

BROWN MEDICINE

Volume 17 | Number 1 | Winter 2011

PLUS:

Doctor
of Enology

Hard Hat
Required

BECAUSE I COULD NOT STOP FOR DEATH,

HE KINDLY STOPPED FOR ME

LETTER

FROM THE DEAN



So Far, So Good

I am pleased to introduce the Winter 2011 edition of *Brown Medicine* from snowy Providence. On a recent cold Friday afternoon, I walked through the new Medical School building. The workmen and women featured in these pages are doing an outstanding job.

Almost all the windows are in place, the framing of the rooms has been done, and the drywall is about to be put up. You can clearly see where the auditoriums, academies, seminar rooms, and anatomy suites will be. I started to imagine our students in August, walking down the student commons (atrium), going into the lecture rooms and other classrooms. They will be studying and relaxing in their Academy spaces. We hope to have the fourth-floor terrace open, too, where in the nice weather they can enjoy the view of the city and College Hill.

The opening of the building in August 2011 will begin a new era for Alpert Medical School, Brown University, and the City of Providence. So far, cross our fingers, we are on budget and on schedule.

This edition also highlights some of our outstanding faculty who focus their research on end-of-life care. This area is under appreciated and under studied in our universities. The quality and cost of medical care in both hospitals and nursing homes is of vital interest to our culture. For example, a very high percentage of our health care dollars goes to providing acute care in our hospitals during the last six months of life. Our society's approach to end-of-life care can be exemplified by hospice and other programs. Many of these programs are outstanding, others are not, and in many cases people have no access to organized end-of-life care. The scholars at Brown lead the field in analyzing our current situation and in coming up with solutions and policies to improve these areas.

Edward J. Wing

PETER GOLDBERG



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“[T]he sad state of affairs is patients aren’t given a chance to state what their wishes are ...” —Joan Teno, Page 32

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BY EILEEN O’GARA-KURTIS

Andrea Bond ’85 MD’93: family physician, award-winning vintner.

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Everything We Can

BY KRIS CAMBRA

A staggering amount of health care spending occurs at the end of life, and experts say much of it is ineffective, only prolonging the dying. How can we give patients a better death?

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INTERVIEWS BY REBECCA KAUFMAN ’11

Tradespeople talk about working on the new Alpert Medical School building—and working in general while their industry faces dire unemployment.

COVER: England Photography/iStock
Text from “The Chariot” by Emily Dickinson

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Rage, rage

What could be more personal—or more fundamentally important—than how we think about dying? Listen closely to what people say about death, after all, and you'll hear what they think about life. And since so many of us are likely to be faced with some decision making about how we or someone we love dies, the question bears contemplating.

I was with my father when he died, of lung cancer. While I remember that experience as entirely terrible and sad, Kris Cambra's article reminded me that there were some positives. He was home with his family. He had "fought" as much as he wanted and stopped fighting at a point that was right for him. And we all benefited from hospice care. I couldn't tell you the name of my father's oncologist or what he looked like, but I do remember the hospice nurse—her sensible clothes and noiseless shoes, her kind voice and the way the lenses of her glasses glinted when she talked. Her wise and quiet presence.

The thoughtful people quoted in the article also made me realize that often when we talk about our wishes we address the issue only at its most obvious and least nuanced. *Of course I wouldn't want to be kept alive if I couldn't breathe on my own*, we might think. But what if you could breathe but not swallow? Breathe and swallow but not talk? Would you tell that to your kid?

A happier memory of my father: we have made the annual trek to New England. The Boston skyline looms. Driving through the city in our Ford Esquire station wagon, my father, who worked for Pittsburgh Plate Glass, points out a gleaming skyscraper. "That's PPG glass in that building," he says with some pride.

This happened more than once during my childhood, in different cities, and I always shared my dad's pride. I also inherited his admiration and respect for the hardworking people who built the buildings. So of course it was a thrill to visit the construction site of the new Medical School, and meet some of the workers and watch and listen and sidestep and generally try not to get in the way. It's a special honor to include them in these pages.



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INBOX

HE BEGS TO DIFFER

I am writing this letter in strong opposition to Dean Wing's vision of the future of medicine ("A New Day?" Fall 2010).

The facts are accurate. My bone of contention has to do with the "employment by larger organizations, as opposed to the historic solo or small group practices."

Our group practice sets out to provide high quality obstetrical and gynecologic care. [We employ] five board-certified ob/gyns, splitting expenses, with one of the five acting as "laborist" each and every day.

We are physicians, but we are also small business owners providing a valuable service to our community. This is called competition. We are not the only group practice in Harrison County, and women can choose to take their business (of their own health care) elsewhere. We also can choose to change the hospital we take our patients to, because we are not owned by anyone.

Interest rates and real estate prices are both rock bottom, and physicians have a golden opportunity to embrace competition, and thereby enhance the quality of medical care for patients.

Award Season

Brown Medicine magazine has once again been recognized by the Council for Advancement and Support for Education District 1. The magazine took the silver for Best Overall Magazine and bronze for Best Design in the annual communications awards.

We are physicians, but we **are also small business** owners providing a valuable service.

The model of physician-owned multi-specialty groups is far more attractive than hospital-owned practices that act like Walmart.

Lastly, just what is wrong with doctors focusing on cash flow, malpractice or office operations? We spend all day caring for patients in an office; why wouldn't I want to own the office? If the secretary is continuously rude to patients at the front desk, I can choose to fire her and hire someone else more pleasant. When patients complain about the care they receive, the owners of the business are immediately aware

of the unfiltered complaint. In short, we like being the boss!

Dean Wing is entirely correct when he discusses teams of health care providers; however, every team needs a quarterback. The all-knowing, autonomous "perfect" doctor is what we should all aspire to be. When a patient crashes at 3 a.m., every team needs its leader to buckle up the chinstrap and take over ... and that burden will always fall on us, the physicians.

John F. Pappas
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HIT REPLY.

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CORRECTION


Geography FAIL

The fall 2010 issue of **Brown Medicine** noted that four members of the MD Class of 2014 were Fulbright scholars ("Stat Sheet"). The countries listed should have included Malaysia, not Indonesia. Rebecca Jackson pointed out the error, letting us know that her son, Neil C. Jackson, spent nine months as an English teacher in a state boarding school in the town of Kuala Berang in Terengganu, Malaysia. **Brown Medicine** regrets the error.



THE BEAT

WHAT'S NEW IN THE CLASSROOMS, ON THE WARDS, AND IN THE LABS



Dean is back in Providence after a prestigious Doris Duke fellowship halfway 'round the world.

GLOBAL HEALTH

Global Health Starts at Home

A fellowship in South Africa opens student's eyes to health care in America.

Andrea Lach Dean MD'11 wore many hats during her year-long Doris Duke fellowship in South Africa.

For starters, she was a researcher working out of the hospitals and clinics of Pretoria, an urban center north of Johannesburg. Dean investigated the use of text

messaging to establish a support group for HIV-positive mothers. "Women who are just diagnosed with HIV don't want to enroll in a support group. They're afraid of the stigma and of protecting their privacy. What if they run into their sister, or their friend? We wanted to offer this

anonymous group," says Dean. The participants would text the group, comprising seven patients and the clinician, with questions about their condition and concerns and messages of support.

Dean served as the clinician, monitoring the text message conversation

RYAN CONATY

24/7 and providing patients with advice when necessary. “The project was frustrating at times,” says Dean, “but then I look at the list of text messages from the women. They are so insightful. The women absolutely loved the support.”

In the hospitals, Dean resumed her role as a medical student. “People [in the public hospitals] were so sick... it’s been a refresher on disparities in health,” she says of her experience. “So many people can’t cover their basic health care needs.”

When Dean needed emergency surgery while in Pretoria, the student became the patient. “I was seen at the public hospital first, by a surgeon that I knew. I asked if I could have the procedure there, but the surgeon refused.” Dean received the operation at a private facility instead.

Her experiences affected Dean’s view of South Africa’s universal health care system. “It was an interesting backdrop to the health care reform discussion in the US. It was painful to hear people talk about equality and health care. In a country in poverty, universal health care looks very different.”

Stateside, Dean has returned to the familiar role of medical student. The harsh realities of health care in South Africa continue to resonate with her. “I’m surrounded by global health physicians every day [at Brown]. People probably think that going to South Africa is all they do, but Brown is a good example of people who are involved and fill needs wherever they go. Global health has an implication for health equity everywhere, even at home. You’re not just training docs to go abroad, you’re fostering the health care system in the States.”

—Rebecca Kaufman ’11

Magic Marker

Possible biomarker for seizure-related stress.

New research has found that reduced levels of brain-derived neurotrophic factor (BDNF), a protein in the brain that encourages growth of neurons, may be a trait marker for individuals with psychogenic non-epileptic seizures (PNES), which are psychological in origin. The findings were published in the October 4, 2010, issue of *Neurology*.

The study also indicated decreased levels of BDNF in adult patients with epileptic seizures (ES), meaning that reduced serum BDNF levels can be used to differentiate adult patients with both PNES and ES from healthy controls. Lead author W. Curt LaFrance, Jr., MD, MPH, assistant professor of psychiatry and neurology (research), and his team believe the reduced level in both ES and PNES patients is related to stress: “Stress has been shown to lower BDNF, and a shared characteristic of patients with epilepsy or with non-epileptic seizures is fear of the next seizure,” he says.

—Kylah G. Klinge

Almost Like Being There

Telemedicine may improve geriatric depression.

Studies have shown a high rate of depression among elderly homebound individuals, and few patients receive adequate treatment, if any. To address this issue, researchers have developed a telemedicine-based depression care protocol in home health care. The early findings from their pilot study were presented at the 29th Annual Meeting and Exposition of the National Association for Home Care and Hospice.

Thomas Sheeran, assistant professor of psychiatry/human behavior (research), led the study. Through the pilot study, Sheeran reports that feasibility and patient satisfaction ratings were very high. He notes that a majority of the elderly participants reported they were satisfied or very satisfied with the protocol, that they quickly became comfortable using the telehealth equipment, and that there were few technical problems. More importantly, participants felt it improved their care and that they would be willing to use it again. —K.G.K.



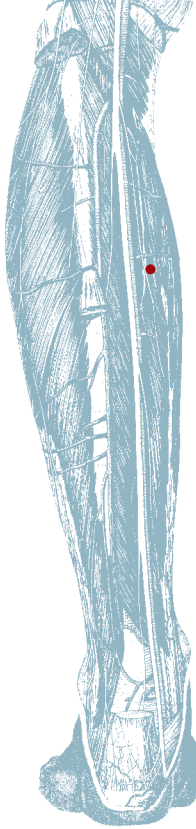
Findings

THE BEAT

NEXT STEP

License to Hope Start-up plans to develop treatment for Duchenne.

Patients with Duchenne muscular dystrophy (DMD) begin exhibiting symptoms as early as infancy to preschool age. Those afflicted, usually boys, exhibit muscle weakness that begins in the lower body and rapidly worsens. Difficulty walking increases. Underlying these symptoms is a replacement of skeletal muscle by fat and scar tissue. The cause is a defective gene for a muscle protein called dystrophin. One in every 3,500 boys is affected, and ultimately die



of this incurable disorder by their mid 20s.

In 2000, Professor of Medical Science Justin Fallon's laboratory began to observe the regulatory effects of biglycan on production of utrophin, a protein that stimulates the repair of muscle damage (see *Brown Medicine*, Fall 2009).

Biglycan and utrophin both occur naturally in the body, and utrophin performs a similar function to dystrophin.

Using a \$5.2 million, four-year grant

from the National Institutes of Health, Fallon proved the efficacy of a treatment based on biglycan to slow DMD progression by 50 percent in mice. Although this result is encouraging, it is unclear how biglycan will fare in human trials.

Brown has licensed the treatment to Tivrosan Pharmaceuticals, a start-up company that plans to see the drug over the development and regulatory hurdles. "We deeply acknowledge the need and urgency for a new treatment in DMD," says Joel Braunstein, a founder of Tivrosan and its CEO. "If biglycan proves safe and effective in human testing, the potential exists for providing relief to thousands of boys and their families around the world." —R.K.

STUDENTS

Quick—Tell Me Everything You Can About What You Do



Last October, the Brown Medical Alumni Association Board hosted a medical student networking session. Students chatted in small groups with individual board members about choosing a specialty, surviving residency, and maintaining work/life balance. It was so successful the board plans a repeat next October. Alumni interested in participating should contact the director of alumni relations at Bethany_Solomon@brown.edu.

WHO KNEW

Lord and Lady of the Dance

For this duo, it's not strictly ballroom.

Seventeen years ago, Clinical Associate Professor of Medicine Edward Martin '76 MD'79 MPH'07 attended a professional meeting in Nashville. "I went out to a club to hear music. There was a dance floor, and couples were

Despite the **demands of their careers**, both Resnik and Martin **make time for dance**.

dancing waltz, swing, and two-step. It looked like fun and I decided to try it when I got home."

And the dance floor is where Martin met his future wife, Associate Professor of Community Health (Research) Linda Resnik. Resnik, who is also a research health scientist at the Providence VA Medical Center, has been dancing since childhood, but didn't start couples dancing until her 30s. Sixteen years after they met they're still at it, and have a repertoire of 16 dances, including tango, waltz, two-step, West Coast swing, and hustle. "We try to go out to dance—take a lesson, practice—at least once a week, more if we have a competition coming up," says Martin.

Despite the demands of their careers, both Resnik and Martin make time for dance. "We prioritize dancing,"



Resnik and Martin show perfect form.

says Resnik. "It's our main recreational and social activity."

"We try to vacation in places where we will be able to dance, we still take lessons, and we try to compete every few months," adds Martin, who is medical director of Home and Hospice Care of Rhode Island. "As an advanced amateur couple, we also have the chance to per-

form at dance events several times a year."

In addition to practicing at dance gyms and a ballroom studio, the couple regularly attends dance camps and works with coaches from around the country. They also practice at home, and have designed a large living room in the house they're renovating to double as practice space. —**R.K.**

THE BEAT

STUDENT

The Clinician-Scientist

Lab rat with a bedside manner.

As a researcher, Matthew Reilley MD'11 is working on the forefront of stem cell science. Talk to him in a few years, however, and he hopes to be able to tell you that he is moving those innovations from the laboratory into his medical practice.

Reilley is one of 43 undergraduate, graduate, and medical students to receive the American Society of Hematology's Trainee Research Award. The grant supports three months of full-time research and funds each recipient to attend the ASH's annual conference in December.

Through his work in the lab of Peter Quesenberry, the Paul Calabresi, MD, Professor of Oncology, Reilley hopes to elucidate the development of pulmonary hypertension after stem cell treatments, a complication whose mechanism remains unknown. The research



Awardee Reilley sees both research and medicine in his future.

“So much of **what we learn is how to interpret research** and figure out **how to apply it to treat patients.**”

will investigate which cell types in bone marrow initiate the changes in vasculature that prevent adequate blood flow

to the lungs in patients receiving bone marrow transplants.

Reilley is far from a laboratory novice, having conducted neuroscience research as an undergraduate at Washington and Lee University and having spent last year at the NIH.

“Research is obviously fundamental to advances and development of medicine as a field,” says Reilley. “So much of what we learn in the third and fourth year of med school is how to interpret research and figure out how to apply it to treat patients.”

Even as he looks ahead to internal medicine residencies next year, a career blending both research and medical practice is a priority for Reilley. “I like the idea of working with cancer patients but also working at the research level to address hematology and oncology issues,” he says.

—R.K.

Over Heard

“AIDS is still highly stigmatized. But it’s not who you think you are—it’s what you do. It doesn’t matter whether somebody thinks they’re gay or not. It matters who they’ve had sex with.”

—**DR. KENNETH MAYER**, professor of medicine and community health and director of the Brown University AIDS Program, interviewed in the Providence Journal on December 1, 2010, on the occasion of World AIDS Day.

RI-CIE is located in Providence's emerging Knowledge District.

AWARD

Minds to Market “Program of the Year” supports entrepreneurs.

The Rhode Island Center for Innovation and Entrepreneurship (RI-CIE)—a joint venture between Brown, Rhode Island Economic Development Corporation, Slater Technology Fund, and RI

Science and Technology Council—was recently named the “Program of the Year” by the Northeastern Economic Developers Association.

RI-CIE was founded to provide entrepreneurs and researchers with the resources, information, and connections needed to help new innovations get to market. “We have always had creative people in the state: Rhode Island’s universities and hospitals are knowledge creation engines,” says RI-CIE Director Brendan McNally. “But not until RI-CIE was created did we strategically align our resources to help faculty, students, researchers, and entrepreneurs form and grow scalable businesses.” RI-CIE hosts events that range from seminars on business to mentoring

sessions, collaborates with city and state organizations, and develops networks of experts to support entrepreneurs.

The organization also works closely with Brown: the University has provided RI-CIE with financial and managerial support and RI-CIE works to provide entrepreneurship opportunities to faculty, students, and alums. “My days are always exciting and challenging given the number and quality of ideas coming out of Brown,” says McNally. RI-CIE has supported among other Brown-related ventures MicroTissues, a developer of 3D Petri dishes led by Brown professors, and Bakodo, a company founded by Andres Douglas '09 that developed a barcode-scanner mobile application.

—K.G.K.

Ask THE EXPERT

Nip/Tuck? Not.

What to do when cosmetic treatment doesn't help.

A recent study in *Annals of Plastic Surgery* found that while many who suffer from body dysmorphic disorder (BDD) seek cosmetic procedures, only 2 percent of procedures actually reduced its severity. Yet physicians continue to provide requested surgeries to people suffering from BDD. Should they? Katharine A. Phillips, professor of psychiatry and human behavior, director of the Body Dysmorphic Disorder Program at Rhode Island Hospital, and author of *Understanding Body Dysmorphic Disorder: An Essential Guide*, shares her thoughts.

People with BDD believe they look ugly or deformed when in fact they look normal. BDD is a common and severe disorder characterized by distressing or impairing preoccupation with nonexistent or slight defects in one's physical appearance (e.g., perceived skin scarring, a “large” nose, or perceived balding). Compulsive

behaviors (e.g., excessive mirror checking, excessive grooming) are common. People with BDD typically experience marked impairment in functioning, and suicidal thinking and behavior are common.

A majority of people with BDD receive cosmetic treatment for the defects they perceive—most often, dermatologic and surgical. These treatments appear to virtually never effectively treat BDD. Following cosmetic treatment, some BDD patients become even more distressed over their appearance. In a survey of cosmetic surgeons, 40 percent said they had been threatened legally and/or physically by a dissatisfied patient with BDD. Lack of improvement with cosmetic treatment isn't surprising, because BDD involves distorted body image and a tendency to obsess about minor or nonexistent flaws.

Physicians are advised not to provide cosmetic treatment to people with BDD. Fortunately, serotonin-reuptake inhibitor medications (antidepressant medications with anti-obsessional properties) and cognitive-behavioral therapy that specifically targets BDD are often effective for this disorder.

Have a medical question? Send it to us at www.brownmaginemagazine.org.

THE BEAT

ELEVATOR PITCH

Fresh Face

New department, new chair, new outlook.

G. Rees Cosgrove, MD, is the inaugural chair of the Department of Neurosurgery and chief of neurosurgery at Rhode Island Hospital and The Miriam Hospital. Cosgrove was most recently chair of the Department of Neurosurgery and senior neurosurgeon at The Lahey Clinic and professor of neurosurgery at Tufts University School of Medicine.

Cosgrove's appointment brings an opportunity to build on Brown's strengths in brain science and become a true powerhouse in academic and clinical neuroscience. The promise of significant breakthroughs in the treatment of neurological disorders has attracted significant philanthropic support for this new effort. Rhode Island Hospital received \$15 million to establish The Norman Prince Neurosciences Institute, while the Champlin Foundations recently pledged \$850,000 for neurosurgery.

Brown Medicine talked to Cosgrove about his plans.

Could you describe your research and surgical areas of interest?

My main area of surgical interest is in epilepsy surgery and functional neurosurgery. Functional neurosurgery includes such things as surgery for Parkinson's disease, tremor, spasticity, pain, and psychiatric illness. I also am an expert in brain tumor surgery, having performed more than 1,000 of these operations. My research interests are focused on advanced neuro-imaging of the brain and mapping and investigating human cortical function.

What attracted you to Brown?

First and foremost was the quality of the people, both in the clinical neurosciences (neurology, neurosurgery, and psychiatry) and in the basic neurosciences. I was very impressed with the degree of communication and collaboration that existed in the neuroscience community and that extended into multiple other departments at Brown. The opportunity to partner with world class neuroscientists to make advances and

discoveries that we might apply to the human condition was irresistible. Finally, to be able to lead a busy Department of Neurosurgery in a major medical center and help train the next generation of neurosurgeons has always been one of my dreams. Of course, sometimes you have to be careful about dreams ...

How will your department collaborate with the departments of Neuroscience, Psychiatry, and Neurology?

The treatment of patients with neurological diseases generally requires a multidisciplinary team, all with special interest and expertise. Neurosurgeons have always worked closely with neurologists especially in the areas of epilepsy, movement disorders, stroke, and brain tumors. With the strength of the Psychiatry department at Brown, we also have a unique opportunity to be world leaders in the surgical treatment of some psychiatric disorders. It is by working in these teams that clinical and translational research studies can be applied in order to better understand and treat these disabling neurological diseases. Extending these collaborations to the basic neuroscientists will eventually allow us to unlock some of the mysteries of the brain and the disorders that affect it.

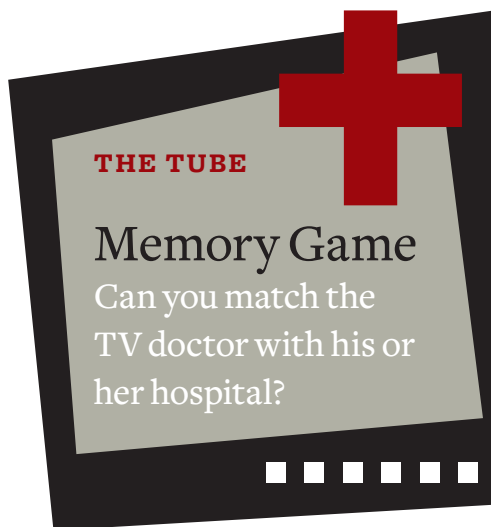
Could you talk about The Norman Prince Neurosciences Institute?

The Institute is the result of an incredibly generous and insightful family. While just in its infancy, it will be a place where the latest and most advanced treatments will be available to patients suffering from neurological diseases, a place where neurologists, neurosurgeons, and psychiatrists will work together to help patients. It will be a place where the latest advances and discoveries of the basic neurosciences will be explored and applied. It will be unique in New England. —*Kris Cambra*



Rees Cosgrove chairs the new Department of Neurosurgery formed in 2009.

WILLIAM MURPHY



- | | |
|---------------------------------------|---|
| 1. James Kildare | a. Lang Memorial Hospital |
| 2. Gregory House | b. 4077th Mobile Army Surgical Hospital |
| 3. Neela Rasgotra | c. San Francisco Memorial Hospital |
| 4. Benjamin Franklin "Hawkeye" Pierce | d. St. Eligius |
| 5. Miranda Bailey | e. Eastman Medical Center |
| 6. Noah Drake | f. Princeton-Plainsboro Teaching Hospital |
| 7. Marcus Welby | g. Seattle Grace Mercy West Hospital |
| 8. "Trapper" John McIntyre | h. County General Hospital |
| 9. Doogie Howser | i. General Hospital |
| 10. Philip Chandler | j. Blair General |

Go to brownmedicinemagazine.org for answers.

GROW YOUR OWN

How'd You Do That?

Scientists create artificial ovary.

Researchers at Brown University and Women & Infants Hospital have invented the first artificial human ovary. The artificial ovary brings all three ovarian cell types into a 3D arrangement similar to a real ovary in the body and provides a potentially powerful new means for conducting fertility research.

Sandra Carson, professor of obstetrics and gynecology and a senior author of an article in the *Journal of Assisted Reproduction and Genetics* that describes the innovation, says the ovary provides a living laboratory for investigating fundamental questions about how healthy ovaries work. It can also act, she says, as a testbed for seeing how problems can disrupt egg maturation and health.

To create the ovary, the researchers formed honeycombs of theca cells, one of two key types in the ovary, donated by reproductive-age patients. Together with human egg cells, donated granulosa cells were inserted after the theca cells grew into the honeycomb shape. In a couple of days, the theca cells enveloped the granulosa and eggs, mimicking a real ovary.

The big test, however, was



Bioengineer Jeffrey Morgan and Sandra Carson discuss 3D tissue growth.

The artificial ovary is a 2010 *Time* magazine
"Top 10 Medical Breakthrough."

whether the structure would function like an ovary and mature eggs. It did. "[This] represents the first success in using 3D tissue engineering principles for *in vitro* oocyte maturation," the researchers wrote in the journal article.

The artificial ovary could play a role in preserving the fertility of women facing cancer treatment in the future, says Stephan Krotz, a Houston fertility doctor who is the paper's lead author and a former fellow in Carson's lab. Immature eggs could be salvaged and frozen before the onset of chemotherapy or radiation, he says, and then matured outside the patient in the artificial ovary.

The paper's other authors are Jared Robins, Toni-Marie Ferruccio, Richard Moore, Margaret Steinhoff, and Jeffrey Morgan, all of Brown University.

—K.G.K.

THE BEAT

● Aquarium net for catching bats in the flight cage. He also has 2x6-meter nets for catching bats in the wild.

● Gloves, because “an animal that doesn’t want to be picked up will resist. Usually with its teeth.”

● Joe’s keys open lots of labs, bat colonies ... and the Brown Ballroom Dance Club’s costume closet.

● Books for becoming really knowledgeable about bat flight.

● Goggles provide eye protection when visualizing air flow using smoke and lasers.

● Metal wings are good for studying the aerodynamic effect of wing shape in the wind tunnel.

● Bat bag is warm and dark, which makes the bats calm after they’re caught!

ANATOMY OF A PHD CANDIDATE

Holy Rhumba, Batman!

If you think about it, a firm grasp of mammalian biomechanics can come in handy when you’re a dancer. Just ask Joe Bahlman. He’s a fifth-year doctoral student in the Department of Ecology and Evolutionary Biology who studies bat flight. He’s also a three-year veteran of Brown’s award-winning Ballroom Dance Team. When he does a Latin dance, Bahlman noticed, he has the limb posture and movements of a dog. And when he’s waltzing? He moves like a cat.

Bahlman’s mammal of choice, though, is the bat: fruit bats, insectivorous bats, and vampire bats. Combining his interests in anatomy and technology, he uses engineering techniques to study bats’ wing motion. Understanding how these animals fly can lead to the design of “micro air vehicles”—small, slow-flying, maneuverable planes—that can fly inside unsafe buildings, inspect weak spots on bridges ... or even explore a mineshaft. —*Sarah Baldwin-Beneich*

● Robotic wing model Joe built using a 3D printer. It’s made of plastic (for the skeleton) and a secret-recipe silicone elastomere (for the membrane). Three servo motors power the wing motion.

CHEAP DRUGS

Want Generic Meds?

There's an app for that.

Scott Guelich MD'11 got the idea while doing a family medicine rotation at Memorial Hospital of Rhode Island. Many of the patients who came into the clinic were unemployed or uninsured, and they were missing medications because they couldn't afford them.

The doctors knew that Walmart sold some generic drugs for just \$4 for a month's supply—but which ones? And what could they do for patients who couldn't drive to the nearest superstore?

What they needed was a drug list at their fingertips. So Guelich built an iPhone app for that.

It was his community health project last spring, and no easy task: He'd built apps before, so that wasn't hard, but most of the data had to be entered

manually, read off PDFs found online.

The good news, Guelich says, was that the lists included “the vast majority” of drugs prescribed by primary care providers, such as those to treat high blood pressure and diabetes. Doctors can browse the lists by drug name, pharmacy, and drug class.

The app, called Generics, is available for free and word has spread quickly. As of mid-December, Guelich says, it's been downloaded by more than 9,200 clinicians.

Guelich has also seen the app in action, benefiting patients such as a 58-year-old woman with diabetes, high blood pressure, and other conditions who couldn't afford her six medications.

—Marion Davis

Alcohol and HIV

How do they interact?

Living with HIV is difficult under the best of circumstances, but for people carrying the virus, alcohol consumption can become particularly perilous in ways that are only beginning to be understood. At Brown's new Alcohol Research Center on HIV (ARCH), funded by a \$7.5-million, five-year grant from the NIH, scientists will study the health effects of drinking with HIV and provide doctors and patients with the latest guidance their results suggest.

“We want healthier individuals living with HIV, especially now that they are living longer,” says Peter Monti, the Donald G. Millar Distinguished Professor of Alcohol and Addiction Studies and the director of ARCH. “We'll hopefully determine whether people have to stop drinking or reduce their drinking.”

—K.G.K.

Shot in the Arm

Grants help transform primary care.

With more than \$4.4 million from four new federal grants, the Department of Family Medicine is set to transform how everyone—from undergraduates to primary-care physicians—thinks about serving patients and organizing practices. The grants provide a turbo boost for medical education as it races to keep up with changes in technology, health services, economics, and demographics. “These four grants are definitely a game changer for primary care in the department, for Brown, and for Rhode Island,” says Jeffrey Borkan, chair of Family Medicine.

The grants will, among other initiatives, support efforts to overhaul the medical curriculum, enhance resident programs, develop continuing education for faculty, recruit new teachers, and expand interaction with community health centers and underserved patient populations. The grants will also help medical practices that serve as teaching sites for Alpert medical students and residents transition into “patient-centered medical homes” (PCMH)—one of the most promising new models for health care delivery.

—K.G.K.

Big Bucks

FROM THE COLLECTIONS

BY SARAH BALDWIN-BENEICH
PHOTOGRAPH BY KAREN PHILIPPI

Feel Free to Cut In

Four-and-a-half centuries ago, one man went to the source to see what makes people work.

Written in Latin and illustrated with beautifully detailed woodcuts, *De corporis humani fabrica libri septem* (Seven Books on the Fabric of the Human Body), by the Flemish anatomist Andreas Vesalius (1514-1564), is one of the most important texts in medical history. Born in Brussels to a medical family, Vesalius was truly a prodigy in his field: the year after he obtained his doctorate from the University of Padua, he was named chair of anatomy and surgery there. He was 25. The *Fabrica* was published when he was not yet 30, in 1543—the same year Copernicus died, King Henry VIII of England

married his sixth wife, and Mary Stuart was crowned Queen of Scots.

The *Fabrica* was the result of four years of study during which Vesalius

took a completely new scientific tack. Unlike the Greek physician Galen, who for 2000 years had been considered the infallible authority on human anatomy,

the young Belgian derived his knowledge and understanding of the body directly, through the thorough dissection of human corpses. (Galen, Vesalius realized, had used monkeys.)

“Two things favored him,” according to William Osler, “an insatiate desire to see and handle for himself the parts of the human frame, and an opportunity, such as had never before been offered to

To know the human machine and its working, **it is necessary first to know its parts.**

the teacher, to obtain material for the study of human anatomy.”

Osler added: “Vesalius grasped, as no modern before him had done, the cardinal fact that to know the human machine and its working, it is necessary first to know its parts—its fabric.”

The book, a gift of John Bray '53, is a gem in the Library's History of Science Collections. But it is also, in a sense, a gem of art history: the stunning woodcuts are attributed to the students of Titian. For flayed, disemboweled bodies they possess an odd and undeniable grace. Some of them look pensive, even sleepy. Others look like they're in mid-peroration before an unseen audience. A few seem to beseech the heavens, others to have attained some strange ecstatic state. One, his elbow resting on a pedestal, could even be the Dane contemplating poor Yorick's skull—if *Hamlet* had been written 60 years earlier.

Go to brownmedicinemagazine.org to see more illustrations.

BEAUTIFUL ON THE INSIDE

Without his skeleton, this guy seems too weak to stand.



ESSAY

BY JEFFRY B. MITTON, PHD



Keep Your Eye on the Sparrow

You might see natural selection at work.

Professor Hermon Bumpus stared out his office window at Brown University on a wintry afternoon in 1898. House sparrows, soaked by wet snow and shivering in a brisk wind, were suffering from hypothermia.

Sympathy and curiosity drove him to collect the birds and bring them into his laboratory.

House sparrows, *passer domesticus*, are native to Europe and most of Asia. The Commissioners of Central Park introduced them to New York City in 1852 and as a consequence of numerous introductions they now thrive in North and South America, Africa, Australia, and New Zealand. They are the world's most widespread bird and one of the most common birds in North America.

Some of the sparrows that Bumpus collected on campus died, and others recovered. He measured nine morphological traits, such as wing length, on each bird, and discovered that surviving birds had intermediate values for eight of the nine traits. Mortality imposed by

the harsh storm eliminated the largest and smallest birds and those with unusual shapes. A single storm diminished the flock but also changed its shape.

Years later, University of Kansas professor Richard Johnston and his colleagues, inspired by Bumpus's results, conducted a similar study, but over an entire winter. They found that winter mortality took the smallest males and the largest females. While this experiment differed in detail from its predecessor, it was similar in demonstrating that mortality over a short period of time had measurable effects on a single population. That is, natural selection had significant effects after a single storm, or a prolonged winter, and certainly within a generation.


Johnston and his colleagues, encouraged by their results, went on to compare house sparrows from source populations in England and Germany with introduced populations throughout North America and Hawaii. In North America, they found patterns of color and morpho-

logical variation that conformed to common rules of ecogeographic variation (Gloger's rule, Bergmann's rule, Allen's rule). Birds living in warm environments had lighter tones and were more colorful. Birds living in cold environments were considerably larger and also had relatively smaller appendages, to conserve warmth during winter.

That is, house sparrows in southwestern deserts have lighter tones, are smaller and have relatively longer legs and wings than birds living in the moist forests of the Pacific Northwest. House sparrows evolved the same patterns of variation seen in numerous native bird species.

Johnston and his colleagues noted that introduced populations differed significantly from the source populations and that populations from different environments in North America were also quite different. The variation was most apparent between populations in Hawaii and all other populations.

They also noted that the degrees of differences in color and morphology were as large as the differences used to describe subspecies in other bird species. The prevailing belief had been that subspecific differences took about 40,000 generations to evolve, but these differences had evolved in less than 50 years.

House sparrows have taught us about how quickly natural populations can respond to environmental stresses and how quickly evolution occurs. 

Jeff Mitton (mitton@colorado.edu) is an evolutionary geneticist at the Univ. of Colorado. While on sabbatical in 2000 he visited the site from which Professor Bumpus rescued the sparrows.

BIG SHOT

ADAM MASTOON

Places, Everyone!

The members of the Class of MD'14 don their white coats.

The largest entering class ever—101 students, to be exact—received their symbolic white coats on October 23, 2010. This marked the 10th year of Alpert Medical School's formal welcome to the world of medicine, held during Family Weekend. Because the class size has grown and more proud parents, significant others, and friends attend, the ceremony is now held at the First Unitarian Church on Benevolent Street—meaning students begin their training and graduate as physicians in the same historic venue.

Members of the Brown Medical Alumni Association Board of Directors (in the front row, with Dean Wing), which purchases the students' coats, were on hand for the celebration.

Perched in the balcony of the Unitarian Church's Parish House, photographer Adam Mastoon corralled the group of very excited, newly coated medical students. He captured the moment using the Canon 5D Mark II camera. Mastoon is an editorial photographer whose work has been exhibited nationally and published internationally.





Through the Mountains

Health and human rights in western Nepal.

“Doctor-Sahab, aunus, aunus (Doctor, come, come!)” The nurse aide has a panicked look on her face as she stands in the door to my office. Running to the delivery room, I learn that a woman has arrived from Bajura, an even more remote Nepali district to the north of the extremely remote Achham district where we work. She is screaming in pain and too weak to stand, having already lost a lot of blood.

In the delivery room, I quickly see that there is nothing to be done. Our medical director and one of our senior nurse midwives are already there, but they are not in a hurry anymore. We look in despair at the fetus on the table, dead for what must have been hours. The mother, anemic from days of blood loss and hysterical at the loss of her child, will nonetheless survive.

It had been three days since her labor had begun, and almost that long since she had last felt fetal movements. It had taken her that long just to reach the hospital. She herself was fortunate to be alive, and moreover, that we were able to transfer her to an obstetrician for postpartum care in our ambulance, merely a 6-hour drive on dangerous mountain roads ... but at least she had made it that far. Here in western Nepal—with less than 1 doctor per 100,000 people—that alone is an accomplishment.

HEALTH: A HUMAN RIGHT

Normally, I don't see patients here. Or at least that's not what I'm supposed to

be doing. As the executive director of Nyaya Health—a Partners In Health-affiliated organization working in the rural Achham district—the entire point of my job is to help strengthen the local health system, not function as one of the providers in that system. On leave from Brown for two years, and having finished a master's degree in health systems management from Harvard, I'm here to manage the development of one of the only hospitals in the region. The underlying principle is really quite simple: working with the existing government health system to strengthen it, rather than developing separate, independent systems, will prove far more beneficial in the long term. We firmly believe that health is a human right, and we're working to ensure that the health system we develop will be sustainable into the future, to truly be owned by the Nepali people. The goal is that someone like myself won't be necessary eventually, but for now, with the Achhami health system as destitute and underdeveloped as it is, I still occasionally help out.

In a public-private partnership with the Nepali Ministry of Health, Nyaya is currently scaling up services at the Bayalpata Hospital. Built in the early 1980s, the hospital was never opened due to political conflicts and a recent civil war. When Nyaya first started seeing patients in post-war Achham in 2008, the hospital—a massive complex of 12 buildings—was inhabited by a single lay health worker equipped with some ibuprofen, who

was only available a few afternoons each week. There was no electricity, no water, no furniture, no medical equipment; the hospital was only accessible by a dirt road that was washed out for several months of each year during monsoon season. After establishing the first primary health center in the region, offering free services in a village several kilometers away, Nyaya was asked by the community and local health officers to rehabilitate and formally open the hospital.

Today, two years later, we run one of the largest and busiest hospitals in this remote region at the foothills of the Himalayas. Patients regularly travel for days, walking through the mountains or traveling in buses or jeeps when they can reach one of the few roads in this district, to arrive at Bayalpata. Our outpatient department regularly sees more than 150 patients per day, and our inpatient unit and emergency room receive patients around the clock. Given that most of our patients live on less than \$1.00 per day, user fees of any amount present insurmountable barriers for them. Consequently, all of our services are offered free of charge.

Due to the extremely challenging environment, the near-complete lack of any transportation infrastructure, and the heinous levels of poverty, most of our patients suffer not only from biological disease, but far more profoundly, from the socioeconomic and structural circumstances that fuel their disease. Here in Achham, pregnancy can literally



mean death for the mother in 1 out of every 125 pregnancies, and due to a mixture of cultural tradition and a historical lack of health care facilities, nearly 99.5 percent of babies are delivered at home, without any trained health personnel. Our unfortunate case from Bajura was just one of numerous similar cases that we see each month; sadly enough, she was one of the “lucky” ones.

THE FUTURE


Nyaya’s Board member, friend, and mentor, Paul Farmer, likes to quote an old African proverb: “How does an ant eat an elephant? One bite at a time.” And indeed, it often feels like we are merely a single ant, struggling against all odds to consume the monstrosity of an elephant in front of us. The overwhelming nature of the challenges ahead weighs down on us, threatening to push us to the fatalism of previous generations who claimed that this work couldn’t be done. Those were the same voices that said

that smallpox could not be eradicated, that HIV could not be treated. We’ve come a long way since that discourse, and indeed, even some of the most conservative of our politicians will now agree that all people—even poor people—have a right to health care. The question has now become how and when will we achieve this?

Here in Achham, like our colleagues in so many resource-denied areas around the world, we’re doing our best to figure out the answer to the first question. But this work is certainly not without its challenges, and while I remember learning how to manage obstructed labor when I was a third-year rotating at Women & Infants Hospital of Rhode Island, pulling it off successfully here is a little more daunting than it was back then. We have limited electricity, faulty plumbing, low-quality pharmaceuticals shipped on even lower quality dirt roads, and the occasional monsoon causing landslides that cut us off from our supply chain for

weeks at a time; yet we persist. Over time, we will learn the answer to “how,” but hopefully sooner rather than later, so that the answer to the second question, “when,” is only years—not generations—away.

The fact that this work is immensely challenging is not an excuse to give up. Indeed, our forefathers have shown us that we can accom-

plish everything from anti-microbial prophylaxis to zero central-line infections if we are persistent. Their “elephants,” when they embarked upon their quests, were seemingly as large and intimidating as ours is today. The question is no longer whether our patients, having walked (or been carried) for days to arrive at our hospital, deserve the same attention and high-quality, evidence-based care as any patient in Providence; that much has been established. Now it is up to us, the next generation of physicians, to push the field forward “one bite at a time,” to demonstrate how this, as with so many previous milestones, is not only possible, but merely one more step in our pursuit of providing the highest quality care for our patients. 

To read more about Dan’s work and find out how you can help, please visit Nyaya Health’s website at www.nyayahealth.org, and Nyaya’s parent organization, Partners In Health, at www.pih.org.

Larger Than Life

The renowned orthopaedic surgeon and researcher is also a mentor, right down to his bones.

The results of a physician's work are spelled out in absolute terms, in the body and blood of another, and indirectly, in all the ways that good health reverberates. But for a special kind of physician, the impact extends beyond individual healing: their work shapes their colleagues and mentees, their community, their field. One such physician is Michael G. Ehrlich. A specialist in pediatric orthopaedic surgery, he has been a practicing clinician for almost half a century, and at Brown for 20 years.

Ehrlich is first and foremost a caregiver. Recognized nationally for his work with disabled children and expert handling of difficult diagnostic and therapeutic problems, he is one of the nation's leading experts in clubfoot surgery and pioneers of the Ilizarov leg-lengthening procedure. Over the decades, he has helped hundreds of children walk for the first time. At Brown, Ehrlich works tirelessly to design and perform groundbreaking treatments: in 2003, he succeeded in growing bone alongside cartilage in a first-of-its-kind procedure on a 9-year-old boy born without a fibula.

Underlying Ehrlich's clinical successes is a fundamental philosophy. "He believes strongly in the importance of treating patients as people rather than body parts or technical exercises," says Christopher W. DiGiovanni, one of Ehrlich's former residents and chief of Brown's Foot and Ankle Service and

director of its orthopaedic residency program. "He taught me that our job is quite simply to get our patients as close to the outcomes they—and we—dream of. But he has always been quick to remind us that we are all patients."

This awareness of the universality of vulnerability—the deep appreciation that no one, in the end, is spared the experience of feeling powerless against the larger forces of one's own body—is perhaps part of the reason Ehrlich connects so easily with his patients. Ehrlich, who in recent years has needed several orthopaedic surgeries himself, offers his patients not only the promise of advanced medical treatment, but kind words—and, often, jokes. Brent Lang '04 was one such patient. Born severely flat-footed, Lang needed several complicated surgeries to stop the progression of his arthritis and to enable him to move without difficulty.

"Growing up I was very sensitive about the way I walked," says Lang. "I was mocked and bullied." Ehrlich discussed the surgeries thoroughly with Lang's family, answered their questions, and kept them smiling. "He would always ask if I was ready for my 'brain surgery,'" says Lang. Because of the surgeries, Lang—now a successful journalist in Los Angeles—walks and even runs without pain. "Dr. Ehrlich changed my life immeasurably," he says.

Although Ehrlich has a certain ease with his patients and possesses what colleagues describe as a "rare genius,"

Ehrlich is the Vincent Zecchino Professor and chair of the Department of Orthopaedics at Alpert Medical School and surgeon-in-chief in the Department of Orthopaedic Surgery at Rhode Island Hospital and The Miriam Hospital.

his accomplishments certainly didn't come without sacrifice and toil. A fan of the maxim "suffering builds character," "he makes it difficult for others to complain, as he generally works harder than everyone else," says a former resident, David Asprinio, now chairman and program director of the Department of Orthopaedics at New York Medical College. "Not that they won't," Asprinio adds.

EARNING A REPUTATION

First trained in internal medicine after he graduated, in 1963, from Columbia University's College of Physicians & Surgeons, Ehrlich realized that the specialty

DAVID DEL POLO



Patients and their families would line up outside his office, sometimes **waiting until 9 or 10 at night.**

wasn't for him. He loved the diagnostic work but was frustrated: "In those days, when you'd discover an obscure underlying disease," he says, "you had to turn the patient over to the surgeons."

"I wanted to have a direct role in improving people's lives, something to show for my efforts," says Ehrlich. "I guess I'm immature that way." Orthopaedics, he realized, would offer him that

opportunity. He was accepted to a residency in the field—a rare accomplishment for a resident from a non-surgical specialty—and later worked as a fellow at the Hospital for Joint Diseases in New York under Henry Mankin, one of the most well-respected orthopaedic surgeons in the country. While a fellow, he also did research on growth plates, and at night saw patients as a junior attending

at Mt. Sinai. "I started to get in the habit of working very long days," says Ehrlich.

When Mankin was asked to be chief of orthopaedics at Harvard's Massachusetts General Hospital, he invited Ehrlich to be chief of the hospital's new pediatric orthopaedic service. Though only 32, Ehrlich accepted the challenge and moved with his wife, Nancy, to New England. During his 17 years at MGH, Ehrlich developed the methodical, determined approach to orthopaedic care that still characterizes his work. He saw people from all over the world, many with conditions for which there weren't effective treatments. He spent hours with each

ZOOM



Four-year-old Noah Bower displays his mobility during a preoperative visit with Ehrlich.



Noah's mother, Kate Mulholland, and orthopaedic resident Bryan Vogat look on.

The **residency program's rise** to prominence was anything but **inevitable**.

patient, working to diagnose and understand their problems and to plot out a plan. “The internal medicine diagnostic bug never left me,” he says.

News of his successes spread. One mother wrote a letter to *Good Housekeeping* that praised the “miracle” club foot surgery that had enabled her son to return to sports. Though MGH was only a few miles from the largest children’s hospital in the world—Children’s Hospital Boston—Ehrlich built a renowned pediatric orthopaedic program there.

Patients and their families would line up outside his office, even eating dinner on the floor while they waited for their turn—sometimes until 9 or 10 at night. Ehrlich would stay until each and every patient was seen. Almost 40 years later, he still does. “His generosity of time knows no bounds,” says Asprinio.

BUILDING A PROGRAM

Ehrlich always knew he wanted to be an academic physician, and has worked hard throughout his career to advance

orthopaedics through research. He has authored more than 200 articles and chapters and was the first scientist to describe an enzyme that is highly significant in joint destruction. He has been elected to several national positions, including the presidency of the Academic Orthopaedic Society as well as the Orthopaedic Research Society, and honored with numerous awards—including the Kappa Delta Award, the highest research award given by the American Academy of Orthopaedic Surgeons. He also received the Huene Award, the highest award given by the Pediatric Orthopaedic Society of North America. At Brown, the Michael G. Ehrlich, MD, Professorship in Orthopaedic Research was created in recognition of his work. He

DAVID DEL POIO (3)

“We are likely **the only program with** essentially **unrestricted access to our chairman.**”

still meets regularly with the research department he helped build there and remains “on the front line of translational research,” says current chief resident Christopher Got.

As much as he is a preeminent clinician and researcher, Ehrlich is a mentor and leader. The consummate academic, a devotee of bowties and the arts, he is at once professorial and enthusiastically irreverent—often telling jokes and “colorful” stories. But more than anything,

to his residents Ehrlich is a father figure who considers them part of his family. Many of his residents and even colleagues in turn refer to him as a “second dad.” “Nothing,” Ehrlich says, “makes me more excited than seeing one of my residents become an academic superstar.”

Ehrlich’s passion is “first and foremost the residency,” says Peter Cole, a former resident who is now a professor at the University of Minnesota and chief of orthopaedics at its core teaching site,

Regions Hospital. Under Ehrlich’s leadership, Brown’s orthopaedic residency has become one of the most selective in the country. It accepts only six residents—handpicked by Ehrlich and DiGiovanni—from 400 to 600 annual applicants.

But the program’s rise to prominence was anything but inevitable. In 1990, Ehrlich, still ensconced at Harvard, was a candidate for chief at 30 different hospitals. When the opportunity to come to Brown was presented, he was uncer-



ZOOM

tain: Rhode Island Hospital had undergone recent cuts as a result of a change in Medicare payments, leaving a skeleton crew of orthopaedic attendings and residents. His first office, he was told, would be in a storage closet. Furthermore, now settled in Concord, Massachusetts, he and Nancy decided they would not pull their two sons from the town's outstanding schools.

Yet he chose Brown. The decision, which meant driving for two hours through Boston traffic every morning, wasn't an easy one. But he had faith—in the University and in his ability to “work harder than anyone else to build the program,” he says. In his first two years, Ehrlich successfully sped through three plans that he had designed to take five years each. As the program grew, so did his pride in what was being created. One


at 6 a.m. several times a week. It's here that the residents learn those larger lessons that can't be taught in the hospital setting. “We are likely the only program in the nation with essentially unrestricted access to our chairman on a daily basis,” says Got.

This access is both a privilege and challenge. David Asprinio recalls receiving a page from Ehrlich one night after he had returned to his condo. “I had assumed it was much too late to round. When I told him I was home and had been asleep on the couch, Ehrlich simply said he would wait until I returned.” Ehrlich, who says he “holds his residents to the same standards to which he holds himself,” lets residents know about it when they inevitably fall short of this measure.

But past and current residents also report growing from, and being moti-

cation to them, describing him as “loyal,” “caring,” “tireless,” “selfless,” “driven,” and “resilient.” “Dr. Ehrlich inspires in all of us a sense of responsibility and honor as physicians,” says DiGiovanni. “He expects us to be leaders and above reproach.”

To date, under Ehrlich's guidance, the Department of Orthopaedics has raised \$40 million in research dollars, built \$4 million worth of labs, and established five endowed professorships. The clinical practice that Ehrlich and others built is now one of the larger employers in Rhode Island and includes numerous nationally renowned academics and surgeons from every specialty in the field. Turnover is exceedingly low. In the residency program, 55 percent of graduates receive appointments in academic medicine—more than in any other clinical department at the University. The department currently manages 180,000 patient visits a year, which means that every six years, attendings, residents, and fellows see the equivalent of every man, woman, and child in Rhode Island.

Ehrlich says his greatest accomplishment is “working with the people at the hospital, University, and state to build one of the finest orthopaedic programs in the country.” Through his program—through the patients who will be able to do more because he treated them, the researchers who will go on to make discoveries because he supported them, the colleagues who will do more because he inspired them, and the residents who will go on to lead because he led them—his work is multiplied. “Many times I heard Dr. Ehrlich speak—I thought facetiously—of the empire he was building,” says Peter Cole. “I now realize he was serious.” 

Ehrlich **holds his residents to the same standards** to which he holds himself.

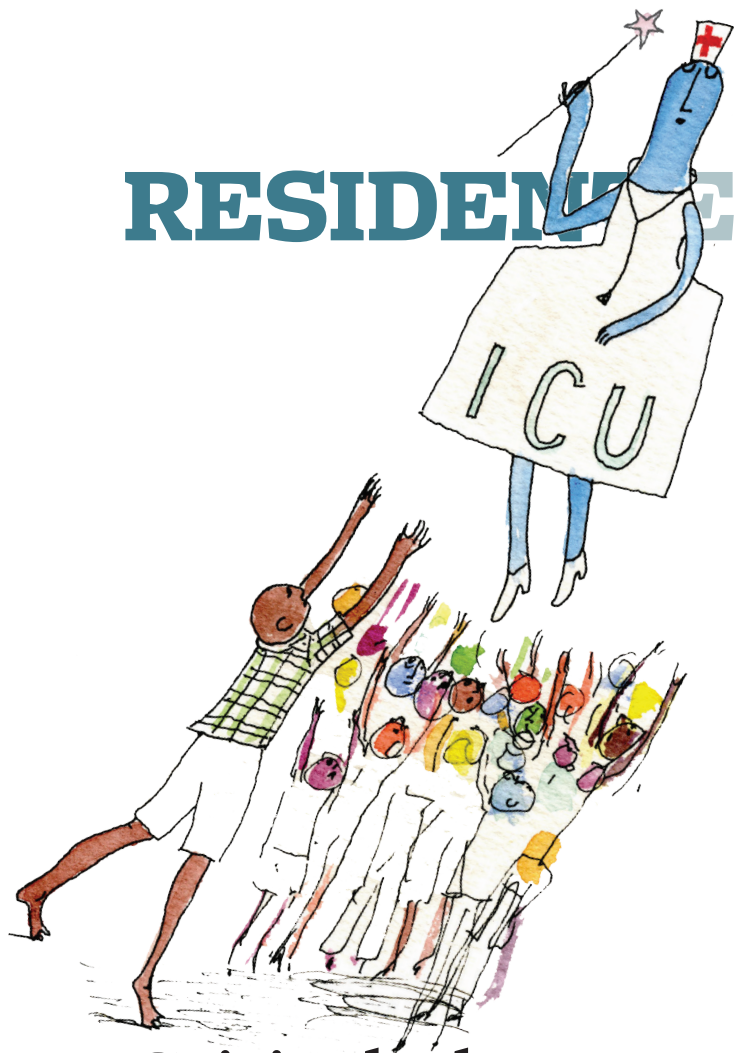
year, he “got on top of a desk in front of an astonished class of applicants and residents and started beating his chest [and] proclaiming the accolades of the program,” says Cole, a resident in those early days. “We were ready to run through brick walls when we left that room.”

This boomerang enthusiasm “keeps me going,” says Ehrlich. “My residents give back their energy.” Ehrlich's, of course, borders on superhuman: despite his long commute and full schedule—he still sometimes rounds until after 11 p.m.—he is reportedly always the first to arrive at the breakfasts he holds for residents

vated by, these interactions with Ehrlich. “Few things hurt more than punishing your son,” says Cole, “but you do it for one reason only.” Justin Greisberg, an associate professor of orthopaedic surgery at Columbia, met with Ehrlich after receiving an average score on a test. Greisberg expected to be lectured but “Dr. Ehrlich simply said he knew I was better than that,” he recalls. “Rather than feeling frustrated, I left the meeting feeling empowered.” Residency graduates, many of whom have gone on to excel in their own right, attribute much of their success to Ehrlich's dedi-

RESIDENT EXPERT

BY SAMUEL EVANS, MD, RES*



Critical Theory

Thoughts on intensive care in the developing world.

When the first intensive care unit was described in Denmark in 1953, a new field of medicine was born. Patients with respiratory failure or shock could be treated in an area of the hospital where far more could be done than on the general wards. Interventions like mechanical ventilation, invasive hemodynamic monitoring, and aggressive use of blood products, as well as the presence of specially trained nurses, gave patients a chance to survive otherwise fatal illness.

Since then, critical care medicine has grown into a vast, evidence-based practice. In industrialized nations all patients are considered for transfer to the ICU if they become unstable. Patients have come to expect nothing less than the highest level of care, and physicians know that an ICU bed can almost always

be made available should their patient decompensate. This is not the case in the developing world.


As the myths and realities of modern medicine take hold in the developing world, a host of new challenges becomes evident: one must consider not only the diagnosis and treatment of a critically ill patient, but how to allocate costly, individual-based care in a population where primary care and basic immunizations may still be in short supply. Another challenge involves expect-

tations: the dissemination of so many simple, life-saving medical interventions (antibiotics, antiretrovirals, etc.), has led to a common belief that even the most intractable illness can be treated with the magic that is modern medicine.

I recently did a four-week rotation at Moi Teaching and Referral Hospital (MTRH). Located in the city of Eldoret, in western Kenya, the ICU there has six beds equipped with mechanical ventilators. Most of the patients are surgical or trauma patients, and as such anesthesiologists generally staff the ICU. There is a portable x-ray machine, chemistry, hematology, and microbiology labs, as well as blood gas analysis. Reagents to perform these diagnostic tests, however, are sometimes in short supply. Supplies of disposable blood products and inva-

sive monitoring devices are limited but, unlike in many developing world ICUs, there is reliable electricity and clean running water.

But perhaps most surprising is the fact that general medical patients on the inpatient wards are not routinely considered for admission to the ICU if they clinically deteriorate, while patients with severe intracranial pathology, such as CVA or head trauma, occupy the scarce ICU beds. All of these limiting factors suggest the need for a reliable and accurate way to triage critically ill patients—taking into account, for example, level of consciousness (measured by Glasgow Coma Scale), and degree of respiratory failure. At this point, however, none exists.

As developing world ICUs like the one at MTRH evolve, close collaboration with western academic hospitals may help to develop reasonable ICU admission criteria. One approach to this question is to develop regionally specific models of hospital mortality, similar to the Acute Physiology and Chronic Health Evaluation (APACHE) score in wide use in developed nations. Still, no matter how accurately we can predict mortality in critically ill patients, there remains a substantial gulf between local cultural beliefs about disease and its management, and medical reality according to the physician. In the end, part of the challenge will be to effectively communicate not just the potential of intensive care medicine, but its limitations as well. 

Sam Evans is a third-year resident in Brown's internal medicine residency program. He earned his MD degree from SUNY Downstate College of Medicine in 2008.

TIVERTON GOTHIC
Andrea Bond and Stan
Stowers on harvest
day, October 2010.



BY EILEEN O'GARA-KURTIS

PHOTOGRAPHY BY KAREN PHILIPPI

Collecting
lugs from the
field for the
crush at the
end of day.

WINE FROM THESE GRAPES

A doc and a scholar capitalize on the Ocean State's *terroir*.

IN THE EVENINGS the fog pours in, shrouding the land in silvery mist and rolling up the Sakonnet River to Little Compton, where the bounty of the harvest awaits. On summer afternoons, sunlight burnishes green-gold fields.

This is Rhode Island's wine country.

Andrea Bond '85 MD'93 and Stanley Stowers have staked their claim on 18 acres straddling the town line between Tiverton and Little Compton. Their farmhouse, decorated in warm Tuscan tones, sits amid fields of pumpkins and vineyards that yield a modest amount of award-winning wine. When he's not tending the grapes, Stowers teaches religious studies at Brown. Bond practices at Linden Tree Family Medicine, across the river in Portsmouth, Rhode Island, Monday through Thursday.

Her Fridays belong to the land.

EARLY ENOPHILES

It's a sunny Friday afternoon, and Bond is taking a rare break at a roadside coffee house in south Tiverton. Her clothes are spattered with the pale red juice of the grapes. Back at the farm, a small team—including an 81-year-old friend

A clone
of French
merlot
hangs ripe
on the
vine.





“Somebody told me they didn’t know what was going on, but it looked too short for a runway,” Bond remembers with a laugh.



A LITTLE HELP FROM OUR FRIENDS
Evelyn Correia (above) harvests the grapes. Bond exercises quality control while picking.

whom she first met as a patient—is helping with the last of the harvest.

“One of the best things about [the vineyard] is having so many friends involved,” Bond says.

Bond and Stowers met in 1991 as part of the regular morning crowd at Bagels East on Elmgrove Avenue, on Providence’s East Side. Wine, they soon discovered, was among their common interests.

“I spent a year with a family in France when I was 16, and I had pressed a lot of wine labels from that time into a scrapbook,” the doctor remembers. “Many of

them are now rare vintages. Stan looked at the labels and said ‘Really? You’ve tried all these? When you were in high school?’”

“I had a longstanding interest in wine,” says the professor. “My brother and I looked at some land for starting a vineyard in the Piedmont of Virginia in 1974, back when there were only a few wineries in the state, and none producing wine from European grape varieties. There are more than 150 now.”

Bond and Stowers bought a condo in Providence and satisfied their agrarian urges with a roof garden while looking

for a place where they could try their hand at growing grapes.

“We looked around for years for the right kind of land and location,” Stowers recalls. “You need a place where there’s a long growing season and a long ripening season. And it’s good to be near the ocean ... but not too close. European wine grapes love sun.”

In 2001, they found their place.

“We did soil tests and made soil maps,” says Bond, “and we installed a drainage system, similar to systems used by winemakers in Ontario, that makes

the soil warm up more quickly. We had to bring in a laser-guided dredger to throw out the boulders and lay the pipes.”

The neighbors speculated about what the new residents were up to. “Somebody told me later that they didn’t know what was going on, but it looked too short for a runway,” Bond remembers with a laugh.

Before there was planting, there was exhaustive research. “We talked to some people at wineries,” Bond says, “and they all said ‘Don’t! You have no idea what you’re in for!’”

Persistent, they learned from wineries in Rhode Island and also traveled for wisdom. “I’m trained as a researcher, so it came naturally to absorb whatever information was out there,” says Stowers. “We visited vineyards all over the United States and Europe.”

In 2004, it was time to break earth.

They carved out two hillside acres for planting red wine grapes—“We follow the European planting method, with close spaces between the plants, and keep the plants small,” explains Stowers—and planted the rest with vegetables. In autumn, they make hay. Two large fields glow orange, filled with hundreds of pumpkins. Osprey fly overhead.

VINEYARD LIFE

The work begins in February, as they begin to prepare the vines, and intensifies as the temperature rises.

“All summer, I get up early and work outside until 9 or 10, then do research and other Brown-related work until around 4, when I go out again and work until dark,” says Stowers. “It’s a never-ending challenge, dealing with weather conditions, figuring out ways to trellis, trim, prune, and hedge the grapes. The

Many hands harvest the merlot.



environment is always changing, and we're constantly problem-solving."

It's a self-reliant and improvisational life, he says, noting that just this morning he replaced the oil pump on a tractor—not a skill you'd necessarily expect an academician to have. "We have three tractors, and you have to keep them running, serviced, and repaired. There's so much maintenance that you have to do it yourself. There's really no time to have people come in to do it."

In late October or early November, there is the harvest. There is wine-making and revelry in the roasted-pepper red barn, and aging of wine in oak barrels in the wine cellar.

"We let the grapes ripen until first frost, and then we have a lot of friends who come out and help us harvest," says Stowers. "We have a great barn, and we always have a big harvest/Halloween party. We give a good bit of the wine away to our harvesters."

THE FULL-BODIED TASTE OF SUCCESS

As individuals, and not the owners of a professional vineyard, Bond and Stowers are limited under federal law to making only 200 gallons of wine annually. It's enough to share with friends and give the winemakers themselves enough to last through the winter. If there are grapes



A GRAPE A DAY
Harvesting from
the south end of the
vineyard. A careful
inspection (above) by
Leway Kailani, MD.



Stowers with a crush of cabernet franc. Must, or crushed grapes (below), cold soaking.

Three of their 2007 wines took three silver medals in the Eastern International Wine Competition.



left over, Bond and Stowers sell them to wineries or other individual winemakers.

In 2008, three of their 2007 wines—clones of cabernet franc and a merlot—took three silver medals in the Eastern International Wine Competition, which draws participation from 3,000 wineries.


Bond and Stowers take visceral pleasure in growing great wines and being close to the earth. “We believe in keeping open space open,” says Bond.

But the work also feeds their scientific side.

“As a non-commercial vineyard, we

have the luxury of experimenting,” says Stowers. “We just planted an experimental Spanish variety, which is now in its fourth year and doing very well.”

For a physician, it’s an auspicious time to be making and sharing red wine. Research suggests that Bond and Stowers’ wine may be as good for the people who drink it as it is for the landscape that yields their grapes.

“Overall, the data show that moderate drinkers are healthier than non-drinkers, especially in regard to preventing heart and other artery disease,” says Bond. “There are many studies that show that red wine, which contains resveratrol, has particular positive properties.” 

Eileen O’Gara-Kurtis is the founder and president of Silver Branch Communications, a strategic communication consultancy dedicated to partnering with individuals and organizations effecting positive change in health care, technology, education, the arts, and other arenas.

EVERYTHING WE CAN

BY KRIS CAMBRA

PHOTOGRAPH
BY JOAN TENO, MD

HOW MUCH
CARE IS
TOO MUCH?



In the ferocious debate over health care reform, everyone—from economists to policymakers to pundits—was scrutinizing health care spending. Why are medical costs so high? Who's to blame? How do we fix it? One figure leaped to the fore: Care for beneficiaries with chronic illnesses during the last two years of their lives accounts for about one-third of all Medicare spending. The number isn't all that surprising when you consider that no one knows for sure when the clock begins ticking on someone's last year of life, and the costs are necessary in order to give that person a chance to make it *not* their last year of life.

The problem is the wide range of spending across the country, higher in some areas than others, suggesting that care practices are based more on



local customs than on evidence-based medicine, patient choice, or disease severity. Researchers such as John Wennberg of the Dartmouth Institute for Health Policy and Clinical Practice say that some chronically ill and dying Americans are receiving too much care—more than they and their families actually want or benefit from.

It's not the cost or the waste and inefficiency that most troubles health care providers who treat dying patients or study end-of-life issues. It's the poor experiences of the patients and their families—patients who undergo invasive tests and procedures that rob them of quality of life, loved ones who suffer guilt and regret in addition to their grief. How does this continue to happen?

A GOOD DEATH

“This is my mom dying.” Joan Teno’s mother spent her last days in this nursing home room, tended by family, which includes Teno’s 7-month-old black Lab. Teno’s then-19-year-old niece sleeps in the chair.

GAME CHANGER

Thom Meredith has noticed a common thread that binds him and other physicians concerned about end-of-life care: they've watched someone they love die from an incurable disease.

For Meredith, an assistant clinical professor of emergency medicine and attending physician at the Rhode Island Hospital emergency department, it was his mother. A runner and third-degree black belt, she developed a strange cough that turned out to be lung cancer. Meredith was in his intern year when she began cancer treatments.

"I moved her down with me so I could continue my residency, otherwise I would have had to leave residency behind. She was my 'person,'" Meredith says, his biggest supporter. When the treatment modalities failed, she moved to home hospice, where she passed away.

he struggles to give patients the death that they choose: in comfort, with dignity, and on their own terms.

Meredith and his colleague, Clinical Associate Professor of Emergency Medicine Elizabeth Nestor, meet people at the end of their lives every day. They see patients with illnesses such as cancer or chronic obstructive pulmonary disease (COPD) who suddenly have a "game-changing event"—an infection, intestinal blockage, or acute exacerbation of symptoms. Too often, these patients have not prepared for such a turn, or worse, were not adequately informed by their primary doctor about the severity of their condition.

"I see the worst part of people's not making choices," says Nestor, who is also an ordained Episcopal priest. She describes the most common scenario: people who've not made arrangements

to make that decision *right now*.' I ask them, 'Do you know what her choices were?' And so often that's a discussion that's just never occurred in the family."

For emergency medicine doctors whose training is "save a life, pass it on," Nestor and Meredith say it is difficult to have these discussions when the patient is already critical. "You see a really sick person, you put the tube in so they can breathe, and then pack the patient upstairs. It doesn't help the families as much as you think it would to do everything humanly possible to keep that heart beating if the patient is on a respirator and can't talk for the rest of his life. If you want to say your goodbyes....," Nestor says.

She remembers a man with cancer who came to her ED with pain in his arm. Necrotizing fasciitis had crawled up the arm and across his chest, and soon he was

"THE MOMENT I BECAME A DOCTOR WAS WHEN I WAS DEALING IN MY REAL LIFE WITH SOMEONE DYING."

"The moment I became a real doctor was when I was dealing in my real life with someone suffering and dying. It's clear how it just formulated every experience I have with patients and families."

And it's why he's the go-to person in the ED when a patient seems to be heading downhill on the "death trajectory"—the temporal pattern of the disease process leading to a patient's death. It's why

for the inevitable and who find themselves forced to make a decision under duress, in what has become an actual life-or-death situation.

"It comes down to 'Should I connect your grandmother to a respirator and prolong her dying by days to weeks, or should I allow her life to come to the end, however traumatic for you it might seem? We are at the point where we have

struggling to breathe. She intubated him and then consulted the thoracic surgeon, who determined the infection had gone too far and surgery couldn't save the man.

"There might've been a moment there to think it through—but I felt I had to take away his pain, help him breathe, put in a breathing tube. I connected him to a respirator, and he had no chance to say goodbye."

“WHEN YOU SEE THE THINGS THAT HAPPEN TO YOUR ONE IN THE ICU YOU BEGIN TO THINK, ‘THIS IS NOT WHAT I HAD IN MIND.’”

Nestor says a situation like that is “a huge teaching moment” for her, as well as for residents and fellows. For patients who are terminally ill, it’s about reaching out to the family and not just reflexively intubating the patient. But it’s a sensitivity that is gained through experience, Nestor adds. “They see how badly you can end your life, being unconscious and having painful things done to you. It’s not the way I would want to end my life.”

THE “GOOD” FIGHT?

For those who are saved and “sent upstairs,” it often means a stay in the intensive care unit (ICU). Twenty percent of Americans—that’s 1 in 5 people—breathe their last breath in the ICU, says Mitchell Levy, medical director of the medical ICU at Rhode Island Hospital and the immediate past president of the Society for Critical Care Medicine. About 14 percent of people 85 and older die in the ICU. In no other country do so many people die in intensive care. The US has eight times more ICU beds than Europe.

“So many people die in the ICU that it becomes important for clinicians and the public to think about advance care planning and advanced care. The problem is we often overestimate what intensive care can do for us,” says Levy.

He stresses that most of the patients who enter his unit do recover and go home. For people who have a traumatic accident or a bad pneumonia with no other serious medical issues, intensive care is completely appropriate and, after

a short stay, they go home. Like most ICUs, his has a mortality rate of about 10 percent. A small percentage of patients, however, have a slim chance of meaningful recovery, and yet they languish in intensive care.

“Amazing things can happen in the intensive care unit, but still nature takes its course,” Levy says. “Managing people’s expectations is one of the biggest challenges of critical care: balancing giving people hope with telling people the truth. Sometimes we do it well, and sometimes we do it poorly.”

Every individual case is different, and so the approach to families has to be tailored for each one. “[Y]ou feel terrible saying to families ‘Your loved one has no chance for getting better,’ because they are clinging to hope, but in some instances it becomes very clear that the patient has no chance for recovery ... at certain times, we know that the likelihood for survival is very, very low.”

Intensive care has been called a “medical last rite,” in a culture that uses war metaphors to describe illness. We “battle” diseases courageously, we applaud “fighters” who take an illness head on. Not asking for every possible treatment, even perhaps some experimental ones that have no proven efficacy, is like admitting defeat, backing down from the fight. Levy sees other cultural norms play out in the ICU.

“Seventy-five years ago when you said ‘Do everything you can for grandma’ that meant you kept her at home in her bed, you fluffed her pillows, you put a cool

washcloth on her head, you made her favorite soup even though she probably wouldn’t eat it, and you held her hand and maybe you sang to her. That was repaying that debt, that natural sense of wanting to do everything you can for grandma.

“Now flash forward 75 years, and you have the modern intensive care units which sometimes have restrictive visiting hours, and when you visit you have to put gowns on, and the docs and nurses are busy at the bedside so you feel that you’re in their way, and at the time when you feel the greatest need to be with your loved one, you’re made to feel that you are the least important person to them. When you know, you are the most important person.”

Today, “doing everything for grandma” means putting her on a breathing machine for a month, poking and prodding and doing CPR on her, Levy says. “All these things that grandma probably didn’t want, but in your desire to be kind, you say ‘Do everything you can,’ which no longer means soup. No longer means fluffing the pillows.”

Many ICUs now encourage families to be at the bedside and take part in the care so that they can satisfy this urge to do all that can be done, but, Levy says, “when you see some of the things that happen to your loved one in the intensive care unit you begin to think, ‘This is not what I had in mind.’”

A FINAL ACT OF LOVE

Professor of Medicine and Community Health Joan Teno straddles the gap



COMMUNICATION AROUND CARE AT THE END OF DOES SEEM TO SAVE MONEY.

between theory and practice in her dual roles as health services researcher and medical director at Home and Hospice Care of Rhode Island. She became interested in end-of-life care as an intern nearly 30 years ago, and has become one of the field's foremost researchers.

For a topic as complex as end-of-life care, Teno says, you have to study it in smaller components. Her most recent major finding, published in the *Journal of the American Medical Association*, looked at decision making in the use of feeding tubes in patients with advanced dementia.

"There is a really good evidence base that suggests that feeding tube insertion in someone with advanced dementia does not improve survival, doesn't heal pressure ulcers, doesn't prevent aspiration pneumonia, doesn't improve quality of life. There have been eight systematic reviews and a Cochrane Review [the highest standard in evidence-based health care] showing this," she explains. But the practice persists, and Teno published a study 10 years ago that showed how the rate of their use varied widely in different parts of the country, with 3.8 percent of patients getting them in one area and 44.8 percent in another.

"When I see this wide variation, I get very suspicious that this is not being driven by patient preference or disease severity," Teno says.

Her hunch was right. After an eight-year study, Teno wrote in *JAMA* in 2010 that the decision to use feeding tubes is more a matter of hospital practice than patient preference. Hospitals with a cul-

ture of aggressive care at the end of life were nearly three times more likely to insert a feeding tube, while smaller, rural hospitals not affiliated with medical schools used them far less frequently. Larger or for-profit hospitals tended to use them more.

"For me what's so important about health care reform is not the cost saving, but that we do a really good job of patient-centered care. Patient-centered care really understands who that person is, what their needs are, helps them make shared decisions, and then implements a plan to accomplish those decisions," she says.

She describes disturbing studies that indicate more and more family members have post-traumatic stress disorder based on dealing with a loved one dying in an ICU. Consumer perceptions of quality of care are higher when patients die at home with hospice services than when they die in an ICU. She strongly believes that patient-centered end-of-life care, care that is truly individualized for the patient, happens best in hospice.

Like Meredith, Teno watched her own mother die after a devastating stroke in 2008. Her mother had expressed that she did not want a feeding tube if her condition deteriorated. "It's very academic when you do this research, but when you live it..." Teno says. She points to a large, framed photo on her office wall. "This is my mom dying." At her mother's bedside, Teno's then-19-year-old niece sleeps barefoot on a chair next to her. Teno's 7-month-old black Lab sleeps under the bed.

"This was only possible because we did assiduous symptom control to maintain her in her nursing home and to honor her wishes," Teno says. "What is important in this photo is my niece is very comfortable bearing witness, being with her. I didn't want my mom to die ... My final act of love for my mother was to respect her wishes and values and honor her."

FAILURE TO COMMUNICATE

Teno is about to publish follow-up research that looks at family members' perception of the decision to insert a feeding tube in a loved one. Again, the results are troubling: one-third of the family members said the physician did not make them aware of the risks; 13 percent felt pressured by the physician to do the procedure; and a quarter said they regretted the decision after.

"We all love the hyperbole of 'death panels' but really, the sad state of affairs is patients aren't given a chance to state what their wishes are and physicians to appropriately address them," Teno says.

She, Nestor and Meredith in the ED, and Levy in the ICU, all say the path to better patient-centered care starts with communication. It means communicating the likelihood for recovery and for the disease course with patients, or with family members.

"A lot of times it's all a matter of being able to talk in an honest and genuine way to patients and their loved ones so that you can help them understand the likelihood of a patient getting better,

and if they get better, the likelihood of having severe impairment. In order to do that it boils down to treating every patient—I know this is a bit of a cliché—as if they’re your family member,” Levy says.

He says his team uses a “shared decision-making model,” where clinicians offer advice and share the decision making with the family. The goal is to lift the burden off the family, to emphasize that they are not the ones “pulling the plug.”

Clinical social workers like Katherine Richard, who works in Rhode Island Hospital’s surgery and trauma intensive care units, assist in these family meetings. “A social worker’s role is to provide counseling, crisis intervention, family intervention, end-of-life support and education, be an advocate, and facilitate discussions with the medical staff,” she explains. Because the hospital is the Level 1 trauma center for the region, Richard’s job involves an unfortunate amount of end-of-life care.

In trauma cases, she often sees patients who are fine one day, and the next, because of a catastrophic accident or injury, are comatose and on a ventilator. Some people, because of past experience with other family members or friends, have had discussions about what they would want for themselves in the event of such injury, but many have not. In those cases, Richard guides the family through the decision-making process. “We say to them, ‘Knowing the patient as you do, what would he want? What was he like before? Would he want this?’ You see all kinds of responses ... Some people say, ‘We’ll take him no matter what, and miracles do happen.’ Other families might say, ‘He wouldn’t

want to be in a vegetative state ... He wouldn’t want to live like this.’”

Richard says she tries to reframe it, to take the onus off the family. “You’re not making the decision. You are merely honoring that person’s wishes.”

Clearly this works best when the patient does have an advance directive, either formally or simply by having a conversation with a loved one. Anything that can be a guide to the patient’s wishes helps, says Richard.

But Mitchell Levy says the problem with advance directives is that it’s almost impossible to prepare for all the possible scenarios. “Of course all of us would say, ‘If there’s no chance for me to get better and I’m going to be kept alive just on machines, I don’t want that to happen,’” Levy says. “Great, but it’s never that simple.” What about CPR if your heart stops? What about a feeding tube if you can breathe but can’t swallow?

“What’s much more helpful than an advance directive that can’t anticipate every possibility is advance care planning with a durable power of attorney for health care. I say to my wife, my brother, my daughter, my loved one over breakfast: ‘If I get hit by a bus and the doctor tells you I have less than a 50 percent chance of returning to the level of function that I have right here at breakfast, I don’t want it.’ Having the conversation like that is much more important than advance directives,” he says.

THE COST OF DYING

Will patient-centered care, based on patients’ values and wishes rather than local practice, help save money? Some researchers have argued that intensive care at the end of life at the rate we’re us-

ing it now is unsustainable, especially as the Baby Boomers near the end of their lives. Communication around end-of-life care does seem to save money, in addition to improving the dying experience. In a paper published last year in the *Archives of Internal Medicine*, researchers found that patients with advanced cancer who reported having end-of-life conversations with physicians had significantly lower health care costs in their final week of life. Higher costs were associated with worse quality of death.

Levy says he and most of his colleagues who are in the field doing research don’t want to be associated with cost savings. “Yes, in medical care and hospital care we need to be more cost-conscious. But end-of-life care is not the problem; it’s *how* we give care at the end of life that is the costliest. This is about improving communication, improving the dignity of death, reducing anxiety and depression among family members. This is not about saving money.”

The “death panel” uproar played on people’s fear that doctors would be forced to discontinue life support just to save money. Levy stresses that the decision to withhold life-sustaining therapies is not equivalent to withdrawing all care. On the contrary, end-of-life care is very intensive, with close monitoring of pain, discomfort, and anxiety. And studies in the literature show shortening of life-sustaining therapies doesn’t always result in lower costs. “It’s not the shortening, it’s how many more tests do we need? If we know the outcome is very poor, do we really need these extra tests? How we deliver care at the end of life can be cost conscious without sacrificing the quality of that care.”

**JOHN
CAPPARRILLE**
PASQUAZZI BROTHERS
*Demolition and
Asbestos Removal*
HOMETOWN: Mapleville, RI

“You can only imagine the changes that will happen to a building, and then they’re happening. There are a lot of transitions going on with this building. I’d like to come back to see the finished product—that’s one of the things I like, going back to see it done.”





PRIDE OF PLACE

*Meet some of the people who are turning
a former jewelry factory into a
modern, tailor-made medical school.*

INTERVIEWS BY REBECCA KAUFMAN
PHOTOGRAPHY BY JARED LEEDS



Starting this summer, 222 Richmond Street will be the new headquarters for Alpert Medical School,

and the first address Brown's medical students will have ever had to call home. This is where they will take notes in the lecture halls, perform dissections in the anatomy labs, practice clinical skills in the exam rooms, and study together in the Academies.

But a visit to the construction site this winter revealed a different picture. The future medical school was a beehive of activity—only louder. Drills whined. Welding torches hissed. Sparks flew. Bobcats with hydraulic rams reduced concrete to rubble, and excavators beeped as they carried it away.

Following are four of the 115 skilled laborers and construction experts responsible for taking the building from its industrial past to its biomedical future. They took a brief break to tell us what they think of the job.

**CHRISTINE ►
IZZO**

**METROPOLITAN MASONRY
Bricklayer
HOMETOWN: Cranston, RI**

"I was laid off a week before I began the Medical School project. I've been lucky, but a lot of people have been out of work for more than a year. That's the way construction is. I was out of work for two years in the early 90s." Izzo has been in construction for 22 years and couldn't see herself working in any other field. Construction runs in her family; her husband is also a bricklayer.
"The good thing about construction is that I can drive past buildings in 30 years and tell people that I built that, like my grandfather used to do with me."





◀ **EDWARD COKER**
METROPOLITAN MASONRY
Bricklayer
HOMETOWN: Providence, RI

“It’s rewarding to build something that will be productive in the future. After a project you get to say I built something that will be standing for 20, 30 years.” Coker got his start in the Building Futures program, where he was trained in a trade and then given union membership. “I’ve been living in Providence for about two years, and for a small city and a small state, it has a lot going on.”

RALPH ▶
NONNENMACHER
QUALITY AIR METALS
Sheet Metal Work
HOMETOWN: Coventry, RI

As a Local 17 union worker for 35 years, Nonnenmacher has contributed to the rise of some of Providence’s most noteworthy buildings, including Rhode Island Hospital, Women & Infants Hospital, the Westin, Providence Place Mall, and Sidney Frank Hall, on Brown’s campus. “I’m just really happy Brown picks union contractors. We have to feed our families like everyone else, and we do good work. ... All the trades have felt the economy, big time.”



MOMENTUM

A Passion for Community

Supporting community is paramount to Preetha Basaviah '91 MD'95 and her husband, Venky Ganesan. It plays a role in their careers, how they raise their family, and how they define success.

As a PLME student, Basaviah was introduced to her medical school family early on. "The Brown medical family is amazing," she says. "My mentors provided opportunities for me to grow individually and professionally, and the connectivity across generations enriched my education a great deal ... and many of those connections exist to this day." Basaviah's best med school memories are sharing late nights with colleagues, medical mysteries, and her patients' compelling life stories. She says Brown prepared her with a strong curriculum, and by engendering trust in collaborative teams.

Basaviah takes what she learned about the power of community and pays it forward. Currently a clinical associate professor of medicine at Stanford University School of Medicine, she is also the director for the Practice of Medicine course, ensuring that her students are nurtured academically and professionally. She has also served as an alumni interviewer and allowed prospective residents to shadow her at work. She hosts Brown undergraduate and medical community receptions, and recently began a term on the Brown Medical Alumni Association Board.

Basaviah's strong connection to Brown inspired her to support the new Medical School building by naming an exam room in the Clinical Skills Simulation Center. She is excited to see what chain reactions will occur. The Jewelry District location will provide unique opportunities for collaboration and innovation, she believes, and bring together like spirits in the medical community. She also knows that Brown medical students will figure out how to make the most of this new space.

Their curiosity, coupled with the clever design of the

building, will create synergy. "This building is a dynamic vision, a beacon," Basaviah says. "It is a manifestation of the formative educational experience Brown offers to generations of physicians."

Basaviah and Ganesan are thrilled to have this vision become a reality in their own time. With it, they hope to show their daughters that working hard, helping others, and being part of a community comes with great reward.

"Community connections are very important to us," Basaviah says. "We want our children to realize that you can be a part of the history of something by giving back." —**Amy R. Umstadter** 📧



Preetha Basaviah '91 MD'95 and Venky Ganesan with their daughters (left to right) Avani, Sahana, and Divya.

\$ 45M

40M

35M

30M

25M

20M

15M

10M

5M

**\$30.05M
dollars
raised**

GETTING WARMER

\$25 million of The Warren Alpert Foundation's naming gift to the School was directed toward the new Alpert Medical School building and allowed construction to proceed. The Building Excitement effort seeks to raise the remaining \$20 million from alumni, parents, and friends of the School. To date, \$5.05 million has been raised. We salute the Brown Medical Alumni Association Board, which collectively gave \$1,911,650—nearly 50 percent of this total. We invite you to follow their example and join in the effort to build the first dedicated space for Brown's medical school in its history. Visit med.brown.edu/newbuilding for more information.

ALUMNI ALBUM

CHECKING IN WITH BROWN MEDICAL ALUMNI



CLASSNOTES

1976

Virginia Schmidt Parker is in private practice at Kent Rheumatologists, Inc,

¿QUE PASA?

Career news, weddings, births, reunions...it's all good. Go to med.brown.edu/alumni and click on "Fill us in."

in Warwick, RI. She and her husband, David, have two sons—Matthew, a lawyer in Providence, and Ted, a teacher.

1977

Joel I. Shalowitz '74, P'03 has been appointed to the Board of Directors for Novadaq Technologies Inc., a developer of real-time imaging systems for use in the operating room. Joel is professor and director of Health Industry Management at Northwestern University's Kellogg School of Management, professor

SEEMS LIKE YESTERDAY

This photo was taken in 1997, when **Lois Monteiro** stepped down as chair of the Department of Community Health. Each of those pictured has served in that capacity (left to right): **Albert Wessen (1973- 1978)**, **David Lewis (1981-1986)**, **Vincent Mor (1998-2010)**, **David Greer (1978-1981)**, **Lois Monteiro (1986-1997)**. They posed for the same photo last June, when **Mor** stepped down as chair. To see it, go to brownmedicinejournal.org and click on Photo Gallery.

ALUMNIALBUM

of preventive medicine at the Feinberg School of Medicine, and visiting professor of health industry management at the Schulich School of Business at York University in Toronto. He co-founded, and is managing partner of, a 20-member primary care group in the suburban Chicago area.

1978

Alan Muney '75's daughter Sara Kraner '04 married Jason Fleischer in June 2010 in St. Louis.

1979

Philip Kantoff '76 is director of the Lank Center for Genitourinary Oncology at the Dana-Farber Cancer Institute, and has been appointed to the Clinical Advisory Board of Bellicum Pharmaceuticals.

1980

Judith Owens '77 has been appointed head of pediatric sleep medicine at Children's National Medical Center in

Washington, DC. Judy writes that it was a tough decision to leave her position as associate professor of pediatrics at Brown and Lifespan, "but the lure of a new challenge, not to mention the proximity to Capitol Hill and NIH, made this too good to turn down. And with my 'baby' going off to college, this was the right timing from a personal standpoint."

1981

Michael Acker '78 is chief of the Cardiovascular Surgery Division at the University of Pennsylvania Medical Center and is the William Maul Measey Professor of Surgery. He was featured in a *Philadelphia Inquirer* story about the CorCap Cardiac Support Device for patients with heart failure. The flexible polyester mesh jacket encases the heart, helping it to pump. Acker has used the experimental device in about 30 patients who had not responded to other treatments for heart failure.

Esther Nash '78, P'09 writes that her daughter, Rachel Nash '09, has entered

her first year of medical school at George Washington University. Es is vice president, Clinical Innovation and Strategy, OptumHealth.

Mitchell Rosenberg '78, a cardiologist and composer, saw his new choral piece, *Candles of Freedom*, debut December 9 at the annual winter concert at Philadelphia's William Penn Charter School. Rosenberg describes his first choral work as a "jazzy waltz," adding, "If Chopin were to write a Hanukkah song, it might start like this." Rosenberg is an attending physician at Kennedy University Hospital-Cherry Hill. An article about his composition appeared in *The Philadelphia Inquirer*.

1982

Michael E. Migliori '79, P'11, '12, '14 was appointed chief of Ophthalmology at Rhode Island Hospital in October 2009 and was recently elected vice president of the American Society of Ophthalmic Plastic and Reconstructive Surgery at its annual meeting.

ONE GOOD TURN



BROWN
Medical Alumni Association

For the 2010-2011 academic year, the Brown Medical Alumni Association has made **\$1,000 in grants** available to medical student groups that are officially recognized by the Medical Student Senate. These funds support a variety of activities.

One recent example is TALC, an award-winning program for teens with chronic illness. Every summer TALC holds a leadership camp for teens that includes outdoor education, a leadership curriculum, and community outreach. The BMAA funds helped offset the costs of food, transportation, and camp activities. **Pretty cool, huh?**

Nature's Promise

The medical benefits of cannabis.

Jeffrey Y. Hergenrather MD'75 kept a low profile for years. In the late 1970s, as a physician on The Farm (a cooperative village settled in 1971 in south central Tennessee and which Hergenrather calls "a family monastery"), he saw the miracle of cannabis. "I couldn't have used a safer drug for morning sickness or childbirth."

When he and his wife, Starr, wanted more opportunities for their children, they moved to California.

Today, 14 years after California voters approved the use of medical marijuana, Hergenrather, as a medicinal cannabis consultant in Sonoma County, sees patients referred by other physicians and maintains his own private practice. His active memberships—California



Jeffrey Y. Hergenrather MD'75

inflammatory, immunosuppressive, anti-emetic, anti-ischemic, vasorelaxant, anti-spasmodic, anti-epileptic, anti-psychotic, anti-bacterial, and neuroprotective effects."

Medical marijuana sales bring significant, much-needed sales tax dollars into the state. Yet in Washington, DC, according to Hergenrather, despite this

commended cannabis have medical conditions that include chronic pain, depression and anxiety, intestinal disorders, glaucoma, autoimmune disorders, neuro-degenerative diseases, epilepsy, AIDS, and migraines. Says Hergenrather: "It's a rare case when a patient abuses cannabis, which, while not addictive, may be habit forming for many people. I don't see much dysfunction around cannabis like I do with other drugs. It's not about getting high, it's about activating the endocannabinoids. Extensive research reveals a host of benefits, including analgesic, anti-

Billions of dollars' worth of pharmaceutical market share are at risk if medical marijuana is legalized nationally.

and the overwhelming tide of scientific proof and popular opinion, the pharmaceutical industry and other vested interests continue to derail the medical marijuana movement. Billions of dollars' worth of pharmaceutical market share are at risk if medical marijuana is legalized nationally,

Cannabis Research Medical Group, Society of Cannabis Clinicians, and the American Academy of Cannaboid Medicine—attest his leadership on the issue.

"Licensed physicians or surgeons in California can recommend or approve its use, but we can't prescribe it," says Hergenrather. "The quantity is determined by the patient and the physician, and patients can acquire it anywhere." Many of his patients, who range from laborers to professionals, grow their own.

The 1,900 patients to whom Hergenrather has rec-

he says; in the meantime, legalization is happening, one state at a time.

"We'll be ripe [soon] for national legislation," he predicts. In the meantime, when he's not babysitting his seven grandchildren, growing organic olives and apples, or recalling the family's around-the-world backpacking trip in 1988-89, Hergenrather continues to do what he dreamed of doing even before he enrolled in medical school: working as a small-town doc.

—**Nancy Kirsch**

ALUMNIALBUM

EYE
ON ALUMNI

The Visionary

She's set her sights on Nepal and Tibet.

Maura Santangelo MD⁷⁵, an ophthalmologist specializing in glaucoma, has never been a stranger in a strange land. After emigrating at 16 with her family from a tiny Italian village to Vineland, NJ, she became fluent in English within three months. She adapted quickly to American culture, and volunteered as a candy striper in a local hospital's emergency room. Years later, when she traveled to Nepal and Tibet to treat ophthalmologic patients and work with physicians, she immersed herself in local custom and practice, and even studied Tibetan.

It was through Seva Foundation, a nonprofit whose mission is to alleviate suffering caused by disease and poverty, that she first went to Nepal, in 1991. "It was," Santangelo says, "a transformative experience. I saw the world differently after that." Little wonder—she and a local doctor saw 45 patients a day, without bathroom or lunch breaks. When mice chewed through the power lines and the lights went out, they used flashlights instead. "The local doctors and nurses do this six days a week, almost 50 weeks a year," she says. "Why am I complaining?"

After volunteering in an overcrowded eye camp in Tibet, Santangelo urged Seva (Sanskrit for "service") to fund a project to train more Tibetan doctors in cataract surgeries. That program development initiative led her to earn an MPH from Johns Hopkins University. The impact of her work with the Foundation is

clear: Seva-trained medical teams now perform 50 percent of all cataract surgeries in Tibet, and up to 90 percent of such surgeries in the Tibetan area of Sichuan, where the Kham Eye Center was established in December 2010.

Teaching traditionally trained Tibetan doctors is challenging, given how different the two medical systems are. But Santangelo believes "we can learn as much from them as they learn from us. We're partners."

Santangelo now works with other physicians in Binghamton, NY, where she lives, on a new initiative to replicate Seva-type programs in the US to help underserved patients. Regardless of where she's working, Santangelo keeps her eye on the ball: Many of the world's 40 million blind need only cataract surgery to have the gift of vision.

—N.K.

Many of the world's 40 million **blind need only cataract surgery to see.**



Santangelo with two traditional Tibetan doctors, including the director (right) of the Lhasa Mentzekhang, a medical school there.

COURTESY SANTANGELO

Chirinjeev Baboo **Kathuria's company received a \$4 million stimulus grant.**

1983

Edward Chu '80 MMS'83 has been appointed chief of the Division of Hematology/Oncology at the University of Pittsburgh School of Medicine, where he will also serve as deputy director of the Cancer Institute. Before moving to Pittsburgh, he was chief of the section of medical oncology at Yale.

1984

Peter Thompson '80, P'13 has joined OrbiMed as a venture partner. OrbiMed is a leading investment management firm focused on the health care sector. Peter is the founder and managing director of Strategicon Partners, an investment and management services company.

1986

Eli N. Avila '81 is Governor Tom Corbett's choice to head Pennsylvania's Health Department, pending confirmation by the state Senate. Eli was most recently chief deputy health commissioner for Suffolk County, NY.

Cathy L. Bagley writes: "I am working in a public health setting in rural South Carolina at a large and complex community health center affiliated with University of Arizona's medical program. Taking this position presented a journey back to my roots, which I blogged about in a series titled 'Routes to Roots.' My emotions have been torn since leaving the metro Atlanta area for rural America. I declined an offer

for a faculty position at Morehouse Medical School and the opportunity to develop a private practice for the college. I have spent the last two years doing locums work in an assortment of environments from a Cherokee reservation in Tahlequah, OK, to Martin Army Community Hospital in Fort Benning, GA." Cathy can be reached at bagleyemd@bellsouth.net.

Wyman Lai '83 is the director of Noninvasive Cardiac Imaging at the Morgan Stanley Children's Hospital of New York-Presbyterian and is on the faculty of the Columbia University Medical Center. He writes: "I'm looking forward to seeing everyone in May!"

Ana Verissimo MD'86 RES'89 F'94 writes: "I am a pediatrician at Connecticut Children's Medical Center in Primary Care Peds, Pain Medicine, and Integrative Medicine."

1989

Michael Wein '86 joined the medical advisory board of Wellness Workdays, a Boston-based health-consulting firm.

1990

Chris Chiu '86 is teaching foreign medical students at the Xinjiang Medical University (XMU) in Urumqi, Xinjiang, China. "I practiced clinical medicine for a few years before going to China to do development work," he writes. "My wife and I spent 2-and-a-half years studying the Uyghur language

(we also speak Chinese) before I joined an NGO that was training village doctors in southern Xinjiang. At the beginning of 2010, I accepted a job at XMU, where I taught forensic medicine to foreign MBBS students in English."

1991

Jeff Green '88 has been working in New York City at various health care investment firms. Jeff writes: "I am a single dad, raising my son Griffin Henry Green (born March 10, 2009) and am back and forth to Dallas, TX, to see him frequently. I had a major health scare in 2007, a retroperitoneal/pelvic liposarcoma that was resected at Sloan Kettering Hospital. Thankfully, my recovery has been uneventful and I have learned every six months what it's like to sit still in an MRI machine for an hour."

1993

Chirinjeev Baboo Kathuria '87 is president of New Generation Power, which produces green energy and provides renewable energy credits. New Generation Power has received a \$4 million stimulus grant award for the up to 62-megawatt Rockford Solar Project, the largest photovoltaic solar development in the Midwest and one of the largest in the US. The project is the effort of Rockford Solar Partners, LLC, a joint venture between Wanxiang America and New Generation Power. The solar generation facility will be located in Rockford, IL.

1997

Joshua Garren '91 AM'96 and his wife, Michelle, along with children Daniel, Ariella, and Maya, announce the June 8 birth of Jonathan Robert Garren. Contact Joshua at 5 Longmeadow Rd., Newton, MA 02459; Joshua.garren@lahey.org.

ALUMNIALBUM

Danielle Viets Leighton and her husband, Mike, announce the January 23, 2010, birth of their son, Samuel. They have been living in Saint Cloud, MN, where Danielle is an interventional radiologist. Contact her at mdleighton@hotmail.com.

1998

Marjorie Nasin '94 has been named director of clinical pediatrics and director of continuing medical education at Memorial Hospital of Rhode Island. Marjorie will be involved in the development and evaluation of clinical programs available to infants, children, and adolescents at Memorial Hospital. She also chairs the continuing medical education committee, responsible for oversight of physician education activities and for maintaining Memorial's accreditation by the Rhode Island Medical Society. She is assistant professor of pediatrics (clinical) at Alpert Medical School.

1999

Melisa Lai Becker '94 writes: "Ronan Lai Becker was born July 2010, delivered by his Papa, Sean Becker—at the hospital, not en route. As my Alpha Delta Phi sister Jen Reid '91 summed it up so well, 'I love the idea of Dad placing the order and picking up the delivery.' Big brother Aidan likes cars and trains."

2000

Kavita Babu '96, **James Carroll** MD'06, and Declan are excited to welcome Anjali Manyam Carroll to their family. Kavita writes: "She was born on August 1 (a little Leo in the Year of the Tiger)." Jim is currently a PGY-3 in general surgery at the University of Massachusetts, while Kavita is a medical toxicologist and emergency physician at Brown.

Michelle Quiogue appeared on NBC's *Today Show*.

Michelle Quiogue '96 and husband, Jason Sperber '98, appeared on the *Today Show* on NBC in a segment called "When roles reverse: The rise of the stay-at-home husband." The family lives in Bakersfield, CA.

2001

Molly Hong '97 writes that she is due with her first child in April. Looking ahead to Reunion in May, Molly says, "I cannot believe it has been 10 years already!" and regrets that due to her new addition, it's unlikely she'll make it to campus.

2002

Robert Meguid '97 writes: "I have completed my general surgery residency at Johns Hopkins and we have moved to Seattle, where I will pursue a fellowship in cardiothoracic surgery." Contact him at Robert_Meguid@yahoo.com.

2003

Amanda Weiler and Steven Heymann write: "Our cup of joy overflows with the birth of our twins Oliver and Camille on October 16, 2010. Babies join big sister Lilliana, 3, and fit perfectly into the loving chaos that is our home!" Amanda and her family live in the Los Angeles area.

2004

Jordan Schecter '99 and **Amy Kaplan Schecter** '99 MMS'05 MD'05 announce the February 21, 2010, birth of Braeden

Riley. Jordan is finishing up his last year of fellowship in hematology/oncology at Columbia Presbyterian Medical Center, and Amy is teaching part-time at Molloy College. Contact them at jordan_schecter@hotmail.com.

2005

Amy Kaplan Schecter '99 MMS'05 See Jordan Schecter '99 MD'04.

2006

James Carroll See Kavita Babu MD'00.

2007

Sarah M. DeNucci '03 and **Omar N. Hyder** '03 MD'07 were married July 10, 2010, in Newport, RI.

Daniel Kelly '03 See Joanne Chiu '04 MD'09.

Robert J. Markelewicz '04 MMS'05 and Kimberly J. O'Keefe '02 were married May 8, 2010, at Manning Chapel on the Brown campus.

Cameron McClure '03 and Zoe Hunton '03 were married in June 2007 on Block Island, RI. Many alums attended. Zoe and Cameron completed law school and emergency medicine, respectively, at UC Davis, and are moving to the San Francisco Bay Area to begin new jobs. Zoe is joining the law firm of Jorgenson, Siegel, McClure & Flegel in Menlo Park, and Cameron will be an attending emergency department physician at Kaiser in Santa Clara.

Don't Stress

Your heart's future is all in your head.

John Kennedy MD'92, director of Preventive Cardiology and Wellness at Marina Del Rey Hospital, in California, regularly speaks to large groups of cardiologists about his primary interest: the link between heart health and stress. He surveyed 2,500 of these cardiologists to ask them if they thought stress and heart attacks are linked. All 2,500 said yes. "It's



John Kennedy MD'92

hard to get cardiologists to agree on anything," says Kennedy, "so this is significant." But when Kennedy asked what the cardiologists do to teach their patients about stress and how to handle it, not one said he or she does anything.

Why don't doctors teach about their patients about stress? It doesn't happen, Kennedy says, for a variety of reasons. First, stress is subjective—what's stressful for one person isn't for another—and second, it's hard to measure, although you can. Also, doctors

don't make it a priority because they don't get compensated to talk about it, they have limited time with patients, and in most medical schools they aren't taught about stress management in the first place. Alpert Medical School, he says, has a more robust complementary medicine program than most, however. "They're ahead of the pack," says Kennedy.

It is clear that stress should receive more attention in both educational and clinical settings, as robust studies have demonstrated that it causes elevated blood pressure, elevated heart rate, inflammation, and decreased heart rate variability. "[Stress] is an independent predictor of heart cardiovascular disease," says Kennedy. Techniques for reducing stress are, of course, critical. The BREATHE method—outlined in the book Kennedy co-authored, *The 15 Minute Heart Cure: The Natural Way to Release Stress and Heal Your Heart in Just Minutes a Day*—is particularly effective. It combines two proven relaxation techniques, guided imagery and breath work, to help people learn to relax their minds—and heal their hearts. "The key to managing stress and protecting your heart," Kennedy says, "is all in your head."

—**Kylah G. Klinge**

Warren Young '01 See Joanne Chiu '04 MD'09.

2008

Gina Coscia See Joanne Chiu '04 MD'09.

2009

Joanne Chiu '04 writes that **Daniel Kelly** '03 MD'07 will serve as chief resident of the Komansky Center for Children's Health of New York Presbyterian-Weill Cornell Medical Center pediatrics program in 2010-2011, where she and **Gina Coscia** MD'08 are residents. Last June, **Warren Young** '01 MD'07 graduated from this program and began a sports medicine fellowship at Children's Hospital Boston.

2010

Rajiv Kumar '05 and **Brad Weinberg** '03 were featured in *Entrepreneur* magazine, in an article titled, "Prevention for the People." They discuss how the duo started a social networking company, now called Shape Up the Nation, that promotes healthier living through group support and motivation. Shape Up recently received \$5 million of Series A funding from Cue Ball Capital and Excel Venture Management, in partnership with management members.

RESIDENTS 1998

Maureen Phipps, vice chair for research in the Department of Obstetrics and Gynecology at Women & Infants Hospital, was recently named Rhode Island's March of Dimes "Volunteer of the Year" for 2011. She was recognized for her commitment to the mission of

OBITUARIES

FACULTY

the March of Dimes through her work as chair of the Rhode Island Task Force on Premature Birth and her service on the board of directors for the RI March of Dimes. She is an associate professor and interim chair of the Department of Obstetrics and Gynecology at Alpert Medical School.

2009

Thaddeus Shattuck, a graduate of Brown's psychiatry residency program, has joined St. Mary's Health System in Lewiston, ME. He has a particular interest in circadian rhythm disorders and has been active in the treatment of sleep disorders in adolescent, geriatric, perimenopausal, and bariatric patients. He will be sharing his expertise with patients at St. Mary's Center for Sleep Disorders.

FELLOWS 2010

Julie Johnson was named to the staff in the Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine at Women & Infants Hospital of Rhode Island. She will serve as an assistant professor of maternal-fetal medicine at Alpert Medical School.

ROBERT D. CORWIN, MD

Robert D. Corwin, 80, a pediatric cardiologist and the first chief of pediatric cardiology at Rhode Island Hospital from 1977 to 1985, died October 16, 2010. Corwin was a graduate of Hofstra University and received his medical degree from Albany Medical College, Union University. He completed a rotating internship at the Albany Medical Center Hospital and a two-year fellowship in pediatric cardiology at Boston Floating Hospital, New England Medical Center, Tufts University School of Medicine.

He was a member of many professional societies and a fellow of the American Academy of Pediatrics cardiology section. He was clinical assistant professor of pediatrics at Alpert Medical School and wrote extensively on unusual congenital heart anomalies.

He is survived by his wife, Carol (Anisewski) Corwin, his four children, and two stepchildren.

JOSEPH J. HALLETT, JR., MD

Joseph J. Hallett, Jr., 65, died at his home in Wellesley, MA, on October 23, 2010, after a courageous struggle with brain cancer. Born in Rochester, NY, he received his MD from the University of Rochester with distinction in research, and completed a pediatric residency at Johns Hopkins followed by a fellowship at Massachusetts General Hospital. He most recently served as director of the Pediatric Neurodevelopmental Center and Pediatrician-in-Chief at Memorial Hospital of Rhode Island, and associate professor of pediatrics at Alpert Medical

School. He was dedicated to caring for underserved children and passionate about his neuroscience research. Hallett is survived by his wife, Susan, and their three children. Donations may be made to the Pediatric Neurodevelopmental Center, Attention: Rose Tremblay, 555 Prospect Street, Pawtucket, RI 02860.

THOMAS LASATER, PHD

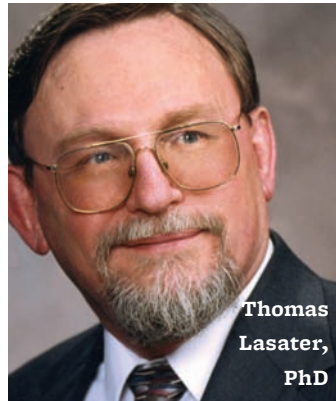
Thomas Lasater, professor of community health (research) and past director of the Institute for Community Health Promotion, passed away November 22, 2010, at the age of 69. Building on early experience as a community organizer, Lasater was among the first researchers to conduct community-based research on

health issues. Working with Richard Carleton, he developed the Pawtucket Heart Health Program, then the largest health education grant in the history of the National Institutes of Health. This 17-year project was groundbreaking in developing innovative

approaches to improving population health. His more recent projects focused on health promotion among minority communities are internationally recognized.

Lasater was former president of the Rhode Island Public Health Association, served on dozens of public health committees and boards, and was involved in the design of community-based health programs throughout the US and Canada. He authored hundreds of journal articles, and was a highly respected and sought after consultant and a frequent speaker at public health conferences both here and abroad.

He is survived by his wife, Angie Soares Lasater, and a daughter.



Thomas
Lasater,
PhD

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The MD Class of 2014 is the largest ever enrolled at Alpert Medical School.

As the School grows, so do its needs.

The Brown Medical Annual Fund (BMAF) directly supports medical students through scholarships, the Doctoring course, and Scholarly Concentrations. Funds are put to use right away, having an immediate impact on medical education at Brown.

Fifty-five percent of the BMAF is used for medical student scholarships, the need for which has never been greater. The remainder is used for curricular initiatives – the very things that make Alpert Medical School an innovator in medical education.

Consider becoming a member of the Brown Medical Society with a gift of \$1,000 or more. Your gift – at any level – will help us reach our goal of \$900,000 by June 30, 2011. Give online at www.gifts.brown.edu.

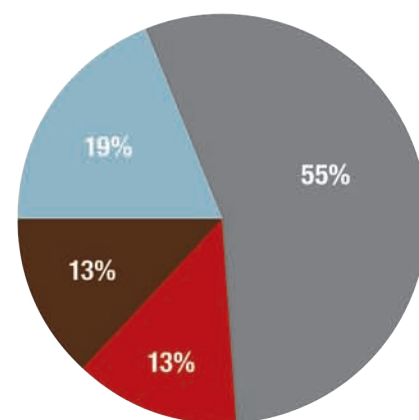
Visit <http://bmaf.brown.edu> for more information.

Questions?

Contact the Brown Medical Annual Fund by email at BMAF@brown.edu or phone at 401 863-3231.

Expenditures for the 2011 fiscal year

(July 1, 2010 to June 30, 2011).



- Scholarship
- Doctoring
- Curriculum Development
- Scholarly Concentrations



BROWN
Alpert Medical School

Office of Biomedical Advancement
Box G-ADV Providence, RI 02912
<http://biomed.brown.edu/adv>

Has Alpert Medical School **GONE TOO FAR?**



Not at all. In fact, the new medical school building, located at 222 Richmond Street, is a 15-minute walk from the Van Wickle Gates.

That's the time it takes to walk from Pembroke Library to Perkins Hall. Or from Meehan Auditorium to Keeney Quad. Next time you're on campus, see for yourself!

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