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Eliminating the Suffering and Death Due to Cancer

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Adjuvant Chemotherapy Improves Survival in Advanced Endometrial Cancer

Results from a phase III clinical trial initially presented more than 2 years ago have been published and, according to several experts, represent a new standard of care for treating women with advanced endometrial cancer. In the trial, adjuvant chemotherapy improved overall and disease-free survival compared with whole abdominal irradiation (WAI) in women with advanced disease. The results were released early online by the *Journal of Clinical Oncology* (*JCO*) on December 5.

Led by the Gynecologic Oncology Group (GOG), the NCI-funded trial, GOG 122, is the first to show a survival benefit for adjuvant chemotherapy in this patient group. In a commentary in *JCO*, Dr. Gini F. Fleming of the University of Chicago called the results "a milestone in the treatment of endometrial cancer."

According to the trial's lead investigator, Dr. Marcus Randall of the Brody School of Medicine at East Carolina University, the results should make WAI a relic of the past for most women with advanced disease. "Based on the results of this study, WAI should have no role *(continued on page 2)*

See page 8 for a Special Report on new cancer genome initiative.

Director's Update

Looking Back on a Year of Success and Hope

As I revisit all that has happened over the past year in cancer research, I reach an inescapable conclusion: We are not only expanding our foundation of knowledge and tools with which rapid advances can be made in understanding the mechanisms of cancer, we are also exponentially increasing the opportunities to manage this lethal disease.

The Clinical Proteomics Technologies Initiative launched this year, for instance, will improve the technologies used in proteomics research—a field that is offering new avenues for early detection and diagnosis. There also is The Cancer Genome Atlas Pilot Project, which will yield information about genetic determinants of susceptibility to cancer while laying the groundwork for a full-scale understanding of the genetic etiology of cancer. And the establishment of the NCI Alliance for Nanotechnology in Cancer, including Centers of Excellence and new training programs, will explore new worlds of diagnosis and treatment.

Technology will undoubtedly accelerate progress, but it is just one piece of our robust National Cancer Program.

Within the other parts of our portfolio, an important project completed this year was the work of the Clinical Trials Working Group, which produced 22 *(continued on page 2)*

(Adjuvant Chemo continued from page 1)
or close to no role in managing these patients," he said.

The 422 women in the trial had stage III or IV endometrial carcinoma with a maximum of 2 cm of postoperative residual disease: 202 received WAI after surgery and 194 received 7 cycles of doxorubicin and cisplatin, plus a single cisplatin cycle. At 60 months, 55 percent of patients in the chemotherapy arm were alive, compared with 42 percent of patients in the WAI arm; disease-free survival was 50 percent vs. 38 percent, respectively.

The chemotherapy regimen in GOG 122, which began accruing patients in 1992, has fallen out of favor for treating many solid tumors because of toxicity. Not surprisingly, patients in the chemotherapy arm were far more likely to have high-grade hematologic toxicities such as low white blood cell levels and gastrointestinal effects. Only 63 percent of patients completed the full chemotherapy regimen, compared with 84 percent of those treated with WAI.

Surgery is the first-line treatment for endometrial cancer. Because most patients present with stage I disease, hysterectomy can often be curative, according to Dr. Edward Trimble of NCI's Division of Cancer Treatment and Diagnosis (DCTD).

Surgery also helps clinicians stage the disease and make more informed decisions about next treatment steps. Stage I disease, for example, means the tumor is confined to the uterus. Stage III disease indicates the disease has spread, often to the lymph nodes.

According to Dr. Randall, community oncologists are already using adjuvant chemotherapy to treat advanced disease, a trend that began after the initial release of the trial's results at the American Society of Clinical Oncology annual meeting in 2003. Clearly, though, the toxicity seen with the doxorubicin/cisplatin regimen has affected how adjuvant chemotherapy is being employed.

While there are no data from randomized trials in endometrial cancer to necessarily support it, Dr. Trimble said, "A lot of oncologists are using carboplatin and paclitaxel, which is better tolerated."

GOG is conducting a phase III trial comparing carboplatin and paclitaxel with doxorubicin, cisplatin, and paclitaxel for advanced disease.

The GOG 122 trial is by no means the death knell for radiation, Dr. Trimble continued, particlarly radiation therapy that is more focused on known tumors. "There is room to study radiation because we know it helps with local control," he said. "We think the new paradigm may be a trimodality therapy, with surgery plus chemotherapy and radiation." ◆

By Carmen Phillips

(Director's Update continued from page 1)

recommendations for reworking the NCI clinical trials program to make it more effective and efficient. In May, NCI also made an unprecedented commitment to addressing disparities in cancer care with the launch of the Community Networks Program (CNP). The $95 million CNP will help to implement community-based projects aimed at reducing disparities in underserved populations.

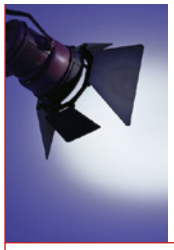
Large-scale clinical trials in 2005 yielded results that will have profound effects in preventing and treating many cancers. For example, three different clinical trials showed that adding trastuzumab to chemotherapy significantly reduced the risk of recurrence in women with early-stage, HER-2 positive breast cancer. Results from the Lung Health Study showed that intensive smoking-cessation programs not only can help people stop smoking, but, for those who do quit, can significantly improve long-term survival. Stunning results were seen in an HPV vaccine trial, demonstrating that most cases of cervical cancer can be prevented, which will have important implications in underdeveloped countries. And in September, results from the DMIST trial demonstrated that a subset of women can significantly benefit from digital mammography.

In the laboratory, there were numerous studies that yielded noteworthy results, often using ingenious techniques or novel approaches. Researchers from NCI and the University of Minnesota, for example, published a study demonstrating how employing "jumping DNA" called transposons in mouse models may enable us to identify new cancer genes. In addition, researchers from the University of Michigan studying prostate cancer identified for the first time, the presence of a commonly fused gene in a solid tumor. The researchers believe other solid tumors may also harbor common translocations, which could serve as biomarkers of disease.

These are just samples of the outstanding work being done every day by cancer researchers. Eliminating the suffering and death due to cancer by 2015 is a bold and ambitious goal, but this past year has demonstrated progress that gives us hope.

Certainly there are significant hurdles to overcome, from tough budgetary decisions to the physical limitations of available research tools. But our progress is consistently accelerating and there is ample proof of the principle that the mechanisms of cancer are vulnerable. In 2006, as cancer yields to our determined attack, lives will be saved. ◆

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



Spotlight

Diabetes and Pancreatic Cancer: Testing the Insulin Hypothesis

As the incidence of diabetes rises around the world, researchers are starting to recognize the possibility that in the coming decades cancers associated with diabetes may become more common as well, particularly in the United States as the population ages.

Cancers of the colon, breast, liver, and pancreas are among those that tend to occur with type 2 diabetes among adults. But the epidemiological studies on the subject are inconsistent, and researchers are only beginning to understand how the diseases might be related and how best to treat patients with both.

"We know what happens to patients with cancer, and we know what happens to patients with diabetes, but we know little about how the two diseases interact in patients who have both," says Dr. Lisa Richardson, a medical oncologist in the Division of Cancer Prevention and Control at the Centers for Disease Control and Prevention.

Surprisingly few studies have been done specifically to understand how the diseases are related, notes Dr. Richardson. Instead, researchers have focused largely on identifying cancers that occur with diabetes (or prediabetic states) and explaining why this happens.

A theory about pancreatic cancer and diabetes, to take one example, says that during the early stages of diabetes the pancreas produces extra insulin, and this insulin may spur the growth of cells, leading to tumors.

The insulin hypothesis is supported by experiments in human cells and in animals. Now more support comes from a study involving 29,000 male smokers in Finland that appears in tomorrow's *Journal of the American Medical Association* (*JAMA*).

In the study, men with the highest insulin levels were twice as likely to develop pancreatic cancer as men with the lowest levels, says lead researcher Dr. Rachael Stolzenberg-Solomon of NCI's Division of Cancer Epidemiology and Genetics.

Similarly, men with glucose levels in the range of clinical diabetes were twice as likely to develop the cancer as men with normal levels.

When the men joined the study in the mid-1980s, they had their blood drawn after fasting overnight. This allowed the researchers to know insulin and glucose levels many years before the cancers appeared; over the course of 17 years, 169 men developed the cancer.

"This is a very well done study, and it supports the long-standing hypothesis that insulin is a growth promoter for pancreatic cancer," says Dr. Charles Fuchs of Harvard Medical School, an expert on pancreatic cancer who was not involved in the study.

In their analysis, the researchers excluded men who developed the cancer within 5 years of having their blood drawn. This reduced the likelihood of including men whose elevated insulin levels were caused by undetected pancreatic tumors, as can happen.

Smoking, aging, and perhaps obesity are the only known risk factors for pancreatic cancer, one of the most deadly cancers. There are few treatments, and the cancer is frequently discovered only after a tumor has spread.

"This study of insulin levels gives us another important clue about the various influences that are probably important in the risk of developing pancreatic cancer, particularly in smokers," says Dr. Demetrius Albanes, the senior researcher of the NCI team.

The findings need to be replicated in other groups, including women and nonsmokers, but the results are consistent with other recent studies.

Last January, for instance, a study in *JAMA* found that diabetes and elevated fasting glucose levels were independent risk factors for several major cancers, including pancreatic cancer, among 1.3 million Koreans.

The participants were "far leaner" than those found in studies involving Westerners. Noting that obesity was not a factor in the results, the researchers suggested that elevated insulin levels may account for the increased cancer risk.

In May, an analysis of 36 studies involving diabetes and pancreatic cancer found a "modest causal association" between type 2 diabetes and the cancer. After obesity and smoking, diabetes may be the third modifiable risk factor for pancreatic cancer, the researchers concluded in the *British Journal of Cancer*.

(Spotlight continued on page 5)

Cancer Research Highlights

Two Breast Cancer Treatments Show Benefit

Results from an NCI-funded, phase III clinical trial comparing the effectiveness of the drugs paclitaxel and docetaxel, delivered over two different dosing schedules, showed that—regardless of the dosing schedule—both drugs provided similar benefits for women with stage II or III operable breast cancer. Study results were presented at the San Antonio Breast Cancer Symposium on December 8.

Both paclitaxel and docetaxel are approved for the treatment of breast cancer that has spread to lymph nodes. Although these drugs have been shown to be beneficial in treating breast cancer, this is the first time they have been directly compared in a weekly versus 3-week dosing schedule to treat early-stage breast cancer.

"Although both drugs are used as adjuvant breast cancer treatments, which drug and which schedule are most effective has been a question for many years," said Dr. JoAnne Zujewski, who oversees breast cancer trials for NCI's Cancer Therapy Evaluation Program. "Now doctors and patients will be able to consider side effects, convenience, and cost in determining treatment without concern that effectiveness will be compromised."

A total of 4,988 women were enrolled in the trial between 1999 and 2002 and were followed for a median of about 4 years. All of the women had axillary lymph node-positive or high-risk node-negative breast cancer. All women were first treated with a standard treatment protocol and were then randomly assigned to groups that received either paclitaxel or docetaxel, administered weekly for 12 weeks or every third week over a 12-week period.

Adjuvant Chemo for Stage III Colon Cancer Increasing, but Still Lags

The use of adjuvant chemotherapy in patients with late-stage colon cancer has increased significantly since recommendations from a 1990 NIH consensus conference advised clinicians to implement the practice, a new study has found. But, the study authors report, nearly one-third of patients with stage III colon cancer still receive surgery only for treatment, particularly female and elderly patients.

In the study, Dr. John Jessup, from Georgetown University Medical Center and temporarily on assignment with NCI's DCTD, and colleagues reviewed prospective data from the National Cancer Data Base on nearly 86,000 patients treated for stage III colon cancer between 1990 and 2002. Overall, they reported in the December 7 *Journal of the American Medical Association*, the use of adjuvant chemotherapy increased from 39 percent in 1991 to 64 percent in 2002. When compared with surgery alone, this increase was associated with a 16-percent improvement in 5-year survival.

The 1990 recommendations were based on two large, randomized clinical trials that demonstrated significant improvements in disease recurrence and overall survival with a 12-month postsurgery chemotherapy regimen. After the recommendations' release, adjuvant chemotherapy use increased and then stabilized by the mid- to late-1990s. A second increase followed results in clinical trials that demonstrated an adjuvant regimen of 6 months of 5-fluorouracil (5-FU) and leucovorin was as effective and less toxic as the standard regimen of 12 months of 5-FU and levamisole.

With recent studies using newer agents showing increased efficacy and less toxicity than 5-FU/leucovorin, noted Drs. Eric Van Cutsem and Frederico Costa in an accompanying commentary, use of adjuvant chemotherapy should continue to expand. "Shorter and more effective therapies are easier to incorporate in daily practice," they wrote, "and might overcome…reluctance of the patient or the physician to be treated with adjuvant chemotherapy."

Breast Cancer Cluster Not Linked to Environment

Long Island has been the focus of intensive investigation to uncover reasons for the high rates of breast cancer in its Nassau and Suffolk Counties. NCI and the National Institute of Environmental Health Sciences (NIEHS) have supported research to evaluate whether environmental exposures may be responsible through the series of studies in the Long Island Breast Cancer Study Project (LIBCSP). In the December issue of *Nature Reviews Cancer*, Dr. Deborah Winn, of NCI's Division of Cancer Control and Population Sciences, reviewed the results of LIBCSP, as well as studies of other regions with high breast cancer rates.

(Highlights continued on page 5)

(Highlights continued from page 4)

In case-control studies, researchers focused on participants' exposure to organochlorines (a class of chemicals that includes pesticides and other industrial chemicals), polycyclic aromatic hydrocarbons (a pollutant caused by incomplete combustion of various chemicals including diesel fuel and cigarette smoke), and electromagnetic fields in and near participants' residences as possible causes. In general, the researchers found no significant association between the regional environment and high breast cancer incidence.

Similar results were seen in a study of women in affluent Marin County, California, where breast cancer incidence also is high. What that study did show was that heavy alcohol consumption was linked with the disease. Higher regional breast cancer rates may also be due to reproductive patterns that are correlated with affluence, including late age at first birth and fewer children.

"In the view of some, findings of no environmental association indicate failure of the research," notes Dr. Winn. "However, findings of no association that are obtained through rigorous research are important. If the evidence shows that there are no credible associations between the suspected risk factors and the disease, then research can be directed toward other potential carcinogens." She points to improved understanding of gene-environment interactions and measurement of environmental exposures as important contributions from the LIBCSP.

NIEHS and NCI are currently exploring these issues further by supporting the Breast Cancer and the Environment Research Centers (www.bcerc.org). ◆

Funding Opportunities

Bioengineering Approaches to Energy Balance and Obesity (SBIR [R43/R44])

PA-06-055

Application Receipt Dates: April 1, Aug. 1, and Dec. 1, 2006; April 1 and Aug. 1, 2007.

This is a renewal of PA-04-156. This funding opportunity will use the R43 and R44 award mechanisms. For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=3296. Inquiries: Dr. Sharon Ross—sr75k@nih.gov; Connie Dresser—cd34b@nih.gov; Dr. Audie A. Atienza—atienzaa@mail.nih.gov.

Bioengineering Approaches to Energy Balance and Obesity (STTR [R41/R42])

PA-06-056

Application Receipt Dates: April 1, Aug. 1, and Dec. 1, 2006; April 1 and Aug. 1, 2007.

This is a renewal of PA-04-156. This funding opportunity will use the R41 and R42 award mechanisms. For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=3297. Inquiries: Dr. Sharon Ross—sr75k@nih.gov; Connie Dresser—cd34b@nih.gov; Dr. Audie A. Atienza—atienzaa@mail.nih.gov.

Research on Social Work Practice and Concepts in Health (R01)

PA-06-081

Application Receipt Dates: March 1, July 1, and Nov. 1, 2006; March 1, July 1, and Nov. 1, 2007; March 1, July 1, and Nov. 1, 2008.

This funding opportunity will use the R01 award mechanism. For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=3298. Inquiries: Crystal Wolfrey—crystal.wolfrey@nih.gov.

Research on Social Work Practice and Concepts in Health (R03)

PA-06-082

Application Receipt Dates: March 1, July 1, and Nov. 1, 2006; March 1, July 1, and Nov. 1, 2007; March 1, July 1, and Nov. 1, 2008.

This funding opportunity will use the R03 award mechanism. For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=3299. Inquiries: Crystal Wolfrey—crystal.wolfrey@nih.gov.

Research on Social Work Practice and Concepts in Health (R21)

PA-06-083

Application Receipt Dates: March 1, July 1, and Nov. 1, 2006; March 1, July 1, and Nov. 1, 2007; March 1, July 1, and Nov. 1, 2008.

This funding opportunity will use the R21 award mechanism. For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=3300. Inquiries: Crystal Wolfrey—crystal.wolfrey@nih.gov.

Mentored Quantitative Research Development Award (K25)

PA-06-087

Application Receipt Dates: Feb. 1, June 1, and Oct. 1, 2006; Feb. 1, June 1, and Oct. 1, 2007; Feb. 1, June 1, and Oct. 1, 2008; Feb. 1, 2009.

This is a renewal of PA-02-127. This funding opportunity will use the K25 award mechanism. For more information see http://cri.nci.nih.gov/4abst.cfm?initiativeparfa_id=3302. Inquiries: Dr. David Eckstein—eckstein@mail.nih.gov ◆

(Spotlight continued from page 3)

"Unless the increasing worldwide prevalence of all three risk factors is halted, the incidence of pancreatic cancer will rise substantially within the next couple of decades," warned Dr. Rachel Huxley of the University of Sydney and her colleagues. ◆

By Edward R. Winstead

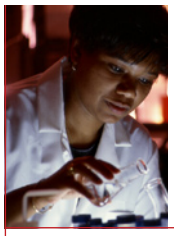
Translational Research Working Group Invites Input

On December 4–5, most of the 60 members of NCI's Translational Research Working Group (TRWG) met for the first time. The meeting's goal was to lay the groundwork for a roundtable meeting in February 2006, where about 140 additional stakeholders and experts will join TRWG to discuss a model of what an effective translational cancer research enterprise might look like, and to develop recommendations about how to achieve it.

A public comment period will be open from December 20–January 20 on the TRWG Web site (http://www.cancer.gov/trwg/) to solicit public input on some of the key questions facing the TRWG.

TRWG was established earlier this year to evaluate the status of NCI's investment in translational research, and to provide a blueprint for its future. Among the key questions under consideration is how to most effectively link research in the lab, the clinic, and the population to develop promising discoveries arising from any of these realms into new tools to reduce cancer incidence and its related morbidity and mortality. TRWG expects to provide recommendations to the National Cancer Advisory Board by early 2007.

This initiative could have a significant impact on how NCI organizes its resources and prioritizes its efforts. "We're determined to provide a meaningful analysis and helpful recommendations," said Dr. Ernie Hawk, director of the NCI Office of Centers, Training and Resources. "We are striving to work constructively and creatively, to include everyone with a stake in the issues, and to make the process as transparent as possible." ◆



Featured Clinical Trial

Treatment for Castleman Disease

Name of the Trial
Pilot Study of High-Dose Zidovudine and Valganciclovir with or without Bortezomib or EPOCH-R (Comprising Etoposide, Doxorubicin, Vincristine, Prednisone, Cyclophosphamide, and Rituximab) or Observation or HAART Only in Patients with Multicentric Castleman Disease Associated with Kaposi Sarcoma-Associated Herpesvirus (NCI-04-C-0275). See the protocol summary at http://cancer.gov/clinicaltrials/NCI-04-C-0275.

Principal Investigator
Dr. Richard Little, NCI Center for Cancer Research

Dr. Richard Little

Why Is This Trial Important?
Multicentric Castleman disease (MCD) is a rare disorder that causes numerous problems, including fatigue, fever, anemia, and tumor-like growths in multiple lymph nodes. Kaposi sarcoma-associated herpesvirus (KSHV), also known as human herpesvirus 8, is found in about 50 percent of MCD cases not associated with HIV, and in nearly 100 percent of HIV-associated MCD. Some patients may also have Kaposi sarcoma.

In this trial, symptomatic patients will be treated with high-dose zidovudine (HDAZT) and valganciclovir. These antiviral drugs are converted into toxic compounds by KSHV-encoded proteins. These toxic compounds may lead to specific killing of KSHV-infected cells (MCD tumor cells). Patients who do not respond to this treatment will also receive the drug bortezomib to see if it can increase the ability of KSHV to activate HDAZT and valganciclovir and increase tumor cell death.

Patients with no symptoms will be monitored without therapy for MCD. HIV-infected patients will receive treatment for HIV, called highly active antiretroviral therapy or HAART, if appropriate. Patients who develop life-threatening disease will be treated with conventional chemotherapy (EPOCH-R) to try to bring their disease and symptoms into remission.

"Laboratory research indicates that certain KSHV genes can activate HDAZT and valganciclovir to kill tumor cells," said Dr. Little. "If this approach works in patients with MCD, it may provide the basis for exploring similar strategies for other viral-associated tumors."

Who Can Join This Trial?
Researchers seek to enroll up to 30 patients aged 12 or over with KSHV-associated MCD. See the list of eligibility criteria at http://cancer.gov/clinicaltrials/NCI-04-C-0275.

Where Is This Trial Taking Place?
This study is taking place at the NIH Clinical Center in Bethesda, Md.

Contact Information
For more information, call the NCI Clinical Studies Support Center (CSSC) at 1-888-NCI-1937. The call is toll free and confidential. ◆

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

Notes

Africans Called to Action on Cancer

The 5th International Conference of the African Organization for Research and Training in Cancer (AORTIC), "Cancer in Africa: A Call to Action," took place in Dakar, Senegal, on November 14–17.

The conference was attended by 406 people from 37 countries. Senegal President Abdoulaye Wade opened the meeting with a pledge of personal support for the development of cancer programs in Africa. The keynote addresses were delivered by Dr. Simon Schraub of the Centre Paul Strauss in Strasbourg, France, and Dr. Joe Harford of NCI. For more information about AORTIC, go to www.aortic.org.

Roberts and Sporn Win Komen Brinker Award

Dr. Anita Roberts of NCI's Center for Cancer Research and Dr. Michael Sporn of Dartmouth Medical School were awarded the 2005 Komen Brinker Award for Scientific Distinction in basic research. They were recognized at the Brinker Dinner on December 8 at the San Antonio Breast Cancer Symposium.

Drs. Roberts and Sporn have collaborated for more than 30 years on research on transforming growth factor beta, a messenger molecule integral to the activities of the cell cycle. Their work is now forming the basis of new therapeutic approaches in breast cancer.

The award was established by the Susan G. Komen Breast Cancer Foundation in 1992 to recognize extraordinary achievement in breast cancer-related basic and clinical scientific research. Dr. Trevor J. Powles of Parkside Hospital in London received the award for clinical research.

Seminar Describes Cancer Disparities

Reporters covering health and minority issues joined faculty members and other associates of the Herbert Irving Comprehensive Cancer Center in New York City on November 30 for an in-depth look at some of the latest research about the impact of cancer on minority populations. As part of NCI's Science Writers' Seminar series, several prominent experts in cancer disparities presented findings about the cause and extent of cancer incidence and mortality in minority or disadvantaged populations.

Several media outlets reported stories based on the event. *HealthDay News* published a story about the fatalism of some cancer patients, including those affected by poverty and lack of education, which also appeared on *Forbes.com*. The largest weekly newspaper serving Native Americans, *Indian Country Today,* is planning an article about cancer in the Native American community that will highlight NCI's Community Networks and Patient Navigator programs. A number of radio interviews with NCI staff also resulted from the seminar.

Software for Proteomics Analysis Available

NCI and Fred Hutchinson Cancer Research Center recently announced the release of a comprehensive, Web-based software platform called the Computational Proteomics Analysis System (CPAS).

The new software platform is the first comprehensive, freely available resource for proteomics researchers. A paper describing the base system was published early online December 8 in the *Journal of Proteome Research*.

The software version 1.1, an analytical platform supported by NCI's cancer Biomedical Informatics Grid™, was developed at the Seattle-based Hutchinson Center as part of a large NCI-funded research consortium to develop basic platforms for research into proteomics. Members of the Hutchinson Center-led consortium include the Institute for Systems Biology, Pacific Northwest National Laboratory, and the Plasma Proteome Institute.

CPAS will provide researchers with open-source tools for organizing, managing, processing, and interpreting the vast amounts of data generated by proteomics and other biological experiments.

For more information, go to https://cabig.nci.nih.gov/workspaces/ICR/CPAS/document_view.

Complete the *NCI Cancer Bulletin* Survey

From now through December 22, you'll have the chance to give us your feedback about the *NCI Cancer Bulletin* by completing an online survey at http://www.ncipoet.org/CancerBulletinSurvey.

Survey responses are confidential and you can choose to skip any of the questions in the survey. For more information, contact Nina Goodman at goodmann@mail.nih.gov or 301-435-7789. ◆

NCI Cancer Bulletin Publication Break

The *NCI Cancer Bulletin* will not be published on December 20 and 27. We will resume publication on our usual schedule with the January 3, 2006, issue. ◆

Special Report

The Cancer Genome Atlas Begins with 3-Year, $100 Million Pilot

Leaders from NCI and the National Human Genome Research Institute (NHGRI) today launched the Cancer Genome Atlas (TCGA) Pilot Project, a comprehensive effort to accelerate understanding of the molecular basis of cancer.

The TCGA Pilot Project will be monitored using specific milestones for certain components of the project and the overall project will be evaluated on the basis of key success factors. A pilot project is required to establish processes and determine feasibility; a decision to scale up TCGA at the completion of this 3-year period will be based on achieving these success factors. At a news conference in Washington, D.C., NCI and NHGRI each pledged $50 million over 3 years to the pilot.

NCI Deputy Director Dr. Anna Barker said, "TCGA is a revolutionary program which capitalizes on so much of what we've accomplished in the last 30-plus years of biomedical and cancer research. The Human Genome Project produced an amazing product, and we are now positioned to leverage the human genome sequence for TCGA. This is the first attempt to use large-scale gene sequencing for human health—and I am glad that cancer patients and their families will be the beneficiaries. The project will enable a new generation of discovery and empower translational and clinical research across all sectors. Our intent is that all of the data move quickly into the public domain for everyone's use."

Cancer includes more than 200 different diseases, each with a set of genetic changes that results in uncontrolled cell growth. The TCGA Pilot Project will develop and test the science and technology needed to systematically identify the genetic changes in a small number of cancers.

Such an exploration of the genetic origins of the many diseases called cancer would not have been possible a decade ago. But new technologies and genome analysis tools, especially large-scale genome sequencing, have led scientists to a better understanding of how and why genetic changes cause cancer.

Many of these insights and technologies evolved during the Human Genome Project (HGP), an international effort led in the United States by NHGRI and the Department of Energy, and completed in April 2003, which provided a reference DNA sequence of the human genome. Just as HGP enhanced the availability of genomic tools, TCGA is expected to lead to new technologies for high-throughput, cost-effective analysis of the cancer genomes.

The TCGA Pilot Project will consist of: a Core Human Biospecimen Resource to collect, quality-assure, and distribute biomolecules from the samples; Genome Characterization Centers that will employ genome analysis technologies to identify key genomic and epigenomic changes; Genome Sequencing Centers to resequence candidate genes identified through data integration from all program components; a Bioinformatics Core Resource which will develop the bioinformatics and analysis tools needed to integrate and deploy TCGA's database through NCI's cancer Biomedical Informatics Grid™ and NIH's Center for Bioinformatics; and a Technology Development Program that will focus on driving new genome analysis technologies through individual investigator grants and NCI's SBIR program. For more information, go to http://cancergenome.nih.gov ◆

Featured Meetings and Events

A calendar of scientific meetings and events sponsored by the National Institutes of Health is available at http://calendar.nih.gov/cgi-bin/calendar ◆

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.

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