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NCI Payline To Jump To 25th Percentile For A Portion Of Grants, Director Says

By Kirsten Boyd Goldberg

NCI will be able to increase its grant funding payline to the 16th percentile for regular research project grants, and well above that—up to the 25th percentile—for some grants funded with both economic stimulus dollars and appropriations, Institute Director John Niederhuber said earlier this week.

The payline is the point above which grants will be funded based on peer review scores. In fiscal 2008, the payline for R01 grants was at the 12th percentile, and NCI funded 3,732 R01s.

NCI received $4.97 billion for FY 2009 under the Omnibus Appropriation Act, a nearly 3 percent increase from its $4.83 billion budget last year. Also,

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Research Policy:

NIH Draft Guidelines On Stem Cell Research Limit Funds To Cells From In Vitro Fertilization

By Paul Goldberg

New draft guidelines on stem cell research restrict the use of federal funds to cells left over from in vitro fertilization.

The guidelines published in the Federal Register earlier this week overturn the Bush-era restrictions on the use of federal funds for stem cell research.

The document doesn't allow federal funds to be used either for creation of human embryonic cell lines or for research on such cell lines if they are created with state or private funds.

Critics said that the limitation could be unnecessarily restrictive, but NIH officials counter that they are not aware of any artificially created human embryonic cell lines and would review the guidelines as technology changes.

"We sought to aim the guidelines in the beginning where there is a broad support in the public and the scientific community," Raynard Kington, acting NIH director, said at a press conference April 17.

Kington said NIH was influenced by the fact that the public and Congress have exhibited "strong, broad support for the use of federal funds to conduct human embryonic stem cell research on cell lines derived from embryos created for reproductive purposes and no longer needed for these purposes."

In fact, during the Bush administration, the House and the Senate

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NCI Director: "Not A Time To Be Timid In Our Vision"

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NCI has $1.3 billion in new money that must be spent before Oct. 1, 2010, under the American Recovery and Reinvestment Act.

In remarks at the American Association for Cancer Research annual meeting in Denver April 20, Niederhuber said that with the new money, the institute has "developed a coordinated action plan to move cancer research forward in innovative ways."

Niederhuber said the plans include:

—An increase in the payline to fund a greater number of meritorious investigator-initiated projects. This year's budget increase will take the NCI payline from the 12th percentile to the 16th percentile, with further increases to the 25th percentile likely for two-year and longer-term grants.

—More grants to first-time investigators.

—Help to universities for assisting and training new faculty investigators.

—A new network of Physical Sciences-Oncology Centers to explore innovative approaches to better understanding and controlling cancer through the convergence of the physical sciences with cancer biology.

—Expansion of The Cancer Genome Atlas, a project designed to better understand the molecular basis of cancer through the application of high throughput genome analysis technologies that interrogate the genomes of statistically significant numbers of high quality human cancer biospecimens.

"My friends, this is not a time to be timid in our vision," Niederhuber said in his remarks at the AACR meeting. "By our vision and our creative actions, we must demonstrate that NCI is worthy of sustained, increased support, for years to come. NCI needs to lead, with a clear direction that will hasten the pace of cancer research."

Niederhuber said NCI's first package of stimulus grant funding plans had only recently been approved. "As the availability of funds nears, I am now able to offer you some broad highlights," he said.

Funding Up To 25th Percentile for Some Grants

The payline increase will be accomplished in steps, NCI sources said. Full details of the institute's funding plan are awaiting departmental approval before being made public.

First, the 2009 appropriation will be used to raise the regular payline to the 16th percentile.

Second, with a combination of appropriated and stimulus funds, administered separately, the payline for four-year grants will increase to the 18th percentile.

Third, the payline will increase to the 25th percentile for a mix of two-year and four-year grants, with stimulus funds used for the first two years.

"When it became clear that economic stimulus funds would be coming to NCI, we began, as you might expect, to carefully consider where $1.3 billion in new resources could do the most good; where the demand was greatest; where our knowledge of the biology of cancer and new technology were leading us," Niederhuber said in his remarks at the AACR meeting.

"Given that the American Recovery and Reinvestment Act is a once-in-a-lifetime opportunity, we also thought long and hard about what Americans want from all of us," he said. "We came back repeatedly, in these discussions, to the conclusion that they want better ways to prevent cancer; they want the earliest diagnosis; and they want new therapies with fewer side-effects that turn cancer into a condition you can live with and not die from.

"Economic stimulus funds give us the chance to be visionary; to make strides today toward realizing the promise of personalized medicine; to enhance the process of drug development from target identification to translation into viable therapies; to move cancer research from the accumulation of scientifically exciting genomic data to a new way of approaching prevention, diagnosis, and therapy and to ensure access to our latest

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science for all."

The administration of both stimulus and appropriated funds will be complicated by the requirement that the stimulus funds must be accounted for separately, Niederhuber said.

"Using our increased fiscal 2009 appropriation, NCI has raised the payline from last year's 12 percentile to the 16 percentile," he said.

"Through coordinated, but separate administrations of stimulus and appropriated funds, NCI will, like many of its fellow NIH institutes and centers, raise the payline to the 25th percentile. We will utilize a combination of two-year and four-year grants, with concurrent increases in the grant payline for young, first-time investigators.

"While the numbers are not yet firm, it is clear that there will be a marked increase in the number of principal investigators studying cancer," he said.

"I know you are well aware that the economic stimulus package conveys two years of funding which is, in laboratory science, a relatively short amount of time," Niederhuber said. "For just that reason, it falls to NCI to carefully calculate and thoughtfully assume the risks of initially funding some four-year grants with economic stimulus money, knowing that we will need to find additional resources for the out-years. I believe it falls, as well, to our grantees to come forward with only their strongest science."

NCI plans to fund early-stage investigators who are physician scientists as well as Ph.D.s, who are committed to careers in translational cancer research, Niederhuber said. The institute will provide "start-up packages" to help young faculty members establish laboratories. A similar program will be available to investigators at NCI-designated cancer centers and at institutions funded through the Minority Institution/ Cancer Center Partnership program.

"We must not simply see the economic stimulus package as more dollars toward business as usual," Niederhuber said. "We must look to new ideas, new methods, new areas of cooperation and collaboration, none more important, I suggest to you, than fostering the next generation of cancer science and cancer scientists."

"A Vision For A New Way of Thinking"

Niederhuber discussed several NCI initiatives that "hold important promise to unlock cancer's genetically driven pathways and move them forward to first-in-man-studies." These are:

—The Cancer Genome Atlas, begun in 2006 as a pilot project with the National Human Genome Research Institute, for high-throughput genome analysis technologies.

"To date, TCGA has sequenced over two hundred tumors in glioblastoma, along with lung and ovarian cancers," Niederhuber said. "Already, in glioblastoma, TCGA has identified three genes not previously associated with this deadly cancer and delineated as many as four subtypes of glioblastoma, to date.

"With that foundation of success, we plan to move TCGA forward, with a goal of identifying all of the relevant genomic alterations in 20 to 25 major tumor types."

—A program in pediatric cancer genomics begun over the past year called TARGET, which stands for Therapeutically Applicable Research to Generate Effective Treatments, which will apply sequencing to at least 100 tumor specimens per childhood cancer.

Both TCGA and TARGET "are generating a mountain of data and revealing potential genetic defects that occur within cancer," Niederhuber said. "While scientifically fascinating and intellectually groundbreaking, these data primarily remain raw information that must be developed into knowledge of causal pathways and functional biology.

"Based on an intimate understanding of these pathways, through the development of new probes and new assays of biologic function, we will convert what is today considered 'un-druggable' into functional pathways with clearly defined targets for manipulating those pathways," he said.

"Moving from data, to function, to target, to therapy will not be simple, nor will it be easy or inexpensive. But NCI is firmly committed to using today's opportunities to design and construct a personalized cancer care drug development platform, which is the second of NCI's signature initiatives."

Functional biology centers—virtual networks of investigators—will take promising genetic alteration identified in TCGA and answer specific questions about biologic function and potential druggable targets, Niederhuber said. High throughput screening will follow, using assays to compare libraries of compounds to newly defined targets.

—Another network, the Chemical Biology Consortium, will provide chemistry to develop new anti-cancer agents.

—NCI plans to form a small national network of patient characterization centers. These centers would match "a genetically characterized patient and his or her characterized tumor to appropriate and optimal therapeutic solutions," Niederhuber said.

—NCI's cancer Biomedical Informatics Grid, or caBIG, and its BIG Health consortium will create a national cohort of highly defined cancer patients to match to experimental protocols, Niederhuber said. NCI also plans "a reinvigorated push for the cancer electronic health record" that caBIG would administer.

—NCI's caHUB program to collect biospecimens will assist the scale-up of TCGA and the genetic characterization of patients.

"The NIH Clinical Center, NCI's SPORE Program, the NCI Community Cancer Centers Program; Cooperative Groups, CCOPs, and NCI-designated Cancer Centers network will all be key players in establishing a highly-characterized national cohort of patients who can be easily matched with potential new agents," Niederhuber said. "This wide-ranging plan will require the contributions of biologists, chemists, informaticians, and clinical scientists who are devoted to a clear path from discovery to patient.

"This platform is a vision for a new way of thinking. But it is not an unrealistic concept. It is an action plan: a blueprint for what we are beginning to assemble this year, making the optimal use of every new resource," he said. "It is a blueprint for 21st century translation."

Earlier this year, NCI presented plans to fund Physical Sciences-Oncology Centers to bring together physicists and biologists to try to develop new ways of thinking about cancer. "Working closely with the cancer research community, these centers will foster a team science environment that incubates and tests novel cancer concepts by studying and sometimes challenging accepted scientific dogma," Niederhuber said.

"Because cancer remains such a feared condition, I believe the demand, from the leaders of our country and the American people, will intensify in the years ahead: a demand for there to be changes in the way we approach the conduct of science; changes in the way the outstanding science that springs from our laboratories is translated, rapidly and safely, into improved health for our patients," Niederhuber said to the AACR scientists.

"The American Reinvestment and Recovery Act is a chance to enhance and to change cancer science. The world is watching, waiting to see what we make of it. I know that you will most firmly grasp its every opportunity."

A webcast of Niederhuber's speech is available at http://www.aacr.org/page16727.aspx. The full text is available at http://www.cancer.gov/newscenter/pressreleases/AACRspeech2009QandA.

Research Policy:

NIH Draft Stem Cell Policy Too Restrictive, Critics Say

(Continued from page 1)

twice passed legislation opening the doors for such research.

"There is not similarly broad support for using the other sources," Kington said.

Moreover, Kington said that NIH saw no urgency to address the question of artificial creation of cell lines.

"To our knowledge, there are currently no stem cell lines available that were created from somatic cell nuclear transfer, and we don't know of any that exist from embryos that exist specifically for research purposes," Kington said.

Susan Solomon, CEO of The New York Stem Cell Foundation, said the proposed guidelines are unnecessarily restrictive.

"The proposed guidelines limit some very promising avenues of current research, including the creation of disease- and patient-specific stem cell lines," Solomon said in a statement. "They also have the effect of limiting the genetic diversity of the human embryonic stem cell lines that will be eligible for federal funding."

Over the past eight years, federal funds could be used to support research only on human embryonic stem cells where the derivation process was initiated prior to August 2001.

This ban on research was reversed by Obama's executive order March 19. The president allowed NIH to "support and conduct responsible, scientifically worthy human stem cell research, including human embryonic stem cell research, to the extent permitted by law."

Obama's executive order didn't specifically mention limiting the use of federal funds to cell lines created for in vitro fertilization.

However, NIH was limited by the provisions of the 1996 Dickey-Wicker Amendment, which makes it illegal to use federal funds to support research "in which human embryos are created, destroyed, discarded, or knowingly be subjected to risk of injury or death greater than allowed for research on fetuses in utero."

Solomon said that NIH would have been able to relax the limitations on research without running afoul of this law.

"We understood that the creation of human embryonic stem cell lines would not be eligible for federal funding because of the Dickey-Wicker

Amendment," she said. "We had thought that once those lines were created with non-federal funds, they would now be eligible for federal funding. Under these draft guidelines, however, this is not the case. The draft guidelines limit federal funding only to those embryos leftover from IVF treatments."

The NIH limitations make state initiatives more important, said Geoff Lomax, senior officer for medical and ethical standards at the taxpayer-funded California Institute for Regenerative Medicine.

Unlike NIH, CIRM would be able to fund the creation of new stem cell lines, and any work with lines created through nuclear transfer (sometimes called therapeutic cloning) or parthenogenesis, in which the egg is stimulated to begin division without fertilization.

"CIRM remains a critical source of funding in California for work that is not eligible for funding by the NIH but that has important scientific value," Lomax said.

The NIH draft guidelines are posted at http://edocket.access.gpo.gov/2009/E9-9313.htm.

NIH News:

NCI, NHLBI, Form Center For Interventional Oncology

NIH has formed a Center for Interventional Oncology at the NIH Clinical Center to expand opportunities to investigate cancer therapies that use imaging technology to diagnose and treat localized cancers in ways that are precisely targeted and minimally or non-invasive.

The center is a collaboration involving NCI, the NIH Clinical Center, and the National Heart, Lung, and Blood Institute.

"The Center for Interventional Oncology will help foster advances in an emerging field for minimally invasive, image-guided methods for treating localized cancers," said Bradford Wood, a senior investigator at the Clinical Center and chief of the new center. "It will also help bridge the gap between emerging technology and the everyday practice of medicine. Advanced imaging methods have ushered in an era of early detection of cancers that are frequently localized to a single organ. Today, oncology treatments typically use systemic therapies such as chemotherapy, surgery, and radiation, which are well-suited for wide-spread disease, but may also cause widespread side effects."

The center is intended to encourage collaborations among research and patient-care experts in medical, surgical, and radiation oncology and interventional radiology, said Clinical Center Director John Gallin. "The Clinical Center provides an exceptional environment for this type of collaborative research and patient care."

The center's goal is localized treatment and drug delivery by use of advanced imaging technologies, including MRI, PET, and CT—combined with the capability to use all three technologies simultaneously to navigate a therapeutic device through the body.

The localized therapies use a thin needle or sound waves to ablate tumors and to enhance drug delivery. Energy sources include high-intensity focused ultrasound, freezing, microwaves, and radiofrequency, Wood said. Researchers will also expand investigations into electroporation—the use of electricity to make cells more open to targeted drug delivery. Image-guided drug delivery will be developed, which will allow combining use of nanoparticles, ablative devices, and advanced imaging and navigation.

Educational and training opportunities are part of the program. "Many oncologists are not currently familiar with, nor trained in, image-based, localized treatment approaches from which many patients may benefit. Conversely, interventional radiologists lack formal training in oncology," Wood said. "This new program is ideally and uniquely positioned to provide an interdisciplinary environment combining training, patient treatment, and translational research and development in interventional oncology."

Major program components will include:

—Interdisciplinary training and education in interventional oncology.

—Development of new image-guided for methods for personalized drug investigations.

—Image-guided dose-painting-tailoring drug delivery based on disease location.

—Use of "medical GPS."

—A system by which small micro coils are built onto invasive devices (like needles or catheters or cameras) and inserted into a patient to define, target, and track the position of tumors during thermal ablation for tumor biopsy and treatment.

—First-in-human investigations involving new drugs, devices, molecular probes, nanoparticles, and targeted therapies.

—Interdisciplinary research involving novel technologies in interventional oncology.

David Bluemke, director of Clinical Center Radiology and Imaging Sciences, will head the Center for Interventional Oncology steering committee that includes two NCI appointees and one each from NHLBI and the Clinical Center.

In the Cancer Centers:

Baylin, Jones Receive AACR Landon Prize For Research

AMERICAN ASSOCIATION FOR CANCER RESEARCH awarded the Kirk A. Landon-AACR Prize for basic and translational cancer to **Stehen Baylin** and **Peter Jones** for their work in the field of epigenetics, or modifications of genes other than those changes made to the DNA sequence itself. Baylin and Jones have established there is a major epigenetic component in the onset and progression of cancer. Baylin is the Virginia & D.K. Ludwig Professor in Cancer Research and deputy director of the Johns Hopkins Kimmel Cancer Center. Jones is director of the University of Southern California/Norris Comprehensive Cancer Center. . . . **MARGARET FOTI**, chief executive officer of the American Association for Cancer Research, received the inaugural Margaret Kripke Legend Award from the University of Texas M. D. Anderson Cancer Center. The Kripke Legend award recognizes scientific and medical leaders who have made extraordinary efforts to hire a diverse workforce, promote women to leadership roles, nominate women for awards and otherwise advance their careers. The award was established in honor of **Margaret Kripke**, a distinguished scientist who achieved many firsts for women at M. D. Anderson, culminating in her promotion to executive vice president and chief academic officer. M. D. Anderson's Women Faculty Programs Office, which Kripke established before her retirement to improve recruitment, retention and development of women faculty, administers the award. Foti was selected by a committee from among 25 nominees nationally. She has been executive director of AACR since 1982. She co-founded Women in Cancer Research, a group within AACR that supports the professional advancement and scientific achievements of women. "Margaret Foti has never been shy about using her position to promote women in every way within the organization," said Elizabeth Travis, associate vice president for Women Faculty Programs at M. D. Anderson. "Her efforts are seen in the diversity of her workforce and the development of Women in Cancer Research. As one of her nominators noted, Dr. Foti 'has made a difference in the fight against cancer and is committed to helping other women do the same and to ensuring they get credit for their endeavors.'" . . . **NORTHERN CALIFORNIA CANCER CENTER** has promoted **Sally Glaser** to CEO. Glaser is a research scientist and a 19-year veteran of the center. NCCC employs 135 staff members and has a $14 million operating budget. Glaser will continue to direct NCCC's Greater Bay Area Cancer Registry, which collects cancer data for a nine-county area. Previously, Glaser served as director of Surveillance Research at NCCC. "We're extremely happy to have Dr. Glaser as CEO," said **Samuel Bronfman II**, chairman of the board of NCCC. "Her scientific merits and experience combined with her vision, enthusiasm, and ability to motivate others make her a perfect choice for this position." NCCC works closely with regional, state, and national health departments concerned with policy and health practice interventions in order to maximize the health of individuals. "Cancer surveillance is like an early warning system for the many diseases we call'cancer,'" said Glaser. "It tells us what's happening in the Greater Bay Area and in the state—not just in individual clinics. And while not all cancer can yet be prevented, there is much more we can do to strengthen California's response." . . . **NCI SENIOR INVESTIGATOR Richard Hayes** was appointed associate director for population sciences at The Cancer Institute at NYU Langone Medical Center, with a dual appointment at the NYU School of Medicine as director of the Division of Epidemiology within the Department of Environmental Medicine. In this new role, Hayes will lead the development of a comprehensive research program focused on cancer prevention that will employ a multi-faceted approach to identifying both genetic and environmental causes of cancer as well as a program to identify prevention strategies through risk profiling, early detection and behavioral changes. Hayes was senior investigator in the NCI Division of Cancer Epidemiology and Genetics, where he led research on etiology and early markers of cancer in the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial. . . . **M. D. ANDERSON** Cancer Center professor **Chen Dong** was selected to receive the American Association of Immunologists' BD Sciences Investigator Award for his discovery of T helper cell 17 (Th17), its production of the inflammatory molecule interleukin-17 (IL-17), and their central role in both types of disease. The award for outstanding research achievement by an early career scientist is one of the top honors in the field. Dong, a full professor in M. D. Anderson 's Department of Immunology and Director of the Center of Inflammation and Cancer, is 41. . . . **RICHARD VALICENTI** has joined UC Davis Health System as professor and chairman of the Department of Radiation Oncology. Valicenti has advanced the use of short-distance radioactive treatments (brachytherapy), image-guided radiation therapy, and combined radiation treatments to

improve the care of patients with cancer. He comes to UC Davis from Thomas Jefferson University Hospital, where he was professor and clinical director of the radiation oncology program. During his tenure there, he expanded clinical care and research with funding from the Department of Defense, Radiological Society of North America, and NCI. He also developed and chaired clinical trials that offered new prostate-cancer treatments, including a phase II clinical trial to assess the effectiveness of multimodality therapies, which he will continue at UC Davis. . . . **LOMBARDI COMPREHENSIVE CANCER CENTER** at Georgetown University Medical Center and the Steven A. Schroeder Institute for Tobacco Research and Policy Studies at the American Legacy Foundation have established the Schroeder/Lombardi Cancer Control Consortium. The consortium seeks to advance tobacco-related research, policy, and education. Led by **David Abrams**, research scientists at the Schroeder Institute conduct trans-disciplinary research in tobacco control treatment and policy, with a focus on both the basic and applied science of dissemination. "This is an extraordinary opportunity to combine expertise in biomedical, behavioral, social and population sciences to make a difference in eliminating tobacco-use behavior—the single biggest preventable cause of premature death and disability in our nation," Abrams said. Research scientists in Lombardi's Division of Population Sciences conduct research in both basic and applied tobacco research, with specific expertise on the interaction between genes and the environment which increase cancer risk. The establishment of the Consortium will facilitate collaborations between researchers from Schroeder and Lombardi and will leverage the unique strengths, expertise, and resources from each organization. Members of the Consortium will pursue research funding opportunities to improve scientific understanding of the mechanisms of tobacco addiction and to develop and disseminate effective and cost efficient treatment and policy approaches. The ultimate goal of the consortium is to make a dramatic and timely impact in reducing the population prevalence of smoking. . . . **ARIZONA CANCER CENTER** physician-scientist **Karen Weihs** was awarded a $3,682,256 research project grant from NCI to study emotion and depression in breast cancer survivorship. This is Weihs' first R01 grant. The five-year study will enroll 450 women with newly diagnosed breast cancer starting in 2010 and will monitor them closely through their treatment and survivorship. The goal of the study is to determine what biologic, psychological and social characteristics may protect the patients from clinical depression, said Weihs, medical director of psychosocial oncology at ACC and an associate professor of psychiatry at University of Arizona. Serving as co-principal investigator on the study will be **Annette Stanton**, professor of psychology and psychiatry/biobehavioral sciences and member of the Jonsson Comprehensive Cancer Center at UCLA.

NCI News:

NCI Chief Operating Officer Lawrence Ray Retiring

LAWRENCE RAY, NCI's chief operating officer, will retire on May 1. Since August 2007, he has overseen administrative management of NCI programs and played a key role in executing the budget and work force management. Prior to rejoining NCI two years ago, Ray spent 26 years in federal service, principally at NIH. Fourteen of those years were with NCI as chief administrative officer of the Division of Extramural Activities, coordinator of patent licensing and collaborative research and development agreements for the institute, chief administrative officer of the Division of Cancer Treatment, and deputy associate NCI director, responsible for all aspects of administrative management. . . . **JOSEPH FRAUMENI JR.**, director of the NCI Division of Cancer Epidemiology and Genetics, received the American Association for Cancer Research Award for Lifetime Achievement in Cancer Research at the AACR annual meeting on April 19. The award recognizes his seminal research contributions in understanding the causes and prevention of human cancer. Among his many accomplishments are the discovery of a familial cancer syndrome that bears his name along with his colleague **Frederick Li**, and the development of the U.S. Cancer Mortality Atlas project that identified high-risk areas where Fraumeni and his colleagues conducted epidemiologic studies to uncover several environmental hazards that inspired cancer control measures. For more than 30 years, Fraumeni has been the architect of NCI's intramural research program in epidemiology and related areas, while developing fellowship programs designed to train and mentor the next generation of interdisciplinary scientists. . . . **ANNA BARKER**, NCI deputy director for strategic scientific initiatives, received the AACR Margaret Foti Award for Leadership and Extraordinary Achievements in Cancer Research at the AACR annual meeting. The award recognizes Barker's commitment to cancer research, specifically for promoting advanced

technologies and new scientific disciplines such as cancer genomics, nanotechnology, bioinformatics, and the physical sciences.

Funding Opportunities:

NIH To Fund High-Impact Large-Scale Research

A new NIH funding opportunity under the Recovery Act will support about $200 million in large-scale research projects that have a high likelihood of enabling growth and investment in biomedical research and development, public health and health care delivery.

The purpose of this new program, the Research and Research Infrastructure "Grand Opportunities," is to support high impact ideas that lend themselves to short-term funding and may lay the foundation for new fields of scientific inquiry.

"With this new program, we will support large biomedical and biobehavioral research endeavors that will benefit from a significant two-year jumpstart in funds and are ready for immediate implementation," said Acting NIH Director Raynard Kington. "The goals are to fund high impact research that will lead to growth and investment in these fields and stimulate the economy in the process."

In responding to this opportunity, grant applicants may propose to address either a specific research question or the creation of a unique infrastructure/ resource designed to accelerate scientific progress in the future. The GO grants will support large-scale research projects that accelerate critical breakthroughs, early and applied research on cutting edge technologies, and new approaches to improve the synergy and interactions among multi and interdisciplinary research teams.

Each participating NIH Institute has indicated their priorities for the GO grants. For further information, see Recovery Act Limited Competition for NIH Grants: Research and Research Infrastructure "Grand Opportunities" (RC2): http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-09-004.html.

Under the Grand Opportunities, NCI expects to devote $10,000,000 to support projects in areas such as nanotechnology, proteomics, stem cell research, early phase clinical trials, transcriptional and translational regulation, and comparative oncology research. See the following NCI announcements:

NCI Guidelines for ARRA Research and Research Infrastructure Grand Opportunities: Comparative Effectiveness Research in Cancer Prevention, Screening and Treatment (PDF - 44KB). http://www.cancer.gov/pdf/recovery/004_cer_prevention.pdf

NCI Guidelines for ARRA Research and Research Infrastructure Grand Opportunities: Comparative Effectiveness Research in Genomic and Personalized Medicine (PDF - 46KB). http://www.cancer.gov/pdf/recovery/004_cer_personalized_medicine.pdf

NCI Guidelines for ARRA Research and Research Infrastructure Grand Opportunities: Exploratory Research in Development of Vaccines for AIDS-associated Malignancies (PDF - 55KB). http://www.cancer.gov/researchandfunding/aids_malignancies_vaccine_program

NCI Guidelines for ARRA Research and Research Infrastructure "Grand Opportunities" (PDF 34KB) for a variety of scientific areas that include, but are not limited to, nanotechnology, proteomics, stem cells, early phase clinical trials, comparative oncology research, or transcriptional and translational regulation http://www.cancer.gov/researchandfunding/arra_guidelines_grand_opportunities.

Other NIH Announcements

RFP Announcement: Community Genetics Forum: A Model Community Engagement Program http://grants.nih.gov/grants/guide/notice-files/NOT-HG-09-010.html.

Developmental Research in Cancer Prognosis and Prediction (R21) (PA-09-158) http://grants.nih.gov/grants/guide/pa-files/PA-09-158.html.

Developmental Research in Cancer Prognosis and Prediction (R33) (PA-09-159) http://grants.nih.gov/grants/guide/pa-files/PA-09-159.html.

Developmental Projects in Complementary Approaches to Cancer Care and Treatment (R21) (PA-09-167) http://grants.nih.gov/grants/guide/pa-files/PA-09-167.html.

Developmental Projects in Complementary Approaches to Cancer Care and Treatment (R03) (PA-09-168) http://grants.nih.gov/grants/guide/pa-files/PA-09-168.html.

In vivo Cellular and Molecular Imaging Centers (ICMICs) (P50) (PAR-09-157) http://grants.nih.gov/grants/guide/pa-files/PAR-09-157.html.

Exploratory/Developmental Grants Program for Basic Cancer Research in Cancer Health Disparities (R21) (PAR-09-160) http://grants.nih.gov/grants/guide/pa-files/PAR-09-160.html.

Basic Cancer Research in Cancer Health Disparities (U01) (PAR-09-161) http://grants.nih.gov/grants/guide/pa-files/PAR-09-161.html.

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