Sixty years on, the last wishes of a prisoner of war are realized

A bequest made in captivity brings $4 million for work on pregnancy, childbirth

The School of Medicine sees its share of charitable contributions, but this year, the school was an recipient of a most unusual gift. While interned in a Japanese prison camp during World War II, Albert S. McKern, M.D., who had earned his master’s degree in engineering at Yale 30 years earlier, willed a portion of his estate to the engineering at Yale. McKern died shortly thereafter.

A gift of roughly $12 million will be split evenly among three universities McKern attended: the University of Sydney, where he studied theology; Yale; and the University of Edinburgh, where he earned a medical degree. As per McKern’s will, the money will be used to fund research and scholarship centered on reducing pain experienced during pregnancy and childbirth.

Born in 1885 in Australia, McKern came to Yale in September 1911, after deciding that theology was not for him because of his lack of skill as a public speaker. After earning his master’s at Yale and his medical degree at Edinburgh in 1917, he moved to Penang, Malaysia, where he practiced as a physician and surgeon.

In Penang, says McKern’s grandson Bill, “he built up both a successful medical practice and real estate holdings, mainly vacant beachfront lots of about three to five acres each. One was developed into his own house. He also bought a portfolio in the middle of Georgetown, the capital, where the big shopping center is.” McKern’s good fortune was cut short. With the arrival of World War II, Japan invaded Malaysia and on Dec. 8, 1941, began bombing the island of Penang. In 1942 McKern

‘No one loved Yale more than Nick’

The lasting legacy of an unforgettable medical school alumnus

The relationship between Nicholas P.R. Spinelli, M.D., and Yale began in 1937, when he was a mere 16-year-old from Stratford, Conn., starting his freshman year of college. This early acquaintance blossomed through his years in medical school—also at Yale—in his career as an internist and educator, in his role as a leader of alumni, and, in his later years, in philanthropy.

Ultimately it was a love affair. Those who knew him well all say the same thing: No one loved Yale School of Medicine more than Nick Spinelli.

That love was expressed in many ways, most recently with a $4.5 million bequest that will support both a professorship in neurology and a scholarship fund for medical students.

Spinelli, who died in November 2007 at the age of 86, endowed the faculty position in the name of Harry M. Zimmerman, M.D., a notable neuropathologist during McKern’s student days who became the founding director of the Albert Einstein College of Medicine in Bronx, N.Y. Spinelli funded the scholarships in keeping with his long practice of helping medical students to travel what he saw as a difficult financial road.

“He used to worry about how much it cost students to become a doctor and said he didn’t know how they did it,” says his sister, Viola Spinelli, M.P.H., a 1965 alumna and supporter of the School of Public Health.

Spinelli graduated from Yale College in 1941 and began medical school later that year. In December, after the United States entered

Public health studies to be advanced by two major new grants

Yale’s School of Public Health (YSPH) has received a significant twofold boost in the form of an $11 million grant from the National Institute of Mental Health (NIMH) and a $10.7 million grant from the National Institute of Child Health and Human Development (NICHD). The NIMH funding provides five years of support to HIV/AIDS prevention and health services at the school’s Center for Interdisciplinary Research on AIDS (CIRA). The grant from NICHD adds to a $15 million grant from the same agency in 2007 to support Yale’s role in a national study that will follow 100,000 children from before birth to age 21 to understand factors that contribute to their health and development.

Established in 1997, CIRA is one of eight HIV/AIDS research centers in the United States funded by the NIMH. The new grant follows on the heels of a report from the Centers

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Volume 4, Issue 5 November/December 2008
For a doctor who found his calling as a resident, geriatrics never grows old

As a young intern at Boston City Hospital (now part of Boston Medical Center) in the early 1970s, Leo M. Cooney, m.d., experienced the standard of medical care for elderly patients firsthand, and he describes his impressions from those days in a characteristically unvarnished fashion.

“The thing that struck me was that we did a terrible job caring for older people,” says Cooney, now the Humana Foundation Professor of Medicine at Yale. “During my internship and residency I was lectured daily about very exotic diseases. Nobody talked about bedsores and dementia and delirium and osteoporosis and all the things we saw every day.”

But one bright spot was a program at Boston City in which a team of nurses made follow-up visits to nursing home residents who had been treated at the hospital’s clinic to ensure that the programs and therapies doctors were trying to implement were carried out. “I was fascinated by that, and I went out eight or 10 times with the nurses to those nursing homes,” says Cooney, who cites the program as instrumental in his decision to pursue geriatrics.

After a fellowship in rheumatology at Boston University Medical Center, Cooney, a member of the School of Medicine’s Class of 1969, was encouraged to come back to Yale by his medical school mentor Robert H. Gifford, m.d., professor emeritus of medicine, a rheumatologist who was then section chief of general internal medicine.

Cooney’s charge was to build a program in geriatrics on the firm foundation of the Continuing Care Unit (CCU), founded in 1968 on the eighth floor of Yale-New Haven Hospital to provide comprehensive care for acutely ill elderly patients.

The first job on Cooney’s plate was convincing skeptical medical residents that a clinical rotation in the CCU, established by Samuel O. Thier, m.d. (then chair of the Department of Internal Medicine, now professor of health care policy and medicine at Harvard Medical School), could be both educational and enjoyable.

“My third day here, the chief residents were trying to sabotage Sam’s efforts by combining the rotation with the coronary care unit,” Cooney recalls. But Cooney turned the situation around, saying with some pride that “three years later, I got the house staff’s teacher-of-the-year award.”

In his teaching, Cooney stresses what he and his colleagues in Yale’s top-rated geriatric clinical research programs consider the three most basic objectives of geriatric medicine: clarifying patients’ and families’ goals of care; sustaining patients’ highest levels of physical and cognitive functioning; and safeguarding patients’ independence and autonomy.

Goals of care are a highly personal matter, says Cooney, particularly in older patients who may take several medications for their many chronic diseases: “Is your highest priority your comfort, or being in your own home, or maintaining as much cognitive function as you can—or is your highest priority how long you live?” So-called “disease management algorithms” fail short in this population, he says. “I’m not going to treat your multiple diseases by an algorithm. I’m going to look at you, and say ‘OK, let’s talk about what you’re interested in.’”

Cooney says that working in geriatrics is “the most gratifying thing I do,” but he worries that today’s best medical students are not specializing in geriatrics, even as those 85 and older have become the fastest-growing segment of our population. The only solution, he says, is “a good specialty for the field’s rewards, and ‘the best way to sell is to have very good people do very good work.’”

Cooney, who turns 65 in November, has no plans to retire anytime soon. A bred-in-the-bone baseball fan, he says with a laugh, “I watch the student evaluations very closely. When they start to say, ‘He can talk about the Red Sox, but he doesn’t seem to know what’s wrong with the patient,’ I’m outta here!”

Women’s health advocate honored for distinguished leadership

Carolyn M. Mazure, Ph.D., associate dean for faculty affairs, professor of psychiatry and psychology and director of Women’s Health Research at Yale (WHRY), has received the 2008 Distinguished Leadership Award for Scholarship from the American Psychological Association’s Committee on Women in Psychology (CWIP). The award recognizes innovative research and leadership that improve women’s lives and health outcomes.

Mazure founded WHRY in 1998 to respond to the need for gender-specific research. The program provides crucial pilot funds to Yale researchers who employ interdisciplinary approaches to investigating health concerns for women. WHRY also initiates innovative interdisciplinary research collaborations and has an active educational outreach effort to translate research findings for the benefit of the community.

Mazure’s own research focuses on understanding depression and addictive disorders, with a special emphasis on gender-based analyses. “It is a special privilege to be honored by one’s own profession,” says Mazure. “This award highlights the importance of a collective commitment to enhancing the lives of women and improving women’s health is kept at the forefront of psychological research.”

Online: Yale NetCast “Women’s Health Research at Yale: factoring in gender.”
**Asthma: from mouse to man and back again**

Bench-to-bedside approach yields important insights into a common disorder

It all started with a mouse, says Jack A. Elias, M.D., chair of the Department of Internal Medicine and an expert on lung diseases. A few years ago, Elias, the Waldemar Von Zedtwitz Professor of Medicine, discovered that mice he had engineered to develop asthma had high levels of a very unusual enzyme. The enzyme, chitinase, is more commonly found in plants and lower organisms, where it breaks down chitin (pronounced “ky-teen”), an abundant and sturdy sugar polymer that gives insect and crustacean shells their resilience and strength. In humans, chitinases are thought to provide a first line of defense against fungi and some parasitic worms that also bear outer coats containing chitin.

That result was intriguing, because environmental exposure to indoor pollutants such as fungi and dust mites has been blamed for the growing incidence of asthma over the last decades. Translating the chitinase finding quickly from mice into humans, Elias and Geoffrey L. Chupp, M.D., associate professor of medicine and director of the Yale Center for Asthma and Airway Disease (YCAAD) soon discovered that people with severe asthma have high levels of a chitinase-related protein, ykl-40, in their blood. Then, they found that ykl-40 plays a central role in regulating the immune response and driving the lung inflammation that is at the root of asthma. The work could lead to new methods for diagnosing and treating asthma, a disease that affects an estimated 20 million Americans, including 9 million children. In the mouse experiments, ykl-40 was not the original protein of interest for Elias. It is not a true chitinase: ykl-40 can bind to chitin, but it lacks the enzymatic activity required to break down the tough polymer. However, as reported in The New England Journal of Medicine, another researcher at the laboratory of Pasko Rakic, Ph.D., chair and Dorys McConnell Duberg Professor of Neurobiology, suggested that some primary cilia act as “antennae” for signals from a key developmental protein known as sonic hedgehog (Shh).

In the September 2008 issue of Proceedings of the National Academy of Science, the group reports that deleting genes needed to form primary cilia in mice caused brain abnormalities, and Shh could not signal neural stem cells to create new neurons. Since Shh has also been implicated in brain tumor formation, the findings may shed light on cancer as well as development.

**Blood vessel gene affects brain region**

Vascular endothelial growth factor (VEGF), which promotes blood vessel growth, has been a favorite target for scientists seeking to starve cancerous tumors of their blood supply or to help repair damaged hearts. Recent research has indicated that this growth factor may also be crucial for the development and repair of the hippocampus, an area of the brain where memory is consolidated and which has been implicated in depression, schizophrenia and Alzheimer’s disease.

Now a new study, published online in August in the journal *Biological Psychiatry*, provides additional evidence linking VEGF to mental health.

School of Medicine researchers have found that a variant of the VEGF gene is associated with a reduction in the size of the hippocampus. This reduction in hippocampal volume suggests a possible cause of cognitive problems reported by some patients using anti-VEGF therapies for cancer and other diseases.

“As we identify these genes, we can develop new and more effective treatments that could target the relatively specific molecular mechanisms,” says Hilary Blumberg, M.D., associate professor of psychiatry and diagnostic radiology and lead author of the new study.

**Cellular “antennae” guide development**

The threadlike cilia that propel microorganisms through liquid are also found on many human cells, such as those that transport human ovum in the Fallopian tubes. Unmoving, or “primary,” cilia also appear on human cells, but their function is largely unknown.

A research team that included Joshua J. Breungin, Ph.D, and Matthew R. Sarkisian, Ph.D., postdoctoral associates in the laboratory of Pasko Rakic, M.D., Ph.D., chair and Dorys McConnell Duberg Professor of Neurobiology, suggests that some primary cilia act as “antennae” for signals from a key developmental protein known as sonic hedgehog (Shh).

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Yale professional schools and Yale-New Haven Hospital (YNHH) religious ministries have joined forces with the School of Medicine to introduce a “blended learning” curriculum that addresses the physical, emotional, cultural and spiritual issues that arise at the end of life. With funding from the Connecticut Cancer Partnership, the Yale University Chaplain’s Office and the palliative care services of YNHH to develop an interdisciplinary program that will focus on symptom management, culture and spirituality and the importance of a multidisciplinary team approach to patient care at the end of life.

“The primary goal of palliative care is to prevent and relieve the burdens imposed by diseases and their treatments,” says Matthew S. Ellman, M.D., assistant professor of medicine and director of end-of-life care skills education at the School of Medicine. “The focus is not just the disease; rather, palliative care focuses on alleviating symptoms, whether physical, emotional or spiritual, to improve quality of life in persons with advanced illness. Without the spiritual component, this care is not complete for some patients.”

The curriculum will be required for medical students, and nursing and divinity students are being urged to participate as well. Blended learning will be accomplished by combining learning vehicles, such as web-based courses and traditional face-to-face classroom activities. Students will work through online interactive cases. They will then participate in workshops, moderated by faculty from each school, in which they will share their ideas and experiences with other students to appreciate the value of interdiscipinary teamwork in the care of patients. Through the combined resources, students will learn to recognize spiritual distress in patients, and how to conduct an empathetic, respectful, open-ended dialogue to help reveal the patient’s concerns, as well as other interventions to provide support and encouragement. Participating students also will be encouraged to consider how their own spiritual and cultural beliefs might affect the way they relate to and provide care for patients at the end of life.

Once the program is fully established, the curriculum will be made available to other Connecticut institutions for use in palliative care education. For additional information about this program, please see the end-of-life and palliative care education website at http://palliativecare.yale.edu.

New curriculum focuses on diverse issues arising at life’s end

Out & about

June 17: A celebration of the DONALD J. COHEN PROFESSORSHIP IN CHILD PSYCHIATRY was held at the Child Study Center (CSC). Cohen, a pioneer in child psychiatry, was Sterling Professor of Child Psychiatry, Pediatrics and Psychology, and director of the CSC from 1983 until his death in 2001. More than 200 friends, corporations and foundations contributed more than $2.7 million to establish the Cohen Professorship. The first holder of the new professorship is Associate Professor Matthew W. State, M.D., Ph.D., an expert on the genetics of child psychiatric disorders and mental retardation. 1. From left: Phyllis M. Cohen, Ed.D., Donald Cohen’s widow and associate clinical professor in the Child Study Center, and Carol Schaefer, M.S.W., former clinical professor and longtime associate of the CSC. 2. From left: Judit Ungar, president of the Tourette Syndrome Association (TSA), Thomas Israel, a 1966 alumnus of Yale College, State and Sue Levi-Pearl, TSA vice president for medical and scientific programs.

August 26: At the annual WHITE COAT CEREMONY, members of the School of Medicine’s newly admitted Class of 2012 donned physicians’ jackets, formally marking their entrance into the medical profession. 1. Anant Mandawat is congratulated by Richard Bellisky, M.D. (back to camera), the Harold W. Jockers Associate Professor Psychiatry and deputy dean for education, 2. First-year students (from left) Amy Schoenfeld, Rany Woo, Alisse Hauspurg, Alexandra Ristol, Stacey Kallem and Regina Myers. 3. (From left) Oluwatosin Onibokun, Raj Chovatiya, and Samrawit Goshu. 4. Excited family members snapped pictures of the assembled class in front of Sterling Hall of Medicine.

September 6: The Yale-New Haven Transplantation Center sponsored a TRANSPANTATION AND ORGAN DONATION AWARENESS FAIR on the New Haven Green at which organ recipients and families of donors, including living donors, shared their stories to encourage members of the community to donate organs for the estimated 100,000 American patients awaiting transplantation surgery. 1. (From left) New Haven Mayor John DeStefano Jr. and Marna P. Borgstrom, president and CEO of Yale-New Haven Hospital (YNHH), listen to a speaker. 2. Borgstrom with Patsy Twomill, YNHH employee and heart transplant recipient. 3. Heart transplant recipient Pete Kenyon.

September 9: In a ceremony at the Oslo Concert Hall in Norway, Pasko Rakic, M.D., Ph.D., the Dorys McConnell Duberg Professor of Neurobiology and professor of neurology, was among three recipients of the inaugural KAVLI PRIZE IN NEUROSCIENCE. (From left) Sten Grillner, Ph.D., professor of neuroscience at Sweden’s Karolinska Institute, Thomas M. Jessell, Ph.D., professor of biochemistry and molecular biophysics and Howard Hughes Medical Institute investigator at Columbia University and Rakic accept Kavli Prize medals from His Royal Highness Crown Prince Haakon Magnus of Norway.
**Getting a grip on the opposable thumb**

The term “junk DNA” is itself headed for the scrapheap, as scientists discover thousands of sequences in the human genome that control gene expression.

A team led by James P. Noonan, Ph.D., assistant professor of genetics, has now found that changes in a mere 13 genetic “letters” in one such sequence may have unleashed the momentous evolutionary changes that enable humans to manipulate tools and walk upright.

As reported in the September 5, 2008 issue of *Science*, the human version of the sequence strongly activates a reporter gene in the developing limbs of embryonic mice, but neither identical sequences from ape and monkey genomes do not, suggesting that the 13 differences in the human form helped drive the emergence of the human hand and foot.

“The long-term goal is to find many sequences like this and use the mouse to model their effects on the evolution of human development,” says Noonan.

**A novel fix-it kit for faulty genes**

Blood diseases like thalassemia and sickle cell anemia result from mutations in single genes, but gene-based therapies have met with little success, partly because gene-based therapies have met with little success, partly because genetic errors are caused by the way the intestine’s muscles and nerves work together to move food through the GI tract. The technology tackles difficult digestive problems

Patients who chronically suffer from such common digestive problems as heartburn, bloating or trouble swallowing often try unsuccessfully to manage the symptoms on their own. When, in frustration, they seek the help of a physician, the outcome can be equally disappointing, because these disorders are notoriously difficult to diagnose.

Yale Medical Group’s new Gastroparesis Motility Program, in collaboration with Yale-New Haven Hospital, hopes to change that. The multidisciplinary program, one of the first of its kind in Connecticut, brings together a team of eight gastroenterologists, surgeons, pathologists and radiologists to provide the latest diagnostic and treatment services to patients with hard-to-diagnose gastrointestinal disorders.

The program provides evaluation for a wide array of common and rare gastrointestinal disorders including achalasia (difficulty swallowing food); gastroesophageal reflux (heartburn); gastroparesis (weak stomach); fecal incontinence; intestinal pseudo-obstruction (abdominal bloating and pain); small intestinal bacterial overgrowth, or SIBO; and constipation.

Anish Sheth, M.D., the program’s director and an assistant professor of medicine at Yale, says the program, launched in July, was created in response to patient need. “We’re seeing increasing numbers of patients with motility disorders— reflux-related diseases, problems swallowing and constipation,” he says. “But there really wasn’t either the expertise or the focus to offer a program to help these patients.”

Many gastrointestinal symptoms are caused by the way the intestine’s muscles and nerves work together to move food down the GI tract. These conditions are grouped under the term “motility disorders.” Traditionally, physicians use an endoscopic evaluation to make a diagnosis. The problem, according to Sheth, is that while endoscopies provide a good visual picture of the GI tract, they often are ineffective in diagnosing motility disorders, which are caused by weak or uncoordinated intestinal function. “The intestines are essentially nerve and muscle,” Sheth says.

**Motility, page 7**

**New telemedicine program helps emergency personnel in race against the clock**

When Jeanne Munnelly went for a swim at a high school in East Lyme, Conn., one August morning, she had no idea she was about to have a stroke—or that she would make medical history in Connecticut.

At about 8:15, as she swam in the school’s pool, Munnelly became weak on her right side and unable to speak. Lifeguards pulled her out, and emergency personnel based at a fire station across the street arrived within five minutes. She reached New London’s Lawrence and Memorial Hospital in just 15 minutes.

That’s when Munnelly, 67, became the first patient to benefit from the Yale-New Haven TeleStroke Network, a program modeled on a similar initiative at Massachusetts General Hospital in Boston. The new network allows area hospitals to call upon Yale neurologists’ expertise in assessing stroke victims using Internet-based videoconferencing and image-sharing technology.

Neurologist Joseph Schindler, M.D., who evaluated Munnelly via computer from Yale-New Haven Hospital (YNHH), then gave the green light to physicians in New London to use the clot-busting drug tissue plasminogen activator (tPA). Munnelly received the drug only 17 minutes after reaching the hospital—much more quickly than if she had been transported to YNHH first.

Speed and decisiveness are critically important in treating stroke victims. Most blood clots that cause ischemic strokes can be dissolved by tPA, but this medication can also cause bleeding in the brain, a risk that significantly increases three hours after the patient’s first symptoms. To meet that three-hour deadline and try to prevent this complication, doctors must ensure that a patient is an appropriate candidate for tPA. Yet in most hospitals, neurologists are not always available to assist emergency physicians with the evaluation and treatment decision. As a result, many patients who might benefit from tPA do not receive it.

Schindler says the process of evaluating a stroke patient via TeleStroke is the same as when he sees a patient in YNHH’s emergency department. “It’s no different; it’s just the use of technology to do it remotely,” he says.

While seated at a computer 50 miles away from the patient, Schindler, the clinical director of the Yale-New Haven Stroke Center (YNHSC), used the center’s high-speed Internet connection to speak with the patient, family and clinical staff and to review Munnelly’s medical history, blood tests and brain scan. He also examined her using a camera with a zoom feature. She was, he determined, a good candidate to receive tPA, and shortly after receiving the drug, Munnelly regained the use of her right leg as well as some ability to speak.

Schindler, who is optimistic that Munnelly’s condition will continue to improve, was pleased not only that the technology worked but also that he and the team in New London could act so quickly. “We’ve done it at Yale when the entire team was already in the Emergency Department; we assessed and treated the patient in a similar time. But to have that done remotely, it’s wonderful.”

Lawrence and Memorial is Connecticut’s first hospital to link up to the YNHSC via the TeleStroke network. Both Lawrence and Memorial and the YNHSC have been designated Primary Stroke Centers by The Joint Commission (an independent, non-profit organization that accredits health care organizations in the United States), the Brain Attack Coalition and the American Stroke Association, a classification that recognizes an institution’s commitment to excellence in stroke management.

“The implementation of Tele-Stroke programs have demonstrated that telemedicine conferencing between outlying emergency departments and trained stroke neurologists can enhance the use of tPA at those facilities that do not have 24/7 access to neurological expertise,” says Schindler. “We are hopeful that more hospitals throughout Connecticut will join this vital lifesaving network.”

**Technology tackles difficult digestive problems**

Dr. Robert Lisak explains traditional gene-therapy pitfalls.

Glazer says, because it employs synthetic DNA that is easier to insert into cells and does not require viruses for its delivery.

**Online: Yale Netcast**

“You can’t change your genes—or can you?”

“Letters” in one such sequence may have unleashed the momentous evolutionary changes that enable humans to manipulate tools and walk upright.

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“The long-term goal is to find many sequences like this and use the mouse to model their effects on the evolution of human development,” says Noonan.

**A novel fix-it kit for faulty genes**

Blood diseases like thalassemia and sickle cell anemia result from mutations in single genes, but gene-based therapies have met with little success, partly because of difficulties inserting a new version of a gene into the bone marrow cells and keeping it active over time.

School of Medicine researchers led by Peter M. Glazer, M.D., Ph.D., chair and Robert E. Hunter Professor of Therapeutic Radiology and professor of genetics, have found a new method to create lasting genetic changes within human blood cells, opening up the possibility of new treatments for inherited hematologic diseases.

In the September 9 issue of the *Proceedings of the National Academy of Sciences*, the researchers report that they used electroporation—in which an electrical field is used to insert gene “repair kits” consisting of chemically altered DNA into cells to repair the mutated gene in thalassemia. The faulty gene was fixed, even in human bone marrow cells, meaning that the genetic repair could be inherited by newly generated blood cells.

The technique avoids traditional gene-therapy pitfalls, Glazer says, because it employs synthetic DNA that is easier to insert into cells and does not require viruses for its delivery.
in rebuilding the Sha campus of the Yale-in-China Association.

In 1947, statesman W. Averell Harriman of the Yale College Class of 1913 wrote to Albert McKern requesting help in establishing a war-born Changsha campus of the Yale-in-China Association. Harriman’s letter brought this obituary from McKern's estate.

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Eventually Calder invited Lockwood to Edinburgh to serve for a week as the Honeyman Gillespie Visiting Professor, and the two began a discussion of joint work that could be done to fulfill McKern’s dream. In Edinburgh, Lockwood had the opportunity to meet with a number of preeminent Ob/Gyn researchers, including Hilary Critchley, m.d., professor of reproductive medicine, and Jane E. Norman, m.d., honorary senior research fellow at the University of Glasgow and frequent collaborator with Calder. “I had a chance to review some of their research. They have a very strong program,” he says, noting work in the areas of prematurity and preclampsia in particular. “There are a lot of parallels between Edinburgh’s department and Yale’s. It was really a very exciting visit.”

Lockwood will be devising a joint strategy for using the McKern funds during the 2008–2009 academic year. Given McKern’s desire and the needs of the Ob/Gyn field, he sees research on premature birth as a likely area of focus. “Prematurity is the leading cause of infant mortality in the United States, the leading cause of mental retardation, the leading cause of childhood blindness. It costs the U.S. economy around $28 billion a year in terms of health care-related resources. Preterm delivery is a national public health crisis.”

Funds may also support a Yale-Sydney-Edinburgh scholar exchange program and, through the Department of Psychiatry, research on postpartum depression.

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Lockwood will be devising a joint strategy for using the McKern funds during the 2008–2009 academic year. Given McKern’s desire and the needs of the Ob/Gyn field, he sees research on premature birth as a likely area of focus. “Prematurity is the leading cause of infant mortality in the United States, the leading cause of mental retardation, the leading cause of childhood blindness. It costs the U.S. economy around $28 billion a year in terms of health care-related resources. Preterm delivery is a national public health crisis.”

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Grants and contracts awarded to Yale School of Medicine

January/February 2008

Federal

Scrap Aksoy, NIH, Evolutionary Genetics of Tiesto and its Symbionts, 4 years, $6,409,435

Norma Andrews, NIH, Lysosome-Mediated Cell Death in the Neurodegenerative Disorders, 5 years, $2,594,132 • Lauren Cohen, NIH, Airway Inflammation-Related Inhibition of Disease (AIRD), 5 years, $2,533,795 • Joseph Craft, NIH, Dissecting the Role for L1-ITD in CD8+ T Cell Homeostasis in Human Lymphus, 5 years, $2,483,435 • Todd Edd, NIH, Dysregulation of Glutathione Synthesis in Human Temporal Lobe Epilepsy, 5 years, $2,366,720 • Peter Glazer, NIH, Purines, Genetic Induction and Interleukin-10 Repair, 5 years, $2,153,885 • Jefferey Green, NIH, Discovery of the 6q23 Reading Disability Gene, 3 years, $2,199,500 • Ta He, NIH, Structural Studies of Protein-Induced Conformational Change, 4 years, $1,526,220 • James Helda, NIH, Investigating ATP Aggregation and Toxicity Using Small Multicell Intercalation, 3 years, $1,487,340 • Mark Hochstrasser, NIH, Function and Assembly of Jakartosy Proteasome, 4 years, $1,376,351 • Stamey Iverson, NIH, Analysis of F-Box Domain Containing Effectors Proteins from Legionella pneumophila, 2 years, $96,472 • Leslie Johnson, NIH, Rnd1 Mediated Learning in Adolescent Cannabis Users, 2 years, $421,754 • James Leckman, NIH, Ttms For Adults with Severe Autistic-Final Grant, 1 year, $432,620 • David McCormick, NIH, Properties of Axons and Synaptic Communication in the Drosophila Visual System, 1 year, $493,821 • Ann Miranker, NIH, Fibrolysis Pathways in Diabetes and Renal Diseases, 1 year, $135,571 • Michael Nitabach, NIH, Calcitonin Signaling in Circadian Clock Neurons, 5 years, $774,529 • Justin Peacock, NIH, Arg Coordinates Contractile Forces with Adhesion Dynamics in Migrating Neural Crest, 3 years, $91,473 • John Rose, NIH, Development of VOT/VTRB recombinants as HVT Vaccines, 1 year, $65,300 • Gerald Shadel, NIH, Nickel Catalysis of Metalloendopeptidase Expression, 4 years, $1,489,626 • Richard Shifftman, Agency for Healthcare Research and Quality (AHRQ), Clinical Decision Support Services, 2 years, $2,460,000 • Mehmet Sofuoglu, NIH, Human Laboratory Studies for Stimulant Addiction, 5 years, $631,800 • Umba Siegel, NIH, A Protonic Analysis of Neurepinephrine Transporters, 1 year, $756,206 • Elisabeth Uitti, NIH, SmallRNA and Type 2 Diabetes, 5 years, $631,383 • Vinzenz Unger, NIH, Structural Biology of Prezincaryl Scaffolds, 1 year, $185,292

Non-Federal

Albert Ayoub, Robert Lee and Clara Guthrie Patterson Trust, Primitive Cortical Networks, 2 years, $1,406,768, The Patrick and Catherine Weldon Donaghue Medical Research Foundation, 1 year, $75,000 • Sabrina Diano, National Institute of Child Health and Human Development, 1 year, $75,000 • Owen Chan, National Aeronautics and Space Administration, Inc., Novel Chemopreventive Agents for Mammalian Cell Differentiation Using a Tolv-Like Signal Transduction, 1 year, $575,447 • Robert Heimer, State of CT Dept of Public Health, Preventing and Other Infection by Expanding Syringe Access over the Counter and by Prescription, 2 years, $166,290 • Mark Horowitz, Maine Medical Center Research Institute, Mouse Models to Delaminate a Unique Metabolic and Skeletal Network, 1 year, $144,644 • Tamas Horvath, Michael J. Fox Foundation for Parkinson’s Research, Glutamate Protects Nigral Dopamine Cells, 1 year, $735,000 • Richard Khiebie, American Diabetes Association, Inc., Interaction of Mitochondrial and Nudar Metabolism to Regulate Insulin Secretion, 3 years, $140,000 • Ronald Linnain, Susan G. Komen Breast Cancer Foundation, Investigating the Defective of Adipo in Human Breast Tumors, 2 years, $1,465,856 • Qiang Guo, American Diabetes Association, Inc., Crossstalk Between Estrogen and Cation Signaling in the Secondary Ovarian Granulosa Cell, 2 years, $160,000 • Tora Groce, Pacifica University Medical School, Investing for Health: Addressing the Social Determinants of Health, 2 months, $57,000 • Richard Lifton, National Institute of Neurological Disorders and Stroke Foundation, Vascular Smooth Muscle Cell Differentiation in Pelvic Organ Prolap, 4 years, $146,258 • Hannos Gendron-Bruce, National Alliance for Research on Schizophrenia and Depression, Modeling Glu Dysfunction in Psychotic and Mood Disorders, 2 years, $600,000 • Matija Hledil, Cribon & Cribin Foundation of America Inc, No2-Medated Self-Tolerance and Cross-Tolerance to Tolv-Like 2 and 2, -> 2 years, $575,447 • Arthur Hafford, Hartford Foundation Center of Excellence in Aging at Yale, 5 years, $760,000 • Arthur Torman, College of American Pathologists Foundation, The Development of a Laboratory-Based Assay for the Identification and Evaluation of Transfu- sion Reactions, 1 year, $30,000 • Hong Wang, William J. Clinton Foundation, Expert Advice on Non-Amodi, Mexico, 6 months, $27,500 • Tong Wang, Research Foundation of Saint University of New York, Cytokelet Mecha- nisms of the Epithelial Mesothelial Transition Induc and Development, 1 year, $20,000 • Alexander Neumeister, William J. Clinton Foundation, Estrogen and Cytokine IL-22 in Liver Inflammation, 2 years, $94,000 • Edward Zigler, Foundation for Child Development, pcd-Book, 1 year, $12,500

With support from the National Institutes of Health, electron micros- copist Vinzenz Unger, associate professor of molecular biology and biochemistry, is determining the structure of biologically important molecules. This image depicts a three-dimensional reconstruction of a gap junction channel found in the human heart.

“Until they don’t work properly, even though everything may look okay, that often is the cause of the patients’ symptoms.”

Sheth’s program offers recently de- veloped, specialized tests to diagnose these elusive symptoms. The Bravo pH monitoring system, a cather-free instrument that mea- sures acidity levels in patients suspect- ed of having gastroesophageal reflux disease, is attached to a catheter attached to the wall of the esophagus. It transmits data to a pager-sized receiver, which is worn by the patient for 48 hours. During the test, the patient presses a button whenever he or she experiences symptoms, so doc- tors can see if the symptoms correlate with episodes of acid reflux. When the test is over, data from the receiver is downloaded to pH analysis software, where it is analyzed. The SmartPill capsule, a new technology available at only about a dozen medical centers around the country, is an ingested device that measures pressure, pH and temperature as it moves through the GI tract, allowing physicians to identify where abnormalities in intestinal transit are located. The SmartPill transmits information to a device received by the patient. After the capsule has passed from the body, the patient returns the receiver to the physician, who is able to display and analyze the data within minutes. Impedance monitoring is a cather- free system that enables doctors to diagnose non-acid reflux, in which bile or other digestive fluids other than stomach acid enter the esophagus. The patient wears the monitoring system for 24 hours, and pushes a button whenever he or she experiences symp- toms. Physicians then download and analyze the data to determine whether the reflux is acidic or not, as well as whether the symptoms correlate with incidents of reflux. Other motility tests offered by the program include high- resolution esophageal manometry for evaluating swallowing, high-resolution anorectal manometry with biofeedback for the evaluation and treatment of constipation and fecal incontinence; and hydrogen breath testing for the diagnosis of bacterial overgrowth. Because of these and other new tools, advances in the diagnosis of GI disorders have outpaced treatment, Sheth says. “We’re able to diagnose and explain things much better than we were 10 years ago, but treatment needs to catch up.” He’s hoping Yale’s Gastrointestinal Motility Program will become a center for cutting-edge re- search and testing. “We have a couple of people on board who are anec- dotal this center becoming a leader in clini- cal trials for motility disorders.”

The motility program treats adult patients, and collaborates with spe- cialists in gastroenterology and di- abetes. Given how many people suffer from gastrointestinal disorders, Sheth predicts a sharp jump in referrals once community physicians become aware of the program’s existence.

“It’s an exciting area of research and clinical care,” he says. “It’s an area where technology is advancing and where there’s long been a need.”

Motility from page 5

Medicine/Yale

November/December 2008

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Edward F. Zigler, Ph.D., Sterling Professor Emeritus of Psychology at Yale, is the 2008 recipient of the Award for Outstanding Lifetime Contributions to Psychology, the highest honor bestowed by the American Psychological Association (APA). Zigler received the award in August during the APA’s annual convention in Boston.

“There are very few psychologists whose work has made such a difference as his,” said APA President Alan E. Kazdin, Ph.D., the John M. Musser Professor of Psychology and professor of child psychiatry in the School of Medicine’s Child Study Center (CSC).

Zigler was one of the principal architects of the federal Head Start program, founded in 1965. Administered by the U.S. Department of Health and Human Services’ Administration for Children & Families, Head Start promotes school readiness by enhancing the social and cognitive development of children from low-income families through the provision of educational, health, nutritional, social and other services.

Scientist lauded for studies of dormant stem cells as therapy

Erik M. Shapiro, Ph.D., assistant professor of diagnostic radiology and biomedical engineering at the School of Medicine, has been awarded a $1.5 million New Innovator Award by the National Institutes of Health (NIH).

Shapiro, who arrived at Yale in 2006 and directs the Molecular and Cellular Magnetic Resonance Imaging Laboratory in the Department of Diagnostic Radiology, is developing new ways to enhance cellular and molecular magnetic resonance imaging (MRI) technology to allow scientists to observe, measure and even manipulate cell migration in living tissue.

“Erik is an internationally respected researcher, and as evidenced by this award, is doing some of the most exciting and innovative research in MRI today,” says R. Paul Morgan, Ph.D., professor of diagnostic radiology, neuroradiology and biomedical engineering, and a colleague and mentor of Shapiro.

“Dr. Shapiro’s work is exemplary of the broad and innovative research being conducted at Yale,” said Jennifer M. plainly, associate dean for research at the School of Medicine. “We are excited to have him as a member of our growing program in biomedical engineering.”

More recently, Zigler founded the School of the 21st Century (21C) initiative, a community school model that operates in conjunction with state governments and private foundations to incorporate childcare and family support services into schools. Schools that take part in the initiative offer guidance and support for parents; all-day, year-round preschool; before- and after-school and vacation care for school-age children; health education and services; training for childcare providers; and information and referral services for families. Its overall goal is to promote the optimal growth and development of children beginning at birth.

Since 1988, more than half of schools in 20 states have implemented the 21C program, which has proven successful in urban, rural and suburban settings, as well as in affluent, middle-class and economically challenged communities.

Zigler received his Ph.D. in clinical psychology from the University of Texas at Austin in 1958. He joined the psychology department at Yale in 1959 and also served on the faculty of the CSC at the medical school. He founded and is director emeritus of the CSC’s Edward Zigler Center in Child Development and Social Policy (formerly the Bush Center), one of the first sites in the nation to combine training in developmental science and social policy. During his 40-year career, Zigler helped to plan several other national projects and policies, including Early Head Start and the Family and Medical Leave Act. In the early 1970s he served as the founding director of the U.S. Office of Child Development (now the Administration for Children, Youth and Families) and chief of the U.S. Children’s Bureau.

Zigler is the author, co-author or editor of over 80 scholarly publications and more than 58 books. He is a member of the Institute of Medicine and the American Academy of Arts and Sciences and has received many honorary degrees.

Zigler remains as active as ever in his scholarly and social policy endeavors. He regularly consults with state governors and legislatures on child development issues and he is actively lobbying the 2008 presidential candidates to include universal child care in their platforms.

Psychologist, community leader receives Yale’s highest honor

Roslyn Milstein Meyer, Ph.D., a clinical psychologist and assistant clinical professor at the Yale University School of Medicine, has been awarded $1.5 million New Innovator Award by the National Institutes of Health (NIH). The 2008 Yale Medal, awarded by the Association of Yale Alumni (AYA). A 1973 graduate of Yale College who received her doctorate in clinical psychology in 1977 from Yale’s Graduate School of Arts and Sciences, Meyer is well known in the New Haven area for her leadership of a wide array of programs and a long-standing commitment to Yale and the university’s environs.

Most recently, Meyer has support- ed research and treatment programs at Yale for melanoma, one of the most aggressive forms of cancer. With a gift of $10 million to the school last spring, she and husband Jerome H. Meyer, M.D., lecturer in psychiatry, are helping to establish a Milstein Meyer Center for Melanoma Research and Treatment, which will enable the development of more investigator-initiated clinical trials and improve Yale’s ability to design new treatments for the often-fatal illness.

The Meyers’ gift builds on the medical school’s strengths: Yale’s immunobiology research and derma- tology programs are widely viewed as among the very best in the nation, and the last three years have seen the development of a strong program in medical oncology that has attracted nearly a dozen new faculty members with expertise in all the major cancers. Known to friends and colleagues as “Roz,” Meyer is a trustee of Yale-New Haven Hospital, a patient advocate for Yale’s NIH-funded Specialized Program of Research Excellence (SPORE) on Skin Cancer and a co-founder of both New Haven’s International Festival of Arts and Ideas and the Leadership, Education, and Athletics in Partnership (LEAP) program. She has served as a member of the Volunteer Council for Women’s Health Research at Yale, as a board member of the Yale University Art Gallery and as a trustee for Yale’s Joseph Scribner Center for Jewish Life. Inaugurated in 1952, the Yale Medal is the highest award pre- sented by the AYA and is conferred to recognize and honor outstanding individual service to the university. Since its inception, the Yale Medal has been presented to 267 individuals who exemplify the university’s ideals and who have given outstanding service to Yale as a whole or to one of its many schools, institutes or programs.

Other recipients of the Yale Medal this year are Edward A. Dennis ’65; Linda Koch Lorimer, J.D. ’77; vice president and secretary of Yale; Don T. Nakashima ’71; and William H. Wright II ’82.