A QUARTER CENTURY OF COLLABORATION ACCELERATES CANCER RESEARCH AT U-M

ALSO: KIDS AND OBESITY  |  COMFORT AND COMPASSION
Carey Lumeng (M.D. 2000, Ph.D. 2000, Fellowship 2006), with special high-fat mouse pellets. The pellets are 60 percent fat (the equivalent in fat of a McDonald’s Big Mac), and the mice eating them become obese, eventually developing diabetes for research in Lumeng’s laboratory.
Joining Forces
Over the last 25 years, the U-M Comprehensive Cancer Center grew from notes scribbled on a napkin into one of the premier centers in the nation. Cancer Center leaders reflect on how uniting physicians and researchers into one center spurred that transformation and what the future of cancer research may hold.  BY SALLY POBOJEWSKI

Bringing Comfort to Pain and Passage
Grave illness and its treatment can be punishing to patients, bringing with them not only pain and discomfort, but social and spiritual needs as well. Palliative medicine is an emerging field that addresses patient needs and eases the experience for patient and family alike.  BY WHITLEY HILL

Understanding the Riddles of Childhood Obesity
Researchers Julie and Carey Lumeng both focus on the epidemic of childhood obesity, but from profoundly different perspectives: Julie Lumeng studies disease connections with obesity from the clinical and preventive viewpoint, while Carey Lumeng asks the basic question, why is fat bad?  BY JEFF MORTIMER
WE OFTEN REFER TO THE UNIVERSITY OF MICHIGAN MEDICAL School as a research powerhouse, but what exactly does that mean? It means the faculty. The faculty “powerhouse” generates ideas, seeks to solve vexing scientific problems and in the true “This is Michigan” spirit, collaborates with colleagues here and around the globe with the view toward advancing knowledge and impacting human health.

In this issue, we get a look at how some of that research happens. Obesity — particularly childhood obesity — is a national health issue of great public concern. Researchers Julie and Carey Lumeng study this problem on different but complementary fronts: Julie on the population-level, trying to understand the behavioral aspects as well as the environmental and biological factors; Carey’s work asks the basic science question: Why is fat bad?

We also see how multidisciplinary collaborators work in teams to tackle some of the biggest challenges in the fight against cancer, resulting in 25 years of steady progress in understanding and treating the many forms of cancer.

The methods of our research are myriad, and they share the ultimate goal of improving the lives and health of patients, today and in future generations.

Sincerely,

JAMES O. WOOLLISCRFT, M.D. (Residency 1980)
Dean, U-M Medical School
Lyle C. Roll Professor of Medicine
IN OR OUT?
I just received the latest edition of Medicine at Michigan and read the article on accountable care organizations. The article paints a somewhat rosy picture regarding ACOs. Of course nobody really knows what the future holds, but I find it ironic that in another article that came out today on D Healthcare Daily, they said that the University of Michigan would be opting out of the Pioneer ACO program.

Samuel La, M.D. (Residency 2003)
Southlake, Texas

EDITOR’S NOTE: The U-M’s decision to opt out of the Pioneer ACO in order to participate in other ACO programs was made several weeks subsequent to the printing of our last issue. Unfortunately, the spring/summer issue reached readers at roughly the same time the decision was made.

DOCTOR TALK
I liked the article and the quote about patients deserving a doctor who would sit down and talk to them.

When I was chair of the Committee on Continuing Education of the National Institute of Mental Health, we gave grants for training in mental health to bartenders, mental hospital workers, and many others. One grant went to a group of general practice M.D.s in Oregon. I went to do a site visit and asked if the mental health training had made any difference in their practice.

“Yeah,” one of them said, “I’m not making as much money now.”

“How come?”

“I’m talking to my patients more.”

Wilbert (Bill) McKaechie
U-M Professor Emeritus of Psychology
Dexter, Michigan

A MATTER OF TIME
The article re the Catherine Street Hospitals in the Spring/Summer 2013 issue of Medicine at Michigan is most interesting.

I do have one comment: the hospitals opened in December 1891 and the university “bragged in its publicity materials...the most perfect instruments for the use of x-rays...”

This could not have been written in 1891 since x-rays were not discovered by Wilhelm Roentgen until November 1895.

Robert S. Sweet (M.D. 1965)
Rancho Santa Fe, California

EDITOR’S NOTE: We indeed missed the discrepancy and thank our readers for bringing it to our attention.

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Brain Study Shows Body Clocks of Depressed People Are Out of Sync

Findings give first direct evidence of circadian rhythm changes in depressed brains

DEAD MEN MAY TELL NO TALES, BUT they do tell time. The body’s patterns are so regular that time of death can accurately be estimated based on where in their 24-hour cycle the brain’s internal clocks happen to stop.

The exception is people with major depression, research led by the U-M Health System recently discovered. Their internal clocks are out of sync.

“It’s as if they were living in a different time zone than the one they died in,” says Jun Li, Ph.D., an assistant professor in the Department of Human Genetics, who was the lead author of a multi-institution study published in the Proceedings of the National Academy of Sciences.

Scientists from the U-M, University of California, Weill Cornell Medical College, Hudson Alpha Institute for Biotechnology and Stanford University took material from 89 brains donated shortly after death and paired with extensive clinical information about the individual. Numerous regions of each brain were dissected by hand and with lasers that capture specialized cells, then analyzed to measure gene expression activity. The resulting flood of information was sifted with advanced data-mining tools.

The researchers not only found convincing evidence for the rise and fall in the activity of hundreds of genes that initiate or respond to cycles of behavioral and hormonal activity, they found this cyclical activity in genes where it was previously unknown.

“Hundreds of new genes that are very sensitive to circadian rhythms emerged from this research — not just the primary clock genes that have been studied in animals or cell cultures, but other genes whose activity rises and falls throughout the day,” says Huda Akil, Ph.D., co-director of U-M’s Molecular and Behavioral Neuroscience Institute and co-site director of the Pritzker Neuropsychiatric Disorders Research Consortium at the U-M. “We were truly able to watch the daily rhythm play out in a symphony of biological activity by studying where the clock had stopped at the time of death. And then, in depressed people, we could see how this was disrupted.”

Now, she adds, scientists must use this information to help find new ways to predict depression, fine-tune treatments, and even develop new medications or other types of therapies.

One possibility, she notes, could be to identify biomarkers for depression — telltale molecules that can be detected in blood, skin or hair.

Meanwhile, the challenge of determining why the circadian clock is altered in depression still remains. “We
can only glimpse the possibility that the disruption seen in depression may have more than one cause. We need to learn more about whether something in the nature of the clock itself is affected, because if you could fix the clock you might be able to help people get better,” says Akil, the Gardner C. Quarton Distinguished Professor of Neurosciences.

—IAN DEMSKY and KARA GAVIN

Neurons From Skin Cells

USING THE LATEST ADVANCES IN INDUCED PLURIPOTENT STEM CELL (iPSC) technology, U-M scientists have succeeded in deriving cultured neurons from skin cells removed from epilepsy patients. These neurons provide an important new tool for the study of seizure disorders, allowing scientists to measure signals that neurons in the brain send to one another through tiny portals called sodium channels.

“One of the most exciting things about this technique is that we can develop and study cells that closely resemble the patient’s own brain neurons, without doing a brain biopsy,” says research team leader Jack Parent, M.D., a U-M professor of neurology and researcher at the VA Ann Arbor Healthcare System.

The neurons were derived from the skin cells of two children with a severe, rare genetic form of epilepsy called Dravet syndrome, as well as from three people without epilepsy. U-M researchers detected abnormally high levels of sodium channel signaling activity in neurons derived from Dravet patients’ cells, including spontaneous bursts of communication and "hyperexcitability" that may set off seizures. Neurons made from the skin cells of people without epilepsy showed none of this abnormal activity. "It appears the mutant cells are overcompensating for the reduced number of sodium channels,” Parent adds.

The neurons created from people with Dravet syndrome contained a mutation in SCN1A — a gene that encodes an important sodium channel protein. The same mutation is found in most Dravet patients. People born with this mutation have only about half the normal number of sodium channels in their brain neurons.

Many Dravet patients don’t respond to current epilepsy medications, giving urgency to the search for new treatment options. The research team plans to screen specific drug compounds for seizure-calming potential in human patients by first testing the drug’s impact on neural cells. —KG

An Alternative Treatment for Pain

RESEARCHERS FROM U-M AND a major pharmaceutical company have discovered a new approach to treating moderate and severe pain that could pave the way for lower-dose painkillers with fewer side effects.

Many patients with cancer and other chronic health conditions take drugs like morphine, Vicodin and Oxycontin to manage pain. These drugs prevent the perception of pain by binding to molecules called opioid receptors on nerve cells in the brain and spinal cord. The body tends to develop tolerance to these medications, meaning patients must take higher and higher doses for pain relief — increasing the risks of harmful side effects and dependency.

“We have discovered new drug compounds that bind to an alternative and previously unknown site on nerve cell opioid receptors,” says Professor of Pharmacology John Traynor, Ph.D. "These compounds have significant potential to enhance a drug’s pain-killing action without increasing negative side effects.”

If the results are confirmed in research animals and human patients, these novel compounds could be the beginning of a much-needed revolution in the treatment of pain. —BM
Educating Clinical Educators
U-M launches master’s degree in health professions education

THE U-M MEDICAL SCHOOL, KNOWN for its top-ranked four-year medical school curriculum and its rigorous Ph.D. programs, is also home to a number of master’s degree programs. A new master’s program based at the Medical School will help doctors, nurses and other health professionals learn how to educate future members of their professions.

The unique program of individualized learning admitted its first 12 students this fall to work toward master’s degrees in Health Professions Education (MHPE). The program focuses on physicians, nurses, pharmacists, dentists and clinical social workers who have or will have responsibility for educating students and early-career trainees. The MHPE program plans to expand to 25 students by its third year.

The program relies heavily on mentor-guided projects that students develop in their own current working environments over the course of two or three years. U-M faculty who specialize in health professions education mentor up to three students closely, ensuring a highly personalized experience.

The Medical School is one of only six institutions in the U.S. that has a department specifically dedicated to medical education, and the U-M is one of few universities with top-ranked schools in a broad range of health disciplines.

Through distance-learning technologies, students will be able to enroll from anywhere — including India, where the U-M is working with the Maharashtra University of the Health Sciences in Nashik on a joint program to educate new health professions educators. Students also come from the U-M itself, which has more than 2,800 faculty members in its health professions schools on the Ann Arbor and Flint campuses.

Larry Gruppen, Ph.D., who led the team that developed the new program, notes that many health professionals who are called upon to lead education and clinical training programs have no formal training in education methods.

“As the number of medical schools and health professions training programs expands, we have to ensure that education programs — and the health professionals they produce — meet the highest standards,” says Gruppen, who chairs the Department of Medical Education and serves as the Josiah Macy Jr. Professor of Medical Education. “Our program emphasizes the importance of developing educators who can lead the way in serving national and worldwide needs.”

The new master’s program teaches students to build and run “competency-based” programs that focus on the practical skills a health provider needs. Programs that train multiple types of health professionals to work with one another, as they will in their careers, receive special emphasis.

Students are expected to publish the results of their work in peer-reviewed journals, ensuring that their experience is shared with other health professions educators — a core value of the program.

The new master’s program is the latest in a range of master’s degree programs at the Medical School, in addition to the M.D. and Ph.D. programs. Students can also earn master’s degrees in biochemistry, bioinformatics, biomedical engineering, clinical research, genetic counseling, health and health care research, human genetics, microbiology, pharmacology or physiology through programs offered by the Medical School — some in partnership with other top-ranked schools across the university. [M]
Newest Students Face Myriad Changes

THE MEDICAL SCHOOL CLASS OF 2017 WAS FORMALLY WELCOMED IN a White Coat Ceremony held August 4. Composed of 172 slightly older students (six months older than the previous year’s average), the class is nearly evenly split between male and female. These newest physicians-to-be will be challenged throughout their careers by advances in medical technologies and changes in the health care environment. Students spent one of their first days of medical school participating in Leadership Day, an orientation exercise that promotes teamwork, leadership and problem-solving. Additional information on the class appears below. —EK

- Number applying: 5,441
- Number interviewed: 578
- Students in the class: 172*
- Class average total GPA: 3.77
- Class average MCAT: 34.35
- MSTP students (M.D./Ph.D.): 14
- Female: 49.4%
- Male: 50.6%
- Underrepresented in medicine: 28 (16.9%)
- Average age: 24.3

- Michigan residents: 47.1%
- Non-residents: 52.9%
- Number of states represented: 33
- Total undergraduate institutions represented: 73
- Michigan undergraduate institutions represented: 11

* Data subject to change

U-M Community Mourns Loss of Student

FOURTH-YEAR MEDICAL STUDENT

Paul DeWolf, 25, of Schoolcraft, Michigan, was found dead of a single gunshot wound on July 24, 2013, in his room at the Phi Rho Sigma medical fraternity. After months of investigation, three suspects were arrested in November. Police believe DeWolf was killed during a break-in.

DeWolf, a graduate of Grand Valley State University, also was a U.S. Air Force Second Lieutenant. In a statement at the time of the arrests, the Ann Arbor Police Department, which worked with U-M police officers, the U.S. Marshals Service, the U.S. Air Force Office of Special Investigations and the FBI, said, “There does not appear to be any previous affiliation between the suspects and Paul DeWolf, nor any connection with the University of Michigan or the U.S. Air Force.”

At the time of DeWolf’s death, the Medical School released a statement that said, in part, “We mourn the passing of a promising and aspiring surgeon who connected quickly with patients, had a thirst for knowledge and a dedication to teamwork, and showed his leadership skills in his academic, military training and athletic pursuits.” —RK
In the Clinic

On-demand Medicine
With 3-D printing technology, U-M doctors and engineers team up to save lives

BABY KAIBA COULDN'T BREATHE.
The walls of his airway were weak and kept collapsing. He had to be resuscitated daily. At 2-months-old he was put on a ventilator. There was nothing Kaiba’s parents April and Bryan Gionfriddo could do for their son but keep a vigil and send up their prayers.

“Quite a few doctors said he had a good chance of not leaving the hospital alive,” April recalls.

Kaiba’s doctor in Ohio reached out to the University of Michigan, where physicians and engineers had been working together to develop an implantable plastic splint that the body can absorb over time, and that can be tailored from CT scan-data to exactly fit each patient.

Glenn Green (M.D. 1991), associate professor of pediatric otolaryngology, and his colleague, Scott Hollister, Ph.D., professor of biomedical engineering and mechanical engineering, thought the new device might be able to save Kaiba’s life. They obtained emergency clearance from the federal Food and Drug Administration to try the technique, which uses a bioplastic known as polycaprolactone.

“Even with the best treatments available, Kaiba had continued to have these episodes,” Green says. “Without help, he was going to die.”

On February 9, 2012, Kaiba underwent surgery at C.S. Mott Children’s Hospital. The splint was sewn around Kaiba’s airway to expand one of the major air passages off his windpipe and give it a rigid skeleton to aid future growth.

“It was amazing. As soon as the splint was put in, the lungs started going up and down for the first time and we knew he was going to be okay,” says Green.

Three weeks after the procedure Kaiba was taken off ventilator support and has not had breathing trouble since. The first-of-its-kind case was featured in The New England Journal of Medicine.

“The material we used is a nice choice for this — it takes about two to three years for the trachea to remodel and grow into a healthy state, and that’s about how long this material will take to dissolve into the body,” says Hollister, who is also an associate professor of surgery. “Kaiba’s case is definitely the highlight of my career so far. To actually build something that a surgeon can use to save a person’s life? It’s a tremendous feeling.”

The technique goes beyond infant airways — 3-D printing technology and biomaterials are seen as the wave of the future for building and reconstructing a variety of tissues — such as noses, ears, and bones in the face and spine.

Meanwhile, they also offer new hope to patients, like Kaiba, born with severe tracheobronchomalacia. About one in 2,200 babies are born with the disorder, but few cases are as severe as Kaiba’s.

“Severe tracheobronchomalacia has been a condition that has bothered me for years,” says Green. “I’ve seen too many children die from it. To see this device work — it’s a major accomplishment and offers hope for these children.”

Kaiba, now 2, is still doing well. Since the technique was published, the case has garnered national media attention and in July the family appeared on the “Today” show.

“He has not had another episode of turning blue,” April Gionfriddo says. “We are so thankful that something could be done for him. It means the world to us.”

—IAN DEMSKY and MARY MASSON
Inside the Dying Brain

HOW LONG DOES THE BRAIN STAY active after the heart stops beating? Apparently, longer than many scientists thought. A U-M study of electrical activity in the brains of rats during and after clinical death found that high levels of electrical activity continued even after the animals’ hearts stopped beating and blood stopped flowing to the brain. These brain activity patterns were widespread, highly synchronized and similar to those measured during conscious activity.

“This study, performed in animals, is the first to show what happens to the neurophysiological state of the dying brain,” says lead study author Jimo Borjigin, Ph.D., associate professor of molecular and integrative physiology and associate professor of neurology. “Our study will form the foundation for future research to investigate mental experiences occurring in the dying human brain, including reports of seeing light and other near-death experiences during cardiac arrest.” —SK

MORE ON THE WEB

U-M to Offer Retinal Implants

KELLOGG EYE CENTER is one of 13 centers nationwide selected to offer a new FDA-approved retinal implant that could provide partial sight for individuals with late-stage retinitis pigmentosa (RP). RP is an inherited retinal degenerative disease that causes progressive vision loss and eventual near-blindness due to a gradual loss of light-sensitive retinal cells called rods and cones.

“Until now, we’ve had no treatment options for patients with advanced RP,” says Thiran Jayasundera, M.D. (Fellowship 2009), an assistant professor of ophthalmology and visual sciences at the U-M. “Clinical studies have shown that the Argus II System can bring light back into a patient’s world — allowing them to detect shapes of people and objects, gain more independence and go about their daily lives with more confidence.”

The prosthesis is surgically implanted in one eye and individuals wear glasses equipped with a camera that captures images and converts them into a series of small electrical pulses. The pulses are transmitted wirelessly to the prosthesis and its array of electrodes on the surface of the retina. These pulses are intended to stimulate the retina’s remaining cells, resulting in the corresponding perception of patterns of light in the brain. By learning how to interpret these visual patterns, people with RP can regain some visual function.

Sometimes called an artificial retina or “bionic eye,” the Argus II Retinal Prosthesis System was developed by a California-based company called Second Sight Medical Products, Inc., and was approved for use in U.S. patients by the Food and Drug Administration in February 2013. —BN

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MORE ON THE WEB
Health Briefs

Pertussis, often called whooping cough, can be deadly for infants too young to be vaccinated, and outbreaks of this highly infectious disease are becoming more common in the U.S. Effective Tdap vaccines are available, but most people receive them during childhood and protection wears off over time. A recent C.S. Mott Children’s Hospital National Poll on Children’s Health found that only 20 percent of adults surveyed within the past 10 years. To avoid exposing vulnerable babies to the disease, pediatricians recommend that all teens and adults who will be around a newborn get a booster shot.

Rates of severe depression in older Americans declined between 1998 and 2008, according to a U-M Health System study — especially among people aged 80 to 84 who are considered to be at high-risk for depression. During the same decade, however, rates of depression increased in adults aged 55 to 59, a group not traditionally considered to have a high-risk of developing the disease. U-M researchers will continue the study to determine why depression is becoming more common in late middle-age.

In the Clinic

Healing ACLs

OFTEN DUBBED AN ATHLETE’S WORST NIGHTMARE, a tear in the anterior cruciate ligament, or ACL, usually requires surgical repair, months of intense rehabilitation and a long break from any sports-related activity. In spite of improved ACL recovery therapies, most patients will have muscle weakness or atrophy after the injury that can be a career-killer in sports and ultimately develop into osteoarthritis, says Christopher Mendias (Ph.D. 2007), an athletic trainer and a U-M assistant professor of orthopaedic surgery and of molecular and integrative physiology.

Mendias directed a U-M study that identified a new potential drug target — a hormone called myostatin, which appears to play a key role in causing muscle damage after an ACL tear. Myostatin has shown promise as a potential drug target for other conditions such as muscular dystrophy and cancer, and blocking the protein has led to increased muscle mass and strength.

“This is the first study in humans that opens the door to a potential therapy to prevent muscle atrophy,” says Mendias. “We see it as an important step in restoring athletic and functional abilities in the short term, and in preventing osteoarthritis in the long term.” —BM

Help for the Caregiver

SOMETIMES THE MOST DIFFICULT PART OF CARING for loved ones with dementia is their disruptive behavior changes. With no reliable medications and limited information available to family caregivers, dementia-related behavior changes are a common source of stress — often resulting in a nursing home placement.

With a $1.7-million grant from the National Institutes of Health (National Institute of Nursing Research), researchers from the U-M and Johns Hopkins University will work together to design a web-based tool called WeCare to help caregivers track, understand and treat dementia’s behavioral symptoms.

Helen Kales, M.D. (Residencies 1997 and 1998), a U-M associate professor of psychiatry and researcher at the VA Ann Arbor Healthcare System, and her collaborator, Laura Gitlin, Ph.D., Director of the Center for Innovative Care in Aging at Johns Hopkins University School of Nursing will direct the project. —JH
Adrenal Cancer: Locks and Keys

Orphan diseases, such as adrenal cancer, often are overlooked in medical research in favor of diseases that afflict far greater numbers of people. Gary D. Hammer, M.D., Ph.D., the Millie Schembechler Professor of Adrenal Cancer, directs the Endocrine Oncology Program in the U-M Comprehensive Cancer Center — recognized as an international center of excellence for the treatment of adrenal cancer. Research in Hammer’s laboratory and those of U-M colleagues has led to new national and international therapeutic trials with biological-based therapies that target molecular defects. ➤
Q: How rare is adrenal cancer?
A: The Orphan Drug Act of 1983 defined rare as 200,000 or fewer cases a year. With only 500 cases a year in the U.S., adrenal cancer can perhaps be considered an ultra-rare disease. The challenge with a rare disease is threefold. Most doctors who see a case have never seen a case before and might never see one again; there are too few physicians and scientists researching the disease; and there is no funding because the return on investment from the point of view of government or industry is too incremental. Having a dedicated center and research group at the U-M is so important and can provide real leverage to make a difference. Because most patient advocacy groups link themselves to our patient-oriented web sites and the U-M community in general, we see a high percentage of the patients across the country, as well as from Hong Kong, South Africa, Europe and Australia.

Q: What do we know about adrenal cancer? How can we offer more effective diagnosis and treatment?
A: Adrenal cancer is very aggressive. The only approved drug for the treatment of patients with this disease is mitotane, a derivative of the pesticide DDT. It’s effective in a small subset of patients but has significant toxicity and isn’t well tolerated. We aim to understand the genetics of the disease in hope of finding new targets for therapy. We have a hunch that we first must identify the common denominator across patients and the mutations that occur that are important for initiating the disease. Then we can dive into what’s unique about each cancer and each patient. Most cancer is sporadic: one mutation in one cell. There are also cancers that we refer to as familial cancer syndromes, where every cell in your body has the mutation and you pass it on to your children and they pass it on to their children. We figured out that some genes involved in familial adrenal cancer are the same genes that are mutated in sporadic adrenal cancer. They are the WNT and IGF pathways — which are both signaling pathways in the cell — and the tumor suppressor gene, P53. The challenge has been that cancer is tough, and when we’ve tried to inhibit the IGF pathway, it’s been effective in only a very small proportion of patients, despite the fact that over 80 percent of adrenal cancers have mutations that cause over-activation of the pathway.

Cancer cells find other mutations to get themselves around the block. That means most patients with adrenal cancer have handfuls of mutations, not just one or two, so it ends up being a very difficult cancer to treat. We hope that studies that dive deep into the mechanisms by which the normal adrenal gland grows will give us clues. As such, a big portion of our work focuses on adrenal stem cells. Moreover, many of these projects involve our colleagues around the world because research in a rare disease demands collaboration to make progress.

Q: What will that take?
A: Having resources to expand and do research has been critical. The other kind of leverage that’s been important at Michigan is that we’ve grown the international team. In 2003, we held a meeting where we brought together the handful of people around the world who were seeing patients with adrenal cancer. We realized there was no consensus about how to treat, and none of us knew what the others were doing. We vowed to work together on research, education and clinical care, and came up with guidelines.

THERE IS NO FUNDING [FOR RESEARCHING RARE DISEASES] BECAUSE THE RETURN ON INVESTMENT IS TOO INCREMENTAL. HAVING A DEDICATED CENTER AND RESEARCH GROUP AT THE U-M CAN PROVIDE REAL LEVERAGE TO MAKE A DIFFERENCE.
This consortium is important because to learn anything about a rare disease requires collaboration and large data banks. The consortium also has enabled us to leverage research to garner funds from big pharma, which paid for one of the first large trials for adrenal cancer, last year. That trial was possible only because of the research done here at Michigan on the role of the IGF pathway in adrenal cancer. And when the National Cancer Institute took on a bold initiative to sequence the entire genome of 20 of the most common cancers, they later chose adrenal cancer as the first rare cancer to go after because of our consortium and our collaborative nature.

Q: What strengths does the U-M bring to the study and treatment of adrenal cancer?
A: Michigan has a history of adrenal research that goes back 50 years, and with great support from many grateful patients, we’ve been able to assemble a world-class team that will lead the field for years to come and be able to make significant strides through coordinating international efforts. What sets Michigan apart is the fact that we have strengths in the basic science of the adrenal gland, in translational science, and in the clinical arena. No one else has what Michigan has in terms of incredibly strong basic science and some of the best clinical folks in the world.

Q: How do shrinking funds affect the work?
A: We’ve developed a world-class database and repository for adrenal disease and adrenal cancer. It’s essential that it have continuing updating and maintenance. A significant investment would provide critical infrastructure for this effort. We’ve also developed a robust clinical research team here. Most of our trials are investigator-initiated; meaning that while they come from our home-grown research efforts, we often get no money from industry to run such a trial. These trials sometimes cost over $20,000 per patient. It’s critical that we try to fund these trials, which are often the most creative and rationally-based out there for adrenal cancer.

Q: How will our alliance with Brazil benefit our adrenal cancer research?
A: Adrenal cancer in Brazil is 15 times more prevalent than anywhere else in the world, mostly due to one mutation in one gene. For that reason, Michigan has been collaborating with the adrenal cancer group in Sao Paulo for a number of years. This collaboration was instrumental in forming our international network.

Q: What can studying one of its very rare forms teach us about other forms of cancer?
A: One might argue that since all cancer is about uncontrolled cell growth, what we learn about any one cancer will inform us about the others. Rare cancers can be examples of those cancers where it’s easier to tease out the mechanism, since there are often only a few genes that are critical linchpins for the disease. Adrenal cancer is a component in a small handful of familial cancer syndromes. We’ve learned a lot about the role of those genes in many cancers by studying those cancer syndromes, because we know they’re involved in the etiology of those cancers. It’s easier to study how one or perhaps a few locks and keys work together than how 50 work.

Interview by Jeff Mortimer
The Boss

Surgical great Frederick Amasa Coller: “What I’m teaching is judgment.”

BY JAMES TOBIN

Before Coller’s era, residency programs followed the model of Johns Hopkins, which trained only a few future academics, the most brilliant in their fields. It was a pyramid — a slippery slope with room for only a tiny elite at the top.

Coller, by contrast, imagined residency as a rectangle, with many good prospects offered a chance and most of them rising to success. This was especially appropriate at Michigan, he argued, because a medical school supported by the public owed a debt to its state, to be paid in the form of well-trained doctors helping patients in every community.

He picked residents not so much for sheer brainpower as for the ability to acquire knowledge on their own. He looked for good character and high potential in each resident, he said, “then I let him train himself with what help I could offer.”

Coller’s residency was no easy path. He expanded the surgical program to five years, with three years in general surgery and two in a specialty, and he insisted that residents increase their knowledge of basic science well before specializing. But in return he became his residents’ chief loyalist and ally. They were always included at dinner parties at the Coller home in Ann Arbor’s elegant Ives Woods neighborhood — the chairman entertained with old-time favorites on the zither, especially after a shot or two of Early Times Kentucky Whisky — and he bent over backwards to make them feel comfortable.

He never bent farther than one evening when a resident stole a bottle of Scotch from Coller’s bar and hid it under his overcoat. Just as the young physician was shaking Coller’s hand and backing out the

Coller argued that a medical school supported by the public owed a debt to its state, to be paid in the form of well-trained doctors helping patients in every community.
door, the bottle fell to the floor and smashed to pieces. “Oh, my poor boy,” Coller said, “let me get you two others” — and he went to the bar and did so. Apparently Coller’s judgment of character had fallen short in this case. But his soft response must have cut deeper than any direct reprimand would have.

The Boss’s solicitude for his residents’ feelings melted away in the hospital, especially on Wednesday evenings, when he conducted grand rounds. On those occasions, “if you were not careful,” one of his charges remembered, “you might be thrown to the lions... You had to know about your patients, all about them, not only their disease but who they were and what they did. It was ‘why’ first and then ‘how.’ All the time you could feel those penetrating blue eyes looking for any mistake, inaccuracy, inexactitude... Some of it may have seemed cruel, but never disloyal or unjust, and you would sit down a humbler man.”

He was a stickler for precise English. If a student said a patient was “inoperable,” Coller would say: “You can operate on anybody who will hold still. What you mean is that the lesion was unresectable, not inoperable.”

Coller liked to say he was a family doctor who happened to do major surgery, and indeed he was a true generalist at a time when specialists were beginning to crowd the field. He once demonstrated his all-around prowess before an audience of visiting surgeons. A tubercular patient was scheduled for a one-stage total pneumonectomy with Michigan’s great thoracic specialist, John Alexander. But Alexander took sick on the eve of the operation. His colleague, Cameron Haight, who was not only qualified but distinguished, prepared to step in. But the patient’s family requested the department’s “head man.” Coller had never performed a pneumonectomy, but he said he would do it, with Haight’s assistance. Haight wound up doing no more than holding a retractor.

“I can take a bum off the streets and make a good operating technician out of him in six months,” Coller would tell residents. “What I’m teaching is judgment.”

As a governor, then president, of the American College of Surgeons, Coller helped to raise national standards in residency and pushed for residents to be allowed to work outside academic hospitals — though still under academic supervision — to gain more experience and improve patient care.

At the height of his career he was regarded as one of the world’s preeminent surgeons. So Coller’s departure from the faculty in 1957 was especially bitter and sad. The rules required retirement at 70; Coller felt his case warranted an exception. He lost a battle to stay on that no one had wanted to fight.

Nonetheless, he was showered with awards and accolades, and the Frederick A. Coller Surgical Society, founded by his former residents in 1947, is still going strong long after Coller’s death in 1964. The society today is an enduring testament to its namesake’s example and influence, seeking to perpetuate Coller’s devotion to the patient and to further his high ideals in medical education.

Sources include the Frederick A. Coller papers at the Bentley Historical Library and James O. Robinson, Frederick Amasa Coller: His Philosophy, Surgical Practice and Teachings (1987).
The 25th anniversary of U-M’s Comprehensive Cancer Center provides an opportunity to reflect on how collaboration among physicians and scientists has revolutionized cancer research and care.

BY SALLY POBOJEWSKI
ILLUSTRATION BY ALEX NABAUM
The University of Michigan Comprehensive Cancer Center is a research powerhouse—ranking first in the nation among medical schools in research grants awarded by the National Cancer Institute (NCI). The Cancer Center provides a beacon of hope for patients seeking the country’s best physician-scientists and access to clinical trials of new cancer therapies. With nearly 150,000 patient visits per year, the center’s outpatient clinics, infusion and radiology centers are a hub of activity on the U-M’s medical campus.

And it all started with notes scrawled on the back of a cocktail napkin.

Max Wicha, M.D., director of the Cancer Center, remembers that night in 1985 very well. He was in Washington, D.C., attending the annual meeting of the American Society of Clinical Oncology. During dinner with U-M colleagues Allen Lichter (M.D. 1972), and Ray Ruddon (Ph.D. 1964, M.D. 1967), the three friends started talking about what would happen if cancer research could be integrated somehow with clinical care.

Academic medical centers at the time were organized by medical school departments. Urologists associated with other urologists; hematologists congregated with hematologists; surgeons hung out with surgeons. Laboratory scientists lived in a different world entirely and rarely saw clinicians at all. As a result, physicians weren’t aware of the latest scientific advances outside their fields of specialty, and scientists had no efficient track for developing and refining their discoveries to help patients.

But what if physicians from different disciplines worked together in one cancer clinic, rather than in separate clinics scattered throughout the health system? What if these physicians worked side-by-side with scientists who did research on cancer?

Grabbing a napkin, Wicha sketched out a plan of how it might work. It wasn’t the first time that a great idea started over drinks and dinner with friends — the difference was that the three U-M faculty members came back to Ann Arbor and found a way to make it happen.

“Our idea was to create a cancer center that would link clinical care and research,” says Wicha, Distinguished Professor of Oncology and professor of internal medicine who recently announced he was stepping down to focus on research.

Last September, Cancer Center administrators, physicians, researchers, nurses, staff and supporters celebrated the 25th anniversary of the first National Cancer Institute Core grant awarded to the U-M in 1988. This was the grant that designated the U-M as an official NCI Cancer Center and a pioneer in the concept of integrated care.

To understand how revolutionary integrated care was then, it helps to step back and see what it was like to be a cancer patient in the 1980s. It’s never easy to hear that you have cancer, but 25 years ago, it was a devastating diagnosis. There was a fear associated with a cancer diagnosis, and public focus on the disease was limited. Doctors controlled the information patients received about their disease and its treatment. Support groups were sparse and Internet forums didn’t exist.

“When I had to tell patients they had cancer back then, it was terrifying; the outcomes were often poor,” recalls Kathleen Cooney, M.D. (Residency 1991), the Frances and Victor Ginsberg Professor of Hematology/Oncology, who in 1988 was a chief resident at University Hospital. “Chemotherapy had so many toxic side effects that we admitted most patients to the hospital to receive their infusions.”

Patients who sought treatment from a specialist at an academic medical center faced another set of challenges. Clinical care was provided in department-specific clinics...
— so a patient with breast cancer, for example, might see a surgeon in the clinic, then make another appointment to see a medical oncologist, and then a third appointment to see a radiation oncologist. This model of care often resulted in three different treatment options being recommended, leading to confusion for many patients.

“The care of the cancer patient was much more siloed then,” says Diane Simeone, M.D. (Residency 1995), who in 1988 was an intern at the U-M, and who is now the Lazar J. Greenfield Professor of Surgery and professor of molecular and integrative physiology. “If a patient was referred for surgery, surgeons made all the decisions about their care. Patients who came to see an oncologist were treated with no initial input from surgeons. The decision-making process wasn’t integrated.”

A TRAILER AND A VISION

In 1986, Wicha and colleagues took the first step toward making that cocktail-napkin idea a reality by submitting a proposal to the U-M Board of Regents to establish the Health System’s first cancer center. The Regents approved the idea that year. The center’s administrative offices were housed in a trailer parked on the edge of the medical campus, and research was performed in limited laboratory space in existing research buildings.

To grow, the fledgling program needed a core grant from the National Cancer Institute. Not only would an NCI grant bring much-needed funding, it would be an official stamp of approval from national experts for the U-M’s proposal to integrate cancer treatment and research. After two years of work, an intensive peer-review process, and an on-site evaluation, the U-M was awarded its designation as an NCI Cancer Center.

The Cancer Center worked with departments in the Medical School and other schools to hire the country’s best young scientists — many of whom were interested in cancer biology and wanted to be part of the new approach to research taking shape at the U-M Cancer Center.

“During our first decade,” says Wicha, “we jumped from being nowhere on the map to being one of the top 20 cancer centers in the country.”

Following a rapid expansion of the Cancer Center’s research and clinical programs, it faced a new challenge — creating adequate space to house the programs and facilitate its mission to seamlessly integrate multidisciplinary research and patient care. The goal was to enable patients to see all their physicians in the same place on the same day, so a comprehensive evaluation and treatment plan could be generated quickly with input from all specialties.

Common at cancer centers today, the concept was new when Wicha, Lichter and colleagues established the Health System’s first multidisciplinary clinic for breast cancer in 1985 — one of the first such programs in the nation.

To make room for more clinics and research labs, the Cancer Center needed a new multi-purpose building.

“There was no building that combined clinical care of patients with laboratory science,” Wicha says. “A few people didn’t understand the benefits of combining research with clinical care; they said we shouldn’t mix mice with people.”

Many, however, saw the benefits of such an approach.

Then there was the issue of how to raise all that money — enough to build the new center and hire more physician-scientists to work in it. NCI building grants covered part of the construction cost, but Wicha had to work closely with Medical School, hospital and university leadership to develop and implement plans for the new building. To spread the expense more broadly, part of the building was designated for the new U-M Geriatrics Center. Private giving from many generous donors — including early commitments from Cis Maisel Kellman, John and Suzanne Munn, the Edward and Helen Mardigian Foundation, and Gifford Upjohn (Ph.D. 1928) — played a pivotal role.

It took two years of committee meetings, focus groups, presentations — and $88 million — but on May 5, 1997, the nine-level Cancer and Geriatrics Center opened for business. More than 800 people attended the center’s formal dedication ceremony that June.

“This facility is dedicated to our patients and their families,” said Wicha at the event. “Their courage and determination inspires us every day.”

TARGETED THERAPIES

Researchers knew little in the 1980s about the molecular biology of cancer or the relationship between genetics and cancer. Then came the 1990s: the decade of the human genome, when scientists began the 13-year odyssey to sequence the building blocks of human DNA.

Researchers finally had the data and technology they needed
to discover links between genetic mutations and cancer, and to understand how these mutations made it possible for cancer cells to spread throughout the body. The U-M Cancer Center was a pioneer in the genetic sequencing of tumors from cancer patients, and research continues today under the direction of Arul Chinnaiyan, M.D., Ph.D., the S.P. Hicks Professor of Pathology, who directs the Michigan Center for Translational Pathology.

“Comparing the tumor’s genome to the patient’s normal genome allows us to identify the genetic changes that drive the tumor’s development,” Chinnaiyan says. “Our goal is to treat patients with targeted therapies aimed at specific mutations in their tumor. We were one of the first cancer institutions to do this, but now everyone is jumping on the bandwagon and we are training other cancer centers to set up sequencing programs similar to ours.”

Cancer cells are programmed to survive and often have multiple mutations. If scientists succeed in blocking the pathological effects of one mutation, cancer cells will switch to a back-up survival mechanism and continue multiplying. So most cancer researchers believe the future of cancer treatment will require multiple targeted therapies tailored to fight a particular patient’s tumor. While it may not be possible to cure every patient’s cancer, the goal is to keep it in remission for long periods of time.

In the future, Chinnaiyan believes every patient will have their genome and their tumor’s genome sequenced as the first step in standard treatment for cancer. Physicians will select a therapy based on their individual genetic “fingerprint.”

“It took more than a decade and cost more than $3 billion to sequence the first human genome,” says Chinnaiyan. “Now we can do it in a matter of weeks for a fraction of that cost.”

But there’s a catch: genome sequencing can’t help patients without the availability of new targeted therapies. That requires developing more experimental drugs, all of which must be tested in expensive human clinical trials.

“If there’s no open clinical trial to refer patients to, all these clinical sequencing efforts end up being a dead end with no clinical impact on the patient,” says Chinnaiyan.

Wicha says the Cancer Center’s next 25 years will be characterized by intense focus on developing new targeted therapies and testing them in clinical trials with U-M patients. This will require close working relationships with pharmaceutical and biotechnology companies who develop experimental therapies, and more spin-off companies established by cancer center investigators to market their research discoveries.

To facilitate more clinical trials at the U-M, in July 2012 the university established a Translational Oncology Program located at the North Campus Research Complex. Directed by Diane Simeone, the program provides support services and expert guidance to scientists who want to turn their laboratory discoveries into experimental treatments for cancer.

“Figuring out how to take a key research finding and translate that work into a meaningful clinical trial is really unknown territory for many basic scientists,” says Simeone. “Our program is designed to accelerate the pace of that activity.”

For example, Simeone notes, U-M researchers have developed a Primary Tumor Xenograft Core in which they implant human tumors into mice to study the effects of new drugs on individual patient tumors. Developing the xenografts is costly and difficult for researchers to do on their own. The Xenograft Core provides this resource for cancer researchers to use. There is also a team of researchers embedded in the Translational Oncology Program who are working to develop new cancer drugs.

“So if a scientist discovers an important target or pathway in cancer, we can develop new targeted drugs right here,” she says.

And scientists can use all the help they can get, because taking an experimental drug through pre-clinical laboratory and animal studies followed by human clinical trials is complicated, risky and expensive. Every step in the process is regulated by the Food and Drug Administration. Before an experimental drug is tested in people, the FDA requires detailed documentation showing how the drug works and whether the side effects are tolerable.

Plans are underway to expand the Cancer Center’s phase 1 clinical trials program, established in 2008 to test new cancer therapies for safety and efficacy in U-M patients. Positive data from phase 1 clinical trials makes it more likely that pharmaceutical and biotechnology companies will take
on the risk and multi-million-dollar expense of conducting the phase 3 clinical trials required by the FDA. It also gives U-M patients access to experimental cancer therapies that aren’t available outside a clinical trial.

**THE FUTURE IS NETWORKING**

Wicha believes that a key element in accelerating the progress of cancer research is increasing collaborations — not only within the Cancer Center, but with the community, as well as with scientists and physicians nationally and globally. The development of instantaneous Internet communication has facilitated these interactions, breaking down barriers that previously existed.

Diversification of research funding sources is also necessary because the traditional revenue sources — research grants and clinical care revenue — are disappearing. Only 14 percent of NCI research proposals were funded in 2012 and even previously awarded grants are being cut or frozen. At the same time, Medicare, Medicaid and private insurance reimbursements for clinical care are decreasing, which limits the amount of internal funding available to support research.

To facilitate clinical research, Cancer Center investigators have expanded their interactions with pharmaceutical and biotech industries and have founded more than a dozen biotech startups, which are focused on moving research discoveries at the Cancer Center into applications that benefit patients.

Philanthropy will play an increasingly important role in supporting the most innovative research. Instead of relying exclusively on research grants, a diversified portfolio needs to include pharmaceutical/biotech collaborations and philanthropy. Another key collaboration involves formation of integrated networks of cancer centers and community hospitals, with the U-M as the hub for tumor sequencing and clinical trials.

Much of the responsibility for meeting this challenge falls to Kathleen Cooney, who was recently appointed the cancer center’s first deputy director for clinical services. One of her tasks is to forge additional alliances between the Cancer Center and community hospitals throughout Michigan.

“We are thinking of a hub-spoke model with the U-M as the hub for complex, multi-disciplinary care of patients and for clinical trials,” Cooney explains. “We want to reach out to community oncologists and offer services that aren’t available in their area.”

Although plans are still in the discussion stage, Cooney says these services could include online consultations with U-M experts or developing a specialty pharmacy to supply oncologists with new cancer drugs and advice on how to manage their side effects.

“The new biologics and targeted agents are wonderful, but they can be challenging for oncologists,” Cooney explains. “Older drugs have quite predictable side effects and we know how to manage them, but we’re still learning how to manage unexpected complications from these new therapies.”

Cooney says feedback from community oncologists indicates they are eager to enroll their patients in clinical trials developed at the U-M. Expanding the statewide clinical trial network is another major priority.

“Our goal is to cast a wider net, and to position the U-M Cancer Center in a way that makes sense,” says Cooney.

“What makes us unique is our ability to improve the care of cancer patients through scientific discoveries. We are the leaders and best. That is our differentiating factor.” [M]
BRINGING COMFORT TO PAIN AND PASSAGE

PALLIATIVE CARE EASES THE SUFFERING OF SERIOUSLY ILL PATIENTS AND THEIR FAMILIES.

BY WHITLEY HILL
Why is my wife on a ventilator?” asked the man in the emergency room.

“Because her cancer has gotten worse,” replied Adam Marks, M.D.

“What cancer?” asked the man.

“The lung cancer she was diagnosed with several months ago...” said Marks, surprised by the question.

“Oh no,” said the man. “God came to me in a dream and told me to lay hands on her and I did and she is cured of her cancer.”

Marks pauses as he recalls what happened that day in the University of Michigan Intensive Care Unit on one of his very first days as a resident. The young doctor looked up the woman’s record. Several months before, she had been diagnosed with metastatic lung cancer. She had been offered chemotherapy with the understanding that it probably wouldn’t cure her disease, but might add a few months to her life; she had declined. Now she was back in the ER unable to breathe. And Marks was in the midst of an impossibly difficult conversation.

But he wasn’t particularly surprised. Throughout his schooling Marks had noticed a disturbing disconnect in the way physicians and patients talked – or, rather, didn’t talk – about death and suffering. Again and again, he’d witnessed people with a life-limiting disease who were surprised to learn that their disease was, in fact, life-limiting.

Because of this misunderstanding, they and their families were being forced into untenable positions. There was suffering, fear and panic. Late-night trips to the ER. People were receiving painful, pointless interventions and dying in the intensive care unit – instead of peacefully in their homes. All because of a failure to communicate. Now, Marks was face-to-face with just such a situation, unsure how to proceed.

“I thought, ‘This is going to be a disaster. This is going to be faith versus science and this poor woman will be stuck in the middle and she’s going to die a terrible death and there’s going to be anger all around.’

Instead, a group of doctors trained in palliative care was summoned to meet with the family. Marks watched as an unexpected miracle took place.

“They said, ‘As doctors of science, we can’t comment on matters of faith but what we can comment on is that your wife is dying and it is beyond our ability, as mortal hands, to heal that.’ And he got it,” he recalls.

Soon, the woman’s family gathered around her bed. They prayed as the ventilator was removed and she died a peaceful, calm death.

What happened next changed the course of Marks’ career. “The husband came around and hugged each one of us. It really drove home the power that this kind of care can have for somebody. I completed my residency, then applied for a fellowship in palliative care and here I am.”

Today, Marks is an attending physician who works in adult and pediatric palliative care in both inpatient and outpatient environments. He’s part of the University of Michigan Health System’s new Adult Palliative Medicine (APM) program, an initiative that positions the institution as a national leader in the emerging field of palliative medicine.

Those who have devoted their lives to the field feel passionate about defining it, particularly in the face of recent efforts to politicize their work. Terms like “death panels” and “rationing” horrified palliative care specialists across the nation. In fact, the field is so broad yet so nuanced, it can be confusing to pin down.

“I have senior doctors asking me the difference between palliative care and hospice, for example,” says Raymond Yung, M.B., Ch.B., chief of the Division of Geriatric and Palliative Medicine. “Some people mistakenly believe that palliative care is only for patients who are incurably ill; our goal is to provide relief from the symptoms and stress of a serious illness – whatever the diagnosis.”

That, adds Yung, means aggressively addressing all aspects of a patient’s suffering: pain, nausea, diarrhea, agitation, anxiety, depression, even when — especially when — it is clear that a cure is no longer possible. And it means doing so in a manner aligned with their faith, beliefs and values.

“Some people mistakenly believe that palliative care is only for patients who are incurably ill; our goal is to provide relief from the symptoms and stress of a serious illness – whatever the diagnosis.”
To that end, the new APM program — built on more than 10 years of committed work by concerned physicians from all specialties, as well as nurses, social workers, spiritual care workers and administrators — is making a quiet but profound difference in the way medicine is practiced at the U-M. Since 2005, the APM consult service has met daily to confer honestly, compassionately and creatively about some of the sickest patients in the hospital. The service’s interdisciplinaty team has worked with over 5,000 such patients, some of whom are clearly dying, others just overwhelmed by suffering and confusion about their diagnosis and options. When called upon by a patient’s primary physician — or, increasingly, by patients and their families — the team visits patients in their rooms to listen to their needs, to plan and to help.

For patients near the end of life, the goal of those conversations is to understand a patient’s preference, says Marks. “I’ve had people say, ‘It’s important to me to feel as if I have fought for every day with my family. I need to know that I have done everything in my power to stay on earth as long as possible.’ It’s quantity, not quality,” he says. “And they need to be ‘full code’ and their death needs to happen in the ICU, and that’s our job. Any limits to care will be the limits of futility. We wouldn’t offer a heart transplant or a lung transplant if it would be of no benefit.”

He adds that being part of a large and world-renowned medical institution means that patients often come here expecting to be cured after other hospitals have “failed.” “My job is not to take away someone’s hope, but to share in that hope,” he says, “and also to plan for what we expect. It’s my job to tell them that. I say ‘I will continue to hope with you for a cure, even if we’re talking on the level of a miracle, but this is what I expect.’ The research about communication is fairly limited, but we do know that people
The study showed that patients who received palliative care not only reported improved quality of life, they actually lived about two-and-a-half months longer than those who received only treatment for their cancer.

“Of all the humans who’ve ever lived past 65,” Rodgers says, “two-thirds are alive today. And the fastest growing segment of our population is people over 85.”

The American Academy of Hospice and Palliative Medicine recently reported that there is currently one palliative care specialist for every 20,000 older adults living with chronic disease. Compare this to the one cardiologist who is available to care for about 70 Americans experiencing a heart attack and the disparity becomes even more startling.

“We’ve got to find the funds to train more fellows,” says Rodgers. “We need to care for patients with advanced illness in a more sustainable way. The way we’re doing it now is not sustainable.”

Montagnini says it costs about $70,000 to support a fellowship slot for a year and is constantly searching for ways to expand the program and train new specialists.

“Without them, more and more people will be dying in hospitals with poor pain control and no attention to their emotional, social and spiritual needs,” he says.
treatment. Though profoundly disabled, both children lived lives filled with love, learning and joy. Sam died in 2004, Juliana in 2008. Though Schekter and Zirinsky say their family’s experience at C.S. Mott Children’s Hospital was “exceptional,” they acknowledge there was a marked difference in the end-of-life care each child received.

Sam’s final weeks were spent in the pediatric intensive care unit; there were many interventions. When it became clear that Juliana “was on the same trajectory, we didn’t want her to have the same experience,” Schekter says. By that time, the Pediatric Palliative Care Consultation Service was available at Mott and the family chose that option. A team of professionals headed by Kenneth Pituch, (M.D. 1981, Residency 1985), helped the family care for Juliana at home in her final weeks.

Recognizing the need for support of palliative medicine at Michigan, Schekter and Zirinsky made a generous gift to the program in honor of Sam and Juliana. Today, the new pediatric palliative care suite at Mott bears their names.

Pediatric and adult palliative care differ in some important ways, says Pituch, including the fact that about 80 percent of the kids they treat have never been healthy; they were born with challenging physical anomalies and their lives have been a merry-go-round of interventions large and small, effective and not, from the start. The other 20
percent have developed life-limiting conditions like cancer, heart disease and degenerative neurological disease.

“Our expectation is not curing your child; you already have doctors who are doing their best,” says Pituch. “We’re here to ask what else might help. Pediatric palliative care includes care at the end of life, but also focuses on what you want your life to be as you go through your serious illness.”

He adds that the comfort these children receive often seems to extend their lives. Many children who receive palliative care are still alive a year later. For those who’ve chosen not to be in the hospital, or who enter hospice, half live more than six months. “A significant number ‘graduate’ from hospice; they don’t die,” says Pituch. “Pediatric palliative care can go on for a long time.”

Mott’s first fellow in pediatric palliative medicine began training in the fall.

There’s a pressing need for increased funding to train palliative care specialists. “Of all the humans who’ve ever lived past 65,” Rodgers says, “two-thirds are alive today. And the fastest growing segment of our population is people over 85.”
As anyone involved this new specialty knows, a desire for money doesn’t lead them here; those who devote their lives to palliative care are compensated well below many other specialties. Philanthropy will always be needed to support the training of new specialists in the field as well as new research.

“In my clinic,” says Marks, “I see two or three patients an afternoon, and I’m spending an hour-and-a-half talking to each. But the Health System recognizes that this is value-added care, because we help keep people where they want to be: at home. People aren’t coming to the hospital with shortness of breath – or in pain – because we’re managing it better at home. This is medicine that people want – helping people live as well as they can for as long as they can.”

When it came to Juliana, we had been around the block once before, and we didn’t want to go that way again, not for her and not for us. Most families facing critical decisions about end-of-life care for a child don’t get to do it again. We did. And we wanted to do it better, if there is such a notion in the context of losing two children.

In the fall of 2007, we met with Dr. Pituch and his team. They were like a godsend for our family. They could help Juliana be comfortable over the next few months… comfort care. The whole family has been traumatized over an extended period, and our family needed for Juliana’s final months to be peaceful, without the drama of Sam’s final weeks, to be a gentle going forth into the night.

Parents of chronically ill children need to be heard and listened to. They are truly the experts about their own children. The Palliative Care team worked with our family in such a deeply kind and respectful way — and it made all the difference.

Juliana had a good Christmas at home, and lots of time with family and friends. Her physical therapist came over and worked with her just five days before she died.

The next day, the local therapeutic horseback riding program brought one of their ponies to our house. Juliana loved horses. It was a beautiful, cold January day, and we bundled up Juliana and took her outside to visit with that pony, whose name was Pretty Boy. Juliana got on Pretty Boy for a little while, and she petted that pony and smiled at that pony, and absolutely beamed as she breathed in her last rays of outdoor sunshine. That afternoon was as good as life gets.

When the next day came, she was only barely conscious. The day after that, Dr. Pituch stopped by and arranged for Juliana to have just the right oxygen mask to wear and instructed the nurse on how to carefully maintain her comfort.

The next night, Juliana’s last, we very, very carefully lay her between us in a double bed that we brought into her bedroom. We held her all night long, listening to her breathing, and she was comfortably nestled between us. Our dear friend Ann chanted the holy Sanskrit chant all night long. Right at the crack of dawn, Juliana slipped away from us.

In 2009, parents Ruth Schekter and Bill Zirinsky spoke at a Grand Rounds presentation at University Hospital. Below is an excerpt of their talk.
UNDERSTANDING THE RIDDLES OF CHILDHOOD OBESITY

RESEARCHERS JULIE AND CAREY LUMENG STUDY THE PROBLEM FROM TWO VERY DIFFERENT ANGLES

BY JEFF MORTIMER • ILLUSTRATION BY C.J.BURTON
The numbers may seem perplexing, but not to Julie Lumeng.

In the 2012 C.S. Mott Children’s Hospital National Poll on Children’s Health, 38 percent of the respondents ranked obesity as the leading health concern for children in their communities, second by only a percentage point to insufficient exercise, and it was ranked in the top three in all five previous annual surveys.

But when the same organization polled parents of obese children, only 27 percent said they were “very concerned” about their children’s weight. Obviously, there must be parents of obese children who recognize it as a problem in society, but not with their own kids.

Lumeng (M.D. 1997), an associate professor of pediatrics and communicable diseases who has been researching childhood obesity for a decade, has an explanation.

“We find so often that when a mother is told her child is obese, her immediate response is to deny it,” she says. “I think what many mothers hear is ‘you’re a bad mother.’ She can’t hear that, so her response is my child can’t be obese because I know I’m a good mother.”

Lumeng’s first major study, published in 2003, showed that behavioral problems in children as young as 3 were actually a predictor of future obesity risk. By standing the conventional interpretation — that obese children had behavior problems because they were bullied — on its head, she found herself the subject of considerable media attention.

“People got riled up,” she recalls. “For a lot of the journalists I was talking to at the time, their frame for understanding the problem was that it’s all bad parenting. If children are both having behavioral problems and obese, it’s because their parents don’t care about them.”

Since then, Lumeng has found links between childhood obesity and a number of environmental, biological and behavioral factors. As is often the case with public health icebergs whose tips emerge into the media spotlight, it’s not as simple as it’s usually portrayed.

“I feel like one of the first steps toward addressing childhood obesity is to help the public understand that it’s really complicated and not just due to ‘bad parenting,’” she says. “The vast majority of mothers are doing the best they can and don’t want their children to be obese. In order to make any headway, we have to reframe how we think about...
childhood obesity, and all the mother-blaming we’re doing is not getting us anywhere.”

Worse than useless, it could even be harmful: parents aren’t likely to seek help for a problem they don’t acknowledge. Moreover, most of the remedies available today — improved diet, more physical activity — address effects, not causes. Finding the latter is, as Lumeng says, complicated. There are so many places to look, so many possibilities, so much time required to study long-term effects, and every time an answer appears, it seems to raise more questions.

Lumeng is a behavioral pediatrician at Mott, and also has appointments in the School of Public Health and the Center for Human Growth and Development. “The theme in everything we’re doing now is to bring the science of child development and behavior to obesity research,” she says. “There’s a lot of elegant research in child development and behavior, and often the two fields don’t come together.”

This creative approach has made her a leader in studying what is often called an epidemic, but it’s also heightened her awareness of the issue’s complexity. Poor emotion regulation is involved, and so are authoritarian (but apparently not neglectful or permissive) parents, and so is a stressful home life that elevates youngsters’ cortisol (a hormone that increases appetite, especially for sugar and fat), and so are maternal feeding styles, the subject of one of her current investigations.

“Of course, parents have some responsibility,” she says, “but we also don’t know what the ‘right’ way is to feed kids. The challenge right now with maternal feeding styles is no one really knows how to define or conceptualize them, so we’re trying to identify three to five and see if they’re related to childhood obesity.”

At the same time, the role of the child in the equation is a piece that’s been conspicuous by its absence, in her view. “A substantial proportion of children are obese by age 2. How do you go from a normal birth weight to being obese at age 2? We’re trying to figure that out, too.”

That something is likely a blend of genetics, biology and their environment. “Modern science is only just beginning to understand what drives eating behavior,” says Lumeng. “When adults are stressed, they can have a glass of wine or a beer after work. When young children are stressed, they can turn to food. When you see a 2-year-old having a tantrum for a cookie, that cookie probably has biological calming effects that really do make that child feel better.”

FINDING RELATIONSHIPS

Lumeng and her husband, Carey Lumeng (M.D. 2000, Ph.D. 2000, Fellowship 2006), met when they were students at the Medical School. He was early in the doctoral phase of his M.D./Ph.D. program. After they married, he went to Boston for his pediatric residency and she did a fellowship in developmental and behavioral pediatrics at Boston Medical Center, “sort of the mecca for people who want to do pediatrics with low-income children,” she says.

It was there that she began to suspect relationships between environment, behavior and obesity. Carey took a little longer to focus on issues related to obesity, although he says observing its prevalence in kids “colored my entire training in pediatrics,” but his path eventually led that way, too.

And his perspective, while different from Julie’s, is comparably novel. “I always look at everything with the eye toward what is a good question to answer with experiments,” says Carey, an assistant professor of pediatrics and communicable diseases, and of molecular and integrative physiology. “I entered obesity to see if there were interesting questions that I could sink my teeth into. It turned out there were.”

For example, why is having too much adipose tissue a bad thing? Why is the retention of excess nutrients in fat a boon for babies and a bane for adults? Why is not enough fat, as in diseases like cystic fibrosis and Lipodystrophy, equally dangerous as too much? And why are some obese adults nonetheless metabolically healthy?

The key for him is not so much preventing or treating obesity itself as finding and breaking the links between obesity and disease. “If we could understand why the obesity causes the problem,” he says, “in theory people can maintain their obese phenotype if they want to, but we will have prevented the health complications, which is really the problem with obesity.”

He and his colleagues are seeing significant progress on this front.

“We think the difference between healthy fat and unhealthy fat has to do with the amount of inflammation that occurs in that region,” he says. “In 2003, researchers found that adipose tissue does not just contain fat cells but lots of immune system cells — one of which is the macrophage, which can generate inflammation when given a certain stimulus. They’re pretty much all over the body, and they help restore the system to balance in times of stress and need.”
What we think happens in obesity is the system is out of balance, and the macrophages are part of that problem. The type of inflammation they produce is a major contributor to the development of cardiovascular disease and Type 2 diabetes. It also, almost perversely, blocks the action of insulin.

The field that Carey Lumeng works in, called immunometabolism, is also relatively novel. It arose in part from the discoveries about the macrophage, and one of its chief interests is how metabolism and inflammation intersect to affect obesity.

“When I studied science, we thought the immune system and nutrient regulation were completely separate,” he says. “Now we understand they’re probably interconnected in very close ways. That, for me, is where the fun comes in.”

Understanding new connections is part of that, as well as a promising avenue.

“The unique part of the immunometabolism field is that this inflammation is a very slow burn, a chronic, low-grade problem,” says Carey. “Most of what inflammation people study is, if you get a cold or pneumonia, what happens in those three days that your immune system goes nuts on? This inflammation builds up over years and years, maybe even decades. We think this is part of the problem. Obese kids have many of these same inflammatory changes we see in adults, and they have a much longer head start now. Studies have shown this can happen as young as 3-years-old. Unless we do something, it’s going to persist for decades.”

Although the Lumens work with different tool kits and target different kinds of adverse consequences, figuring out what to do is the pot of gold at the end of the research rainbow for them.

“I have to say I’m optimistic,” says Carey. “There are multiple tests of simple anti-inflammatory pills that target the macrophages and put them back in balance. They work at a very low level, but you may not need much to stave off this low-grade inflammation. And there are other interventions that don’t lead to weight loss but head off disease. Exercise is one of them; building muscle mass instead of fat mass has been shown to decrease much of this inflammatory burden.”

When the U.S. Department of Agriculture’s National Institute of Food and Agriculture (NIFA) called for proposals to test interventions in low-income pre-schoolers, “Our team said, ‘This is the moment, let’s do it,’” says Julie. “As every researcher experiences, I think, a lot of people say that’s great that you’re studying underlying behavior, but can you just do something?”

It’s especially important to develop early childhood interventions “because we know prevention is more important than treatment,” she says. “Once a person becomes obese, it’s incredibly difficult to reverse.”

In the NIFA study, they’re assessing the efficacy of two different kinds of intervention. In one group, they deliver a curriculum called POPS (Preschool Obesity Prevention Series), which features standard components like drinking fewer sugary beverages and eating more vegetables, to children and their families. In another — “the one we’re hanging our hat on,” she says — POPS is combined with the Incredible Years Series, an intervention that has been shown to improve children’s emotional and behavioral self-regulation.

“We just finished year two of five so we don’t have results yet,” she says, “but if at the end of that study we discover that the most effective way to prevent obesity in low-income children is by including a component focused...
on the self-regulation capacity, that would have big implications for policy. Is this the answer to the entire obesity epidemic? Oh, no. Is it an important piece? Absolutely.”

But the Lumengs understand all too well that any piece, no matter how important, faces a rocky road to implementation, one that’s filled with legislators, bureaucrats and corporations, not scientists.

“The biggest source of pessimism in the field is that most drug companies are not developing drugs for obesity or diabetes treatment,” says Carey. “You’d think you’d have a huge market, but regulatory hurdles are making people run away. They’re not interested in pediatric treatments, either. The market is not big enough for kids; most of them are too healthy. Anything we use trickles down from the adults.”

As for the role of government, “I think we’re finding there’s a gap between evidence and policy,” he adds. “A naive scientist would think, ‘Oh, if I can show this or show that and really hammer that down, that should be translated into policy.’ My new revelation, I guess, is that evidence is only one component of what makes policy and it may unfortunately be the least important.”

Since 2010, Carey has chaired the Annual Program Committee of the Obesity Society, a once obscure organization that finds itself, as he puts it, “in the middle of the fire-storm.” He tries to use whatever leverage that position gives him to reach between policy and science.

“Government attempts to do these big policy decisions with marginal evidence, so we’re trying to bring policy thinkers into our annual scientific meeting, which I think is unique,” he says. “We have to understand the gap and be part of the discussion of how to address this gap by bringing them into the fold instead of shunning them.”

“I think legislation is going to be really critical,” says Julie, “but it’s going to be hard to legislate away palatable food. The horse is out of the gate. And even in today’s toxic food environment, we still have people who are skinny. I would argue that it’s not because they have amazingly better self-control than anybody else. I think that we don’t fully understand why there’s that variability, and the research mission for the next 50 years is to understand.”

That should be enough to keep the Lumengs and their colleagues busy, even though Carey rather playfully wishes it were otherwise.

“In many ways, I’d love to be out of a job,” he says. “That would mean we’ve fixed obesity. Unfortunately, it’s pretty apparent it’s going to be around for a while.” [M]
Victors for Michigan

With their visionary gift, Richard and Susan Rogel help shape the future of medical education — and medicine itself

INVESTOR RICHARD ROGEL (B.B.A. 1970) and Susan Rogel want the best and brightest future physicians to continue to come to the University of Michigan Medical School to study medicine and enter their chosen medical specialty free from debt. They also believe that strengthening the Chinese studies program at the university will lead to mutually beneficial engagement, research and global collaboration.

The Rogels will step up their already extraordinary commitment to the university with a $50 million gift toward these goals.

The gift — $30 million for scholarships at the U-M Medical School and $10 million in support for faculty, students and programs at the Center for Chinese Studies in the College of Literature, Science, and the Arts, plus $10 million for future university initiatives — comes as Richard Rogel takes
on a leadership role in U-M's new Victors for Michigan campaign, which launched on November 8. He will serve as vice chair of the campaign and chair the Health System component of the broader campaign. For the Health System, he’ll lead the effort to garner support for education, patient care and research programs across the Medical School and the hospitals and health centers.

The new gift — the largest to Medical School scholarships in U-M history — brings the Rogels’ lifetime giving to the U-M to nearly $76 million and places them among the university’s top donors. The Rogels have given to many areas of the Health System, including the Comprehensive Cancer Center, the Medical School and a medical innovation training program.

“As the strain on our other funding sources increases,” says Ora Pescovitz, M.D., the U-M executive vice president for medical affairs and CEO of the U-M Health System, “philanthropy of all kinds — and the campaign that Rich will chair — will be more vital than ever to ensuring our ability to train future physicians and scientists, produce groundbreaking discoveries, and deliver excellent patient care.”

U-M Medical School Dean James O. Woolliscroft, M.D. (Residency 1980), praises the Rogels’ focus on giving in a way that will help the most promising future doctors. “We look forward to fulfilling the Rogels’ vision of selecting the highest-achieving medical students for scholarships that will free them to fulfill their potential as physician leaders in a wide range of medical disciplines,” Woolliscroft says. “We also deeply appreciate Rich and Susan’s commitment to leading the effort to raise crucial support for our entire Health System.”

Currently, half of U-M’s 692 medical students receive some scholarship or grant support, including one student who holds a scholarship previously endowed by the Rogels.

With tuition and fees for a Michigan medical education currently about $30,000 a year for in-state students and $48,000 a year for out-of-state students, most students graduate with large loans they must repay over time as they launch their careers. The medical school has been working to keep that load as low as possible. Nationally, the steep debt faced by graduating medical students is thought to influence what medical or surgical specialty they choose for post-graduation residency.

Rogel brings to the new campaign his experience as chair of the Michigan Difference campaign, which raised $3.2 billion for the U-M from 2004-08. He is a member of the Health System Advisory Group — external volunteer advisors who provide strategic counsel and input on the Health System’s tripartite mission of clinical care, research and education. He also serves on the National Advisory Board of the U-M Frankel Cardiovascular Center and the U-M Comprehensive Cancer Center’s Pancreatic Cancer Board of Directors.

Susan Rogel will serve on the Steering Committee of the Victors for Michigan Campaign Leadership Board. She has served on the Alumni Association Campaign Committee and the Mott Hospital Leadership Team.

The Rogels live in Avon, Colorado, where Richard Rogel serves as president of the investing firm Tomay Inc. He is the former chairman and CEO of the Preferred Provider Organization of Michigan, one of the first PPOs in the country.

“This university gave me so much, and Susan and I want to give back in ways that will make a difference to students and the health system as a whole,” Rogel, who received an honorary law degree from the Law School in 2009, says. “With this gift, and my new role in the campaign, we hope to do our part to help all patients, now and tomorrow, who will be touched by the U-M Health System’s care, discoveries and innovative minds. We hope others will do what they can, too.”
The Road Taken

NOT LONG AGO, GEORGE WADE (Residencies 1973, 1977) was musing with a colleague about roads taken and roads not taken. If Wade were young again, his friend asked, and could attend any university, where would he go?

“You know, if I had it to do over again, I can honestly say I’d still choose Michigan,” says Wade from his home in Boise, Idaho. “People talk about it being a ‘big’ school, but I had a great relationship with my professors. They were all very good to me.”

Indeed, the mentors he encountered at Michigan helped guide Wade into a career he initially never considered: sports medicine and orthopedic surgery. Looking back, he says he’s deeply grateful to the Michigan mentors who “saw something in me.”

Born and raised in New Jersey, the son of a mechanic, Wade recovered fully from a mild bout of polio as a child and went on to excel in high school athletics. Interested in coaching, he came to the U-M on a track scholarship and graduated with a bachelor’s degree in kinesiology in 1964. He stayed on to complete a master’s while also serving as an assistant track coach and a teaching fellow in physical education.

It was during his graduate studies that he took a course taught by the entire physiology department — each professor lecturing on a different physiological system. “It was probably the best class I’d ever taken,” Wade recalls. “It piqued my interest in medicine.”

One of his former U-M professors, Andrew Kozar, Ph.D., was recruited to head the men’s physical education program at the University of Tennessee in Knoxville; he hired Wade as his assistant. Impressed by the young man’s determination and love of learning, Kozar urged him to consider medicine, made some calls, and helped secure him a place in the U-T College of Medicine. After earning his M.D. in 1970, Wade returned to the U-M for internship and residencies in physical medicine and rehabilitation and in orthopedic surgery. He also served as assistant to Gerald O’Connor, M.D., a renowned orthopedic surgeon, Michigan Athletics head physician for 40 years, and a pioneer in sports medicine.

While on vacation in the early 1970s, Wade “discovered” Idaho: the rugged beauty of the rivers and mountains, the solitude, and the intensity of outdoor sports.

In 1978, Wade opened an orthopedic practice in Boise. A year later, he was named team physician for Boise State University and founded the Idaho Sports Medicine Institute (ISMI), employing a physical therapist, an athletic trainer and an exercise physiologist. In 1984, BSU’s athletic administration invited him to move his clinic onto campus, next to the football stadium. His approach — bringing together orthopedic surgery and physical medicine and rehabilitation in a team approach to care — was, at that time, revolutionary. Since then, athletic programs throughout the country have visited Boise to learn how to duplicate this extraordinarily successful symbiotic relationship.

Recently retired, Wade spends as much time as possible outdoors: white-water rafting along the Grand Canyon; kayaking with his son Jim — himself a world-class kayaker; and visiting friends and mentors in Ann Arbor. He’s also been thinking about his legacy — how to express his gratitude for a long, fulfilling career.

“I’ve been very lucky to have had people who helped me in my career. I wouldn’t be where I am today if it hadn’t been for them. That’s why I wanted to give back,” he says.

And the “giving back” was easy. Wade designated the University of Michigan as the beneficiary of his retirement plan. His bequest will be split equally among the three areas of the U-M to which he is the most grateful: the departments of Athletics and Orthopaedic Surgery, and the School of Kinesiology. —WH
Professorships Recently Inaugurated

The May 30 inauguration of the Paul L. Carson, Ph.D., Collegiate Professorship in Radiology honored Paul Carson’s contributions to medical physics during his 33-year career in the U-M radiology department. With an international reputation, Carson is noted for his research on breast imaging with ultrasound.

Heang-Ping Chan, Ph.D., was appointed the first holder of the Carson Professorship. Like Carson, Chan has made important contributions to the field of radiology in the area of breast and lung cancer detection. Generous contributions from Paul and Patricia Carson helped fund the Carson Professorship.

Paying tribute to the Medical School’s first professor of anatomy, the Corydon Ford Collegiate Professorship was inaugurated June 14. Billy Tsai, Ph.D., of the Department of Cell and Development Biology and whose research focuses on the molecular basis of viral and microbial pathogens, was installed as the first Ford Professor. Corydon L. Ford, M.D. (1813-1894), came to the University because of its reputation as an outstanding medical school. His dedication and intelligence helped establish Michigan’s enduring reputation as a leader in academic medicine.

A. Kent Christensen, Ph.D., was honored for his achievements in teaching and research with the inauguration of the A. Kent Christensen Collegiate Professorship. Hired in 1978 as professor and chair of anatomy, Christensen has received numerous teaching awards and still teaches histology to first-year medical students. He is known for studies on polyribosomes, and for pioneering methods for ultrathin frozen sectioning for immunohistochemistry at the electron microscope level. Kristen J. Verhey, Ph.D., a member of the cell and developmental faculty since 2002, was installed as the first Christensen Professor on June 14.

The Edward J. McGuire, M.D., Research Professorship in Urology was inaugurated on June 25, thanks to a gift from Brian and Mary Campbell, as well as other gifts to the Department of Urology. The professorship honors McGuire, professor emeritus of urology and an internationally recognized scholar whose research focused on lower urinary tract dysfunction. The first McGuire Professor is Gary J. Faerber, M.D. (Residency 1989), who began his residency under McGuire and whose interests evolved to encompass the surgical and medical management of urinary stone disease. The Campbells, Ann Arbor area entrepreneurs, have been generous supporters of the Medical School. —EK

Project Healthy Schools, a University of Michigan Health System-community collaboration, provides a school-based program to reduce childhood obesity and its long-term health risks. Focusing on adolescents, PHS aims to stem the tide of this epidemic by:

- **TEACHING HEALTHY HABITS TO YOUTH**
- **DEVELOPING HEALTHY SCHOOL ENVIRONMENTS**
- **SUPPORTING PROGRAM SUSTAINABILITY AND REPLICATION**

To learn more about Project Healthy Schools, or to support the work, visit: projecthealthyschools.org
ARIEL BARKAN, M.D. (Residency 1983), was elected president of the Pituitary Society in June. Barkan is a professor of medicine and neurosurgery as well as the co-director of the Pituitary and Neuroendocrinology Center. His election represents international recognition for the outstanding work being done at U-M. Barkan’s research and clinical interests include physiology and pathophysiology of Growth Hormone pulsatile secretion and novel strategies for diagnosis and treatment of pituitary diseases.

ROBERT H. BARTLETT (M.D. 1963) was awarded an honorary doctorate degree from the Thomas Jefferson University/Jefferson Medical College in May. Bartlett, an emeritus professor of surgery at the U-M, was recognized for developing extracorporeal life support from the laboratory, through the first successful clinical trials, to routine use worldwide. In addition to the honorary degree, he also delivered Jefferson Medical College’s commencement speech in which he stressed the lifelong responsibilities new doctors have for their patients.

VALERIE P. CASTLE, M.D. (Fellowship 1990), the Ravitz Foundation Professor of Pediatrics and Communicable Diseases and chair of the Department Pediatrics and Communicable Diseases, was elected vice president of the Association of Medical School Pediatric Department Chairs for a two-year term ending in 2015. Castle will then serve as president for two years, followed by a final two-year term as past president. The mission of the association is to pursue optimal health of children through the development of successful academic pediatric departments across North America.

GRACE H. ELTA (M.D. 1977) earned a Distinguished Clinician Award in May from the American Gastroenterological Association for her leadership of the U-M endoscopy unit that has become a model for the nation. Serving for more than 10 years as the medical director of the Medical Procedures Unit and associate chief of clinical programs, the award recognizes her vision for providing care that is seamless, thoughtful and comprehensive. A professor of internal medicine, Elta has achieved local and national recognition for her patient care and clinical research activities, particularly in the area of pancreatic and biliary disease and inflammatory bowel disease.

JAMES B. FROEHLICH, M.D. (Fellowship 1996), was installed as president of the Society of Vascular Medicine at the society’s June meeting. Director of vascular medicine at the Frankel Cardiovascular Center and director of the anticoagulation clinic, Froehlich is an associate professor of internal medicine. His many clinical and research interests include peripheral vascular disease and patterns of vascular disease.

SUSAN D. GOOLD (M.D. 1987, Residency 1992) was elected chair of the American Medical Association Council on Ethical and Judicial Affairs, beginning in June. The council maintains and updates the 160-year-old AMA Code of Medical Ethics, widely recognized as the most comprehensive ethics guide for physicians. Professor of internal medicine, and of health management policy at the School of Public Health, Goold’s research focuses on “money, medicine and

(continued on p. 42)
THE 60 MINUTES FOLLOWING TRAUMATIC INJURY represent the “golden hour” for saving a life, says Hasan B. Alam, M.D., head of the U-M Section of General Surgery. “You have to first survive the injury to have delayed complications. The window is pretty short.”

Alam has spent much of his career developing life-saving interventions aimed at this critical window. The Norman Thompson Professor of Surgery, Alam was recruited to U-M in October 2012 from Massachusetts General Hospital, where he helped establish their Division of Trauma, Emergency Surgery and Surgical Critical Care, while teaching at Harvard Medical School.

For about half the people who succumb to injuries, it’s not that the wound is too grievous to fix, but that it couldn’t be done quickly enough. “If we can sustain the patient through the first few hours,” he says, “not only will they recover, but they can return to being contributing members of society.”

Alam received his surgical training at the Washington Hospital Center in Washington, D.C., followed by a postdoctoral research fellowship at the Uniformed Services University of Health Sciences (USUHS) in Bethesda, Maryland. He then served as a faculty member at Georgetown University and USUHS.

During his time in D.C. in the 1990s, Washington was known as the murder capital of the nation, amidst a crack cocaine boom that even felled the city’s mayor. As the 90s gave way to a new millennium, another kind of violence reared its head: terrorism and battlefield wounds. Alam treated survivors of the 9/11 airliner crash at the Pentagon, and these world-changing events shaped his trajectory as well.

The U.S. Navy asked Alam to focus on hemostatic dressings that would allow soldiers to control bleeding on the battlefield. Alam and his team developed advanced dressings, tested them on animal models and received FDA approval. Within a year, special operations forces in Afghanistan put the dressings to battlefield use. “Trauma care over the last 10 years has been revolutionized based on the lessons we’ve learned on the battlefield,” Alam says.

The Defense Advanced Research Projects Agency and the Office of Naval Research — which have funded high-risk, high-yield projects such as the unmanned drone and the Internet — are backing a Surviving Blood Loss program, including Alam’s “fluidless resuscitation” work. The idea is to create something light and easy to administer, like a pill or an injection, that soldiers could use to survive blood loss for a few hours.

“The things we learn will spill over into the civilian sector. The only winner in war is trauma care,” says Alam.

The other deadly complication from trauma — traumatic brain injury — is not so easily solved. “We have no specific treatment for TBI,” Alam says. “Either you live or you die; your brain will survive or not.” Alam and colleagues are studying a pharmacological intervention to help protect the brain. The Army and Department of Defense are funding the project. In a scenario that seems more sci-fi than science, Alam also is researching suspended animation — which, with fluidless resuscitation, received National Institutes of Health funding.

“Maybe I can’t fix problems within the first few minutes,” he says, “but what if I could put you into a state of suspended animation and buy two or three hours? We then should be able to take a 100 percent lethal injury and convert it to being 90 to 100 percent survivable. — RICK KRUPINSKI
CRYSTAL HOLMES, D.P.M., was appointed in July by Governor Rick Snyder to the Michigan Board of Podiatric Medicine and Surgery, which oversees the practice of more than 840 Michigan podiatrists. An assistant professor in the U-M’s Division of Metabolism, Endocrinology and Diabetes and at the VA Ann Arbor Healthcare System, Holmes’ research interests include diabetic foot management and treatment, wound healing and diabetic limb preservation.

MONICA LYPSON, M.D., was elected to a two-year term on the National Board of Medical Examiners Executive Board of Directors in April. The mission of the NBME is to protect the health of the public through state-of-the-art assessment of health professionals. Lypson is associate professor of internal medicine and of medical education and assistant dean of Graduate Medical Education. Her areas of expertise include primary care and patient-doctor communications.

KATHRYN MOSELEY, M.D., M.P.H., assistant professor of pediatrics and communicable diseases and co-chair of the pediatric ethics committee at the U-M C.S. Mott Children’s Hospital, was elected to the American Medical Association Council on Ethical and Judicial Affairs in July. Moseley is a clinical bioethicist and is part of the Child Health Evaluation and Research Unit.

JOHN V. MORAN, Ph.D., professor of human genetics and of internal medicine and a Howard Hughes Medical Institute investigator, was awarded the Curt Stern Award by the American Society of Human Genetics at its October meeting. The award recognizes Moran’s leadership in research on the biology of DNA sequences that can change their position in the genome — creating or reversing mutations and altering the genome’s size — as well as for his mentorship of graduate students and postdoctoral researchers.

CHUNG OYWANG, M.D., the H. Marvin Pollard Professor of Internal Medicine, was awarded the Julius Friedenwald Medal by the American Gastroenterological Association in May to recognize his lifelong contributions to the field of gastroenterology. Owyang, in his distinguished 34-year career, built the Division of Gastroenterology and, as chief, continues to oversee one of the truly elite GI programs in the U.S., while making many important discoveries through his own research program that advance our understanding of the physiology of pancreatic secretion.

ROBERT SILBERGLEIT (M.D. 1992), associate professor of emergency medicine, accepted the Clinical Trial of the Year award presented in May by the Society for Clinical Trials for his work with the Rapid Anticonvulsant Medication Prior to Arrival Trial (RAMPART), a multi-center study that involved 893 patients ranging in age from several months to 103 years experiencing status epilepticus — seizures lasting longer than five minutes. Paramedics using autoinjectors to deliver drugs into muscle were able to stop life-threatening seizures more quickly and safely before patients reached the hospital. —EK
Edited by Nancy Barbas (M.D. 1984), associate professor of neurology; Laura Rice-Oeschger, M.A.; and Cassie Starback: The Shapes of Memory Loss, MPublishing, 2013.


By Cheryl A. King, Ph.D., professor of psychiatry; Cynthia E. Foster, Ph.D., assistant professor in psychiatry and director of the University Center for the Child and the Family; and Kelly Rogalski, M.D.: Teen Suicide Risk: A Practitioner Guide to Screening, Assessment, and Management. Guilford Press, 2013.


Edited by Francis P. Worden, M.D. (Fellowship 2000), associate professor of internal medicine; and Rami N. Khoriaty, M.D. (Fellowship 2012), clinical lecturer of internal medicine: Oncology Boards Flash Review. Demos Medical Publishing, 2013. —EK
Hossein Gharib (M.D. 1966), a professor of medicine at the Mayo Clinic College of Medicine in Rochester, Minnesota, was elected president of the American Thyroid Association at its annual meeting in October, in San Juan, Puerto Rico. Gharib, a master of the American College of Physicians (MACP), is a past president of the American Association of Clinical Endocrinologists as well as a past president of the American College of Endocrinology. He is coeditor of the textbook Evidence-Based Endocrinology, and received the Ellis Island Medal of Honor Award in 2013.

Frederick Appelbaum, M.D. (Residency 1974), has been named executive vice president and deputy director of the Fred Hutchinson Cancer Research Center. He will lead the institution’s strategic research partnerships and also focus on maintaining the fiscal health of the center. Appelbaum, a world expert in the research of blood cancers, will continue his work on the biology and treatment of leukemias, lymphomas and other blood cancers.

Louis D. Saravolatz (M.D. 1974), became the governor-elect of the Michigan Chapter of the American College of Physicians at their April national meeting. In April 2014 he will become a governor for a four-year term. Saravolatz will provide leadership for more than 4,000 Michigan internists and work to encourage others to join the organization which is the largest medical specialty organization in the United States. Saravolatz is the current chief of internal medicine at St. John Hospital in Grosse Pointe Woods and is recognized as one of the area’s most respected physicians for infectious disease.

Stephen W. Bretz (M.D. 1995) and William Y. Park (M.D. 1995) were named to Seattle Magazine’s Top Doctors list in the July 2013 issue. Bretz practices emergency medicine at the Swedish Medical Center. Park is co-medical director of both the sleep center and the critical care unit and director of respiratory care at Valley Medical in Renton, Washington.

James M. Olson (M.D., Ph.D. 1991), was recently featured in a TEDxSeattle talk about Project Violet, a unique “citizen science” project which uses crowdfunding to speed drug discovery. Named for an 11-year-old patient of Olson’s who died last year from an inoperable brainstem tumor, the project will identify optimized peptides — or optides for short — that may be able to precisely target cancers cells. Optides are molecules derived from plants and animals and as a result of a new production system developed by Olson and his collaborators, thousands of optide variants can be quickly synthesized and then evaluated for therapeutic potential. Olson is a pediatric brain cancer specialist at the Fred Hutchinson Cancer Research Center in Seattle.
THE TINY, RURAL VILLAGE OF PANTEGO,
North Carolina, was hardly an environment of opportunity for an African-American family in the mid-1920s, but Alphonso and Gertrude Godley made it one. Alphonso, a carpenter and bricklayer, turned to farming in his later years. Gertrude, from age 13, was a teacher.

“I don’t know of any place the size of my hometown which had more people go to college, and that was largely due to my mother, who started with her children, then tried to arrange for everyone else’s children to go to college,” says the Godley’s son, Alegro Godley (M.D.1948). “All eight of us got at least a master’s degree.”

By the time he was 15, Alegro Godley had taken all the classes his local school offered. He headed off to Hampton University in Virginia, where his professors in math and biology — both University of Michigan graduates — recognized his potential and encouraged him to apply to the U-M Medical School. With his parents’ blessing, he arrived in Ann Arbor in 1944. He was just 18—one of the few African-American students in the program and by far the youngest. He might have felt lonely and overwhelmed but for living at Michigan House — the first housing cooperative on campus — where, for a few dollars a week, he found food, shelter, friends, lively conversations, music, and an ever-expanding world view.

“I really got an education there,” recalls Godley, who adds that his job at the co-op was to prepare Sunday dinner for the dozens of men who lived there. “I had never cooked anything before, but I learned to cook roast beef, mashed potatoes and green peas. And this was the fare on Sundays for the three years I was there.”

Godley graduated in 1948 and headed to New York City where he completed a rotating internship, took advanced courses in pathology, and completed an internal medicine residency at Bellevue and Queens General hospitals.

During the Korean War, Godley served in the U.S. Army and was stationed at a hospital on tiny Governor’s Island in New York Harbor. In 1955, he moved with wife Juanita to Detroit, practicing medicine for the next 43 years — first in a group practice near Hamtramck, then downtown in a Woodward Avenue office. He also was worked at Harper Grace Hospital and Sinai Medical Center.

Godley says he found intense satisfaction from helping people through the practice of medicine. He answered every call himself, often working late into the evening. “My wife said that I did two things: I took out the trash on Tuesday evenings, and practiced medicine,” he laughs.

The Godleys had four children. While none attended the U-M, they have redeemed themselves, says their father. All are highly successful, in fields including gastroenterology, hematology/oncology, ophthalmology and linguistics.

Godley retired in 1998 and moved to Sun City West, Arizona, where he lives with his second wife, Fannie, a former math teacher he met in his Hampton University days. In 2008, he established the Fannie and Alegro J. Godley, M.D., Scholarship.

“I had always wanted to do something in terms of recognizing the opportunity I was provided at Michigan” he says. “The school has a way of developing great loyalty in the people who go there. I’m not unique; it’s pretty universal.” —WHITLEY HILL

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Alumni

John G. Batsakis (M.D. 1954, Residency 1960), of Houston, Texas, died January 20, 2013, at age 82. After his residency, Batsakis served two years as assistant chief of the laboratory service at Walter Reed Army Medical Hospital before joining the U-M Department of Pathology faculty, serving from 1961-79. He left to become chair of the Department of Pathology and Laboratory Medicine at the Maine Medical Center in Portland and, in 1981, joined the University of Texas M.D. Anderson Cancer Center as chair of the Division of Pathology, retiring in 1996. Batsakis wrote extensively on head and neck pathology.

Alexander Leaf (M.D. 1943, Residency 1945), of Boston, died December 24, 2012. He was 92. An early advocate of diet and exercise to prevent heart disease, Leaf traveled the world seeking discoveries related to increasing human longevity and to help scientifically establish the dangers of global warming. He served as chief of medical services at Massachusetts General Hospital from 1966-81, where he established one of the first programs in the country for primary care medical students, and set up a network of free clinics in poor neighborhoods around Boston. He also led the Department of Preventative Medicine at Harvard. Leaf was a founding member of Physicians for Social Responsibility, and one of the first practicing physicians elected to the National Academy of Sciences, in 1972.

Albert A. MacPhail (M.D. 1954) died October 11, 2012, in East Orleans, Massachusetts. He was 82. After his residency he joined a radiology practice in Flint, Michigan and later became chair of the Department of Radiology at St. Joseph’s Hospital, now part of the Genesys Health System. MacPhail was a fellow in the American College of Radiology.

Ellen Garb McDaniel (M.D. 1966), of Highland, Maryland, died January 3, 2013, at age 71. She had a 20-year career at the University of Maryland School of Medicine as a professor in the Department of Psychiatry and as associate dean for admissions. She also held an academic appointment at the Georgetown University School of Medicine. McDaniel later went into private practice and published extensively, including as editor of a five-volume medical textbook.

Morris J. Mintz (M.D. 1935), of Southfield, Michigan, died November 5, 2012. He was 101. He practiced ophthalmology and radiology in Greenville, Michigan, before enlisting in the Army where he attained the rank of captain and served in the European Theater of World War II, earning a Purple Heart. After the war, Mintz returned to Detroit and private practice before becoming one of the founding physicians of Sinai Hospital, and later director of Sinai’s Low Vision Clinic, which became a pioneer in developing methods to help visually-impaired people read and write.

Gordon L. Moore II (M.D. 1960) died May 21, 2013, at age 77 in Rochester, Minnesota. He was a regimental surgeon with the Second Division of the U.S. Marine Corps (1961-63) and was stationed at Guantanamo Bay, Cuba, during the Cuban Missile Crisis of October 1962. A lieutenant commander at discharge, Moore then completed two fellowships — first in medicine, then in psychiatry — at the Mayo Clinic in Rochester. He joined the staff of Mayo Clinic’s Department of Psychiatry and Psychology in 1967 and retired in 1998. Moore was head of Adult Psychiatry and served as department chair from 1985-93.

Nels Robert Olson (M.D. 1959, Residency 1978) died at the age of 79 in Ann Arbor on September 17, 2012. Olson, a specialist in head and neck surgery, had his primary practice at St. Joseph’s Hospital and was a pioneer in the study of acid reflux. Olson also worked at the VA Ann Arbor Healthcare System and taught at the U-M.

Robert M. Patek (M.D. 1983), of Long Grove, Illinois, died September 24, 2013. He was 55. Enrolled at the U-M in 1975 on a football scholarship, he wore Number 24 and was known by teammates as “Bullet Bob” for his intensity and perseverance. He was part of a team that won three Big Ten Championships. Patek was a sports medicine surgeon at Illinois Bone and Joint Institute in metropolitan Chicago.
John M. Schroeder, M.D. (Residency 1953), age 89, died in Madison, Wisconsin, on October 12, 2012. Schroeder had a private oncology practice and also taught physiology at the University of Wisconsin Medical School.

Herbert E. Sloan, M.D. (Residency 1949), died May 17, 2013 in Chelsea, Michigan. He was 98. His long and distinguished career at the U-M started in 1947 when he began his thoracic surgery residency and officially ended 40 years later with his retirement and appointment to emeritus professor of surgery. A pioneer in thoracic and cardiovascular surgery, he performed the first successful open-heart surgery in Michigan in 1956. As head of thoracic surgery from 1970-85, he established one of the finest thoracic surgery services in the country. Sloan was editor of *The Annals of Thoracic Surgery*, president of the Association for Thoracic Surgery, and president of the American Association for Thoracic Surgery. He received numerous professional honors and awards and published two books, over a dozen book chapters, and more than 150 journal articles. Sloan played a leading role in the planning of University Hospital, and also contributed financially to the effort. Donations in honor of Sloan can be made online at victors.us/Herbert-Sloan or mailed to UMHS Development, 1000 Oakbrook, Suite 100, Ann Arbor, Michigan 48104-6815.

Thad C. Stanford (M.D. 1958, Residency 1965), of Salem, Oregon, died December 5, 2012, at age 80. A football player at the U-M, Stanford completed his M.D. and then served two years in the Air Force before returning to U-M for his residency in orthopaedic surgery. Stanford and his family moved to Salem in 1965.

Joseph M. Waltz, M.D. (Residency 1963), died March 2, 2013 at age 81. A long-time resident of Rye, New York, Waltz was a neurosurgeon. He was a past board member of the U-M Medical Center Alumni Society.

Lawrence Harvey Wilk (M.D. 1958, Residency 1963), of Corpus Christi, Texas died on May 31, 2013, one month shy of his 80th birthday. Wilk entered the Army after his residency in orthopaedic surgery, serving in the Medical Corps at Fort Hood, Texas. Later moving to Corpus Christi, Wilk was a pioneer in joint replacement surgery and laser arthroscopy. He also served ten years as medical director of the Ada Wilson Children's Hospital, now part of Driscoll Children's Hospital.

Lauren A. Woods (M.D. 1949) died January 24, 2013, in Albany, California, at the age of 93. After graduating from the U-M Medical School, he served on the faculty of the Department of Pharmacology for 10 years. Woods was the first to isolate morphine-3-glucuronide and later became interested in cancer chemotherapeutics, publishing extensively in the field. He retired in 1984 as Vice President for Health Sciences at the Virginia Commonwealth University in Richmond.

Faculty

Steven E. Gradwohl, M.D., 51, died on May 18, 2013. On the faculty since 1994, he was a clinical assistant professor of internal medicine and practiced general internal medicine at the Briarwood Medical Group. Named one of the Best Doctors in America several times, Gradwohl won the Medical School’s Outstanding Clinician Award in 2012 and was an inaugural member of the Clinical Excellence Society. He volunteered regularly at the health clinic run by U-M physicians at a local homeless shelter. Known as a “physician’s physician,” he was an advocate and teacher of evidence-based medicine. His interest in medicine was inspired by his experience as a Hodgkin’s disease patient when he was 16. He attended the University of Chicago’s Pritzker School of Medicine on an Army scholarship, graduating in 1987 and completed his residency at the Letterman Army Medical Center in San Francisco, serving in medical leadership posts at Fort Lee in Virginia and the Presidio in San Francisco. —EK
What the River Teaches

TAYLOR EAGLE grew up in Ann Arbor and is in his second year at the Medical School. The son of Frankel Cardiovascular Center Co-Director Kim Eagle, M.D. (also pictured), Taylor cherishes his family’s more than 100-year tradition of fly fishing.

Read Eagle’s essay about family and fishing, which appeared in the Methodist Debakey Cardiovascular Journal, at medatmich.org/EagleFishing.

INTERVIEW BY WHITLEY HILL
PHOTO BY J. ADRIAN WYLIE

SUCCESS IN FLY FISHING INVOLVES understanding the biology of the fish, the life cycles of the insects they feed on, the environment they live in, and how these factors change over time. It reminds me of human health and disease, where a physician has to first understand normal biological function and then process numerous findings as they relate to an illness and its progression. Like fly fishing, medicine will continue to challenge me as I grow in my understanding of the profession and the patients that I serve.

“I agree with Thoreau when he said that most men go fishing all their lives without knowing that it’s not the fish they’re actually after.”

—TAYLOR EAGLE
Join us for a spectacular evening under the stars with master of ceremonies Sanjay Gupta, M.D., as we all become victors in our mission to create the future of health care.

APRIL 26, 2014
MITCHELL FIELD, ANN ARBOR
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Or, contact: Kristen Kurtz at kurtzk@umich.edu or 734-763-1239