomy

The NCI-supported Cancer Research Network (CRN), consisting of a dozen managed care organizations, is leveraging multidisciplinary teams of scientists to evaluate effective community interventions. A good example of CRN's collaborative approach is the "Program Testing Early Cancer Treatment and Screening" (PROTECTS) project, which recently produced two studies showing the preventive value of mastectomy in women at risk for breast cancer. (See related CRN study on p. 4.)

One of the studies, published online March 28 in the *Journal of Clinical Oncology*, analyzed the effectiveness of contralateral prophylactic mastectomy (CPM), in which women with breast cancer in one breast also have their healthy breast removed.

Dr. Lisa J. Herrinton, research scientist at Kaiser Permanente Northern California, and her colleagues devised a study that used data drawn from six of the participating health plans. The researchers examined automated health care data for 56,400 women diagnosed with breast cancer between 1979 and 1999. They identified 1,072 patients who had CPM and found that the procedure cut the risk of breast cancer occurring in the healthy breast by 97 percent. The risk of death from breast cancer was also 43 percent lower compared with a group of women with

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breast cancer who did not have CPM.

In an accompanying editorial, Dr. Kathy J. Helzlsouer, of the Johns Hopkins University School of Public Health, points out that there is an "overall low risk of second primary tumors" in women with unilateral breast cancer. The 43 percent reduction in risk of death among CPM patients translated into an 8 percent mortality rate during the average 5 years of follow-up for those who had CPM, compared with 12 percent mortality among patients who did not have the procedure.

The second study, published in the March 14 *Archives of Internal Medicine*, examined the usefulness of prophylactic mastectomy in women who did not have breast cancer but were at elevated risk for it, based on family history, atypical hyperplasia, or one or more unusual but benign biopsies. Dr. Ann M. Geiger of Kaiser Permanente Southern California and her colleagues used automated health care data to conduct a case-cohort study of 666,800 women with those risk factors.

Among that group, 276 had undergone bilateral prophylactic mastectomy (BPM)—removal of both healthy breasts. Less than 1 percent of those women subsequently developed breast cancer, compared with 4 percent of the at-risk women who did not have the BPM procedure.

"Weighing the risks and benefits of options to reduce second breast cancer in women with a personal history of breast cancer requires the quantification of harms as well as benefits," Dr. Helzlsouer concludes. "The next step is quantifying the harms, both physical and psychological, so women can weigh all of their options and make informed choices."

For more information on the CRN, visit http://crn.cancer.gov/. ◆

Notes

Reports on Women and Cancer

The Women's Health Report, Fiscal Years 2003-2004, is now available on the NCI Web site at http://planning.cancer.gov/whealth/reports/whr0304/whr0304.pdf. Developed by NCI's Office of Women's Health, it describes many of the activities and accomplishments of NCI's research programs in FY 2003 and 2004 to address cancers specific to or primarily affecting women. The report includes details on recent research progress into the prevention, diagnosis, and treatment of breast, cervical, ovarian, endometrial, colorectal, and lung and other tobacco-related cancers, as well as AIDS-associated malignancies.

Other NCI resources about women and cancer include:

Charting the Course: Report of the Breast Cancer Progress Review Group (PRG), August 1998
http://prg.nci.nih.gov/pdfprgreports/1998breastcancer.pdf

NCI Breast Cancer Progress Report, which documents NCI's progress in addressing the recommendations of the Breast Cancer PRG, October 2004
http://planning.cancer.gov/disease/breast.shtml

Women, Tobacco, and Cancer: An Agenda for the 21st Century, a report of a working group to identify gaps and research priorities, and to identify and prioritize needs in dissemination and application, July 2004
http://searchosp1.nci.nih.gov/whealth/reports/wtobacco.pdf

CALGB Registers 100,000th Patient

On April 21 the Cancer and Leukemia Group B (CALGB) registered its 100,000th patient to a CALGB protocol. CALGB is a clinical research group sponsored by NCI, with its central office headquartered at the University of Chicago. CALGB was founded in 1956 to bring together clinical oncologists and laboratory investigators to develop better treatments for cancer. Since then, it has grown to include 29 university medical centers, 225 community hospitals, and more than 3,000 oncology specialists.

Biercuk to Speak at Nanotech Seminar

Michael Biercuk, of Harvard University, is the next featured speaker in NCI's Nanotechnology Seminar Series. He will discuss "The Science and Technology of Carbon Nanotubes" on May 18 from 9:30–10:30 a.m. in the Natcher Building on the NIH campus in Bethesda, Md. The presentation will be webcast at http://videocast.nih.gov. For more information, visit http://nano.cancer.gov/events_nanotech_seminar_series.asp.

NCI Web Site Wins Award for Best International Government Web Site

This year's international Webby Awards were announced on May 3, and the NCI Web site, http://www.cancer.gov, was named the winner in the Government category.

The Webby Awards, known as "the Oscars of the Internet," are widely considered the premier awards honoring excellence in Web design, usability, and creativity. They are presented annually by the International Academy of Digital Arts and Sciences, a group of Web experts, business leaders, and other professionals.

The Webby Awards recognize the full spectrum of achievement on the Internet; this year more than 4,300 sites were considered in 62 categories. The competition involved sites from more than 40 countries and all 50 states. ◆

Guest Commentary by Dr. Jerome W. Yates

American Cancer Society and NCI Join Forces Against Childhood Cancer

I was pleased to take part in last week's workshop on Childhood Cancer Targeted Therapeutics, co-sponsored by the American Cancer Society (ACS) and NCI. The meeting featured representatives from government, industry, academic research institutions, advocacy groups, philanthropic groups, and others. We came together to respond to the urgent and eloquent appeals of pediatric patient advocacy groups, such as the Candlelighters Childhood Cancer Foundation and the Children's Cause for Cancer Advocacy.

We are all concerned that despite the overall progress against pediatric cancers, current treatment is not sufficiently effective for about 25 percent of children diagnosed with cancer, and for those who are cured, there are risks of long-term side effects related to the curative treatment, including second cancers later in life. Future advances will not only require continued technological and scientific investment in childhood cancer research, but also a renewed commitment to public-private partnerships.

Building on a foundation of past investments, the research community is now poised to make considerable progress in identifying molecular targets that can be modulated for therapeutic advantage in adult cancer. We must keep in mind, however, that the financial incentives behind pharmaceutical research for adult cancer do not apply to childhood cancer because of the relatively smaller number of patients.

In a recent Institute of Medicine report, *Making Better Drugs for Children with Cancer*, public-private partnerships were identified as being "central to addressing this deficit, as neither the public sector nor the private sector working alone has sufficient resources or incentives to accomplish the necessary research and development activities."

Both ACS and NCI view this workshop as a first step toward new public-private partnerships that will help spur the development of molecular-targeted agents for childhood cancers. I would like to thank NCI's Dr. Andrew von Eschenbach and Dr. Harmon Eyre, ACS executive vice president of research and medical affairs, for organizing and leading this workshop. The next step will be to develop a set of successful collaborative efforts to stimulate and ensure target identification, credentialing, and validation.

The success of this effort is going to take the combined resources and coordination by ACS, NCI, and other groups involved. ACS, through its grassroots constituencies, can advocate for legislative change for new incentives leading to enthusiastic participation by biotech and pharmaceutical firms. We will do our part to bring an end to suffering and death due to childhood cancer.

Dr. Jerome W. Yates
National Vice President, Research
American Cancer Society

Featured Meetings and Events

A comprehensive calendar of cancer-related scientific meetings and events sponsored by NCI and other scientific organizations is available at http://calendar.cancer.gov. ◆

The *NCI Cancer Bulletin* is produced by the National Cancer Institute (NCI). NCI, which was established in 1937, leads the national effort to eliminate the suffering and death due to cancer. Through basic, clinical, and population-based biomedical research and training, NCI conducts and supports research that will lead to a future in which we can identify the environmental and genetic causes of cancer, 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://www.cancer.gov.

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