Back-to-back teleconferences on Feb. 23 shed light on both the mission of, and rationale for creating, a new National Center for Advancing Translational Sciences and making it operational by next Oct. 1.

At both a late-morning meeting-by-phone of the Scientific Management Review Board and a subsequent telephone media availability, NIH director Dr. Francis Collins emphasized two themes in defending the NCATS proposal: it will “advance the discipline of translational science and catalyze the development of novel diagnostics and therapeutics,” he said.

Collins explained that NIH has a long history of conducting both translational science and drug development; the AIDS drug AZT and cancer drug Taxol, for example, were developed by NIH-supported investigators. He also cited a recent paper in the New England Journal of Medicine showing that, from 1990 to 2007, one-fifth of all new molecular entities submitted to the FDA for priority review as potential therapies were discovered by NIH intramural or extramural scientists.

Collins added that all 27 institutes and centers “have been involved for quite some time” in translational research and that a 2010 survey of the field showed “more than 550 activities involving drugs, vaccines, biologics and devices” in NIH’s research portfolio.

Alarmingly, Collins said, “nearly one in two adult men and one in six adult women in the United States—those who are at risk of stroke or heart attack—remain unaware of their condition.” This is a situation that NCATS will address, he said.

For Many Soldiers, War Doesn’t Stop After They Arrive Home
By Valerie Lambros

The nation has been at war for nearly 10 years, and those who have been fighting have borne a disproportionate burden of this responsibility for the country.

Only about one-half of 1 percent of the population is in the armed forces, which means a majority of our soldiers, sailors, airmen

Genetic Discoveries Challenge Theories About Stuttering and The King’s Speech
By Robin Latham

The King’s Speech, a stirring tribute to the perseverance of King George VI of England and his struggle to conquer his stutter and lead his people through the dark years of World War II, swept the Oscars this year. In King George’s time, stuttering was thought to be the result of emotional trauma in childhood or an unhealthy attachment to a parent, usually the mother. Even today, in regards to the 3 million people who stutter in America (and another 60 million worldwide), there are still some who mistakenly think the disability is caused by psychological problems or nervousness.

But that may begin to change as the result of a recent discovery by a team of NIDCD researchers who have identified three different gene mutations that are responsible for stuttering in some adults. Just like King George’s struggle with his stammer, the search for these genes is a tale of perseverance—as well as an
Pesticide Use Linked to Lupus, Rheumatoid Arthritis

By Jan Ehrman

Along with what you say, be careful what you spray. Frequent or extended exposure to pesticides may increase the risk for developing autoimmune disorders such as lupus and rheumatoid arthritis, according to the results of a long-term follow-up study of thousands of postmenopausal women.

The findings were recently presented by lead investigator Dr. Christine G. Parks of the National Institute of Environmental Health Sciences and her colleagues.

Nearly a billion pounds of pesticides, typically used to kill termites, fleas and house-hold bugs, are spread into the environment each year, through both agricultural and non-agricultural use. According to the 2008-2009 Annual Report of the President’s Cancer Panel, nearly 1,400 pesticides have been registered and approved by the Environmental Protection Agency. However, the report notes, exposure to chemicals in pesticides has been associated with a variety of cancers including breast, colon, prostate and lung cancer. Further, some research has shown higher rates of various cancers in farmers, pesticide applicators and manufacturers compared to the general, non-using public.

In addition, it is believed that the chemical substances found in pesticides can be toxic to the developing brain. This is backed by recent findings that high levels of exposure may affect intelligence and learning in children, tested at 3 years of age. Other recent studies suggest that young children may elevate the risk of Parkinson’s disease.

Now it appears that a new series of conditions referred to as autoimmune rheumatic disorders—lupus and rheumatoid arthritis (RA)—may also be linked to pesticide exposure.

Dr. Parks and her associates pointed to the possible relationship between self-reported household insecticide application and the development of SLE, RA and other autoimmune diseases. Among about 15,000 women who were participating in the Women’s Health Initiative (WHI) Observational Study, a cohort investigation that began in 1991, was initially designed to follow the most common causes of mortality, disability and poor quality of life.

“Although the hypothesis was well-founded [based on higher rates of some autoimmune diseases associated with farming], I was somewhat surprised at the findings,” said Parks, who reported that the strongest association between pesticides and the two autoimmune disorders was seen in women who lived on a farm and reported personally applying insecticides. These individuals displayed nearly three times the risk for disease development, compared to women who used no pesticides whatsoever. Meanwhile, higher RA risk was doubled for women who underwent 20 or more years of direct exposure (personally applying pesticides) and for those who reported applying insecticides six or more times annually.

While most of the women in the study were Caucasian, no racial differences were seen and the findings were not changed in analyses that accounted for other disease risk factors.

Lupus, also known as systemic lupus erythe- matus, is an autoimmune disease—a condition in which the body attacks itself—causing inflammation and damage to healthy tissues and key organs including the heart, lungs and brain. Most lupus patients are female, indicating the condition could have a hormonal or other gender-specific component. RA, another autoimmune disorder, causes joint inflammation and pain, fatigue and other symptoms that may persist for years. Affecting more than 80 million children and adults, the disease is more prevalent in women than men.

In general, the etiology as well as the role of external factors in the development of autoim- mune diseases are not well understood. Although data are scarce, most recent findings indicate that the environment may play a contributing role.

While the findings are notable, Parks’ study did have a few shortcomings, as explained. For example, because of the general type of question asked “we were not able to determine which specific insecticides were applied.” Also, she pointed out, the data were based on participants’ long-term recall.

Still, the findings were robust, that is—“We could see a similar pattern of association for both diseases and a dose response for increasing frequency and duration of use,” said Parks. In other words, the more the exposure, the greater the likelihood of developing both lupus and RA. She noted that, based on previous studies of farm work, similar findings might be expect ed in men.

The NIEHS scientist added that a prudent approach would be to limit one’s exposure to pesticides as much as possible.

The findings were reported in the February issue of Arthritis Care and Research.
above
Dr. Changsoo Kang (l) and Dr. Dennis Drayna of NIDCD have been on the hunt for genetic causes of stuttering for years.

ability to find things in unexpected places. The story begins in 2001 in Dr. Dennis Drayna’s laboratory at NIDCD when he began gathering DNA and other data from a cluster of families in Pakistan with a high incidence of stuttering. Pakistan is a good place to study genetic diseases because there is a high rate of intermarriage within extended families. This narrows the gene pool and makes mutations easier to find using genetic linkage studies.

In 2005, Drayna turned up a promising candidate region on chromosome 12 that was likely to harbor a mutant gene, but further progress was proving difficult. When Dr. Changsoo Kang, a visiting fellow from Korea, arrived in Drayna’s lab to help with the study, 87 candidate genes on chromosome 12 had been identified and needed to be sequenced and analyzed to see if anything interesting would turn up.

Forty-five genes and 3 years later, with nothing to show for his efforts, Kang felt tired and doubtful. He Googled “mucolipidosis + speech” turned up a web site that described a type of mucolipidosis in which children don’t speak at all. He sensed he was heading in the right direction.

Further sequencing of the DNA from the Pakistani families showed that the mutation was present in some people who stuttered and it was also found in members of some of the original families used in the linkage study. Since the GNPTAB gene was known to work with two other genes—GNPTG and NAGPA—he sequenced those genes as well and found mutations that were present in people who stutter and their families, but not in the control groups. In fact, no one had ever found a human with any disease associated with mutations in NAGPA, until now. Its only known effect is stuttering.

Currently, Kang, Drayna and their team are working with a knock-in mouse model of one of the genetic variants to test their theory that this form of stuttering is the result of a group of cells in the brain dedicated to fluent speech production. Their hypothesis is that such cells are uniquely sensitive to the slight metabolic defect caused by the mutation.

One goal is to use these mice to discover where in the brain this gene is turned on, since this could indicate the location of the cells. Another long-term goal is to see if the human stuttering mutation can disrupt vocal communication in the mouse. However, before the scientists can understand what a stuttering mouse might sound like, they will have to better understand normal mouse speech patterns.

The researchers are looking forward to a future when stuttering can be treated as a biological disorder with a medical cure, instead of looking at it as a character weakness—as in King George’s time—that can’t be helped.

feedback
Have a question about some aspect of working at NIH? You can post anonymous queries at www.nih.gov/nihfamily/feedback (at the bottom icon) and we’ll try to provide answers.

Feedback: Regarding construction in “old” Bldg. 10. It’s been bad enough that they closed several of the west end north corridors, making it difficult to get around, but now they are going to close most of them for “reconstruction” work. That, combined with the already closed South corridors, is going to make it very hard for some of us to get around (like those of us who can’t easily do stairs). I’ve also noticed that they seem to be in the process of blocking access to the stairs near the main elevators (C corridor). Isn’t this a fire and safety hazard? I’m concerned that the people who work in these parts of Bldg. 10 were not taken into consideration when construction plans were put in place.

Response from ORS: The Division of Amenities and Transportation Services has, in the past, provided extra shuttle service to events when the sponsors have requested it. This extra shuttle service has normally been provided at no cost or a reduced cost to the sponsor of the event.

Some recent examples include: Earth Day/Take Your Child to Work Day, Take a Hike Day, “Big Think” Meeting, OD Honor Awards Ceremony and several retreats and all hands meetings and conferences for various ICs. It has been difficult to get around, but now they are going to make it very hard for some of us to get around (like those of us who can’t easily do stairs). I’ve also noticed that they seem to be in the process of blocking access to the stairs near the main elevators (C corridor). Isn’t this a fire and safety hazard? I’m concerned that the people who work in these parts of Bldg. 10 were not taken into consideration when construction plans were put in place.

Reporting to the central solarium stairwell, occupied office areas, solarium conference rooms used by NCI, NIDDK and NIAID, along with the bathrooms, will be maintained to the greatest extent possible during construction. There is no intention to close off active areas of the solarium during construction.

The new doors and partitions being built in the main elevator lobbies are necessary to provide dust and pressurization control for areas under construction in the F wing. They will not be closed during normal daytime working hours.

In addition to closures on floors 2 through 5, the 9th floor North corridor will also be closed to through traffic. The closure is necessary to proceed with the complete demolition of these areas followed by the installation of new laboratories and utilities to service 10 institutes. Visitors will be directed to use the 1st floor to travel between the main elevator lobby and the D corridor, but corridors on floors 6 through 8 and 10 through 13 will remain open as well.

The Division of the Fire Marshal, ORS, reviewed and approved the plans for the entire F wing project in accordance with NIH Policy Manual 1730 (Fire Protection and Life Safety Building Permit Process). Emergency egress routes have been altered and appropriate signage will be provided. In addition, access to stairwell 7 in Bldg. 10 will be maintained. All emergency egress routes were carefully reviewed to ensure that Life Safety Code compliance is maintained throughout the duration of this project.

Feedback: What is going on with the old Bldg. 31B parking lot? We were told it was to be a meadow-like area but it’s starting to look like a dump. The ground is torn up with tire tracks, there is an old, rusty dumpster sitting out there and sheets of plywood on the ground. When can we expect that area to be returned to a more natural setting?

Response from ORS and ORF: The area in question is currently being used as a “laydown” area for a project involving the installation of an automatic sprinkler system for the Bldg. 31 complex. This laydown area was previously approved by the ORF-ORS site selection review committee. Once the contractor completes the installation work, it is required to remove its equipment and restore the area to its previous state.

Feedback: When there is a big event on campus, why doesn’t the shuttle service offer additional shuttles for pick-up/drop-off times on these days for people who are off campus? For example, going to the CFC event, the shuttle was so packed it seemed unsafe.

Response from ORS: The Division of Amenities and Transportation Services has, in the past, provided extra shuttle service to events when the sponsors have requested it. This extra shuttle service has normally been provided at no cost or a reduced cost to the sponsor of the event.

Join the NIH-HHS Mentoring Program
NIH wants you to join the NIH HHS Mentoring Program. Federal employees interested in serving as mentors and mentees across the NIH community are invited to join the NIH April 2011 cohort. “Partners for Excellence” through building a confidential, interactive relationship is the cornerstone of the program. It emphasizes developing core, leadership and management competencies at various levels to ensure a beneficial experience for both mentors and mentees.

Program features include: peer-to-peer and senior-to-junior relationships; online application and matching system to connect individuals; online mentor-mentee orientation; 1-year mentoring relationship commitment; and professional development events and activities.

The Mentoring Program does not supplant NIH scientific mentoring and customized IC leadership mentoring programs available to employees in some institutes and centers. Instead, it is intended to fill any gaps where those programs do not exist and enables NIH-wide or even across-hhs relationships.

Visit the NIH-HHS Mentoring Program site at www.trainingcenter.nih.gov/NIH-HHS-Mentoring-Program.

For more information, send email to NIHHHSmentoring-programs@nih.gov
The goal is to move promising products far enough along that drug companies would take over development eventually, resulting in a triple-win situation: NIH pioneers new therapeutics, pharma would take over the goal line and the public benefits from better medicines.

Tabak said the first thing his task force considered was determining whether that solution might work, but concluded that the “coat of many colors” that NCRR has evolved into over time is not the optimum arrangement, given new scientific opportunities. Tabak also said his group had conducted a thorough analysis of the proposed change.

“At no time was there ever an intention to eliminate NCRR programs,” said Collins. “The goal is to move promising therapeutics that people are unsettled by change…The goal is not to create a super-agency, but to create a NCATS that the ‘coat of many colors’ that NCRR has been subjected to over time is not the optimum arrangement, given new scientific opportunities. Tabak also said his group had conducted a thorough analysis of the proposed change.

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One SmrB member, Dr. Thomas Kelly of the Sloan-Ketrick Institute, acknowledged “a fair amount of angst” surrounding involvement in translational research and drug development. “This is not an attempt to replace, but to augment standing involvement” in translational research and drug development. “This is not an attempt to replace, but to augment standing involvement” in translational research and drug development.

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“Five years ago, this [undertaking] would have been impossible,” said Collins. The proposed NCATS, said Collins, would “serve as a catalyst to advance NIH’s long-standing involvement” in translational research and drug development. “This is not an attempt to turn NIH into a drug development company,” he warned. The goal is to move promising products far enough along that drug companies would take over development eventually, resulting in a triple-win situation: NIH pioneers new therapeutics, pharma, would take over the goal line and the public benefits from better medicines.

The morning SmrB session, the 9th meeting of that body, primarily served to describe how three working groups are determining how NCATS will be assembled and how the National Center for Research Resources (NCrr) will be abolished as a separate program, either absorbed by NCATS or transferred to other institutes or the Office of the Director.

The first working group, composed of senior leadership across NIH and co-chaired by NIMH director Dr. Thomas Insel and NIDH deputy director Dr. Eric Green, is charged with outlining the mission and function of NCATS; its report was due Mar. 1 to Collins.

The second group, a subset of the advisory committee to the Director chaired by Dr. Maria Freire of the ACD, is examining how NCATS can best partner with the private sector. This group held its first all-day meeting Feb. 4.

The third group, the NCRR task force co-chaired by NIH principal deputy director Dr. Lawrence Tabak and NICHDD director Dr. David Kessler, is working with the new center to serve as a catalyst for translation. Especially strengthened will be the field of clinical pharmacology, which has been an underfunded area. Eight individuals spoke up during the public comment portion of the SMRB meeting, virtually all applauded the proposed new center. Said Amy Comstock Ricks of the Parkinson’s Action Network, “A dried-up pipeline of new therapies across the so-called “Valley of Death,” would turn into "a valley that leads to life."

In response to questions from several reporters, Collins said: the NCATS budget would be around $700 million (not including possible CAN funding) and will require a budget amendment from the White House; NIH will soon advertise globally for an NCATS director-designate; intellectual property issues arising out of NCATS will follow a model already in place; and CAN could potentially have "a DARPA-like authority" (the Defense Advanced Research Projects Agency) to fund projects. The program is also geared to intensify our health disparities research and will require a budget amendment from the White House, NIH will soon advertise globally for an NCATS director-designate; intellectual property issues arising out of NCATS will follow a model already in place; and CAN could potentially have "a DARPA-like authority" (the Defense Advanced Research Projects Agency) to fund projects.

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and Marines have endured multiple combat deployments. Some don’t return, but the ones who do are often not the same.

A recent National Institute of Mental Health Director’s Innovation Speaker Series lecture offered listeners a sample of what today’s war- fare is, what it does to service members and what we can do to bring them home both physi- cally and mentally.

NIMH director Dr. Thomas Insel opened the talk by recalling his institute’s role in the Army’s STARRS program—Study To Assess Research and Readiness in Service members, which started in response to the high rate of sui- cide experienced by members of the military returned from war. While Insel called the study itself a “big invest- ment in money and time,” he emphasized the importance of not losing sight of the people at the heart of this program, the soldiers. “We tend to hear about this experience from people who have been close to it.”

Todd Bowers, a staff sergeant in the Marine Corps, is deputy executive director of the Iraq and Afghan Veterans of America, a national non-profit dedicated to connecting new veterans to services and to each other. A decorated Marine, he has been on two tours in Iraq and has also been deployed to Afghanistan. As a civil affairs specialist, his job has been liai- son with the country’s locals to reduce civilian interference with military operations. But that doesn’t mean he hasn’t been shot at or had to use his weapon. In 2004, during his second deployment to Iraq, Bowers not only fired, but also took enemy fire. “I was aiming my weapon and [an incoming] bul- let struck me in the mouth,” he said. “I lost a tooth and then lost a couple more guys. There were even more wounded. The enemy weapon of choice in that area was the explosively for- mated penetrator,” a device similar to an IED, but specifically designed to pierce armor.

To illustrate this deadly contraption, Finkiel played a short video that was recorded from inside a Humvee. As a truck in the convoy exploded, the audience winced. Finkiel told the stories of several soldiers whose injuries may not have been visible but were nonetheless real. One case was a bleeding friend down a flight of stairs, only to be unable to get the taste of his friend’s blood out of his mouth months, even years, later. Another told his job so well he now fears he has become a monster. One team leader sent a truck of soldiers down a road, only to have them run into an IED, killing two of them.

“[Unfortunately I will] think about that deci- sion for the rest of his life,” Finkiel said. “Some said they were fine and they were; some said they were fine and they weren’t. But most of these guys are in the great middle.”

It’s in this area of mental health that Army Lt. Col. Philip Holcombe, a psychologist with the Defense Centers of Excellence for Psychologi- cal Health and Traumatic Stress Injury (DSTI), said there is much work being done in the area of TBI and PTSD. Studies like STARRS, as well as research and treatment conducted by the Defense Centers of Excellence, are leading the charge, he said.

“It’s going to take a series of efforts joined together over time to handle this,” he concluded. “We’re not going to swallow this elephant whole. We have no choice but to confront this issue. We have to do this to call ourselves humane. We must serve those who serve.”

Below: Pulitzer-prize winning journalist David Finkel
PHOTOS: ERNI BRANSON

Nath Named New Clinical Director at NINDS
By Shannon E. Garrett

NINDS recently named Dr. Avindra Nath as its new intra- mural clinical direc- tor. He is interna- tionally recognized for his contributions to elucidating HIV pathogenesis in the central nervous sys- tem. In addition to becoming clinical director and head of the NINDS section of infections of the ner- vous system, he will develop a center dedicated to translating new therapies for neurological disorders to clinical use.

“We are delighted that Dr. Nath will join the intra- mural program,” said NINDS director Dr. Story Landis. “He has an outstanding research program that adds strength to our neurovirology and neuro- immunology programs. Ari has superb leadership skills as well, which help ensure he will be an out- standing clinical director.”

“A major goal of Ari’s will be to develop a focused effort that can help accelerate translational efforts in NINDS in a way that can come to clinical and public health- wide efforts,” said NINDS scientific director Dr. Alan Koretzky. “Ari also will put a lot of empha- sis on improving clinical training programs within NINDS. Finally, his joining will help us continue to attract outstanding young clinician-scientists to the NINDS intramural research program.”

Early in the HIV epidemic, Nath and colleagues discovered that Tat, a viral protein, could directly stimu- late neurons. In subsequent studies, he found that Tat also activated glial cells leading to chemokine release that in turn cause macrophage recruitment into the central nervous system. Most recently, Nath discovered that some individuals with HIV—despite an excellent response to retrovi- ral treatment—develop a devastating immune cell- mediated encephalitis called CNS-immune recon- structive inflammatory syndrome. He will continue his HIV investigations at NIH in collaboration with Dr. Clifford Lane in NIAID.

Nath also has helped to develop several neuropro- tective compounds that are in various stages of development and clinical testing. Because of shared cellular and molecular mechanisms, these compounds may have potential use in a wide variety of neurodegenerative and neuroinflamma- tory diseases.

Born in Saskatoon, Canada, Nath earned his medical degree from the Christian Medical College in Ludhiana, India, in 1981. He then completed both a neuro- logy residency (1986) and a neuroimmunology fellowship (1988) at the Univer- sity of Texas Health Science Center in Houston. In 1990, he completed a fellow- ship in neurovirology at NINDS, working in the section of molecular virology and genetics in the Laboratory of Viral and Molecular Pathogenesis (LVM) with Dr. Eugene Major, chief of the Laboratory of Molecular Medicine and Neurosci- ence, and Dr. Monique Dubois-Dalcq, who was then LVM chief.

After leaving NIH in 1990, he joined the faculty of the University of Manitoba in Winnipeg, in the departments of medical microbiology and internal medicine. He left Manitoba in 1997 to join the faculty of the University of Kentucky in the microbiology and immunology and neurology departments. Before returning to NIH, Nath was a professor of neurology and neuroscience. He held several leadership positions at Johns Hopkins University School of Med- icine: director of the Division of Neuroimmunology and Neurological Infections (DNNI), director of the Neurovirology and Neuroimmunology Laboratory (NNL) and co-director of the Neuro-AIDS Translational Research Center. As director of DNNI and NNL, he recruited an exceptional cadre of investigators and created the clinical fellowship program in neuroimmunology and neurological infec- tions—the only one of its kind in the country.

Nath has published more than 200 manuscripts, reviews and book chapters and served on the editorial boards of the Journal of Neurovirology and Current HIV Research. He also has edited a book on clinical neurovirology. Currently, he chairs the section of neuro-infectious diseases of the American Academy of Neu- rology and serves as vice president of the International Society of Neurovirolo-

Gerratana Joins Staff at NIGMS
Dr. Barbara Gerratana recently joined NIGMS as a program director in the Division of Pharmacol- ogy, Physiology, and Biological Chemistry, where she will be responsible for research grants on enzyme catalysis and regulation. Before coming to NIGMS, she served as an associate professor with tenure in the department of chemistry and biochemistry at the University of Maryland. Gerratana earned a B.S. in chemistry from the Università degli Studi di Pavia in Pavia, Italy, and a Ph.D. in biochemistry from the University of Wisconsin.
Genetically Modified Fungi Kill Malaria-Causing Parasites in Mosquitoes

Spraying malaria-transmitting mosquitoes with a genetically modified fungus can kill the malaria parasite without harming the mosquito, potentially reducing malaria transmission to humans, according to a study in Feb. 25’s Science. Funded by NIH, the study was led by Dr. Raymond J. St. Leger of the University of Maryland.

An estimated 225 million malaria cases occur worldwide annually, resulting in about 781,000 deaths each year, according to the World Health Organization. Although the disease is present in 106 countries around the world, most cases occur in sub-Saharan Africa. Treating bed nets and indoor walls with insecticides is the main prevention strategy in developing countries, but the Anopheles mosquitoes that transmit malaria are slowly becoming resistant to these insecticides, rendering them less effective.

"Because mosquitoes increasingly are evolving to evade the malaria control methods currently in use, NIH-supported scientists are testing new, innovative ways to prevent malaria that we hope can be developed into tools that will be effective for years to come," said NIH director Dr. Anthony Fauci.

One of these new strategies is killing Anopheles mosquitoes by spraying them with the naturally occurring fungus, Metarhizium anisopliae. Previous studies have found that this method nearly eliminates disease transmission when mosquitoes are sprayed soon after acquiring the malaria parasite. However, this strategy is not sustainable in the long term. If treating mosquitoes with the fungus kills them before they have a chance to reproduce and pass on their susceptibility to the spray, mosquitoes resistant to the fungus, which would reproduce normally, will soon become predominant and the spray will no longer be effective.

Because of this, St. Leger and colleagues tried a different approach. Rather than developing fungi that rapidly kill the mosquito, they genetically modified M. anisopliae to block the development of the malaria parasite in the mosquito.

Study Finds Nitric Oxide Does Not Help Sickle Cell Pain Crisis

Inhaling nitric oxide gas does not reduce pain crises or shorten hospital stays in people living with sickle cell disease, according to the results of a study sponsored by NHLBI. "Nitric Oxide for Inhalation in the Acute Treatment of Sickle Cell Pain Crisis," was published in the Mar. 2 issue of the Journal of the American Medical Association.

Sickle cell disease is an inherited disorder affecting between 70,000 and 100,000 Americans. The disease causes red blood cells, which are normally disc-shaped and pliable, to become misshapen, stiff and sticky. Severe pain crises occur periodically in people living with sickle cell disease when these sickled red blood cells hinder proper blood flow. Nitric oxide dilates and expands blood vessels and enhances blood flow. Levels are lower in persons with sickle cell disease than in those without the disease. Previous trials with smaller numbers of patients had suggested that administration of nitric oxide might shorten sickle cell pain crises.

The study involved 150 sickle cell disease patients who were hospitalized for severe pain crises. Each participant was given nitric oxide gas or a placebo gas during treatment. Though the nitric oxide was well-tolerated, it failed to improve outcomes.

Gene Glitch May Hold Clues for Schizophrenia

Scientists are eyeing a rare genetic glitch for clues to improved treatments for some people with schizophrenia, even though they found the mutation in only one-third of 1 percent of patients.

In the study, funded in part by NIH, schizophrenia patients were 14 times more likely than controls to harbor multiple copies of a gene on chromosome 7. The mutations were in the gene for VIPR2, the receptor for vasoactive intestinal peptide (VIP)—a chemical messenger known to play a role in brain development. An examination of patients’ blood confirmed that they had overactive VIP activity.

Discovery of the same genetic abnormality in even a small group of patients buoyed hopes for progress in a field hi-minded by daunting complexity in recent years. The researchers’ previous studies had suggested that the brain disorder that affects about 1 percent of adults might, in many cases, be rooted in different genetic causes in each affected individual, complicating prospects for cures.

"Genetic testing for duplications of the VIP receptor could enable early detection of a subtype of patients with schizophrenia, and the receptor could also potentially become a target for development of new treatments," said Dr. Jonathan Sebat, an NIHM grantee at the University of California, San Diego, who led the research team. "The growing number of such rare duplications and deletions found in schizophrenia suggests that what we have been calling a single disorder may turn out, in part, to be a constellation of multiple rare diseases."

Study for Mothers of 4- and 5-Year-Olds

Are you a mother of a 4- or 5-year-old? You may be able to participate in the Mothers’ TAKE study, which stands for Mothers’ Thoughts About what their Kids Eat. Participants will fill out online surveys and complete one 90-minute in-person session at NIH. Your child will not need to participate. Compensation is provided. Call (301) 451-2268 or email mothers.taking@gmail.com and leave a phone number where you can be reached. Refer to study 10-HI-0036.

Women’s Health Studies Seek Healthy Volunteers

Healthy women ages 18-65 are invited to participate in outpatient research studies. Compensation is provided. Call (301) 496-9576 and refer to protocols 81-M-0126, 88-M-0131 and 03-M-0138.

Midlife & Menopause Research Studies

Women ages 45-65 who struggle with irritability, anxiety, sadness or loss of enjoyment at the time of the menopause transition are invited to participate in outpatient research studies. There is no cost for participation. Compensation may be provided. Phone (301) 496-9576 and refer to study 88-M-0131.

Study of Neck Pain

Are you a healthy adult with neck pain for 3 months or less? If you are between the ages of 18 and 65, you may be able to participate in a neck pain study and receive a comprehensive cervical musculoskeletal examination. Healthy volunteers are also needed. Email neckPainStudy@gmail.com or call (301) 453-7310. Refer to study 02-CC-0242.

Mitochondrial Biology Symposium, May 16-17

The 2011 NHLBI Mitochondrial Biology Symposium: Advances in Mitochondrial Dynamics and Mitochondrial-Cytosolic Communications will be held May 16-17 at the Natcher Conference Center. The symposium is sponsored by NHLBI and supported by American Society for Biochemistry and Molecular Biology and Oncology for Women.

The second in a biennial series of mitochondrial biology symposia hosted by NHLBI, it will include scientific sessions on mitochondrial dynamics and autophagy—from basic concepts to disease pathophysiology; and mitochondrial communication with the cytosol—fundamental concepts and role in pathophysiology. Keynote speaker will be Dr. Douglas C. Wallace, chair in pediatric mitochondrial medicine and metabolic disease and director of the Center for Mitochondrial and Epigenomic Medicine at Children’s Hospital of Philadelphia.

Submit your abstract online by Apr. 8; registration deadline is Apr. 29 at www.NHLBI-MitochondrialSymposia.org. For more information contact Elizabeth Meyer at elizabeth.meyer@nih.gov.
**Special Love Celebrates R&W President Schools with Gala Fundraiser**

On Feb. 5, Special Love Inc. honored R&W President Randy Schools for over a quarter century of service at its gala “Fly Me to the Moon—An Evening of Special Love for Children with Cancer.” More than 200 people attended the event, including friends, family and colleagues.

Schools helped launch Special Love, which sponsors Camp Fantast-ric every summer for kids with cancer, in 1983 and has been active ever since. The event raised more than $80,000 to fund the charity’s programs for mid-Atlantic children with cancer and their families.

In his acceptance of the award, Schools said, “Love is what life’s all about—spreading love and doing whatever we can to help other people and make their lives a little easier.”

Presenting the award, Special Love CEO Dave Smith described Schools as “a true unsung hero in the community.” Smith said he was surprised Special Love had gotten to Schools first. “Randy is involved in so many worthwhile Montgomery County charities and organizations and I know all of them will agree that he deserves all the praise we can give him.”

In addition to his work as R&W president, a post he has held since 1977, Schools has had leadership positions with the Bethesda-Chevy Chase Chamber of Commerce, Leadership Montgomery, Children’s Inn at NIH, Friends of the Clinical Center, Bethesda Big Train and numerous other organizations.

“Randy’s roles at Special Love have included just about everything,” Smith said. “He started out as a camp counselor at Camp Fantastic teaching swimming and went on to be board president, fundraising chair, public relations representative and just about every other job you could think of.”

Special Love sponsors two week-long camps, Camp Fantastic for young cancer patients and BRASS Camp for their siblings. It also hosts weekend camps for families, teens and young adults as well as day trips to the circus and local sporting events. Special Love also provides financial assistance in the form of emergency grants and college scholarships. For more information, visit www.specialove.org.

**Cedar Lane Bridge Repairs To Mar Commute This Summer**

Commuters who use Cedar Ln. to cross Rock Creek on the ride to and from NIH are in for difficulties this summer as the bridge over the creek is closed for repairs from June 17 to Aug. 24.

The county chose that window of time to coincide with school vacations and to precede implementation of Base Realignment and Closure (BRAC) project changes at the National Naval Medical Center.

The county department of transportation determined several years ago that the bridge, originally built in 1959 and which carries more than 12,500 vehicles daily (and a projected 15,500 vehicles daily once BRAC gets under way at Navy), is structurally deficient. The bridge superstructure will be entirely replaced over a 10-month construction schedule.

There will be a temporary pedestrian bridge across Rock Creek during bridge reconstruction. The work will close Cedar Ln. between Beach Dr. and Parkhill Ave. (which has east and west segments).

The new bridge will feature only a single southbound lane; the current sidewalk under the Beltway will widen to become a 12’ 8”-wide shared-use path for about 500 feet between Rock Creek Trail and Elmhirst Trail.

“The short length of the single lane, coupled with the fact that only two lanes (one each way) exist just north of the bridge, supports the decision” to build the widened shared-use path, according to the county DOT.

When the school year ends, a detour route will carry commuters around the project, using Strathmore Ln. and Rockville Pike as an alternative route.

For updates on the project, visit www.dpwt.com.

**Only Dogs & Cats Make Great Pets? Hogwash!**

_Since she was 14 years old and became a vegetarian, NIAID’s Julie Marquardt had been threatening to save a pig from the county fair. Last summer, she made the dream a reality when she entered a 4-H bidding war at the Calvert County fair and won. This particular 215-pound prize—whom she named Hay-Seus—won her over instantly with his big personality and wagging tail. “He obviously loved life—he needed to keep living it,” she explains. Now over 250 pounds, Hay-Seus recently celebrated his first birthday. He lives on a farm outside of Annapolis, where his three best friends are cows (and Marquardt, of course)._