



VA Research Currents

Katrina's blow to VA research being assessed

At least one VA researcher from New Orleans has already relocated to a different VA medical center in the wake of Hurricane Katrina. Andrew Schally, PhD, who won a Nobel Prize for medicine in 1977 for his discovery and synthesis of three important hormones, found lab space at the Miami VAMC after his New Orleans home was lost and the status of the VA facility there looked highly doubtful.

“There’s nothing for me there now,” Schally told a reporter from the *Sun Sentinel* in Fort Lauderdale. “What worried me most was my research would come to a standstill for two or three months. It’s a tremendous relief to be among friends and be able to do something practical to continue my research.”

According to an interim report compiled Sept. 19 by John Slauson, director of operations for VA’s Office of Research and Development (ORD), a handful of other VA investigators from the New Orleans medical center—which was successfully evacuated before the Katrina disaster unfolded—have been able to set up shop at other VA sites, such as Houston or Atlanta. Many research staff—along with other VA employees—were still not accounted for as of Slauson’s report.

Before Katrina there were some 45 active investigators at the site, 14 of them with direct VA funding. The facility received more than \$1.8 million in ORD funding for fiscal

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Help on managing storm’s psychological impact

Professionals or lay people needing help in handling acute stress disorders in the wake of Hurricane Katrina can find expert guidance on the website of VA’s National Center for Posttraumatic Stress Disorder (www.ncptsd.va.gov). Material on the site includes an early release of an evidence-based “Psychological First Aid” guide.

“We’ve made a practice of putting materials [on the website] for clinicians, disaster survivors and their families, and the general public since 9-11,” said the center’s executive director, Matthew J. Friedman, MD, PhD. “We did so within hours of the Pentagon and World Trade Center attacks, and we’ve posted material

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Update from Rehabilitation Research and Development...

New solicitation on chronic pain—an outcome for many of today’s war-wounded

By Denise Burton, PhD, Portfolio Manager, Chronic Medical Diseases

The nature of warfare and battlefield medicine in operations Enduring Freedom and Iraqi Freedom have presented new challenges for VA’s healthcare delivery system. Previously unsurvivable injuries are now survivable, resulting in a new generation of war-wounded veterans with complex, multiple injuries and possible long-term disability. Many of these battlefield impairments and disabilities—limb loss, burn injury, traumatic brain injury, crush and blast injury—are strongly associated with chronic pain.

Chronic pain is a complex, critical health problem afflicting more than 75 million Americans a year. It is a secondary condition associated with various disorders and diseases that cause muscle strain and inflammation,

circulatory difficulties, systemic problems, trauma to nerves, or central-nervous-system dysfunction. Moreover, it is a subjective experience, perhaps due to an array of factors that potentially influence pain responses, such as genetic differences, immune function, neural activity, age, gender, cognitive capacity, psychological state, and stress. Often, chronic pain as a secondary condition becomes a persisting, debilitating, and disabling problem, and is therefore an important issue for VA.

Basic and clinical research endeavors are needed to unravel the enigma of chronic pain so that novel therapeutic interventions can be developed. To foster this effort,

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2005. Non-VA funds associated with the site totaled about \$3.1 million. The VA medical center at Biloxi, Miss., which was also heavily affected by the disaster, had a much smaller research program—fewer than a dozen investigators, total—with only minimal direct research funding from VA.

Though damage to infrastructure and equipment at New Orleans is still being assessed, it was reported that research assets such as cell lines and transgenic animals were lost. In fact, all study animals at the site were euthanized prior to the facility's evacuation. Michael Fallon, DVM, PhD, VA's chief veterinarian, said there were several hundred rodents and about 10 rabbits at the facility. Given the urgency of the evacuation, Fallon agreed it was "more humane to euthanize the animals than to allow them to drown or, worse yet, starve to death in the absence of continuing care."

Clinical studies that were in progress at New Orleans, or set to begin, are being addressed on a case-by-case basis by ORD. "VHA on the whole has done a tremendous job in responding to this crisis," said Joel Kupersmith, MD, chief R&D officer. "As part of that effort, we in ORD are committed to supporting our investigators to the fullest extent possible in reestablishing their programs and continuing their vital research on behalf of veterans." ■

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after the Red River floods, the tsunami, the London subway bombings, and now, Hurricane Katrina."

The center, established in 1989, is a premier national resource for research, education and training on PTSD, which affects more than five million Americans each year and about one in three war veterans.

According to Friedman, his center's Internet outreach is well-received: After 9-11, for example, the site logged 60,000 unique users per quarter. Traffic to the site spiked again on the first anniversary of that disaster, as well as after the start of the war in Iraq. Last quarter, said Friedman, the site was visited by 180,000 unique users.

Friedman, also a professor of psychiatry and pharmacology at Dartmouth College, said it is hard to predict how many Katrina survivors will show symptoms of PTSD over the coming weeks and months. "On the one hand, natural disasters are less likely to produce PTSD than interpersonal trauma, such as rape or torture," he said. "On the other hand, the loss of property following a disaster increases the risk for enduring mental health problems, such as depression and PTSD."

He noted that there are other factors that may figure largely in the psyches of Katrina survivors, such as exposure to dying children and elders, dead bodies, and violence. "I think we need to be mindful of all these factors and do our best to make accurate estimates, and see what we can learn from all this with regard to prevention and treatment in the future."

The 47-page Psychological First Aid guide, created by Friedman's center

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the Rehabilitation Research and Development Service has announced a solicitation of research applications focused on "Chronic Pain Treatment and Management." This RFA solicits studies to develop novel physiological, biological, social and psychological approaches for the assessment, treatment and management of chronic pain as a secondary condition associated with primary impairments of spinal cord injury, burn injury, amputation, traumatic brain injury, crush and blast injury, multiple sclerosis, cancer, and other disorders.

We encourage applications from neurosurgeons, neurologists, clinical psychologists, psychiatrists, anesthesiologists, physiatrists, orthopedic surgeons, physical and occupational therapists, internists, primary care physicians and other investigators who challenge existing paradigms by incorporating innovative rehabilitative chronic-pain research.

Priority research topics range from examining various treatment modalities—for example, opioid analgesics, yoga, virtual reality, cognitive behavioral therapy or hypnosis—to elucidating the neural basis of pain perception and examining the relationship between chronic pain and sleep deprivation, depression, anxiety, guilt, and other disorders.

Applications must have direct relevance to improving rehabilitative prognosis, refining rehabilitative therapy, or defining novel areas for therapeutic investigation in the area of chronic pain. Letters of intent are due Oct. 15, 2005, and proposals are due Dec. 15, 2005. Questions about scientific or research issues should be directed to Denise Burton, PhD, at (202) 254-0268 or denise.burton@va.gov. ■

Genetic test may predict metastasis for many types of tumors

Scientists at the Palo Alto VA and colleagues in China have reported on a genetic test that may provide early warning of the spread of tumors in the body—regardless of cancer type—and allow doctors to tailor treatment accordingly. Writing in the Sept. 1 issue of *Cancer Research*, the researchers said the chemical status of a gene called synuclein gamma, or SNCG, can be a potent indicator of whether a primary tumor will metastasize. While many genes have been linked to specific cancers—SNCG itself, in fact, has been implicated in the spread of breast cancer—this gene now appears to play a key role in a broad range of cancers.

“The unique feature of SNCG is that its demethylation occurs in every tumor type examined so far and in virtually every tumor sample we examined,” said the study’s senior author, molecular biologist Jingwen Liu, PhD. Her VA team, including lead author Haiyan Liu, PhD, conducted the study on archived tissue samples, representing multiple tumor types, in collaboration with researchers at the Second Hospital of Nanjing City and the Chinese Academy of Medical Sciences.

Scientists have learned that the methylation status of a gene—that is, whether its DNA contains an extra methyl, or CH₃, group—is one of the factors that determine whether the gene is expressed, or “turned on.” Like glue in the ignition of a car, the extra methyl molecule prevents a gene from being activated. Demethylation, on the other hand, allows a gene to be expressed. When this binary system goes awry, faulty genetic instructions can turn normal cells into cancerous cells.

DNA methylation is being studied widely because of its implications for early detection of cancer. But prior to the new study by VA and Chinese researchers, methylation changes in a single gene had not been observed in all cases of a particular type of cancer, much less across different types of cancer.

“To our knowledge, SNCG is the first example of a complete change in methylation status of a cellular gene in multiple cancer types,” said Dr. Jingwen Liu. As such, she said SNCG may play a “fundamental role in tumor metastasis.” ■

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and the Terrorism Disaster Branch of the National Child Traumatic Stress Network, is an evidence-based modular program for first responders. It was the basis for a Sept. 14 Web conference, hosted by the National Center for PTSD and VA’s Health Services Research and Development Service (HSR&D), aimed at training field-based clinicians. The 70-minute presentation can be viewed or downloaded from the Cyber Seminars page of the HSR&D website at www.hsrd.research.va.gov/for_researchers/cyber_seminars.

“We are sharing the downloadable presentation with other federal agencies, such as the Centers for Disease Control and Prevention, that are involved in the recovery efforts,” said Joseph Francis, MD, PhD, director of HSR&D’s Quality Enhancement

Research Initiative (QUERI). “This is particularly important and timely since older models of crisis counseling were not evidence-based, and, in fact, emerging evidence indicates they may even be harmful to some.” Also coordinating the Sept. 14 Web conference was HSR&D’s Center for Information Dissemination and Education Resources (CIDER).

Robert Rosenheck, MD, director of VA’s Northeast Program Evaluation Center in West Haven and a professor of psychiatry and public health at Yale Medical School, agreed that Katrina may result in significant numbers of PTSD cases. “I do think the exposure to death and horror will trigger PTSD in veterans and non-veterans alike,” he said. But the researcher, who along with his work on PTSD has authored numerous studies on homelessness, said the latter issue may prove an even larger challenge for VA in the wake of Katrina.

“We are especially concerned about the many new homeless veterans,” said Rosenheck, “and hope we can prevent their homelessness from becoming chronic.” ■

Some ORD deadlines extended due to crisis

In response to the Katrina crisis, two of VA’s four research services—Biomedical Laboratory Research and Development, and Clinical Science Research and Development—announced a six-month extension of the September deadline for merit-review proposals for investigators at affected sites. Health Services R&D and Rehabilitation R&D, whose next deadlines are three months later, in December, had not yet announced any special extensions as of Sept. 19.

Bronx researcher receives Magnuson Award

William A. Bauman, MD, director of VA's Bronx-based Center of Excellence on the Medical Consequences of Spinal Cord Injury, received the Magnuson Award—VA's highest honor for rehabilitation investigators—on Sept. 8 at the national meeting of the American Paraplegia Society in Las Vegas.

Bauman's center focuses on the use of anabolic steroids and other drugs to treat the medical problems that arise from SCI and paralysis, such as bone loss, weight gain, diabetes, cardiovascular disease, breathing impairments, gastrointestinal disorders, and pressure sores. His team was among the first to document that people with SCI are low in certain hormones that typically decline with age, such as human growth hormone, testosterone and insulin-like growth factor. Current studies focus on the benefits of giving these hormones therapeutically.

Bauman and colleagues reported in the July 2005 *Journal of the American Journal of Gastroenterology*

that the drug neostigmine, which blocks the metabolism of acetylcholine and thus boosts nerve function, could assist bowel evacuation in patients with SCI. In another recent study, published in the *Journal of Spinal Cord Medicine*, Bauman's team explored the use of vitamin D replacement therapy to correct deficiencies of the nutrient in those with SCI. The researchers found some benefits, but recommended a trial with higher doses or more prolonged treatment.

The Magnuson Award was established in 1998 in honor of Paul B. Magnuson, MD, a bone and joint surgeon and chief medical director for VA in the years after World War II. He initiated VA's university-affiliation model and was known for his dedication to finding innovative and individualized solutions for patients with disabilities. Magnuson Award winners receive a \$5,000 cash award and a plaque, along with an additional \$50,000 per year for up to three years to support a currently funded, nationally peer-reviewed research project.

New email address for publication notifications

VA investigators or their local research offices are asked to notify VA Research Communications of all scientific publications or presentations, upon acceptance, in accordance with VHA Handbook 1200.19 (available at www.va.gov/vhapublications). If you're using VA's Outlook system, search the Global Address List for **VHA Co 12 Publication/Presentation Notifications**.

If you're emailing from outside the VA system, the address is **research.publications@va.gov**. (Please note the new email address.)

Include the article or abstract title, along with an electronic copy of the abstract, manuscript or poster; VA investigators' full names and degrees; and the journal or meeting title and date. A brief lay summary of the findings should be included as well.

For more information call Mitch Mirkin, R&D Communications, at 410-962-1800, ext. 252, or send email to mitch.mirkin@va.gov.



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