



ABOVE • NIH's first Health and Wellness Expo put a variety of beneficial activities on display. See story on p. 12.

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nih record

Board Recommends Merger of NIDA, NIAAA

By Rich McManus

An advisory body to NIH director Dr. Francis Collins—the Scientific Management Review Board—voted 12-3 on Sept. 15 in favor of merging the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism.

Created by the NIH Reform Act of 2006 to look into optimizing NIH's structure, the SMRB has been wrestling since its inception with two major challenges: how to secure stable funding for the Clinical Center and make it a strong extramural collaborator in translational research, and whether to merge NIDA and NIAAA.

A subset of the board, the substance use, abuse and addiction working group, offered Collins two recommendations about the latter issue on Sept. 15: create a new addiction institute or fashion a new trans-NIH initiative on addiction that would leave NIDA and NIAAA intact. Such an initiative would be modeled on the current Neuroscience Blueprint involving multiple institutes, only far larger.

Working group chair Dr. William Roper, dean of the school of medicine at the University of North Carolina, told the board that "it is our unanimous conclusion that the status quo is not ideal." He pointed out that addiction research at NIH is currently scattered across almost all institutes and centers and that integration is necessary not just at NIDA and NIAAA.

SEE MERGER, PAGE 4

Pay Attention to Potential Tension

Grady Points Out Ethical Challenges Where Clinical Research, Practice Meet

By Carla Garnett

Clinical care and clinical research are not the same. Mostly around NIH we know this, but even the most seasoned medical research veterans can find themselves facing a potential ethics crash at the intersection of care and research. At a recent Grand Rounds for Clinical Fellows, Dr. Christine Grady, acting chief of the Clinical Center's department of bioethics, offered a crash course on preventing collisions.



Dr. Christine Grady

"There are strong reasons that clinical research and clinical care are distinct, and the reasons are very ethically significant," she began. That

SEE GRADY, PAGE 6

'We Have Unfinished Business'

Minority Health Center Now an Institute

Two decades of work to bring attention to the unequal burden of illness and death experienced by racial and ethnic minorities, rural and poor populations in this country has culminated in the creation of the National Institute on Minority Health and Health Disparities at NIH. The Patient Protection and Affordable Care Act (P.L. 111-148) also known as the health care reform law signed by President Obama on Mar. 23, 2010, re-designated the National Center on Minority Health and Health Disparities to an institute. The official re-designation was announced in the *Federal Register* on Sept. 13.

The law authorizes NIMHD to plan, coordinate, review and evaluate all minority health and health disparities research activities conducted and supported by the institutes and centers. It reaffirms the authority of the NIMHD director as the primary federal official with responsibility for coordinating all such activities. It also expands the eligibility criteria

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briefs

Annual CFC Kickoff Set for Oct. 7

Fall is approaching, which means it's time for the Combined Federal Campaign (CFC). The annual fundraising drive conducted by federal employees benefits thousands of not-for-profit charities. "The compassion of individuals, the power of community" is the 2010 NIH CFC theme. The goal this year is \$2.3 million. The NIH CFC, with the National Institute of Mental Health as the lead IC, is working hard to repeat the 2009 success.

The kickoff event will take place on Thursday, Oct. 7 from 10 a.m. to noon on the quad between Bldgs. 31 and 33.

Many more events are planned as well: Margartaville on Wednesday, Oct. 13 from 11 a.m. to 1 p.m., the Institute/Center Directors Jeopardy Challenge on Thursday, Oct. 28 from 10 to 11 a.m., an R&W Halloween party on Friday, Oct. 29 from 11 a.m. to 1 p.m. and Farmer's Market on Tuesday, Nov. 9 from 11 a.m. to 1 p.m. The traditional conclusion of the campaign—the R&W raffle drawing—will occur on Friday, Dec. 17.

All are encouraged to experience the pleasure of donating to the charity of your choice. Join your fellow NIH workers in celebrating the compassion of caring. Let the giving begin!

Nirenberg To Be Honored at Festival

This year's NIH Research Festival will include a "Symposium in Neurobiology: A Tribute to Marshall W. Nirenberg." It will be held on Friday, Oct. 8 from 8:30 a.m. to 12:30 p.m. in Masur Auditorium, Bldg. 10. Later that day, from 2 to 4 p.m., there will be a memorial service in Lipsett Amphitheater.

Nirenberg died of cancer on Jan. 15, 2010, at age 82. His work on cracking and deciphering the genetic code and demonstrating its universality was honored with the 1968 Nobel Prize in physiology or medicine. Of the more than 50 years Nirenberg spent working as an NIH scientist, more than 40 years were devoted to research in neuroscience.

The symposium will feature talks by prominent neuroscientists who trained in his laboratory as well as colleagues who share his passion and efforts to understand the biological basis underlying the development and function of the nervous system. After the symposium, the memorial will commemorate a "titan" of science. An informal reception will follow at the Cloister and is open to all.

Zeisel To Give Falk Memorial Lecture

Dr. Steven Zeisel will present the annual Hans L. Falk Memorial Lecture on Monday, Oct. 4 at NIEHS's Rodbell Auditorium in Research Triangle Park, N.C. His topic is "Nutrigenomics, Estrogen, and Environmental Chemicals Influence the Dietary Requirement for Choline."



Zeisel is Kenan distinguished university professor in the department of nutrition and pediatrics at the University of North Carolina Gillings School of Global Public Health and UNC School of Medicine as well as director of the UNC Nutrition Research Institute in Kannapolis, N.C. He serves as principal investigator on multiple federally funded research projects that focus on human nutrition research and specifically on human requirements for choline.

Using new approaches in nutrigenomics and metabolomics in studies of humans, mice and cells, Zeisel's group is working to identify the mechanisms underlying individual nutritional variations and needs. Zeisel is credited with discovering the role of choline as a dietary methyl donor and essential nutrient and he has studied its need by women during pregnancy. His team showed that choline influences epigenetic modulation during fetal development. As an essential nutrient, it is also needed for healthy muscle and liver function.

NIH Camera Club Holds Contest

The annual open competition of the NIH Camera Club will take place on Tuesday, Oct. 12 at 7 p.m. at the Classic Residence by Hyatt, 8100 Connecticut Ave., Chevy Chase.

Categories include monochrome prints, color prints, color slides and digital images. Entry fee is \$2 per image and individuals may enter up to 3 images in each category. There will be cash prizes for the winning images. Instructions for submission can be found at www.nihcameraclub.com. For more information, contact Susanne Strickland at sandcstrick355@verizon.net.

NIH To Launch Gulf Oil Spill Health Study

NIH will launch a multi-year study this fall to look at the potential health effects from the oil spill in the Gulf region. The Gulf Worker Study, announced by NIH director Dr. Francis Collins in June, is a response to the largest oil spill in U.S. history. Collins pledged \$10 million in NIH funding for the study's initial phases and asked the National Institute of Environmental Health Sciences to lead the research project.

To help expedite the launch of the study, oil company BP will contribute an additional \$10 million to NIH for this and other health research. NIH will have full autonomy regarding the distribution of the \$10 million, with input from external scientific experts in environmental health who are familiar with the Gulf region.

"It was clear to us that we need to begin immediately studying the health of the workers most directly involved in responding to this crisis," said Collins.

The study will focus on workers' exposure to oil and dispersant products and potential health conse-

quences such as respiratory, neurobehavioral, carcinogenic and immunological conditions. The study is also expected to evaluate mental health concerns and other oil spill-related stressors.

"Cleanup workers are likely to be the most heavily exposed of all population groups in the Gulf Coast region," said Dr. Dale Sandler, chief of the NIEHS Epidemiology Branch and lead researcher on the study. "What we learn from this study may help us prepare for future incidents that put cleanup workers at risk."

The current focus of NIEHS is to ensure that the Gulf communities most affected by the oil spill have a say in the study's design and implementation, as well as input into future research directions. NIEHS is hosting webinars and other community engagement activities to obtain input.

"Community involvement and participation is critical to the success of this study," said NIEHS director Dr. Linda Birnbaum.

NIH and the Department of Health and Human



Dr. Dale Sandler will lead the first health study of its kind on a major oil spill in U.S. waters.

PHOTO: STEVE MCCAWE

Services have had a continuous presence in the Gulf since the explosion occurred. The NIEHS Worker Education and Training Program contributed to training more than 100,000 workers in the Gulf and distributed thousands of pocket-sized training booklets in English, Spanish and Vietnamese.—Robin Mackar



Dr. Anthony Fauci (r) and Dr. Erik De Clercq receive the 2010 Dr. Paul Janssen Award for Biomedical Research.

Fauci Wins 2010 Janssen Award

NIAID director Dr. Anthony Fauci has been named a co-recipient of the 2010 Dr. Paul Janssen Award for Biomedical Research. The award was established in 2004 by pharmaceutical company Johnson & Johnson to salute the most passionate and creative scientists in basic or clinical research whose scientific achievements have made a measurable impact on human health. Fauci was selected for his pioneering work in understanding and combating viral diseases, particularly HIV/AIDS.

"It's wonderful to do impactful, meaningful work that you love," Fauci said. "While we should be proud of the many scientific advances that have been made in the fight against HIV/AIDS, we know that in many respects, our work is just beginning. Developing HIV interventions and delivering them to the people who need them will require scientific and public health vision, and dedication from all sectors of society."

"NIH is extremely proud to see Dr. Fauci's outstanding record of scientific achievement recognized in this way," said NIH director Dr. Francis Collins. "I cannot think of a better person to receive this honor, which salutes researchers whose work has had a truly transformative impact on human health."

Fauci shared the award with fellow researcher Dr. Erik De Clercq, professor emeritus at the Rega Institute for Medical Research in Leuven, Belgium. Fauci declined his portion of the award's \$100,000 prize to comply with government ethics rules. Johnson & Johnson will donate his portion to two organizations: Partners In Health, an international non-governmental organization dedicated to delivering quality health care to people and communities devastated by the joint burdens of poverty and disease, and Us Helping Us, People Into Living, Inc., one of the largest nonprofit black AIDS organizations in metropolitan Washington, D.C.

MERGER

CONTINUED FROM PAGE 1

Regardless of whether NIH pursues options deemed “structural” (merger) or “functional,” Roper said NIH would need to undergo “a cultural shift.”

Roper said his 8-person working group “was split, on a good day, right down the middle,” with 4 preferring merger and 4 favoring functional integration. He said he personally believed that Collins should not pursue a merger at this time, given other important issues begging the director’s attention, and asked, “Is the juice worth the squeeze right now?”

Said Dr. Deborah Powell, dean emeritus at the University of Minnesota Medical School, “I don’t think a functional merger would work... This is a major, major enterprise, much larger than the Neuroscience Blueprint. For me, it’s time to do something definitive, and which offers more benefit to the public, rather than just tweaking around the edges.”

Former NASA administrator Dr. Daniel Goldin warned that the functional option depended too much on good intentions unbuttressed by institutional authority: “Unless this agency shows a little backbone and leadership, no change will occur. You can’t address the problem of addiction and manage a \$3 billion or \$4 billion budget on good will.”

Collins acknowledged the knottiness of the issue. “This is not as simple a decision as it might have first appeared,” he said. He noted that the NIDA council was unanimously in favor of merger while the NIAAA council unanimously opposed it. “I’m not prepared to give a decision, but I have all I need to do so in the fairly near future.”

Six members of the public were then invited to comment; most had ties to research on alcohol and all opposed the merger.

Then came a two-part vote of the full board. The SMRB unanimously approved a motion to accept the working group’s two recommendations to Collins, then Varmus, seconded by Goldin, moved to create “a new institute of addiction research.”

NIGMS director Dr. Jeremy Berg interjected that the new entity should also include substance use and abuse somewhere in the title, and the historic vote was cast.

Concluded Collins, “It feels like we’re living through a bit of a Shakespearean play here, with many acts. I think we got to the climax today.” He said it was up to him to bring the climax to “a worthwhile conclusion.”

The NIH director can, with the concurrence of the HHS secretary, create a new NIH institute. However a variety of procedural hurdles remain once Collins makes his decision, including a public comment period and the formal abolishment of the preceding entities before establishing a new one. ●

“The reasons for non-merger are not there... it is much cleaner and simpler to merge the two institutes.”

But the SMRB was not inclined to let the matter languish. Led principally by NCI director Dr. Harold Varmus, the pro-merger faction decided not simply to pass Roper’s two options on to Collins for eventual decision, but to call the question right then and there with a show of hands.

During a brief debate that Roper said characterized virtually all discussions of the issue, informed voices defended both options in persuasive terms.

Dr. William Brody, president of the Salk Institute for Biological Studies and former president of Johns Hopkins University, favored the functional approach, calling it a “slam dunk... If it works, great, and if it doesn’t, we can pursue the nuclear option.”

Varmus objected to what he called “temporizing” and expressed impatience with “less-than-halfway measures and functional Band-Aids. It’s time to do the right thing.”

Dr. Thomas Kelly, director of the Sloan-Kettering Institute, also opposed a functional merger: “I view it as postponing the decision.”

Dr. Huda Zoghbi, professor at Baylor College of Medicine, said, “The reasons for non-merger are not there... it is much cleaner and simpler to merge the two institutes.”

Working group member Dr. Richard Hodes, director of the National Institute on Aging, observed that, at the outset of their deliberations, the group was 6-2 in favor of non-merger. But that viewpoint eroded over time.



Tougaloo College Students Enjoy Annual NIH Visit

Future epidemiologists and public health professionals from Tougaloo College toured campus in August as part of an education and training program sponsored by NHLBI's Jackson Heart Study (JHS). The decade-long population study, based in Jackson, Miss., is the largest single-site effort ever undertaken to examine cardiovascular disease among African Americans.

NHLBI acting director Dr. Susan Shurin welcomed the students to their 2-day tour. She touched on her own career trajectory—from working with patients as a pediatric hematologist-oncologist to serving as acting director of NHLBI—and how it shaped her life experiences. Shurin also underscored the importance of taking on new endeavors and challenging oneself.

"It's important to nurture the next generation of investigators," she said. "You have so many opportunities ahead of you, and we are thrilled to offer our insight and guidance as you pursue your own careers in the field of biomedical science."

Tougaloo College is home of the NHLBI-supported Jackson Heart Study Education and Training Program. The program trains high school and college students and health professionals in public health and epidemiology. Many of the scholars selected to be part of the training program were familiar with the JHS prior to attending Tougaloo, which helped spur their interest in research and medicine. The annual Tougaloo-NIH visit is supported by NHLBI's Office of Research Training and Minority Health and is a highlight for the staff there.

From exploring the Clinical Center to learning about research training opportunities, the students gained a unique perspective on day-to-day operations on campus. Dr. Joel Moss, deputy chief of NHLBI's Translational Medicine Branch, guided the students through the CC, including patient care units and research laboratories.

"I enjoyed learning about the various institutes and centers at the NIH because it gave me a better understanding of the work that is conducted here," said scholar Mohamed Mohamed, a chemistry and political science major. "When Dr. Moss discussed the research on lymphangiomyomatosis cells, it made me understand why it's important to have a strong research background."

On the second day of the visit, students toured the Laboratory of Animal Medicine and Surgery with lab chief Dr. Robert Hoyt and other lab members. Prior to the tour, a panel of NHLBI interns—Maung-Tin Kyaw, David Osei-Hwedieh, Abiola Oki, Claire Liepmann and Joseph Nam—discussed their experiences in different laboratories. They encouraged the students to apply for internships early in their undergraduate education.

Scholar Andrea Haynes stressed the importance of visiting NIH as part of the JHS training program. "Public health is a major issue that needs more attention," she said. "This was my first time at the NIH campus and it was exciting to be in a different environment—there are so many opportunities here that I can pursue."

In September, the JHS celebrated its 10th anniversary with a scientific conference, "Toward Resolution of Cardiovascular Health Disparities." It brought together members of the JHS and scientific community to mark the study's biomedical and historic significance and also highlighted the JHS Scholars Program.



Left:

On hand for the visit from Tougaloo College students were (front row, from l) Dr. Chitra Krishnamurti, deputy director, Office of Research Training and Minority Health (ORTMH); Dr. Helena Mishoe, director, ORTMH; Andrea Haynes; Dr. Susan Shurin, acting director, NHLBI; Joshua Ware, Fatissa Allen, Tougaloo College math professor; and Calvin Jackson, chief, News Media Branch, OCPL, OD. In the middle row are (from l) Nara Gavini, ORTMH; Morgan Woerner, NHLBI OC; Curtis Haynes, Mohamed Mohamed, Shani Butler, LeBroderick Woods and Dr. Nimr Fahmy, Tougaloo College math professor. At rear are (from l) Jamal Perkins, Ahmed Abdelraham, Joy Walker, Hadassah Willett, Lareka Brown and Elizabeth Jones.

Below:

Dr. Robert Hoyt (l) of NHLBI's Laboratory of Animal Medicine and Surgery takes students on a tour of his lab.

GRADY

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doesn't mean there's no overlap between the two, but each has its own goals, methods, justifications for risks and levels of uncertainty.

Distinct, Not Mutually Exclusive

"The goal of clinical practice is to provide personal or individualized care to people...to benefit them, to improve their condition in some way," Grady said. "This is distinct from the goal of clinical research, which is to produce useful knowledge through systematic investigation about human health and illness for the benefit of future patients."

That's not to say that individuals don't benefit from clinical research, because they often do, she pointed out. However, "the goal...is not to benefit the individuals who are in it."

Another area where the two part ways: Research uses different methods than care. Randomizing treatments, double-blinding and placebos, for example, are all typical in research, but not what you want to encounter in a standard care environment.

"It would be very unusual—perhaps even unacceptable—to walk into a physician's office for treatment and have the doctor say, 'I'm going to flip a coin to decide what to give you today for your condition' or 'I'm going to give you a drug but I don't know which one it is,'" Grady said. "Yet these are common methods in clinical research."

In clinical care, treatment decisions are based on what is known through evidence and experience, Grady said. That's very different from clinical research, where scientists have a hypothesis they are attempting to prove.

"In clinical research," she stressed, "the starting point is uncertainty. You don't do a research project if you already know the answer to it. The investigator asks a question to decrease the uncertainty, to gather knowledge about what's safe or what works or what happens physiologically."

Competing Commitments Meaningful

So, why do the differences matter?

"It's critically important—and ethically important—to recognize the distinctions between clinical care and clinical research in order to

negotiate the tensions inherent and inevitable in conducting" either, and particularly when one individual has dual roles as care provider and investigator, Grady explained.

If "competing commitments" are not recognized and managed, she argued, they become distractions that can affect study design, recruitment and other procedures.

"Clinicians are worried about referring their patients to clinical studies because they don't like randomization or they're afraid that their

"In clinical research, the starting point is uncertainty. You don't do a research project if you already know the answer to it."

patient will not benefit from the study," she acknowledged.

According to a 2009 study published in *IRB: Ethics and Human Research* by Charles Lidz and colleagues, 70 percent of 780 physicians and nurses surveyed said that at least once they did not refer an eligible patient for a study because it did not appear that the patient would benefit. In addition, 90 percent thought ignoring a minor entry requirement was okay if they felt a patient would benefit from being in the study.

In the first instance, study recruitment could suffer. In the second, study data would be skewed.

Coming to Terms

Citing a 2003 *New England Journal of Medicine* paper by Rosenstein and Miller, she described therapeutic orientation—approaching clinical research through the lens of clinical care without appreciating the distinction—as one source of ethical tensions in research.

"Conflating the ethics of clinical care and research can result in problems in recruitment, determining eligibility, informed consent, monitoring of participants during a trial, dose modifications and withdrawal from a research study," she noted, providing examples of each. One example is the tension a physician with a therapeutic orientation may experience over giving one patient the trial drug, which the doctor-turned-researcher believes will help the patient's condition, and giving another patient a placebo. Clinical equipoise, a phrase coined in 1987 by Canadian scientist Dr. Benjamin Freedman and adopted widely by the biomedical research community since then, deals with that dilemma.

Grady said Freedman reasoned that an individual scientist who wants to compare two therapies in a



Grady made a strong case for would-be investigators—and everyone else in the clinical research setting, from study designers to study protocol recruiters to referring physicians to nurses—to consider the various built-in competing ethics forces involved with conducting clinical research and providing clinical care.

PHOTOS: BILL BRANSON

randomized clinical trial can do so if there is genuine uncertainty among other authorities in the field that neither therapy is better than the other. “But clinical equipoise assumes a therapeutic orientation, does not take into consideration the value of the research and provides little direction for critical questions such as statistical design and when to stop the research,” Grady pointed out.

Communication Key to Navigating Perceptions

In her hour-long presentation, followed by a Q&A period, Grady made a strong case for would-be investigators—and everyone else in the clinical research setting, from study designers to study protocol recruiters to referring physicians to nurses—to consider the various built-in competing ethics forces involved with conducting clinical research and providing clinical care.

“Clinical research is socially valuable but ethically challenging,” she said in conclusion. “Ethical clinical research requires balancing rigorous science and protection of research participants” as well as “clarity about how clinical research differs from clinical care.”

Grady recommended “education and support of investigators, clinicians and related others regarding the differences between research and care as well as strategies for managing the tensions, thoughtful oversight of clinical research and greater transparency for research participants.”

To view the full lecture online, go to Past Events at <http://videocast.nih.gov/>.

Physician Assistants Mark 45th Anniversary

National Physician Assistant (PA) Week is coming Oct. 6-12. Trained in the medical school model by physicians since 1965, PAs are licensed to practice medicine. They work with physician supervision to deliver a range of medical and surgical services to diverse patient populations. PAs have been providing patient care at NIH since 1990 in a wide range of medical disciplines including HIV, infectious and autoimmune diseases, cancer, transplant medicine and more.

In the U.S. today, there are more than 78,000 PAs employed in general internal medicine and its subspecialties. Within the physician-PA relationship, PAs exercise autonomy in medical decisionmaking and provide a range of diagnostic and therapeutic services including performing history and physical exams, diagnosing and treating illnesses, ordering and interpreting tests, prescribing medication, assisting in surgery, counseling and empowering patients on preventative health care. PA practice also includes education, research and administrative roles. To learn more about the profession, visit www.aapa.org.



Three new IRG chiefs at the Center for Scientific Review are (from l) Dr. Katherine Malinda, Dr. Valerie Durrant and Dr. Robert Freund.

CSR Appoints Chiefs for Three IRGs

The Center for Scientific Review recently named three new chiefs of integrated review groups (IRGs).

Dr. Katherine Malinda is chief of the vascular and hematology IRG. She had most recently been deputy chief of NHLBI’s blood and vascular scientific review group.

Malinda has coordinated reviews in the areas of blood and vascular diseases and complications, proteomics and genomics. As a researcher, she was a developmental cell biologist with expertise in cell migration, cell-matrix interactions, angiogenesis, anti-angiogenesis and wound healing.

Malinda has worked at NIH for a total of 13 years. After receiving her Ph.D. from Carnegie Mellon University in 1995, she was awarded a postdoctoral training fellowship to work at NIDCR. She later served as a staff scientist for NINR and NIDCR. Prior to coming to NHLBI, she was at EntreMed, Inc., in Rockville, where she was involved in anti-angiogenic/angiogenic assay development to screen and identify potential drug candidates.

Dr. Valerie Durrant is new chief of CSR’s population sciences and epidemiology IRG. She will also continue serving as scientific review officer for the infectious diseases, reproductive health, asthma and pulmonary conditions study section.

During part of her tenure at CSR, Durrant served as a program officer at NICHD. Before coming to NIH, she was a program officer at the National Academies’ committee on population, where she directed studies on the transition from childhood to adulthood in developing countries, on leveraging longitudinal data in developing countries and on the economic benefits of investing in youth in developing countries.

She received a Ph.D. in sociology with an emphasis in demography from the University of Maryland.

Dr. Robert Freund is new chief of the AIDS and AIDS-related research IRG. He earned his Ph.D. at Harvard University and conducted postdoctoral studies at Harvard Medical School.

Before coming to CSR, he was at the University of Maryland School of Medicine as an assistant professor in the department of microbiology and immunology. His research involved studying the mechanism of tumor induction using the mouse DNA tumor virus polyomavirus and dysregulation of signal transduction and the cell cycle in oncogenesis. He organized the virology section of the medical school microbiology course and taught graduate courses in virology and signal transduction.

NIMHD

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of the NIMHD Research Endowment program to include active NIMHD Centers of Excellence. In addition, it transfers all of the responsibilities of NCMHD to the new institute. This includes coordinating development of the NIH health disparities strategic plan and budget.

“We have created a strong foundation to address health disparities, and have made some progress, but we have unfinished business. We have to reexamine our strategy and accelerate the pace through innovative, sustainable and results-oriented approaches.”

“I want to congratulate [NIMHD director] Dr. [John] Ruffin and his staff on the center becoming an institute,” said NIH director Dr. Francis Collins. “This change by Congress reflects the importance of studying the issue of health disparities with an even greater intensity. We need to learn much more about what causes disparities—including the role of society, the environment, genes and socioeconomic—and to find effective ways of overcoming or changing them. Our discoveries should translate into health benefits for everyone.”

Ruffin has been the driving force, since 1990, behind NIH efforts to address minority health and health disparities in a coordinated way. He joined NIH as associate director for minority programs, overseeing the Office of Minority Programs in the Office of the NIH Director. The office transitioned to the Office of Research on Minority Health through the NIH Revitalization Act of 1993, and to NCMHD as a result of the Minority Health and Health Disparities Research and Education Act of 2000.

“We have created a strong foundation to address health disparities, and have made some progress, but we have unfinished business,” said Ruffin. “We have to reexamine our strategy and accelerate the pace through innovative, sustainable and results-oriented approaches.”

In spite of having a budget of approximately \$211 million and a current staff of 35, NIMHD has been successful due to a tradition of collaboration and partnerships. It has worked with all of the ICs since its days as an office, as well as other federal agencies across HHS and beyond to support hundreds of research, training, research infrastructure and outreach projects.

“We will strengthen our partnership base and

build upon lessons learned to establish an integrated research enterprise to address the complexity of health disparities,” Ruffin said.

NIMHD funding has been vital to the work being done by other ICs to address minority health and health disparities including NHLBI’s Jackson Heart Study, NIEHS’s Sister Study, NIAMS’s Osteoarthritis Initiative, NIDCR’s Oral Health Disparities Research Centers, NIGMS’s Bridges to the Future program, NIA’s Research Centers on Minority Aging Research and NIDDK’s ASSK Study.

Through its own programs, NIMHD’s reach stretches across all 50 states and beyond U.S. borders to more than 50 countries where undergraduate and graduate students participate in research training each year and U.S. territories where ongoing multidisciplinary research is taking place.

NIMHD, through its predecessor NCMHD, has supported the training of more than 2,000 health professionals in 49 states through loan repayment awards; funded more than 88 Centers of Excellence around the nation to conduct research on health disparities; assisted academic institutions in developing their capacity to conduct research with an emphasis on health disparities; introduced community-based participatory research to the scientific community as a viable approach to studying health disparities and engaged the community’s involvement in all aspects of research.

NCMHD organized and sponsored the NIH Science of Eliminating Health Disparities summit in 2008 to review the state of health disparities research. In 2009, it launched its Intramural Research Program and its career transition award program, which aims to retain its loan repayment program recipients in health disparities research and prepare them to become independent investigators. Recent initiatives on the social determinants of health, faith-based approaches to health disparities, bioethics research infrastructure and comparative effectiveness research point to the new institute’s readiness to confront fresh challenges. ●



Can stroking whiskers prevent stroke? Serendipitous finding provokes new line of study.

Saved By a Whisker

Facial Stimulation Prevents Stroke in Rodents

By Jan Ehrman

It may sound more like science fiction than a carefully controlled scientific protocol, but research indicates that stimulating just one facial whisker of a lab rodent for less than 5 minutes, promptly after blockage of a critical brain artery, can prevent impending stroke. If these findings, reported by scientists supported by the National Institute of Neurological Disorders and Stroke, can be replicated in humans using similar means, it could offer an easy-to-deliver treatment for thwarting cerebrovascular disease, the third leading cause of death in the U.S. and the number one cause of long-term disability.

Researchers and other medical experts have long sought ways to prevent or limit brain damage due to stroke, since its effects can be so life-shattering. Stroke occurs when blood flow to the brain is suddenly interrupted or when a cerebral blood vessel bursts, causing critical brain cells to die. More than 780,000 cerebrovascular accidents (CVAs) or strokes occur yearly, according to NINDS, often leaving patients with symptoms such as paralysis, walking difficulties, memory impairment or blindness, along with other physical, behavioral and intellectual maladies. Further, some 25 percent of adults who do recover experience another stroke within 5 years, NINDS reports. More than 137,000 men and women succumb to the brain event annually.

Dr. Ron Frostig, professor of neurobiology and behavior at the University of California at Irvine and his colleagues conducted research using sensory stimulation in lab rodents in which blood flow in one of the brain's major arteries was entirely cut off.

“What we found, in somewhat of a serendipitous manner, was that when we stroked a facial whisker of a rat for just a few minutes, this signaled a redirection of the blood flow from adja-

cent cortical arteries directly to the artery that was experimentally blocked,” said Frostig. This result, a resumption of blood flow in a reverse direction within the blood-deprived artery, as seen via non-invasive brain imaging, was demonstrated in 100 percent of rodents tested—including both younger (age 3-4 months) and older (22 months) rats.

As reported in the June 2010 issue of *PLoS One*, the investigators demonstrated further that timing of the intervention—during a “window of treatment opportunity”—was paramount. More specifically, brain injury was consistently averted when the facial stroking occurred immediately or very shortly (up to 2 hours) after a stroke would have occurred.

“On the other hand, when the identical stimulation was applied after a 3-hour interval, the end results proved worse (in terms of stroke magnitude) than if no treatment at all was applied,” Frostig noted. The timing correlates well with the current clinical approach for treating some stroke patients: giving tissue plasminogen activator, in best instances, within a few hours (less than 3 hours) of the stroke's occurrence. This theoretically prevents brain tissue death and its sequela.

Can these findings be currently translated to humans? Not yet, says Frostig. He said it's important to remember that his lab animals are maintained in carefully controlled environments. “But what is exciting is that we've learned that the human vascular system that leads blood to the cortex is basically the same for both rodents and humans, so the stimulation concept certainly raises a level of excitement and warrants further investigation.”

He added, “What we know is that a person's fingers correlate, on a neurological basis, with the whiskers of a rodent, so, theoretically at least, rubbing a person's fingers could perhaps elicit the same brain-preserving effect.”

What Frostig envisions, if the findings hold true in humans, is a simple way for emergency medical technicians or other first responders to rapidly apply the brain-stimulating procedure to a person who appears to be having a stroke. By so doing, one might be able to treat the victim long before he or she reaches the emergency room.

The researchers point out that their latest protocol applies to the most common type of CVA, an ischemic stroke, blockage of a blood vessel that normally transports oxygen-rich blood into the brain. Additional research by Frostig's team will see if findings can be reproduced in hemorrhagic stroke, which entails bleeding into or around the brain. ●

Science and Engineering Festival Needs Volunteers

On Oct. 23-24, NIH will join more than 400 of the nation's leading science and engineering organizations in a 2-day celebration of science for families on the National Mall and on Freedom Plaza in downtown Washington, D.C. The event is designed to provide fun and interactive science activities for kids of all ages and their families. Many ICs and NIH staff will host hands-on activities to stimulate interest in a range of topics that include science careers, the brain, clinical research, nanotechnology and imaging.

Bring your family to exhibit booths, see NIH director Dr. Francis Collins on the main stage on Sunday or consider volunteering. NIH'ers are needed to help set up, provide logistical support and take down exhibits. The festival is free, open to the public and includes contests, exhibits and other events. For more information about the USA Science and Engineering Festival, visit www.usasciencefestival.org/index.php. For more information about serving as a volunteer, visit <http://science.education.nih.gov/SciFest-Volunteers>.

Mild Cognitive Impairment More Common in Older Men Than Older Women

Older men may be at risk of developing mild cognitive impairment (MCI), often a precursor to Alzheimer's disease, earlier in life than older women, according to a study that appeared Sept. 7 in *Neurology*.

Primarily funded by the National Institute on Aging, the study raises the question of whether there may be a gender difference in the development and progression of MCI.

The researchers conducted in-person evaluations of 1,969 randomly selected people from all 70- to 89-year-olds living in Olmsted County, Minn.

Scientists evaluated the cognitive health of dementia-free older people and found 16 percent showed signs of MCI, a condition usually marked by memory problems or other cognitive problems greater than those expected for their age. Prevalence was greater among the older participants and it was consistently higher in men than women across all age ranges.

"Because evidence indicates that Alzheimer's disease may cause changes in the brain one or two decades before the first symptoms appear, there is intense interest in investigating MCI and the earliest stages of cognitive decline," said NIA director Dr. Richard Hodes. "While more research is needed, these findings indicate that we may want to investigate differences in the way men and women develop MCI, similar to the way stroke and cardiovascular disease risk factors and outcomes vary between the sexes."

NIH-Sponsored Research Yields Promising Malaria Drug Candidate

A chemical that rid mice of malaria-causing parasites after a single oral dose may eventually become a new malaria drug if further tests in animals and people uphold the promise of early findings. The compound, NITD609, was developed by an international team of researchers including Dr. Elizabeth A. Winzeler, a grantee of the National Institute of Allergy and Infectious Diseases. Results were reported in the Sept. 3 issue of *Science*.

"Although significant progress has been made

in controlling malaria, the disease still kills nearly 1 million people every year, mostly infants and young children," said NIAID director Dr. Anthony Fauci. "It has been more than a decade since the last new class of antimalarials—artemisinins—began to be widely used throughout the world. The rise of drug-resistant malaria parasites further underscores the need for novel malaria therapies.

"The compound developed and tested by Dr. Winzeler and her colleagues appears to target a parasite protein not attacked by any existing malaria drug, and has several other desirable features," added Fauci. "This research is also a notable example of successful collaboration between government-supported scientists and private sector researchers."

Work on what eventually became NITD609 began in Winzeler's lab in 2007. Scientists screened 12,000 chemicals using an ultra-high throughput robotic screening technique customized to detect compounds active against *Plasmodium falciparum*, the most deadly malaria parasite. The screen identified a chemical with good parasite-killing abilities and the potential to be modified into a drug.

NIH Study Shows How Insulin Stimulates Fat Cells To Take in Glucose

Using high-resolution microscopy, researchers at NIH have shown how insulin prompts fat cells to take in glucose in a rat model. The findings were reported in the Sept. 8 issue of the journal *Cell Metabolism*.

By studying the surface of healthy, live fat cells in rats, researchers were able to understand the process by which cells take in glucose. Next, they plan to observe the fat cells of people with varying degrees of insulin sensitivity, including insulin resistance—considered a precursor to type 2 diabetes. These observations may help identify the interval when someone becomes at risk for developing diabetes.

"What we're doing here is actually trying to understand how glucose transporter proteins called GLUT4 work in normal, insulin-sensitive cells," said Dr. Karin Stenkula, a researcher at the National Institute of Diabetes and Digestive and Kidney Diseases and a lead author of the paper. "With an understanding of how these transporters in fat cells respond to insulin, we could detect the differences between an insulin-sensitive cell and an insulin-resistant cell, to learn how the response becomes impaired. We hope to identify when a person becomes pre-diabetic, before they go on to develop diabetes."



A promising new malaria drug candidate offers hope as a treatment for a disease that kills almost 1 million people a year, mostly youngsters.



milestones



Nutrition Scientist Picciano Mourned

Dr. Mary Frances Picciano, senior nutrition research scientist in the Office of Dietary Supplements, died Aug. 29 after a battle with cancer.

“Mary Frances was that remarkable combination of gifted scientist, com-

mitted teacher and beautiful person whom you meet only now and then,” said ODS director Dr. Paul Coates. “She was always a strong proponent of bringing the best science to bear on our work and nowhere was this more evident than with vitamin D.”

Picciano first came to ODS in 1999 as a visiting scientist then rejoined in 2001 as a senior research scientist and director of the Training and Career Development Program. Among her innovations was creation of an ODS Research Seminar Series as well as the Dietary Supplement Research Practicum, a 5-day annual course to provide fundamental scientific knowledge of dietary supplements to academicians and their advanced students. Picciano also directed the ODS Vitamin D Initiative, a comprehensive, multifaceted effort to synthesize available research on this nutrient, identify research needs and challenges and evaluate their application to public health policy. Earlier this year, she received the NIH Director’s Award “in recognition of exceptional leadership resulting in a broader understanding of vitamin D that will benefit the public health.”

During her career, Picciano collaborated with dozens of investigators on scientific projects covering a range of human nutrition science from basic studies through human clinical trials. According to Dr. Johanna Dwyer, senior scientist at ODS and a long-time friend and colleague, “Mary Frances was remarkably bright and generous, yet intellectually humble in spite of her encyclopedic knowledge of the field, and a great joy to work with.”

Prior to joining ODS, Picciano was a professor of nutrition at Pennsylvania State University and, earlier, professor of nutrition in medicine at the University of Illinois at Urbana-Champaign. Her research interests emphasized nutrition and dietary requirements for pregnant women, infants and chil-

dren. She was a member of several professional organizations, numerous advisory boards and review panels and on the editorial boards of four journals.

Picciano co-authored the textbook *Human Nutrition* and co-edited two other books. She served on the National Academy of Sciences’ subcommittee on nutrition during lactation and was president of the International Society for Research in Human Milk and Lactation (ISRHML).

Picciano was especially proud of opportunities to mentor graduate students. Among her protégés is Dr. Regan Bailey, now a nutritional epidemiologist at ODS. “Mary Frances was one of a kind,” remembers Bailey. “As a mentor, she not only imparted her scientific influence but also was a supportive, nurturing friend willing to go the extra mile to help. She worked tirelessly to promote learning opportunities for young scientists.”

Earlier this year, Picciano received the David Kritchevsky Career Achievement Award in Nutrition from the American Society for Nutrition “in recognition of an outstanding career in nutrition.” She was also awarded the 2010 Macy-Gyorgy Award from ISRHML for “outstanding, original scientific contributions to the study of human milk and lactation.”

She is survived by her husband, Dr. John Milner, chief of the nutritional science research group, Division of Cancer Prevention, NCI, and her daughter, son, mother and two brothers.



NIGMS director Dr. Jeremy Berg receives public service award from Dr. Suzanne Pfeffer, president of ASBMB.

NIGMS Director Berg Receives Public Service Award

NIGMS director Dr. Jeremy Berg is the recipient of the 2011 Howard K. Schachman Public Service Award from the American Society for Biochemistry and Molecular Biology (ASBMB). The annual award recognizes exemplary dedication to public service in support of biomedical science. The award is named after the eminent scientist who chaired ASBMB’s public affairs advisory committee from 1989-2000.

Berg was cited for his tireless support of investigator-initiated, fundamental research and for his outreach efforts to the scientific community. Previous winners of the Schachman award include Sens. Arlen Specter and Tom Harkin; former Reps. John Porter and Robert Michel; Dr. Ruth Kirschstein; philanthropist John Whitehead; and the Research!America organization.

Berg received the award at an ASBMB public affairs advisory committee meeting in Arlington, Va., on Sept. 20.



Cell Biologist Ainsztein Moves to NIGMS

Dr. Alexandra Ainsztein recently joined NIGMS as a program director in the Division of Cell Biology and Biophysics. She is managing research grants related to membrane trafficking, the molecular mechanisms and dynamics of the secretory pathway and organelle biogenesis. She will also be involved with PSI:BiologY, the new phase of the NIGMS Protein Structure Initiative. Before joining the institute, Ainsztein served as a scientific review officer in CSR. She earned a B.A. in biochemistry from Brandeis University and a Ph.D. in biochemistry and molecular biology from the University of Florida, then did postdoctoral research in cell biology at Johns Hopkins University, the University of Edinburgh and NICHD.

NIH Holds First Health, Wellness Expo

The inaugural NIH Health and Wellness Expo held Sept. 8 in the Natcher Conference Center showcased a wide range of services and information from more than 18 institutes and offered NIH'ers plenty of chances to try out new ways to get fit.

Representatives from the R&W fitness centers and various R&W clubs also gave demonstrations ranging from line dancing, Thai kickboxing and Pilates to tap dancing, aikido and taekwondo. Speakers offered scientific and informational talks that discussed topics such as why yoga works, how to watch calories while at work and how taking small steps throughout the day can combine to produce big results.

In addition to giving attendees an opportunity to dance, flex and get in the game, the event included staff from Suburban Hospital who offered health screenings for blood pressure, bone density, cholesterol and vision. Fitness assessments, much like the Presidential fitness tests people remember from high school, challenged folks to show off their push-up skills, stretch forward for the sit & reach, do modified sit-ups and get stepping.

"This is an opportunity for NIH to practice what we preach by making wellness information available to our most important resource, the employees of NIH," said Chris Gaines, program manager for wellness activities in the Division of Amenities and Transportation Services, ORS.



Clockwise, from top: Terry Bowers (l) of the R&W Fitness Center shows Marie Hall of NHGRI how to get fit and have fun at the same time.

Instructor Lewis Slotter, standing, shows a finishing move on instructor Dr. Bill Daniels in the NIH Taekwondo School demonstration.

Joe Cox of ORS's DATS office helps Isis Alexander of NIAID make solid contact.



Sue Kemp starts off another hypnotic, calorie-burning round with her hula hoop.

Cheryl Stevens of NINR gets stretchy at the start of a Pilates class.

PHOTOS: VALERIE LAMBROS

