

# nih record



ABOVE • Alaska's mountain regions offer breathtaking views and challenges. See story below.

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*'Taking Our Own Advice'*

### NIH To Go Tobacco-Free on Oct. 1

By Rich McManus

As of Wednesday, Oct. 1, NIH will no longer permit the use of any tobacco products on the Bethesda campus. The tobacco-free policy, initially begun throughout HHS in 2004 but implemented slowly due to a number of obstacles, replaces smoking regulations that were instituted at NIH in 2002, which restricted smoking to selected outdoor locations.

Employees will soon see signs at all vehicle and pedestrian entrances to campus, alerting them to the new policy, which was proposed in July by the NIH steering committee and seconded by the institute and center directors. There will also be posters in the hallways and emails from NIH director Dr. Elias Zerhouni reminding the workforce that being tobacco-free is, at base, smart public health policy.

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Smoking on campus comes to a final crossroads.



Denali from the southwest PHOTO: MARTIN LE ROUX

*From Molecules to Mountains*

### NIAMS's Watts Climbs Alaska's Denali

By Belle Waring

In mountaineering, as in science, those who make it are the persistent ones. Yet even the toughest weigh the risks so that when their luck alters—as luck will—they live to tell about it.

Which brings us to Dr. Norman Watts, who recently returned from his third expedition to Alaska's (and North America's) most renowned peak—Denali.

"The vast majority of the time," says Watts,

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### NIMH Clinical Trial Offers Hope for Mothers with Depression

While many new mothers experience brief periods of sadness following birth, these feelings are often mild and fade on their own. However, if these feelings do not dissipate, they could be symptoms of postpartum depression (PPD), a serious and debilitating illness. Recent studies in England have found PPD to be the leading cause of suicide among new mothers.

Though some women who experience PPD may have suffered from previous episodes of depression, this is not always the case; it is possible for such a depression to develop without warning. PPD is often marked by intense feelings of sadness, anxiety, exhaustion without the ability to sleep, perceived feelings of failure, preoccupation with the baby's well-being or even thoughts of harming the child.

The symptoms of PPD usually do not subside on their own and may require active treatment with medications or therapy and emotional support from friends and family. Cur-

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## briefs

### MedlinePlus Named Great Web Site

Even *Government Computer News* had to admit it: a decade ago, most federal executives saw the web as nothing more than an electronic brochure. Now, they've come to realize that it can be the primary form of interaction with constituents and that material launched on it for public benefit has to be lively, informative and easy to navigate.

Apparently, [MedlinePlus.gov](http://MedlinePlus.gov), the consumer-friendly site created by NLM with input from across the institutes and centers, meets those criteria. On Aug. 25, it was named a top 10 federal web site.

The *GCN* notice said, "When it comes to medical matters, people value straight talk above all else. The National Library of Medicine's MedlinePlus offers an astounding amount of medical information on a site that is easy to navigate."

MedlinePlus, which will celebrate its 10th anniversary in October, gets 12 million unique visitors and 65 million page views each month. Its many resources include in-depth information on more than 750 health topics, over-the-counter and prescription drug information, a medical dictionary and encyclopedia and surgery videos. A consistent high scorer on the American Customer Satisfaction Index, MedlinePlus has also been praised by *Newsweek* for its ease of use. The site offers a Spanish language version (<http://medlineplus.gov/spanish/>) and recently began offering materials in over 40 other languages.

As *Government Computer News* noted, "The web has other medical sites, but the backing of the NLM imparts an extra level of trust."

### 2008 Final Bluebird Count Up from a Year Ago

The birds are back in town and that's good news for NIH's main campus, reports Lynn Mueller, Office of Research Facilities landscape architect. NIH has long employed an avian corps to protect the grounds from mosquitoes and other nuisance bugs without resorting to insecticides.

"I must again thank everyone for a much better year over last year," he wrote in a recent email to his crew of volunteer bird census-takers. "The West Nile virus has apparently run its course, as the bluebird population is now going back up compared to the crash we witnessed in the number of fledglings reported last summer. For whatever reason(s), some trails were quite successful with even second nestings and oth-

ers were totally shut out." He vows to relocate some boxes over the winter and repair others to encourage more birds to make NIH their home next spring.

Here's the final count for 2008: 29 bluebirds (totals in previous years: 14-2007, 37-2006, 36-2005, 31-2004, 16-2003, 13-2002); 6 Carolina wrens; 48 house wrens; 10 tree swallows; 24 chickadees; and an uncounted number of English sparrows.

Mueller also noted an increasing number of barn swallows nesting in MLP-7 and MLP-10. At least 7 nests (and 23 newborns) in MLP-7 and one nest with 4 little ones in MLP-10 have been spotted. "I'll assume they all fledged," he said. "Once the south-east pond is completed behind 38A, the Lister Hill Center, I suspect more swallows may be attracted to garage 7 with its proximity to the pond and good bug-hunting territory."

Mueller said the generous addition of more than 144 young birds to the resident insect-eating bird population is accomplishing the mission of ridding the campus of many potentially disease-carrying pests.

"Once again," he concluded, "we did not spray an ounce of insecticides on campus shrubs, trees or grass this season. I believe over the past 16 years our campus has become a well-balanced natural environment where the 'bad' bugs are balanced by a variety of predators."

### Bryan Named Extramural Chief at NINR

*Dr. Yvonne Bryan has been appointed chief of the Office of Extramural Programs (OEP) at the National Institute of Nursing Research. She will oversee the OEP extramural research portfolios and initiatives as well as research training*



*programs. She joined NINR in 2001 as program director for infant, child, reproductive and family health. She became a registered nurse after completing studies at the University Hospital of the West Indies. Following a 4-year tenure at her alma mater as an R.N. and nursing supervisor, Bryan attended Concordia University in Montreal, where she earned a Ph.D. in psychology. She then completed a 3-year fellowship at the National Institute of Child Health and Human Development. During her fellowship, Bryan examined the mother-infant relationship by exploring the influence of maternal sensitivity and responsiveness on infant temperament and developmental outcomes. As assistant professor of child development at Purdue University, she taught both graduate and undergraduate students and spearheaded a research program in infant and early childhood development.*

## NCI Summit Highlights Science of Cancer Health Disparities

By Francis X. Mahaney, Jr.

NCI's Center to Reduce Cancer Health Disparities (CRCHD) hosted its annual Cancer Health Disparities Summit recently, spotlighting the science of cancer disparity research.

More than 900 researchers, federal, state and local public health officials and community advocates converged at the event "Eliminating Cancer Health Disparities Through Science, Training and Community." The meeting highlighted the basic clinical and community-based science behind many of the programs currently funded by CRCHD.

"Many populations in the United States suffer disproportionately from cancer," said CRCHD director Dr. Sanya Springfield. "And much is being accomplished to bring about exciting new advances in cancer research to African-American, Latino, Native American, Asian, Native Hawaiian/Pacific Islander and medically underserved communities."

Evidence-based prevention, screening and treatment interventions being utilized among the Community Networks Program, Continuing Umbrella of Research Experiences, the Minority Institution and Cancer Center Partnership and the Patient Navigation Research Program were shared with attendees.

Summit '08 also showcased scientific efforts to diversify the cancer health disparities training pipeline by featuring grant-writing basics, workshops to build successful scientific careers and a glimpse into the NIH internal review process through a mock review grant. The summit also gave junior investigators an opportunity to display their scientific efforts. For example, Tyesha Farmer, an NCI-funded doctoral fellow at the University of Alabama in Birmingham, spoke before a packed audience on genomic profiling of early-onset breast cancer in African-American and European-American women.

She found that African-American patients had a higher grade of aggressive subtype's breast tumors than their European-American counterparts. Moreover, African-American patients exhibited a greater degree of genomic instability.

Topics highlighted during the summit included: biological determinants of cancer health disparities; patient navigators; cancer epidemiology; psychological factors and risk factors; sharing research with policymakers; new media to promote cancer education; and outreach to increase cancer prevention efforts.

"We benefit tremendously by learning what other programs are doing, what other populations are doing and what other communities are doing," said Dr. Donald Warne, health policy research director for the Intertribal Council of Arizona, an NCI grantee. By sharing scientific information, he noted, "there are templates of projects that we in the American Indian community have not thought about but can be easily implemented."

Dr. Kathryn Braun of the Imi Hale Native Hawaiian Cancer Network in Honolulu agreed that the summit is a "critical place to share information on interventions proven, by research and evaluation, to work." Based on an HHS intervention she heard at the summit a few summers ago, she has successfully begun a smoking-cessation program in native Hawaiians on seven islands where one in four persons smoke.

One of the major sessions at the summit focused on strategies to overcome barriers to clinical trial recruitment in rural and diverse communities.

Dr. Claudia Baquet, associate dean for policy and planning at the University of Maryland School of Medicine, reported that African-American communities in some areas of Maryland (Allegany, Washington, Baltimore City and Prince George's counties) had lower than expected participation in NCI clinical trials. When Baquet focused on efforts to increase participation from Maryland's rural Eastern Shore, she saw a 20-fold increase in NCI clinical trial participation in minorities, a 25 percent increase in trial participation in African Americans and a 40-fold increase in participation in NCI clinical trials overall.

Her results, published in the July 10 issue of the *Journal of Clinical Oncology*, examined 2,240 Maryland cancer patients enrolled in NCI clinical trials during a 5-year period.

"It was an exciting couple of days," Springfield said. "It was tremendously gratifying to see firsthand the drive and commitment from this phenomenal body of researchers, clinicians and community members who make a difference in the lives of our cancer patients and our communities. We know we can always do better and we continue to look to the community to help us in our efforts to reduce and ultimately eliminate cancer health disparities." ●



Summit attendees (from l) Maylynn Riding In, Katrina G. Claw, Lana Rae Fred and Pamela Williams of the Intertribal Council of Arizona display their poster on genomics.

PHOTO: BILL BRANSON

## TOBACCO-FREE

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It has long been known that tobacco use has a wide range of negative health consequences.

“Smoking tobacco remains the leading preventable cause of death in this country and secondhand smoke is known to be a cancer-causing agent,” said Zerhouni. “Devastating cancers are caused by chewing tobacco products. To protect the health of all who work at or visit the NIH, it is imperative that we become tobacco-free. Effective Oct. 1, use of cigarettes, cigars, pipes, smokeless tobacco and any other tobacco products is prohibited on the NIH Bethesda campus.”

Enforcement of the new policy will be administrative, not judicial; managers and supervisors will be responsible for assuring that all employees comply. “Supervisors are responsible for ensuring all employees are notified of and receive a copy of the new policy,” Zerhouni explained. “Supervisors should apply the same administrative approach that they use to address violations of any NIH policy and should consult with an NIH employee relations specialist for advice on appropriate action to take regarding observed or reported violations.”

From Oct. 1 on, tobacco use on campus will be limited only to patients whose attending physicians have formally permitted them to smoke (and then, only in a designated area outside the hospital) and to residents of on-campus homes. No ashtrays, butt cans or smoking shelters will be provided on tobacco-free campus grounds.

One other caveat: members of the four unions represented on campus (the largest of which is AFGE—the American Federation of Government Employees) can, technically, still use tobacco because they have not yet renegotiated a collective bargaining agreement with NIH that

allowed tobacco use. Although the agreement expired in August 2005, a new one has not yet been signed.

Off campus, at all other facilities owned by NIH, employees will continue to follow the 2002 NIH smoking policy or local policy that is facility-specific. Leased facilities will continue to follow local ordinances and the federal statute prohibiting smoking in a federal workplace.

NIH has wrestled with a number of thorny issues in a quest to go tobacco-free that began at least as long ago as 1987’s “Smoke Free, And Happy To Be” campaign, which ended smoking in campus buildings. In addition to the union and patient-care issues is the problem of the sheer size of campus: if a supervisor permits a smoke break, it’s likely to take someone at the heart of campus—say in Bldg. 30—a half-hour or more to walk off campus, where smoking rules don’t apply.

Some supervisors have faced the following “disparate treatment” dilemma: if they let smokers take two or three breaks a day, the nonsmokers resent the *de facto* gift of annual leave granted smokers and end up demanding *ad hoc* leave of their own, out of fairness.

No policy is going to please all parties. Under the pre-Oct. 1 rules, the biggest complaint from employees has been second-hand smoke: smokers tend to congregate just outside building entrances, creating a haze that nonsmokers must negotiate. And some on campus are worried that the post-Oct. 1 policy will harm NIH’s ability to recruit foreign scientists from countries where smoking is still popular and widespread.

One reason that NIH leadership is keen to pursue tobacco-free status is the agency’s reputation as a beacon of enlightened health policy. “It looks pretty bad to someone from, say, NCI’s board of scientific counselors, to visit the NIH campus and see that smoking is still permitted here,” said one long-time NIH’er.

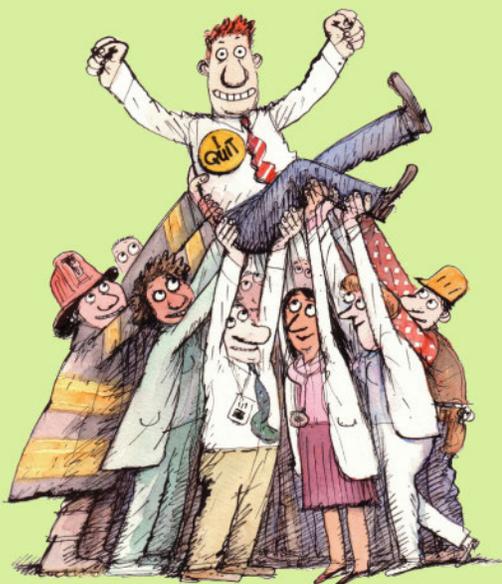
NIH employees who smoke and want to quit will continue to be offered free smoking-cessation programs. The web site <http://tobacco-free.nih.gov>, which debuted in 2005, has been updated and now reflects the policy that takes effect Oct. 1.

“When we established a web site for the NIH tobacco-free effort, we titled it ‘Taking Our Own Best Advice.’ We want a healthy and productive NIH community,” Zerhouni said. 🍎

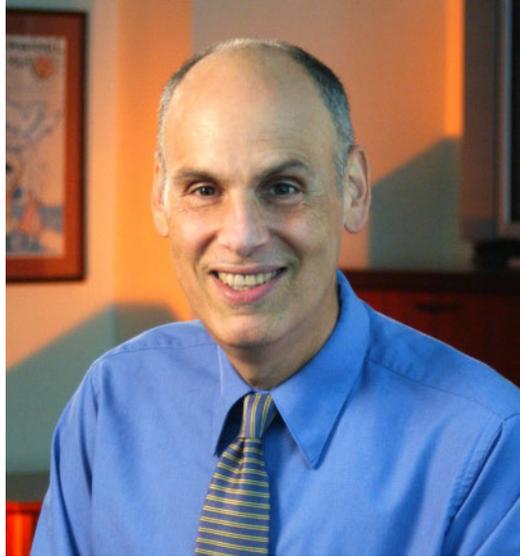
Taking our own best advice

<http://TOBACCOFREE.nih.gov>

Trying to quit?  
Just curious?  
Need facts?  
Help a friend?



DEPARTMENT OF HEALTH & HUMAN SERVICES | NATIONAL INSTITUTES OF HEALTH



Dr. Alan Guttmacher is acting director of NHGRI.

## Guttmacher Named NHGRI Acting Director

By Geoff Spencer

Dr. Alan Guttmacher, a pediatrician and medical geneticist who has played leadership roles at the National Human Genome Research Institute for nearly a decade, has been named acting director of NHGRI. He replaces Dr. Francis Collins, who stepped down after 15 years to pursue other professional opportunities.

“Dr. Guttmacher has provided excellent leadership for the institute, as well as participating in many trans-NIH efforts. His service as acting director at NHGRI will ensure a seamless transition,” said NIH director Dr. Elias Zerhouni.

Collins said, “Alan is an exceptional medical geneticist and served most ably as NHGRI’s deputy director for the last 6 years. So, I leave the institute in good hands until a permanent director is selected.”

Since joining NHGRI, Guttmacher has served as the institute’s senior clinical advisor to the director and as director of its Office of Policy, Communications and Education. He currently serves as its deputy director, a position he will continue to hold while carrying out his new duties. NIH is conducting a broad search for a permanent director of NHGRI, but details of the search process remain to be finalized.

The greatest challenge facing NHGRI today, said Guttmacher, is how to prioritize among the many superb ideas and exciting possibilities that exist in genome research. “NHGRI now faces, and, in fact, has helped to create, an abundance of scientific opportunities. Among these are efforts to understand more fully how the genome functions, to follow up on the outpouring of information being generated by genome-wide association studies, and, of course, to apply our growing knowledge of the genome to improve human health. Also, as has always been the case, there are important opportunities—indeed, responsibilities—to

explore the ethical, legal and social implications of genome research.”

Before coming to NHGRI, Guttmacher directed the Vermont Regional Genetics Center at the University of Vermont College of Medicine, where he also served as associate professor of pediatrics and medicine.

Shortly after arriving at NHGRI in 1999, he suffered a heart attack that provided him not only with new perspectives on health and life, but also with new insights on what patients go through in dealing with health issues.

“I think my experience as a physician—and, importantly, as a patient—does shape who I am and how I think about NHGRI and its work. I am intensely aware that we are part of the National Institutes of Health. Our mission is not simply to advance knowledge, as desirable as that may be, but to improve health,” he said.

Born in Baltimore in 1949, Guttmacher received an A.B. *cum laude* in social relations from Harvard in 1972 and an M.D. from Harvard Medical School in 1981. He then completed an internship and residency in pediatrics at Children’s Hospital Boston, and, in 1985, earned a 2-year National Research Service Award from the Public Health Service as a fellow in medical genetics at Children’s Hospital Boston and Harvard Medical School. His honors include election to the medical honors society, Alpha Omega Alpha, and to the Institute of Medicine. He is a fellow of the American Academy of Pediatrics and the American College of Medical Genetics. ●

## Tips for National Preparedness Month

National Preparedness Month is a nationwide effort held each September to encourage Americans to prepare for emergencies in their homes, businesses and schools. Here are a few steps you can take now to prepare in case of an emergency:

**Get a Kit**—Have emergency supplies that will allow you and your family to survive for at least 3 days. A list of supplies is available at [http://ser.ors.od.nih.gov/emergency\\_prep.htm](http://ser.ors.od.nih.gov/emergency_prep.htm).

**Make a Plan**—Plan in advance what you and your family will do in an emergency. Your plan should include communications, sheltering-in-place and evacuation. Consider what would happen if a parent or another family member were not at home during an emergency. Readiness may include having a prearranged meeting place, a code word or a relative’s phone number.

**Be Informed**—Learn about emergency plans that have been established in your area. The best thing you can do during an emergency is listen to messages from your local emergency managers, broadcast on radio or television, who will recommend ways to protect yourself and your family.

**Get Involved**—After preparing yourself and your family for possible emergencies, take the next step: get training in first aid and emergency response and get involved in preparing your community. The Community Emergency Response Training (CERT) classes are good for emergency preparation.

**Learn First Aid and CPR**—Take a first aid and CPR class. Local American Red Cross chapters can provide information about this type of training. Official certification by the American Red Cross provides, under the “good Samaritan” law, protection for those giving first aid.

**Learn How to Use a Fire Extinguisher**—Be sure everyone knows how to use your fire extinguisher(s) and where it is kept. You should have, at a minimum, an ABC type.



## MOUNTAINEER

CONTINUED FROM PAGE 1

**Top, l:**  
*On Denali's West Rib, Dr. Norman Watts (l) with Martin le Roux at 16,200 feet, where Watts was forced to turn back: "My fellow climbers helped me out when I really needed it."*

PHOTO: GORDON LAURENS

**Top, r:**  
*Watts, back at the lab*

PHOTO: BELLE WARING

NIAMS scientist and veteran mountaineer, "when you're out there, you work hard, you sweat, you strain and you come back safe. It's not a death-wish condition."

Any sport has hazards. Climbers disappear down rock faces, snow slopes and crevasses. The mountain sheds its skin in rock slides, ice falls and avalanches. Weather gets radical. And there's the invisible enemy: high-altitude sickness.

For Watts, Denali's grandeur trumps the risk.

"Climbing is a wonderful activity," he says. "You get to see the most dramatic countryside on the planet."

A structural biologist, Watts has been mountaineering for almost 20 years. He's achieved summits up to 23,000 feet and knows mountains with fierce and gorgeous names: Condorriri. Baruntse. Denali.

"Denali is the native name for Mt. McKinley," Watts says. "It's a serious mountain. You can make arguments that it's the greatest."

At 20,320 feet, Denali is the highest peak in North America. Measured from sea level, Mt. Everest is taller. Compared to Everest base camp (b/c) at 17,000 feet, you fly to Denali b/c at 7,000 feet, and then climb about 13,000 feet. However, you fly in from an Alaskan village at only 360 feet, so the altitude gain is still pretty great, says Watts.

"And the air," he adds, "is thinner at the poles." This effect adds the equivalent of about 2,000 feet at the summit. Denali sits just south of the Arctic Circle, where it can host exceedingly high winds and temperatures of -40° in spring (the best time to climb).

In 1994, after his second postdoc and before joining NIH, Watts first encountered Denali. He made the summit.

"The second time [in 2000] we had to come down, because my friend got bronchitis. The third time [in spring 2008] I got high-altitude cerebral edema, plus I was coming down with Lyme disease, although I didn't know it at the time." The double whammy forced him back.

Home is Montgomery County, near Sugarloaf Mountain. Watts is a Canadian from New Brunswick, a maritime province. As a child, he traveled briefly to Alberta, where he glimpsed the Canadian Rockies, then fell in love with mountains in the pages of *National Geographic*. "I thought, how do you get up on those things? First thing I did, post graduation from university, I bought climbing gear."

Expedition climbing ascends in stages. "You might have several camps with the higher camp supplied by the lower. Eventually someone will have a chance at the summit."

At high altitudes, air pressure is lower and oxygen thinner. To compensate, the body increases breathing rate, heart rate and red blood cell production. "There are probably also changes in mitochondria," Watts explains. "Energy production genes get turned on."

High-altitude sickness is usually mild if the body has time to acclimatize, yet even the very fit can become ill from fluid shifts in the body. The brain can swell; the lungs can fill with fluid—in essence, says Watts, "you begin to drown on dry land."

Because high-altitude cerebral edema (HACE) is life-threatening, it's one reason climbing Denali takes 3 to 4 weeks: "You can't just rush it," Watts says.

But his team lost 3 full acclimatization days due to bad weather. They made camp at over 16,000 feet on the West Rib route where the terrain dropped off all around them. Then, says Watts, "I woke up and knew something was wrong. It was pretty clear I had HACE."

Situation: urgent. "You have to get down far and fast because the brain swells," he says. "It leads to confusion and ataxia—your coordination goes—so my friends tied me on a short rope" to keep him from falling: "It's necessary to give credit to my partners," he stresses.

In almost 20 years, it was the first time he'd gotten HACE.

Even off the mountain, he felt "wobbly, unmotivated, with a roaring fever. I took my first shower in over 3 weeks and saw these curious bull's-eye rashes—20 of them."

Back home, his bloodwork showed Lyme disease, a tick-borne illness. "I probably got it from my dogs before I left," he says, "and developed it in that 3-week period." Treated with antibiotics, Watts responded well and returned to work, where he spotted a flyer for an NIH Lyme disease research study. He joined at once.

Watts works with hepatitis B and HIV proteins in two NIAMS labs, the Protein Expression Laboratory with Dr. Paul Wingfield and the Laboratory of Structural Biology Research with Dr. Alasdair Steven. "I've always been a pretty academic person," he says, "but I really love nature. So I get to do two exotic things: electron microscopy and mountaineering."

He resists the notion that his adventures are heroic. More like—reflective. "When something happens," he says, "you gain insight about yourself."

You gain perspective as your attention shifts from geology to microscopy. From athlete to patient. From bench scientist to research volunteer.

"There's no way you can go out there and not be significantly affected," he says. "There are reasons people have thought of mountains as deities, as the axis of the Earth." 📍



*Guest speaker Dr. Nancy Adler (c), of the University of California, San Francisco, is shown with NICHD deputy director Dr. Yvonne Maddox (l) and Dr. Regina Smith James, director, Extramural Associates Program.*

### NICHD Hosts First Health Disparities Seminar Series

This year marks the 10th anniversary of President Clinton's launch of a health disparities initiative that addressed "racial and ethnic disparities in infant mortality, diabetes, cancer screening and management, heart disease, AIDS and immunizations." In 2000, the Minority Health and Health Disparities Research and Education Act, which established the National Center for Minority Health and Health Disparities at NIH, sparked enhanced efforts to eliminate health disparities. The center provided oversight for the development of a framework for addressing health disparities across NIH. As part of the NIH-wide strategic plan to reduce and ultimately eliminate health disparities, the Eunice Kennedy Shriver National Institute of Child Health and Human Development developed its plan, "Health Disparities Bridging the Gap." It outlines research, training, infrastructure and outreach initiatives that address disparities in health.

To mark the anniversary of the launch of the initiative, NICHD's Division of Special Populations hosted its first "Health Disparities Seminar Series." The event took place on July 15. Dr. Nancy Adler, professor of medical psychology, University of California, San Francisco, presented "Health Disparities Across the Lifespan: Meanings, Methods and Mechanisms."

Adler's research focuses on the impact of socioeconomic status (SES) on health. Her work examines how social, psychological and biological factors associated with SES act together to determine the onset and progression of disease. The seminar set the stage for discussion about research that addresses disparities in health on all stages of human development, from preconception to adulthood, which can provide a better understanding of how to address and improve the health of children, adults, families and communities.



## POSTPARTUM

CONTINUED FROM PAGE 1

*Dr. Peter Schmidt of NIMH's Behavioral Endocrinology Branch is investigating new treatments for postpartum depression.*

rent treatments for PPD, though potentially effective, cannot rapidly relieve the debilitating symptoms of the illness. For example, traditional antidepressants such as selective serotonin reuptake inhibitors (SSRIs) can take from 4 to 6 weeks to be effective. In the meantime, the woman continues to cope with feelings of overwhelming sadness, anxiety and fear.

However, Dr. Peter Schmidt and his colleagues in NIMH's Behavioral Endocrinology Branch

hope to offer a fast-acting and effective alternative to these treatments. The new method involves the use of estrogen, a naturally occurring hormone, to lift the symptoms of depression in women with PPD. Schmidt notes that estrogen therapy has been found to reduce depression in 2 to 3 weeks in the majority of women. An added benefit is that most women can discontinue therapy after about 6

to 8 weeks, without a re-emergence of depressive symptoms. Also, use of an estrogen patch does not pass hormones into breast milk, unlike SSRIs, which can be passed on to the nursing infant. In fact, the level of hormones in the patch is significantly lower than what a woman would receive from a typical birth-control pill.

Schmidt's group conducted a landmark study in which researchers modeled the effects of pregnancy and the postpartum in non-pregnant women with a history of PPD and compared their progress with healthy volunteers. The study found that the risk for depression was greatly elevated for women who had had a previous episode of PPD. This pointed toward a hormonal trigger for PPD. In addition, several studies suggest that estrogen therapy can help to rapidly alleviate depression.

Schmidt is currently looking for volunteers to participate in two postpartum research studies. The first will explore the benefits of treating PPD with estrogen. Women who think they might currently be depressed and have given birth within the last 6 months are encouraged to participate. Women participating in this study may help to advance a treatment that could alleviate their own symptoms and may someday lead to a new standard of care for postpartum depression.

The second study is for women with a history of PPD. Healthy individuals without a history of postpartum depression are also needed to serve as controls. Participants in this study will go through a "simulated" pregnancy by taking a course of hormones that mimic the experience of pregnancy in an abbreviated time frame. Participants will be evaluated and monitored for signs of depression. This will help researchers determine how and to what extent fluctuating levels of hormones during pregnancy can influence mood and behavior. The women in this study will learn whether they may experience PPD following a future pregnancy.

Women who are interested in participating in the trial or who would like more information should contact NIMH at (301) 496-9576. 📞

### A Patient's Story

A 27-year-old mother called and scheduled an appointment at NIMH. Despite planning and looking forward to her pregnancy, within a month after delivering a healthy baby girl she had become persistently sad and unable to enjoy any aspect of her daily life. She felt detached from her new baby and worried about her ability to be a good mother.

Concerns about her child's well-being constantly entered her mind and had begun to affect her relationship with her husband. Though both parents had been excited in the months leading up to the child's birth, they now argued excessively and contemplated separation. The mother had no history of depression and could not recall any depressive symptoms during the pregnancy, but was now at a loss as to what to do. She felt hopeless and out of control.

After qualifying for an NIMH trial, she began treatment with estrogen therapy and within 3 weeks her symptoms began to subside. Her mood and her relationship with her husband both improved dramatically over the course of treatment. After 8 weeks the estrogen was discontinued and her mood remained stable.

## NIBIB Holds First Meeting of 'Quantum' Grantees

The National Institute of Biomedical Imaging and Bioengineering recently held its first "Quantum" grantee meeting. The goal of the high-impact, high-risk Quantum Program is to make a profound advance in health care by solving or substantially improving targeted major health care problems within approximately 10 years. NIBIB director Dr. Roderic Pettigrew likens these research projects to "medical moon shots." The meeting brought together the grantees and NIH staff to share initial successes and future plans.

### Circulating Tumor Cells Captured: Preventing Metastases

Microelectromechanical systems (MEMS) technology is the basis for fabrication of a microchip that may greatly improve the early detection of cancer cells circulating in the blood and help determine the effectiveness of targeted therapy. Microfabricated posts within the point-of-care device are coated with antibodies that specifically bind to proteins on the surface of circulating tumor cells (CTCs). Remarkably, most of the targeted cancer cells stick to the posts while billions of other cells in the blood pass by. These cells are so rare (they are found at levels of one cancer cell in a billion normal cells) that locating one is like "finding a needle in a moving haystack," notes Dr. Mehmet Toner of Massachusetts General Hospital. Early detection of CTCs may allow prevention of metastatic disease, which is the cause of death in 90 percent of cancer patients.

### Stem Cell Therapy: Prospects for Stroke and Diabetes

A treatment that restores lost function to the almost 700,000 victims of stroke is the broad conceptual goal of Dr. Karen Hirschi's team at Baylor College of Medicine. Her group aims to recreate the brain regions involved in the generation of new neurons—neurogenesis niches—and transplant them into brain areas affected by stroke. Using sophisticated imaging techniques and complex analysis software, her research team has laid the groundwork for this effort by mapping cell-cell and cell-matrix interactions in neurogenesis niches, defining the neurovascular architecture and characterizing the blood flow dynamics that stimulate and support neural stem cell function. A three-dimensional blueprint of such a niche is under development.

Dr. Anthony Atala of Wake Forest University is

working on using stem cells collected from amniotic fluid to treat diabetes by regenerating pancreatic beta cells. Amniotic fluid stem (AFS) cells are self-renewable and have the ability to differentiate into numerous tissues. "Unlike human embryonic stem cells, AFS cells do not form tumors and retain a normal genetic phenotype," says Atala. Undifferentiated AFS cells transformed with the Pdx1 gene—critical for pancreatic cell development—can generate pancreatic islets and produce insulin. When injected into diabetic mice, these cells can restore glucose regulation. The next step is to demonstrate that this can be done in primates as well.

### Nanoparticles to Define and Eliminate Brain Tumors

Despite progress in treating many cancers, treatment of malignant brain tumors remains a daunting challenge. Surgical removal of malignant brain tumors is often incomplete due to the inability to visually distinguish between healthy and cancerous tissue and the undetected tumor projections into healthy tissue. To address these problems, Dr. Raoul Kopelman of the University of Michigan is developing multifunctional nanoparticles that carry components capable of selectively targeting and visibly marking tumor cells, allowing for improved surgical resection. A therapeutic agent on the nanoparticle will be used to kill residual tumor cells using laser-activated photodynamic therapy. This technology will address a critical roadblock that has long hindered the successful treatment of brain cancer.

### Dialysis May Give Way to Artificial Kidneys

Hemodialysis and renal transplants are the treatments of choice for people with kidney failure. However, Dr. Shuvo Roy of the Cleveland Clinic is developing the next best thing—an implantable device that replaces kidney function. The artificial kidney has two key components: a hemofilter that filters toxins from the blood, and a bioreactor with living kidney tubule cells that pumps filtered water and necessary salts back into the blood. The filtration membrane of the device is being developed using MEMS technology. Precise control of size, density and distribution of pores on the membrane enables blood filtration within the body. 



*Attending the recent Quantum program meeting were (front, from l) Drs. Mary Dickinson and Karen Hirschi of Baylor College of Medicine; Dr. Anthony Atala of Wake Forest University; NIBIB director Dr. Roderic Pettigrew; Dr. Raoul Kopelman of the University of Michigan; Dr. Mehmet Toner of Massachusetts General Hospital. At rear are (from l) Drs. Shuvo Roy and William Fissell of Cleveland Clinic; Dr. Daniel Orringer of the University of Michigan; NIBIB Extramural Science Program director Dr. William Heetderks; NIBIB Quantum Grant project officer Dr. Albert Lee.*

### The Brain and Obesity

According to a new study, a brain chemical that plays a role in long-term memory also appears to be involved in regulating how much people eat and their likelihood of becoming obese. Researchers from NICHD, NHGRI and NIDA found that some children and adults with a rare genetic condition called WAGR syndrome lack a gene for BDNF (brain derived neurotrophic factor), a brain chemical proven to help control appetite and weight in animal studies. These people also have low blood levels of BDNF, unusually large appetites and a strong tendency toward obesity. Previous research had shown that animals missing a working copy of the BDNF gene were prone to excessive eating and obesity, but the gene's importance in people had not been proven. The new work, published in the *New England Journal of Medicine* on Aug. 28, provides the first strong evidence that BDNF is important for body weight in human beings. Researchers said it's a promising new lead in the search for biological pathways that contribute to obesity and could lead to the development of new treatments to regulate appetite.

### Decreasing Risk for Cerebral Palsy in Preterm Infants

In the same issue of the *New England Journal of Medicine*, a study conducted by NICHD and funded by NINDS revealed that preterm infants born to mothers receiving a common treatment to delay labor are less likely to develop cerebral palsy than are preterm infants whose mothers don't receive the treatment. It's an especially important finding because a third of all cases of cerebral palsy are associated with preterm birth. The researchers believe that the treatment, intravenous magnesium sulfate, protects against the disease because it can stabilize blood vessels, protect against damage from oxygen

depletion and help prevent injury from swelling and inflammation. The causes of cerebral palsy, a group of neurological disorders affecting control of movement and posture and limiting activity, are not well understood. The new study is the largest effort of its kind to look at using this treatment to reduce the occurrence of cerebral palsy after preterm birth.

### Gene Abnormalities and Bipolar Disorder

In the largest genetic analysis of its kind to date for bipolar disorder, researchers supported in part by NIMH have implicated in the illness the machinery involved in the balance of sodium and calcium in brain cells. According to the study, published Aug. 17 in *Nature Genetics*, there is an association between bipolar disorder and the variation in two genes that make components of channels that manage the flow of the elements in and out of cells, including neurons. Though it's not yet known in what way the genetic variation could affect this balance machinery, the study's results point to the chance that bipolar disorder might stem in part from the malfunction of ion channels. Greater understanding of these kinds of gene abnormalities could provide hope to the millions of people with the disorder, researchers said.

### History Offers Pointers for Future Pandemic Planning

It wasn't just the flu's fault. According to a new study by NIAID researchers, the majority of deaths during the influenza pandemic of 1918 and 1919 were not caused by the influenza virus by itself, but by bacterial pneumonia following infection from the virus. Victims developed pneumonia when bacteria that normally inhabit the nose and throat entered the lungs along a pathway created by the virus. These conclusions, published in the Oct. 1 issue of the *Journal of Infectious Diseases* and available online now, mean that a future pandemic could unfold in a similar manner, the researchers said. They therefore suggest that preparation for pandemics should include stockpiling antibiotics and bacterial vaccines along with producing new or improved influenza vaccines and antiviral drugs.—compiled by Sarah Schmelling



An NIH study revealed that preterm infants born to mothers receiving a common treatment to delay labor are less likely to develop cerebral palsy than are preterm infants whose mothers don't receive the treatment.



The phone numbers for more information about the studies below are 1-866-444-2214 (TTY 1-866-411-1010) unless otherwise noted.

### Dry Mouth

Do you have dry mouth after treatment for head and neck cancer? Participate in an NIH clinical research study.

### Asthma Study

NIH is seeking adults 18-75 years old with asthma to participate in a research study. Compensation is provided.

### Allergies in Children

NIH Pediatric Clinic offers allergy and asthma care (ages 6 months to 18 years) and is also conducting an allergy and asthma study.

### Smart Pill

Healthy adults 18-60 are asked to consider participating in an NIH study testing a new method to measure gastric acid output. Compensation is provided.

### Pelvic Pain

Healthy women ages 30-50 are needed for a study that investigates the role of hormones and genes in pelvic pain and explores better approaches to treatment. Compensation is provided.

### Iron Overload

Do you have iron overload? Participate in an NIH research study. Compensation is provided.

### Neck Pain Study Needs Volunteers

Are you a healthy individual with or without neck pain? If you are between the ages of 18 and 65, you may be eligible to participate in an NIH neck pain study and receive a comprehensive cervical musculoskeletal examination without compensation. This is a 3-month natural history study, not a treatment study. For more information, email [neckpainstudy@gmail.com](mailto:neckpainstudy@gmail.com) or call (301) 496-4733. Refer to study 02-CC-0245.

### Personality Study Recruits

Volunteers are needed. Would you describe yourself as adventuresome, daring and impulsive? Or are you quiet, reserved and reflective? Learn more about this personality research study at [https://live.datstat.com/brain\\_and\\_personality](https://live.datstat.com/brain_and_personality) or call (301) 295-2288. Participants will be compensated.

### Four Appointed to NIAMS Council

Four new members recently joined the National Arthritis and Musculoskeletal and Skin Diseases Advisory Council. They are:

Dr. S. Wright Caughman, director of the Emory Clinic and the Emory Skin Diseases Research Center, executive associate dean for clinical affairs and the Alicia Leizman Stonecipher chair in the department of dermatology at Emory University School of Medicine. His research involves the study of molecular mechanisms involved in the regulation of gene expression of immunomodulatory proteins involved in skin inflammation.

Dr. John Klippel, president and chief executive officer of the Arthritis Foundation in Atlanta. Before joining the AF, Klippel served as clinical director of the NIAMS Intramural Research Program.

Ann Kunkel, education coordinator in pediatric rheumatology, co-coordinator of the Patient Partners Program and a research assistant in the rheumatology division at the University of Kansas Medical Center in Kansas City. She is a prominent volunteer for the national Arthritis Foundation.

Dr. H. Lee Sweeney, the William Maul Measey professor and chairman of the department of physiology, professor of medicine and professor of surgery at the University of Pennsylvania School of Medicine. His expertise is in cell biology and muscle biology, particularly myosin structure and function.



NIAMS director Dr. Stephen Katz (fourth from l) and acting deputy director Dr. Paul Plotz (fifth from l) welcome new members to the institute's council (from l) Dr. Wright Caughman, Ann Kunkel, Dr. John Klippel and Dr. Lee Sweeney.



## Employee Wellness Coming to the Forefront

A healthier workforce means a more productive workforce. The National Center for Research Resources is one of many ICs that recognize the importance of wellness. Recently, NCCR held a kick-off event for its staff, led by the newly created preemptive steps to promote efficiency and productivity (PEP) committee—aptly named by one of its employees. The event, held outside of its offices in Democracy I, consisted of free health materials, fitness activities, games and a few speeches. NCCR staff used the occasion to have fun while getting a little exercise with colleagues.

The event was a great start to NCCR's new wellness program. Still in its initial stages, the program is designed to increase employee physical activity, encourage the selection of healthy food and lifestyle choices and promote timely screenings for ailments such as heart disease, diabetes and cancer. The program, which also plans to provide staff with social networking opportunities and ways to contribute to charity, is part of an overall commitment to improve and enhance the quality of work life at NCCR. To make sure it is on the right track, the PEP committee is including staff in this process, so that it can ensure activities are tailored to the interests of NCCR employees.

“By providing opportunities for our employees to increase their knowledge and practice of preventive strategies, such as nutrition and exercise, we are showing the true value of the NIH mission,” said NCCR director Dr. Barbara Alving.

The kick-off was held with the help of Laura Lavrin of the NIH Recreation and Welfare Association and Dr. Rachel Permut-Levine of the National Heart, Lung, and Blood Institute. Lavrin, who serves as director of the NIH fitness centers, set up a table with material and information on membership and events. Greg Bartman, a martial arts instructor, described self-defense and kick-boxing classes that are available at the Rockledge Fitness Center. Permut-Levine, who is deputy

director of NHLBI's Office of Strategic and Innovative Programs, and her team provided support for the majority of health materials at the event, including a variety of HHS health promotion materials. NHLBI is a leader in worksite wellness at NIH and assists other ICs in starting up their own wellness outreach.

For information on how your IC can include health promotion activities for employees, contact Permut-Levine at [levinerac@mail.nih.gov](mailto:levinerac@mail.nih.gov). To learn how NCCR is implementing its wellness program, contact PEP committee chair Dr. Bonnie Dunn at [dunnbo@mail.nih.gov](mailto:dunnbo@mail.nih.gov).

*More than 50 NCCR employees and contractors participated in the recent wellness event.*

PHOTO: BILL BRANSON

## Flu Vaccine for NIH Employees Starts in October

The flu vaccine will be available to NIH employees free of charge, starting in October. Look for the upcoming schedule and locations at the Division of Safety web site <http://foiltheflu.nih.gov>. You must have an NIH employee badge to be vaccinated.

NIH has modified the flu vaccine requirements. Starting this year, flu vaccine is mandatory for all employees who have contact with Clinical Center patients. The medical executive committee approved the new requirement in February 2008. Those who are unable or unwilling to be vaccinated by OMS will be required to sign a declination form explaining their reason.

Despite evidence that vaccinating health care workers protects patients from influenza, the health care workforce has a surprisingly low rate of influenza vaccination. An emerging consensus among public health experts has led the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America to call for universal vaccination of health care workers. In an effort to promote patient safety and reduce the risk of hospital-based transmission of influenza, the Clinical Center has adopted this strategy. Health care workers with medical contraindications or religious or philosophical objections to vaccination will submit declination forms.

The influenza vaccine for the 2008-2009 season contains the following strains recommended by FDA's vaccines and related biological products advisory committee: A/Brisbane/59/2007 (H1N1)-like virus, A/Brisbane/10/2007 (H3N2)-like virus and B/Florida/4/2006-like virus.

If you have questions about the influenza vaccine, call the Clinical Center Hospital Epidemiology Service at (301) 496-2209.