NATIONAL CANCER INSTITUTE

NCI Cancer Bulletin

Eliminating the Suffering and Death Due to Cancer

January 25, 2005
Volume 2 | Number 4

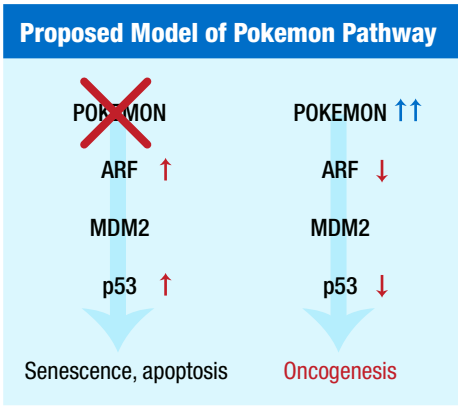
In this issue:

A Publication of the
National Cancer Institute
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health
NIH Publication No. 05-5498

http://www.cancer.gov

Pokemon Protein Implicated in Cancer Development

A central problem in combating cancer has been its molecular complexity; each cancer cell has numerous mutated genes contributing to the disease. However, a study, funded in part by the National Cancer Institute (NCI), which appears in the January 20 *Nature* identifies a new cancer gene, named Pokemon, that may act as a master switch. Pokemon is an oncogene, a gene that can cause normal cells to become cancerous when mutated, but its role is unique in that it controls the activity of other oncogenes.



Inactivation of Pokemon (left) would increase expression of tumor suppressors ARF and p53 and promote cell death. Conversely, increased Pokemon expression (right) promotes oncogenesis via inhibition of ARF and p53.

"Pokemon is a main switch in the molecular network that leads toward cancer," said senior author Dr. Pier Paolo Pandolfi of Memorial Sloan-Kettering Cancer Center (MSKCC). "If we could turn Pokemon off, it may block this circuitry and stall the malignant process."

(continued on page 2)

Director's Update

Program Promotes Collaboration, Rapid Generation of New Interventions

At the recent joint retreat of some key NCI advisory boards and the NCI intramural program retreat, two themes emerged that go hand-in-hand with several high-priority NCI initiatives. First was the strongly voiced sentiment that, to make the sort of progress against cancer that we all believe is possible, extensive collaboration is required among researchers of all disciplines and between academia and industry. Second was the imperative of getting drugs and other interventions to patients much more quickly than we currently do.

One NCI-led program that I believe holds tremendous promise and speaks to both topics is the Academic Public-Private Partnership Program (AP4). This program will establish AP4 centers at four to six U.S. academic research institutions and stimulate discovery- and development-related research. Through partnerships with nonprofit organizations and industry, the goal will be to rapidly generate novel, molecularly targeted cancer drugs and diagnostics for clinical trials for orphan cancer types.

With the aid of NCI planning grants, 14 research centers are currently developing AP4 proposals that cover a

(continued on page 2)

(Pokemon continued from page 1)
Pokemon (POK Erythroid Myeloid Ontogenic factor) is part of the POK gene family that encodes proteins that turn off other genes. POK proteins are critical in embryonic development, cellular differentiation, and oncogenesis.

Dr. Pandolfi and colleagues at MSKCC, along with collaborators at Chester Beatty Laboratories in London, examined the potential role of this POK member in cancer development. They first introduced multiple combinations of cancer-triggering genes into normal and Pokemon-deficient mouse cells. These stimuli caused normal cells to proliferate rapidly and become cancerous, whereas cells lacking Pokemon did not respond and remained healthy. In addition, co-expressing Pokemon and another oncogene in normal cells increased the proliferation of the cells as compared with expressing the other oncogene alone.

The researchers found that one reason Pokemon had such a broad effect was that it could turn off the expression of the key tumor suppressor p19ARF. The authors note that Pokemon is the first ARF-specific repressor to be identified. "Pokemon is a novel regulator of a critical pathway," noted Dr. Michael Dean, principal investigator in NCI's Laboratory of Genomic Diversity. "The p19 gene is one of the 'big three' tumor suppressors, along with p53 and retinoblastoma protein; at least one of these is mutated or inactivated in virtually every cancer."

The researchers tested Pokemon's effect in mice to examine if it could genuinely act as an oncogene and stimulate cancer development. They generated mouse strains which overexpressed Pokemon, and observed that many of these mice developed aggressive fatal lymphomas.

To see if the results of the mouse models could be related to humans, the researchers used microarrays to look at Pokemon expression in human tumors. About 80 percent of large B-cell and follicular lymphomas analyzed for gene expression displayed at least moderate levels of Pokemon expression, and one-third of the tumors had high expression levels. Although Dr. Dean noted that it may be too soon to generalize Pokemon activity with human cancers, excess Pokemon was also found in subsets of breast, lung, colon, prostate, and bladder tumors. ◆

(Director's Update continued from page 1)
broad array of research, from advanced cellular/immunotherapies to neuroendocrine tumors to agents that improve radiation sensitization of cancers. Some of the country's top research centers with proven track records in research and development are vying to become AP4 centers. Early indications are that nonprofits and corporations are eager to join an AP4 team.

AP4 arose from similar recommendations made by several NCI Progress Review Groups, all calling for efforts to accelerate the advancement of new interventions to clinical trials. NCI's Office of Science Planning and Assessment and Developmental Therapeutics Program (DTP) worked together to develop AP4, including researching programs with similar aims to speed up the pace of research. In fact, AP4 is modeled on the long-running, extremely successful National Science Foundation (NSF) Industrial/University Cooperative Research Centers (I/UCRC) program. In 2000, with NSF funding of $5.2 million, I/UCRCs had a combined budget of $68 million that supported 1,750 faculty and students at 50 academic research centers.

At the heart of AP4 is a flexible and dynamic project management structure. Each AP4 center will have an academic director and various partners, who together compose the AP4 steering committee. The partners in each AP4 center will develop a governance document that defines financial contributions, partner interactions, intellectual property issues, and evaluation metrics. Each center's steering committee (which will have a nonvoting NCI member) will have the authority to make go/no-go decisions on projects, add new projects, and shift funds as they see fit—a flexibility that will give them the agility to keep projects moving. In addition, AP4 centers will have priority access to DPT's screening and developmental resources for clinical candidates, such as *in vivo* efficacy testing and pharmacology and toxicology studies.

Partnerships between industry, nonprofits, and academic institutions have always been a part of NCI's strategy to accelerate progress. Through AP4, NCI will provide financial support and an integrated system for collaboration. Industry will be attracted by access to the talent and novel research capabilities of the academic centers, with the ability to pursue interventions that—on their own—they might deem too risky to pursue, and insight into research methods that in later years could have a significant downstream impact on their business. Academic investigators, on the other hand, will have rapid and direct access to the expertise necessary to facilitate discoveries being translated into development of interventions that will lead to the elimination of the suffering and death due to cancer. Through AP4, we believe we can significantly enhance the marginal success rate of current academic/industry partnerships, open exciting new doors for partnership and collaboration, and quickly generate new interventions that will benefit many patients. ◆

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

Spotlight

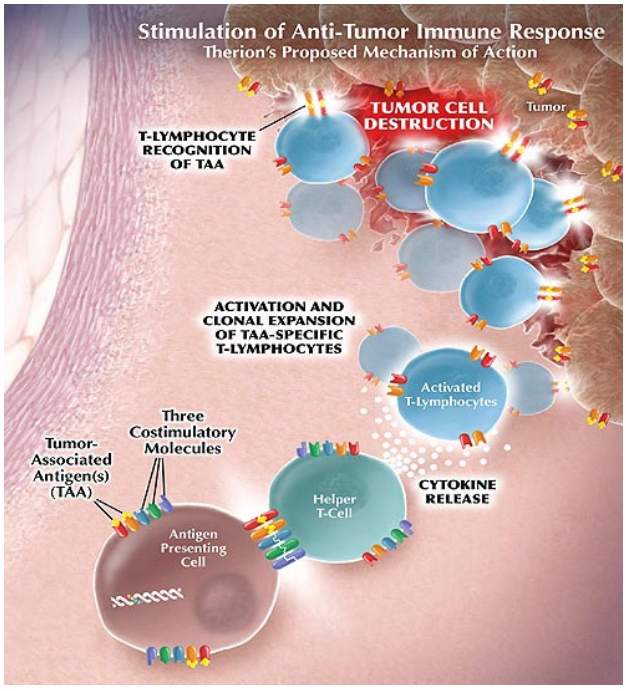
Cancer Vaccines: Training the Immune System to Fight Cancer

Researchers have spent more than a century trying to develop a vaccine that jump-starts the body's immune system in an effort to either prevent or treat cancer. Although understanding of the immune system's role and function in cancer initiation and progression has improved, researchers have had limited success translating that improved knowledge into better results in early-phase cancer vaccine clinical trials. That does not mean researchers have lost hope of getting some vaccines to pass Food and Drug Administration muster for use in patients. If anything, it has forced them to be more creative in their efforts to teach the immune systems to treat cancer cells like the unwelcome intruders they are.

The use of cancer vaccines to date has almost uniformly focused on patients already undergoing treatment—so-called therapeutic vaccines. Through mechanisms researchers are now beginning to understand, the immune system often fails to recognize cancerous cells, and simply leaves them to potentially take root and form tumors. Therapeutic cancer vaccines are meant to reverse this course, unmasking active cancer cells and bringing them to immune cells' attention.

"The best settings are for treating people who have minimal disease or a high risk of recurrence," explains Dr. Jeffrey Schlom, chief of NCI's Laboratory of Tumor Immunology and Biology, and a leader in cancer vaccine development. "But at this time, most therapeutic cancer vaccines are being studied in people who have failed other therapies."

About a dozen therapeutic vaccines currently are being studied in advanced clinical trials, according to Dr. Steven Hirschfeld, a medical officer in the FDA Center for Biologics Evaluation and Research. The vaccines, says Dr. Hirschfeld, "are designed to be specific, targeting only the cancer cells without harming the healthy ones."



Although many of the therapeutic vaccines under investigation are made with cancer antigens—unique proteins or protein bits on the surface of cancer cells that can elicit some immune response—the antigens' presence is not always sufficient to fuel a robust immune response. So Dr. Schlom and other researchers have enhanced the potency of their vaccines. For example, Dr. Schlom's lab has developed a vaccine, CEA-TRICOM, in which genes for the tumor antigen called CEA are put into a weakened vaccinia virus, or vector, that delivers genetic materials to antigen-presenting and/or cancer cells, making the tumor antigen more visible to the immune system. The genes for three "costimulatory molecules" are also added to the vaccine to serve as signaling beacons that make the vaccine more potent than it would be if the antigen were used alone.

The most recent findings from a CEA-TRICOM vaccine clinical trial were published in December in the *Journal of Clinical Oncology*. In the phase I trial (the primary goal of which is to prove safety), 58 patients received the CEA-TRICOM vaccine regimen, which includes an initial vaccination along with "booster" vaccinations. After 4 months, 40 percent of patients had stable disease, with more than half maintaining stability beyond 6 months, and one patient had a pathologic complete response.

In a commentary published last November in *Nature Medicine*, Dr. Steven Rosenberg, chief of the NCI Surgery Branch, and NCI colleagues, discussed the lack of pathologic response and tumor regression in

(continued on page 6)

Cancer Research Highlights

Cancer Biomarker Detection Method is Found Reliable

Investigators have created a reliable method to calibrate instruments across several different laboratories to detect potential cancer biomarker proteins with uniform accuracy, according to a study in the January 1 *Clinical Chemistry*. The method uses surface-enhanced laser desorption (SELDI) mass spectrometry (MS) to help clinicians detect protein biomarkers for prostate and other cancers.

The study was led by Dr. John Semmes of Eastern Virginia Medical School, and is part of a multi-institutional collaboration spearheaded by NCI's Early Detection Research Network (EDRN). Standard calibration algorithms for SELDI MS were established in six cancer research laboratories, including Dr. Semmes' lab at the Virginia Prostate Center, Fred Hutchinson Cancer Research Center, Johns Hopkins Medical Institutions, University of Alabama at Birmingham, University of Pittsburgh Cancer Institute, and University of Texas Health Science Center at San Antonio. Each lab then analyzed the same human serum samples—both cancerous and control—and obtained virtually identical protein expression profiles.

Dr. Sudhir Srivastava, NCI program officer and EDRN coordinator, noted that, "We established, for the first time, that mass spectrometry can yield reproducible output among different laboratories analyzing the same set of clinical samples." However, this is only the first phase of the study. In a follow-up study, NCI is testing the robustness of the developed algorithm in correctly classifying prostate cancers and controls obtained from multiple institutes in a blinded fashion.

If successful, the SELDI MS profiling of prostate cancer study may improve early detection of prostate cancer beyond the current utility of the widely used prostate-specific antigen test. However, Dr. Srivastava cautioned that any MS instrument must be carefully cross-validated for analytical sensitivity and precision before using it in the clinical setting.

Colorectal Cancer Screening Guidelines Not Being Followed

Many clinicians do not administer colorectal cancer screening with the fecal occult blood test (FOBT) as recommended in the U.S. Preventive Services Task Force's 2002 guidelines, according to a study in the January 24 *Annals of Internal Medicine*. The Task Force had concluded that only in-home, three-sequence FOBT sampling has been proven to reduce colorectal cancer mortality. In-office FOBT conducted by the physician obtaining a single stool specimen during a digital rectal exam was not recommended.

In the study, researchers from the Centers for Disease Control and Prevention, the American Cancer Society, and NCI retrospectively analyzed responses from physicians participating in the national Survey of Colorectal Cancer Screening Practices (SCCSP) and from adults over age 49 who responded to the 2000 National Health Interview Survey (NHIS).

They found that only 26.3 percent of physicians used the FOBT home test exclusively, as recommended by the guidelines. Among the 1,120 surveyed physicians who used FOBT, 32.5 percent used the in-office test, and 41.2 percent used both home and in-office testing. In the NHIS, of 2,652 adults who reported having FOBT in the past year, 29.1 percent reported an in-office test only, 61.5 percent a home test only, and 9.4 percent reported both tests. Although guidelines further advise against repeating FOBT by way of following up a positive test, analysis of the SCCSP data showed that nearly 30 percent of physicians did repeat the tests. The adults surveyed in the NHIS also reported follow-on FOBTs, as well as many failures to have their positive test followed by a total colon exam.

Many Physicians Fail to Recommend CDE After Positive FOBT

Research published in the February 2005 *Medical Care Research and Review* illuminates a quality of care problem in colorectal cancer screening. The study found that 37 percent of primary care physicians and 24 percent of gastroenterologists and general surgeons surveyed did not recommend a complete diagnostic

(continued on page 5)

(Research Highlights continued from page 4)
evaluation (CDE) for average-risk patients with a positive FOBT. Lead author Dr. Robin Yabroff of NCI's Division of Cancer Control and Population Sciences explained, "Physician recommendation for CDE is a critical component in the process of identifying and treating colorectal cancer. Lack of this recommendation may limit the effectiveness of colorectal cancer screening programs." Primary physicians play an important role in improving the quality of care and outcomes for colorectal cancer patients. This study was conducted by NCI and other federal agencies to support provider surveys related to cancer control.

Factors associated with primary care physicians' recommendations of CDE included aspects of physician background, experience, and practice patterns; practice environment; and perceptions of colorectal cancer screening test effectiveness. Patient characteristics were associated with gastroenterologists' and general surgeons' recommendations of CDE.

Study Finds Fruits and Vegetables Don't Protect Against Breast Cancer

A team of European scientists has found that there is no link between the amount of fruits and vegetables that a woman eats and her risk for breast cancer. These results are featured in the January 12 *Journal of the American Medical Association* (*JAMA*). The 285,526 women in this prospective study, who came from Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden, and the United Kingdom, were followed over a median course of 5 years, during which 3,659 of them developed invasive breast cancer. In addition to providing information about lifestyle, the women completed country-specific questionnaires on their dietary habits, detailing the types of vegetables that they ate: leafy vegetables, fruiting vegetables, root vegetables, cabbages, mushrooms, grain and pod vegetables, onions and garlic, stalk vegetables and sprouts, and mixed salads and vegetables.

The difference in fruit and vegetable intake varied by as much as 300 percent among the women, but after controlling for many factors, the researchers found no evidence of a protective effect, even according to vegetable type. The size of the cohort and the range of fruits and vegetables the women ate bolster these results, but the authors cite a relatively short follow-up and a lack of information on the history of breast cancer in participants' families as caveats. An accompanying *JAMA* editorial suggests that when it comes to cancer prevention, the critical period for fruit and vegetable consumption may be in childhood, and adds that "reductions in blood pressure and epidemiological evidence for lower risks of cardiovascular disease provide sufficient reason to consume these foods in abundance."

New Cancer Statistics Available

The American Cancer Society has released *Cancer Facts & Figures 2005*, based on data from NCI's Surveillance, Epidemiology, and End Results (SEER) Program and the CDC's National Center for Health Statistics. In addition, an article published in the January/February issue of *CA: A Cancer Journal for Clinicians* provides the scientific underpinnings for the user-friendly *Facts & Figures*.

Both publications report that the death rate from all cancers combined has decreased annually by 1.5 percent since 1993 among men and by 0.8 percent since 1992 among women. The mortality rate from the three most common cancer sites (lung, colon, and prostate) has also continued to decline.

More than 1.3 million new cancer cases are expected in the United States in 2005, with more than 570,000 deaths expected this year. The 5-year relative survival rate for all cancers diagnosed between 1995 and 2000 is 64 percent, compared with 50 percent for cancers diagnosed between 1974 and 1976.

The report estimates that 17 percent of new cancers diagnosed worldwide can be linked to infectious diseases, such as the hepatitis B and C viruses, human papillomavirus, *Helicobacter pylori*, HIV, and Epstein-Barr Virus.

Also included in the report is a section on tobacco use and its relationship to cancer; the report estimates that smoking is responsible for at least 30 percent of all cancer deaths and 87 percent of all lung cancer deaths.

Cancer Facts & Figures 2005 is available from the American Cancer Society at http://www.cancer.org. ◆

Visit the NCI booth in the exhibit hall (booth # 501) at the American Association for the Advancement of Science (AAAS) meeting in Washington, DC February 17-21.

For more information on the conference, visit http://www.aaas.org/meetings/Annual_Meeting/ ◆

(Spotlight continued from page 3)
trials testing cancer vaccines against solid tumors. Using peptide vaccines, Dr. Rosenberg's group has shown that tumor progression persists even when more than 10 percent of cells demonstrate anti-tumor activity in response to the vaccine. "This is an exciting area of research, but there is still a lot of work to be done," says Dr. Rosenberg. "Unfortunately, as of today, there are no vaccines that are effective in patients with solid tumors."

Vaccines are also being tested against several blood cancers, and have yielded some positive results. One such vaccine relies on white blood cells called dendritic cells, which are mixed with genetic material taken from a patient's tumor. Dendritic cells are like bloodhounds: They sniff out the tumor antigens and show them to the hunter T cells, and researchers have discovered how to dramatically expand the number of dendritic cells in a vaccine. "Employing millions of 'pumped-up' dendritic cells can help elicit a strong immune response," says Dr. Kim Lyerly, director of the Duke Comprehensive Cancer Center, whose research team has been developing dendritic cell-based vaccines.

In a 2002 study at Stanford University, use of a dendritic cell-based vaccine to treat 19 patients with B-cell lymphoma yielded 4 complete tumor regressions and an objective tumor regression rate of nearly 32 percent.

"For decades, people thought it wasn't even fundamentally possible to develop cancer vaccines, and here we are," says Dr. Lyerly. "The science behind cancer vaccines is leading us to believe that we will find the answers."

This story was adapted, in part, from an article that ran in the Sept.–Oct. 2004 issue of FDA Consumer *magazine.* ◆

Featured Clinical Trial

Immunotoxin Therapy for Acute Myeloid Leukemia

Name of the Trial

Phase III Randomized Study of Induction Therapy Comprising Cytarabine and Daunorubicin with versus without Gemtuzumab Ozogamicin followed by Consolidation Therapy Comprising High-Dose Cytarabine and Post-Consolidation Therapy Comprising Gemtuzumab Ozogamicin versus No Additional Therapy in Patients with Previously Untreated *De Novo* Acute Myeloid Leukemia (SWOG-S0106). See the protocol abstract at http://cancer.gov/clinicaltrials/SWOG-S0106.

Dr. Stephen Petersdorf
Principal Investigator

Principal Investigator

Dr. Stephen Petersdorf, Southwest Oncology Group

Why Is This Trial Important?

Acute myeloid leukemia (AML) is one of the most aggressive forms of leukemia (cancer of the blood) in adults. Initial treatment for AML usually involves sequential, combination chemotherapy designed first to induce or bring about a remission (induction chemotherapy) and second to keep the cancer in remission and prevent a relapse (consolidation or post-remission therapy).

In this trial, researchers are testing whether addition of an immunotoxin, gemtuzumab ozogamicin, to standard chemotherapy will improve the disease-free survival of patients with previously untreated AML. Gemtuzumab ozogamicin is a monoclonal antibody linked to a powerful bacterial toxin. The monoclonal antibody can locate and bind to leukemia cells and deliver the toxin to them. Patients may receive standard therapy alone or gemtuzumab ozogamicin during induction chemotherapy, after consolidation chemotherapy (post-consolidation therapy), or both.

"In phase II studies, treatment including gemtuzumab ozogamicin led to promising remission rates for patients with AML," said Dr. Petersdorf. "We haven't seen any significant improvements in remission rates for AML in many years, so it is important that we confirm those findings with a large phase III trial."

Who Can Join This Trial?

Researchers seek to enroll 684 patients aged 18 to 55 with previously untreated *de novo* AML. See the list of eligibility criteria at http://cancer.gov/clinicaltrials/SWOG-S0106.

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/SWOG-S0106.

Contact Information

See the list of study contacts at http://cancer.gov/clinicaltrials/SWOG-S0106 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

Changes to PDQ Enhance Online Cancer Information

NCI's Physician Data Query (PDQ®) evidence-based cancer information summaries, which are available on NCI's Web site (http://www.cancer.gov) in both health professional and patient-oriented versions, have been refashioned to provide more Web-friendly presentations. In addition, users of the summaries are now offered a variety of view and print options, and illustrations of key medical concepts are being included in the patient-oriented summaries.

All PDQ summaries are divided into sections for easy navigation and scanning, and they can be viewed and printed as entire documents or by selected section. Tabs at the top of each summary allow easy switching between the health professional, patient-oriented, and Spanish (if available) versions. The health professional summaries include reference lists with links to literature citations in the National Library of Medicine's PubMed database.

The patient-oriented summaries use less-technical language and "information mapping" methods, such as boxed key points, bulleted lists, and other formatting techniques, to enhance readability. Key points highlight critical concepts and link to explanatory information in the body of the text. Medical and scientific terms in the patient-oriented summaries are linked to entries in the NCI Dictionary and, if a document is printed, all linked terms and their definitions are included in the printout.

Ruoslahti Awarded Japan Prize

Dr. Erkki Ruoslahti, distinguished professor at the Burnham Institute in La Jolla, Calif., has been awarded the 2005 Japan Prize in the category of cell biology. Dr. Ruoslahti will share the prize, 50 million yen (approximately $487,000 USD), with Dr. Masatoshi Takeichi, Director of the RIKEN Center for Developmental Biology in Kobe, Japan. The award will be presented in Tokyo on April 20 as part of "Japan Prize Week."

The Japan Prize is awarded annually to people from all parts of the world whose original and outstanding achievements in science and technology are recognized as having advanced the frontiers of knowledge and served the cause of peace and prosperity for mankind.

Dr. Ruoslahti is being recognized for his seminal contributions to the cell adhesion field, which include the discovery and molecular definition of the site at which cells attach to one another: the peptide RGD. His discoveries were supported over a 20-year continuum with funding from NCI. Dr. Ruoslahti's discoveries in cancer biology are also relevant to a broad range of cell behaviors that are involved in managing heart attack, stroke, osteoporosis, and angiogenesis.

CCR Fellows to Participate in Harvard Symposium

The Harvard Medical School Minority Faculty Development Program and the Biomedical Science Careers Program (BSCP) will hold the fourth annual New England Science Symposium on March 4. Four postdoctoral fellows in NCI's Center for Cancer Research have been invited to present their research. The aim of the symposium is to encourage African American, Hispanic American, and American Indian/Alaska Native medical/dental, college, graduate school, and postdoctoral fellows involved in biomedical or health-related scientific research to present their research projects.

The fellows are Dr. Magnus Che, Laboratory of Cellular Oncology (poster presentation); Dr. Denise Perry Simmons, Laboratory of Cellular Carcinogenesis and Tumor Promotion (oral presentation); Dr. Karl Thompson, Laboratory of Molecular Biology (alternate oral presentation); and Dr. Sam Waters, Cancer and Developmental Biology Laboratory (oral presentation).

Global Initiative To Update Guidelines for Breast Health

The second biennial meeting of the Breast Health Global Initiative (BHGI) took place in Bethesda, Md., January 12–14. A collaboration of 11 national and international organizations, BHGI is sponsored by the Fred Hutchinson Cancer Research Center and co-sponsored by the Susan G. Komen Breast Cancer Foundation to develop evidence-based, economically feasible, and culturally appropriate guidelines to improve breast health outcomes for countries with limited health care resources.

Sixty-seven participants from 33 countries with high-, mid-, and low-level resources attended the meeting, including health care professionals, epidemiologists, sociologists, economists, ethicists, patient advocates, and representatives of health organizations and health ministries. NCI's Office of International Affairs hosted the meeting and provided travel scholarships for some participants from developing countries. Based on this meeting, updated BHGI guidelines will be prepared and published this fall. The guidelines will address early detection, diagnosis, and treatment of breast cancer, as well as health care systems and public policy. For more information about BHGI, go to http://www.fhcrc.org/phs/global_summit. ◆

Community Update

New Medicare Prevention Benefit Guides Seniors to Cancer Screenings

The beginning of the new year offers some welcome news for new Medicare beneficiaries: coverage for a comprehensive physical that includes appropriate referrals for cancer screenings. As of Jan. 1, 2005, all new Medicare enrollees are eligible for a "Welcome to Medicare" check-up that includes referral for important prevention measures already covered by Medicare, including colorectal, prostate, ovarian, and breast cancer screening.

"Too many seniors do not use the services that make it possible to find and treat illnesses before they lead to more serious problems, as well as avoidable increases in health care costs," said Dr. Mark B. McClellan, administrator of the Centers for Medicare and Medicaid Services (CMS), which operates the Medicare program. Coverage of the "Welcome to Medicare" check-up was included in Medicare modernization legislation enacted in December 2003. "The new law gives us the tools to close this 'prevention gap' for seniors," added Dr. McClellan, "and we're going to do all we can to use these new opportunities to keep seniors healthy."

Cancer is the leading cause of death for Americans between the ages of 60 and 79. Last year, more than 2 million Medicare beneficiaries were actively treated for cancer and cancer was the cause of death for 390,000 beneficiaries. Increasing the number of elderly patients who undergo recommended cancer screenings, says Dr. Mark Clanton, NCI deputy director for cancer care delivery systems, should help ensure that more Medicare beneficiaries' cancers are detected earlier than they otherwise might have been.

"In the case of the new benefit, Medicare beneficiaries will be directed to the appropriate screenings by their physician," said Dr. Clanton. "That's extremely important, because a doctor's recommendation is perhaps the strongest determinant of whether a patient will undergo screening."

In addition to guidance about covered cardiovascular and diabetes tests and screening, physicians conducting "Welcome to Medicare" check-ups will also advise patients about nutritional counseling and smoking cessation services covered by Medicare. Later this year, some Medicare beneficiaries will be eligible for coverage of additional smoking-cessation counseling. The proposed coverage, which was announced on December 23 and was open for public comment until January 23, will include beneficiaries who have an illness caused or complicated by smoking, such as heart or lung disease, as well as those who take any medications whose effectiveness is complicated by smoking.

"The combination of lives lost unnecessarily and the cost of treating smoking-related diseases makes our investment in smoking cessation benefits all that more important," said outgoing HHS Secretary Tommy Thompson. "It's never too late to benefit from quitting smoking." ◆

For additional information about the "Welcome to Medicare" check-up, go to: http://www.medicare.gov/health/physicalexam.asp ◆

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.

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