

BROWN MEDICINE

Volume 19 | Number 2 | Spring 2013

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THE NEW MD**

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Leaps and Bounds

Dean Wing
took the Division
to new heights.

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LETTER

FROM THE DEAN



Fond Farewell

This is my final *Brown Medicine* letter as dean of one of the finest medical schools in the country, The Warren Alpert Medical School of Brown University. It has been a privilege to serve as the sixth dean of the School and I am grateful to the entire community for their enthusiastic support during my years as dean.

We have accomplished much, including our new building, our improved relationships with our hospital partners, and our outreach to the people and institutions of Rhode Island. We are in a transformative time in health care and education, both in science and medicine. A new dean will take my place to lead BioMed to even more success and I wish that person the very best in the future. I was recently asked a few questions about my time as dean and my future, which you can read in this issue.

One of my favorite topics is the annual Dean's Teaching Awards. We honor outstanding teachers, which after all is celebrating the

essence of what we are: educators. One of the outcomes of our outstanding educators for Alpert Medical School is our Match List for the medical students. Alpert students match to some of the very best residency programs in the country year after year. This year is no exception, as you will see in the following pages. Other features include a faculty profile of Penny Dennehy, one of our iconic pediatric faculty; a speech on medically underserved communities by Paul Farmer; and the issue of prescription painkiller addiction (think Dr. House on TV).

Edward J. Wing



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“It’s so easy to say, ‘Here’s a prescription, this will take your pain away.’” —Robert Swift, MD, PhD Page 38

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STORY

Measure of a Dean

BY KRIS CAMBRA

Dean Edward Wing will leave his post on June 30. He talks about the past five years, his proudest moments, and the work still to be done.

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General Anesthesia for the (Young Doctor’s) Soul?

BY PAUL FARMER

In this excerpt from his latest book, the international humanitarian warns doctors about becoming inured to the plights of others.

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Pop Culture

BY PHOEBE HALL

A flood of prescription painkillers is leaving fractured lives and accidental overdoses in its wake. The causes are complicated, and the solutions require physician education and action.

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Drop the Balloons

The matches have been made. Find out where the MD Class of 2013 is headed for residency.

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Cover: Dean Wing on the Medical School’s rooftop terrace. Photograph by Jared Leeds

For Boston

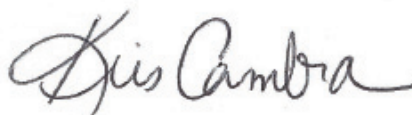
Oklahoma City, New York, and London were news stories. I witnessed those tragic events from afar, felt sympathy and sadness, yet far removed. Boston? Well, like the song says, “Boston, you’re my home.”

The pictures are surreal and disorienting in their familiarity. Blood on streets I walked as a kid going to Fenway Park with my dad. The marathon I watched from atop Heartbreak Hill during my years at Boston College. Streets I still stroll frequently, my children in tow.

There’s a quote by Fred Rogers going around the Internet. He said that as a child, when he saw scary things on the news, his mother would tell him to “look for the helpers, you will always find people who are helping.” As I watched the news footage of victims being raced to hospitals, I knew that many of the people helping would be our alumni. The concentration of Brown medical alumni in Boston is second only to the number of alumni in Rhode Island. Members of our community were witnessing the horror firsthand.

Helping is not as uncomplicated as it seems. Think of those physicians and hospital staff who treated victims of the bombing on Monday, only to care for the bombers on Friday. Their training and moral compass overrode their anger. I think of the doctors trying to assuage their patients’ pain, as the story on painkiller abuse in this issue discusses, only to find they are leading them down a path to opioid addiction.

The problem is so multifaceted that as Phoebe Hall reported the story, she asked if we might devote an entire issue to it. We particularly regretted that there was no room to talk about treatment for people who are addicted. For when things are scary and sad—and addiction certainly is—I, too, have to believe helpers are on the way.



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INBOX

EACH ONE, TEACH ONE

I was amused by the picture of a student in the Winter 2013 issue of *Brown Medicine* suturing a blob of tissue during a Clinical Skills Clerkship. In the “good old days” we followed the dictum “watch one, do one, teach one.” The first time I practiced suturing was in the Johns Hopkins ER after my junior year at Brown. I was on my annual summer visit with my cousin who was a surgical

resident. I had watched a lot of surgery on my visits, even the famous Dr. Alfred Blalock, who developed the “blue baby operation.” We had stopped by the ER one night, when his buddy from Yale was on duty, and he asked if I wanted to sew up a cut hand. To uphold Brown tradition I happily accepted his offer and helpful supervision.

**Donald D.
Cameron, MD AB’64**
Media, PA



WERE YOU THERE?

This heavily armed police officer greeted Neel Shah ’04 MD’09 as he arrived for his evening shift at Massachusetts General Hospital on April 15, the day of the Boston Marathon bombing. *Brown Medicine* wants to hear stories from alumni who were affected by the incident and its aftermath. Send your story to Brown_Medicine@brown.edu.

Because of the events in Boston, this issue’s cover photo almost didn’t happen. Photographer Jared Leeds happens to live in Watertown, MA, in the very neighborhood where the bombing suspect was captured. On the day he was supposed to photograph Dean Wing, Jared was unable to leave his home because the city was on lockdown. Luckily the incident was resolved with no further loss of life, and we were able to reschedule the photo in time.



JUST SAYIN’

Please send letters, which may be edited for length and clarity, to:

- *Brown Medicine*
Box G-ADV
Providence, RI 02912
- Brown_Medicine@brown.edu
- Brownmedicinemagazine.org

COMING EVENTS

Commencement-Reunion Weekend

May 24-26, 2013
brown.edu/go/md-reunion

Family Weekend

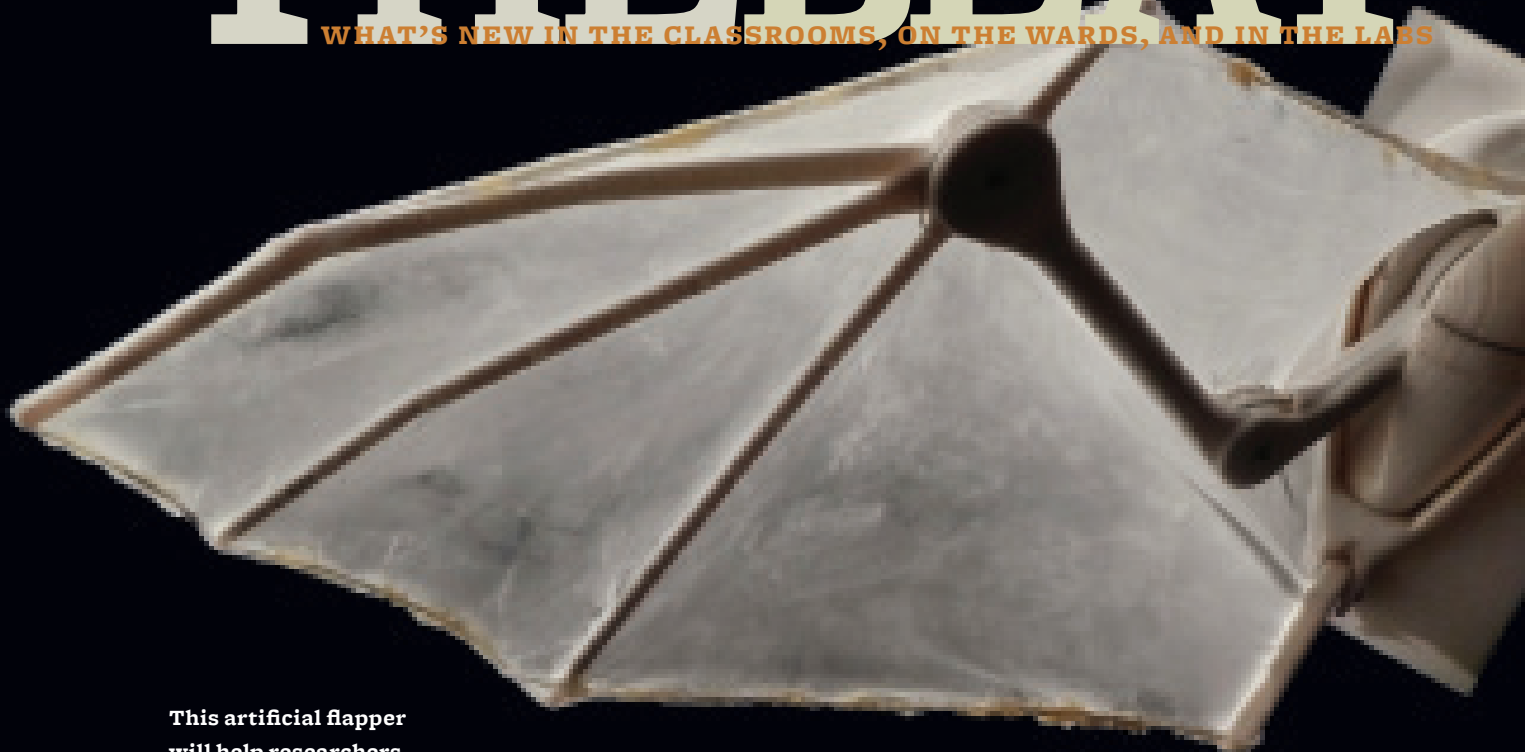
October 18-20, 2013
brown.edu/go/mdfamilyweekend

Brown’s 250th Anniversary Opening Celebration

March 7-8, 2014
brown.edu/about/brown250

THE BEAT

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



This artificial flapper will help researchers learn more about the real thing.

FLIGHT PLAN

KAPOW!

Robotic bat wing seems straight out of Lucius Fox's lab.

The flight of a bat appears effortless, its wings flapping gracefully as it glides, turns, and hovers. But those delicate flaps of skin, and the skeletal and muscular systems that support them, are astonishingly complex, evolved to overcome drag and carry the animal through the air. Decades of research into how bats fly, however, yielded few details about how variables such as inertia or power affect the action of individual wing components. One cannot ask a bat, for example, to fly at a steady velocity or flap at a specific frequency.

In a unique collaboration across Brown's Department of Ecology and

Evolutionary Biology and the School of Engineering, researchers found an exciting new approach to overcome this obstacle. They designed and built a robotic model of a bat wing—nicknamed “robotat,” of course—with seven joints and three degrees of motion in hopes of capturing the most pertinent biological characteristics of bat flight.

Bat flight researchers Sharon Swartz, PhD, professor of ecology and evolutionary biology and engineering, and Kenneth Breuer, PhD, professor of engineering, began collaborating about a decade ago on studies that ultimately produced the robotat. Their wing, mod-

eled after that of the lesser dog-faced fruit bat, *Cynopterus brachyotis*, is not the first robotic bat model, but it more closely resembles the real biological mechanisms of a bat wing than any prior robot.

“What distinguished our flapper was the inclusion of a fold in the wings, which adds the kinematic complexity of folding up and extending,” says Joseph Bahlman PhD’13, who led the project. “This motion is a key feature that a lot of flying vertebrates use but has never yet been modeled.” Using their wing to measure power and aerodynamic force, the team showed that a bat conserves energy by folding its wing on the upstroke and extending it on the downstroke, he says. They also found that changes in inertia as a bat flaps its wings affect its movement more than previously realized.

Potential avenues for exploration include the wing's membrane structure.

COURTESY BREUER AND SWARTZ LABS/BROWN UNIVERSITY

“Bat skin is really distinctive both in how soft it is and also the asymmetry of stretchiness,” Swartz says. “Depending on the directions of force, the skin can be even 100 to 1,000 times stiffer than when stretched from a different angle. Most of our ideas about if and why this may be advantageous to flight are still untested hypotheses.” The robot is a powerful tool for testing the usage and properties of materials, informing both

biology and material science. This and other findings could further inform the design processes of flight mechanisms such as small aircraft.

Preliminary results of several case

studies were published in February in the journal *Bioinspiration & Biomimetics*. The researchers will publish detailed results in future papers.

—**Dani Grodsky '14**

“What distinguished our flapper was the **inclusion of a fold in the wings ...**”

FINDINGS

Needles in a Haystack

Implicated in rare forms of autism, two genes may play a wider role.

A second-year Alpert medical student is the lead author of a new study that suggests a new genetic pathway to investigate autism. The statistical analysis by Matthew Schwede MD'15; Eric Morrow, MD, PhD, professor of biology and psychiatry and human behavior; and three coauthors found that two genes associated with rare autism-related disorders were jointly linked to more general forms of autism.

Mutations of one gene cause Christianson syndrome, while changes in the other lead to a severe form of autism with epilepsy. In the study, published in *Molecular Psychiatry* in March, the researchers found a specific pattern of misregulation—increases or decreases in the proteins that the two genes encode—in the brains of children with autism.

“We kind of stumbled on this,” says Schwede, who studied statistics as an undergraduate at Harvard. “At first we were just identifying what was up- and downregulated in autism cerebral cortex in this data set.”

The researchers based their analysis on messenger RNA samples from a bank of brain tissue of children both with and without autism. Messenger RNA indicates how gene expression was regulated in the cerebral cortex.

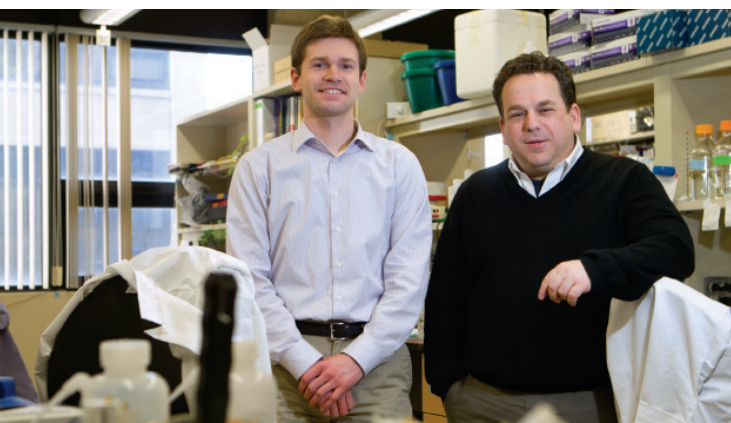
“In autism I think people get overwhelmed because there are hundreds of different genes,” says Morrow, who studies autism genomics and sees patients with autism at E. P. Bradley Hospital in East Providence. “One of the important things is to find points of convergence where there are events that might be common across different forms”—events such as gene misregulation.

During a summer 2012 research assistantship funded by Alpert Medical School, Schwede, with Morrow's guidance, pored over the raw data, made available from a University of California, Los Angeles, study. Schwede's findings caught Morrow's attention because Morrow has been studying the two genes and the rare conditions they cause. “When we realized that some genes of interest for our lab were altered in the cerebral cortex, we focused the analysis on these genes in particular and how they were related to other processes,” Schwede says.

Schwede also found a significant correlation between the misregulation of the two genes and the downregulation of synapse genes, which is known to occur in autism. His purely statistical analysis does not explain how the misregulation physiologically affects synapse formation or general autism; Morrow plans to research the neural and behavioral effects of the genes' misregulation in various experimental systems. “That's a hypothesis that we can take to the mouse,” he says. “When we knock out these genes, how do the synapses change?”

The statistical results show that studying rare forms of autism not only can help patients with those conditions, Morrow says, but also informs research about other forms of autism.

—**David Orenstein**



Schwede, left, and Morrow's study could inform research about other forms of autism.

MIKE COHEA

THE BEAT

ELEVATOR PITCH

Mind the Gap

A new elective smoothes the transition to residency.

Associate Professor of Family Medicine Julie Taylor, MD, director of Alpert Medical School's clinical curriculum and its signature Doctoring program, recently tackled a challenge confronting medical faculty nationwide: how can graduates best be prepared to meet the demands of residency? After Match Day, she and her colleagues introduced the Internship Preparation elective, taken by 23 members of the MD Class of 2013.

Taylor talked to *Brown Medicine* about the course, which aims to prepare graduating medical students for the professional and personal challenges of residency by considering the needs common to all nascent physicians.

Why should Brown help graduates transition to residency?

Although you study and train for years to become a clinician, one moment you are not a doctor and then the next moment you are. That is as big a transition

as you may ever have in your professional life. In the literature, residency program directors have identified not just lack of medical knowledge but underdeveloped professionalism, poor organizational skills, and lack of self-reflection

as common internship struggles. There has always been a lot of attention at the national level on how best to connect the medical school experience to residency training, but strategies are constantly evolving.

How did the new course come about?

As part of the clinical curriculum redesign conducted by the Medical School's curriculum committee under the leadership of Associate Dean for Medical Education Philip Gruppuso, MD, I led a Doctoring task force that was charged with expanding the program into the third and fourth years. How could we provide support for, but not compete with, the specialty-specific clinical clerkships? We focused on transitions, which turn out to be tremendous teaching and learning moments for future physicians. Hence the new Clinical Skills Clerkship that happens right before the clinical clerkships—and now the new elective.

How will this course help prepare students for residency?

Medical educators from the Office of Medical Education and the Office of

Student Affairs designed the one-week, primarily classroom-based experience. It's interactive and very process oriented with workshops, a series of standardized patient (SP) encounters in the Clinical Skills Suite, and a personal development lunch series. Teachers are physicians from a variety of specialties at different stages in their careers, from senior residents to professors emeriti. Other teachers come from nursing, pharmacology, medical informatics,

“One moment you are **not a doctor** and then the next moment **you are.**”

financial aid, human resources, and risk management.

Do other schools have similar residency-preparation courses?

Although more medical schools are offering transition, capstone, or “boot camp” courses, they vary tremendously in length and scope. Our course showcases our most impressive resources: the new building, the SP program, our interprofessional teams, and best of all, our graduates, who participate as clinicians, teachers, and mentors for the next generation. It's the grand finale of our now four-year Doctoring program.

Do you expect robust enrollment?

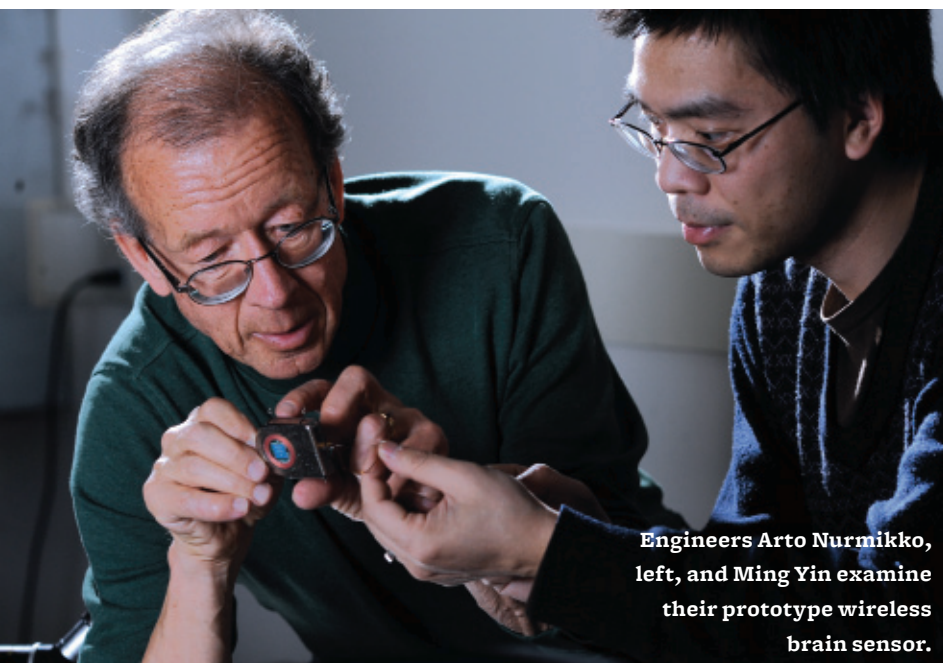
Eventually, yes. This year we piloted it as a very individualized elective. Students learned their Meyers-Briggs personality type, received individual debt portfolios, and participated in a clinical track depending on their field. Long term, we hope all graduating students will want to take this course and will benefit from it. Eventually, it may become a graduation requirement.

—Kylah Goodfellow Klinge



Julie Taylor

SCOTT KINGSLEY



Engineers Arto Nurmikko, left, and Ming Yin examine their prototype wireless brain sensor.

BRAINWAVES

Going Mobile

A new neural interface could someday help people with movement disabilities.

A wireless brain sensor developed by Brown neuroengineers has the potential to allow severely paralyzed people to control devices with their thoughts.

"This wireless system addresses a major need for the next step in providing a practical brain-computer interface," says John Donoghue, PhD, the director of the Brown Institute for Brain Science (BIBS). Donoghue pioneered BrainGate™, a wired neural interface that allows users to manipulate robotic arms by thinking about moving their arms and hands.

Several copies of the new wireless device, which can relay real-time broadband signals from up to 100 neurons in freely moving subjects, have been performing well in animal models for more than a year, a first in the brain-computer interface field.

Though the sensor, which was implanted in three pigs and three rhesus macaque monkeys, is neither approved for use in humans nor used in clinical trials

of brain-computer interfaces, it was designed with that translational motivation.

"This was conceived very much in concert with the larger BrainGate team, including neurosurgeons and neurologists giving us advice as to what were appropriate strategies for eventual clinical applications," says Professor of Engineering Arto Nurmikko, PhD, a BIBS affiliate who oversaw the device's invention.

He likens its operation to that of a cell phone, "except the conversation that is being sent out is the brain talking wirelessly."

The sensor consists of a chip of electrodes implanted on the cortex; a lithium ion battery; ultralow-power, integrated circuits designed at Brown for signal processing and conversion; wireless radio and infrared transmitters; and a copper coil for recharging—a "brain radio." All the wireless and charging signals pass through an electromagnetically transparent sapphire window.

It looks like a miniature sardine can with a porthole. But it's what's inside that counts, says David Borton PhD'12, lead author of the study, which was published in April in the *Journal of Neural Engineering*.

"We show the first fully implanted neural interface microsystem operated wirelessly for more than 12 months in large animal models—a milestone for potential [human] clinical translation," he says.

Borton, who is now at École Polytechnique Fédérale de Lausanne in Switzerland, is spearheading a collaboration between EPFL and Brown to use a version of the device to study the role of the

"The conversation that is being sent out is the brain talking wirelessly."

motor cortex in an animal model of Parkinson's disease.

Meanwhile the Brown team is working to advance the device for larger amounts of neural data transmission, reduce its size even further, and improve other aspects of its safety and reliability so that it can someday be considered for clinical application in people with movement disabilities. —D.O.

THEBEAT

LINKED IN

Think Big

A small team makes huge strides against cancer.

In a basement across the street from Alpert Medical School, a dedicated staff of three is making a major impact on cancer care across the state and the nation.

For nearly two decades, the Brown University Oncology Research Group (BrUOG) has coordinated clinical trials for Rhode Island cancer patients who might otherwise have to travel to Boston, New York, and beyond for the latest therapies.

“Millions of people are affected by cancer every day, and BrUOG has been able to connect patients with solutions that have saved lives,” says Dean of Medicine and Biological Sciences Edward J. Wing, MD. “New translational research and clinical trials give hope to Rhode Islanders with this diagnosis.”

The group sponsors phase I and II trials of novel therapies, such as different applications of chemotherapy or new uses for existing drugs. Many studies, which are devised by BrUOG-affiliated



The BrUOG team, from left: Rosati, Safran, and Mitchell.

diagnosed anywhere in the country would be treated with the regimen we created is unbelievable.”

Such hard-to-treat cancers are staple BrUOG fare: its studies have advanced treatments of adenocarcinoma of the esophagus; glioblastoma, the most lethal primary brain tumor; and pancreatic, rectal, and anal cancers. Clinical Research Coordinator Kristen Mitchell credits Rhode Island’s diminutive stature for the group’s outsized reach. “We can touch national trends in a small area,” Mitchell says. “Our doctors can be on the edge of what’s happening.”

the scrappy underdog makes a good story, in a down economy it rarely gets more than scraps. Each trial costs several thousand dollars per patient; financial contributions by Brown and the group’s five member hospitals can’t cover all costs. Private citizens sometimes fill the gap, such as a Rhode Island resident whose donation helped initiate a pancreatic cancer study, but the group has had to decline potential trials due to insufficient funding.

Nonetheless BrUOG has its eye on growth. They’ve expanded beyond the state to include hospitals across the country in certain trials, and invested in a new electronic data system to track studies in real time. And they’ve stepped into bold new territory: fundraising. In addition to a recent bikeathon and walkathon, BrUOG is pushing for bigger donors—and offering naming opportunities with recognition on scientific presentations—to secure its place at the forefront of oncology research.

“This small office plays an integral part in cancer care nationwide,” Rosati says. “Our dream would be to grow large enough to have a trial for every disease.”

—Phoebe Hall

Many BrUOG studies have defined standard therapies for cancer treatments nationwide.

physicians, have become the platforms for definitive phase III trials and defined standard therapies in use for numerous cancer treatments nationwide, according to Operations Manager Kayla Rosati.

“Even while we think outside the box with our novel therapies and clinical studies, we have substantial proven success,” Rosati says. “For example, the fact that a patient with stage III lung cancer

Medical Director Howard Safran, MD, argues that his group’s size actually gives it an edge over some of the big players. “We’re organized, we’re efficient,” he says. In the case of several studies, “we were up and running before the big national groups.”

Despite the group’s many achievements, Rosati admits that the general public hasn’t heard of BrUOG—and while

For more information go to
med.brown.edu/bruog

<http://brownmedicinejournal.org>

Rise of the Superbugs

Where do they come from and how we can stop them?

Carbapenem-resistant Enterobacteriaceae, better known as CRE, is only the latest family of antibiotic-resistant bacteria to grab headlines. Though infections are still rare and mostly confined to health care facilities, they're extraordinarily difficult to treat, with a mortality rate around 50 percent. Are these "superbugs" becoming unstoppable? If so, where do we go from here?

Leonard Mermel, DO, ScM, medical director of Rhode Island Hospital's Department of Epidemiology and Infection Control and a professor of medicine, takes the question.

CRE are resistant to most currently available antibiotics. Bacteria multiply in minutes. When a population of bacteria is exposed to antibiotics (for example, in someone's GI tract), those with molecular mechanisms that convey resistance will have a competitive advantage.

We live in a world where humans and the animals we eat are exposed to untold tonnage of antibiotics. If the world is a Petri dish, bacteria such as CRE will rise to the fore and present a formidable challenge when infection strikes. We know from the few cases seen in Rhode Island that our therapeutic antimicrobial armamentarium is extremely limited to thwart such microbes.

What can be done? We must limit antibiotic use to

those people who truly need them, based on objective criteria of active bacterial infections. This can be achieved by robust antibiotic stewardship programs that assure judicious antibiotic use in acute and chronic health care settings. Antibiotic use as growth promoters in animals should be illegal. Health care facilities must have stringent infection prevention and control programs to mitigate risk of CRE

spread from patient to patient.

We must motivate industry to develop new antibiotics and other treatments—but this cannot be the main thrust of our efforts to deal with the multi-drug-resistant microbial pathogens in our midst, because drug development will never keep pace with bacterial evolution. We must reduce evolutionary pressure as good stewards of antibiotic use, and support infection prevention programs and research that will afford us a better understanding of transmission dynamics of such pathogens so prevention strategies can be applied with maximum effect. The advent of CRE is a clarion call to arms. Now we must boldly meet the challenge.

ON THE RUN

Get Physical

Medical students now have an exercise room of their own, where they can work out or take a yoga or kickboxing class. The facility is on the fourth floor of the Alpert Medical School building and boasts treadmills and elliptical and weight machines. A bank of windows lets in natural light and provides panoramic views of Providence and beyond. —Kris Cambra



THEBEAT

ANATOMY OF A STANDARDIZED PATIENT

Break a Leg

By night, **Bill Oakes** performs onstage with 2nd Story Theatre in Warren, RI. By day, he's a standardized patient (SP) in Alpert Medical School's Clinical Skills Suite, helping students practice physical exams and bedside manner in a low-stakes, simulated environment. SPs, Oakes says, "enable these young doctors to give good advice and help patients feel cared for and comforted." A professional actor for 20 years and an SP for 10, Oakes also performs in local schools as the recycling superhero Max-Man and at the Providence Children's Museum. His job as a "learning experience" for medical students may be the trickiest, however. "You need to play your cards close to your chest," he says, "because the job of the medical student is to find out the information."

—P.H.

IF THE CAP FITS

Oakes—actor, educator, standardized patient, and bald man—wears a lot of hats, literally and figuratively.

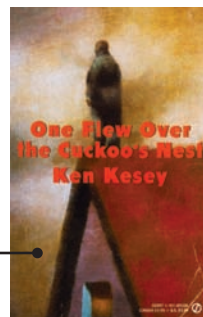


IN COSTUME

"There are days here in the winter when I wish they issued fur-lined gowns."

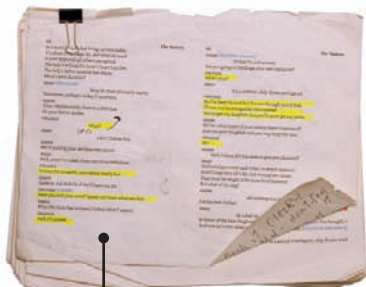
SIDESHOW

When Oakes performed in *The Good Doctor* two years ago at 2nd Story Theatre, a professor brought the first-year class to see the play.



CASE STUDY

Oakes says his SP experience informed his recent role as the manic-depressive Cheswick in *One Flew Over the Cuckoo's Nest*.



MULTITASKING

Like at his doctor's office, sometimes Oakes has to wait in the Clinical Skills Suite. He uses the down time to prepare for his current stage role.



No Pain



Moderate Pain



Worst Pain



RATE YOUR PAIN

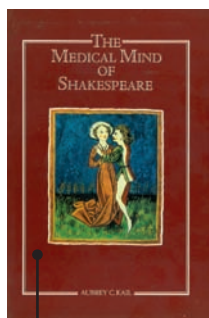
"Depending on what symptom I'm enacting, some days you have to grimace more than others."





SOUND ADVICE

Oakes recalls a medical student using a stethoscope for the first time who thought something was “very, very wrong with me.” The teacher suggested lifting and placing the chestpiece, rather than dragging it across Oakes’s chest: it turned out the crackling of his chest hairs sounded like a heart defect.



SHAKESPEARE, MD?

“Hamlet is a great example of putting into eloquent words the symptoms of anxiety and depression: ‘I have of late—but wherefore I know not—lost all my mirth.’”



EVERYONE’S A CRITIC

When he’s not onstage, Oakes joins the audience as a theater reviewer for the East Bay (RI) Newspapers.

JOB WELL DONE

Extra Credit

The Medical School earns reaccreditation.

Alpert Medical School was awarded continued accreditation by the Liaison Committee on Medical Education (LCME), the accrediting authority for medical education programs leading to the MD degree in the US and Canada.

Preparation for LCME evaluation was an extension of the intensive, introspective work that has been underway for years, as curriculum innovations and relocation to a new, state-of-the-art medical education hub have yielded a redesigned medical education program, says Associate Dean for Medical Education Philip Gruppuso, MD. “Over 100 people worked together on our yearlong self-study, and it was a very valuable opportunity to take a good look at what we do well and what we could do better,” he says.

The LCME found the Medical School to be compliant with all of the more than 120 accreditation standards. Among the strengths noted in the report were the overall access and support of student participation in scholarly activities, financial aid counseling and the School’s commitment to limiting student indebtedness, and the new Medical School building that facilitates optimal student learning.

While the LCME noted a need to monitor diversity, the learning environment, and the School’s financial well-being, reaccreditation was granted through the 2020-21 academic year.

—Eileen O’Gara-Kurtis

Over Heard

“This year we have three fellows in our training program. ... There’s only about 50 psychiatrists trained in the United States in the past several years in geriatric psychiatry. So little Rhode Island has produced about 6 percent of all of the geriatric psychiatrists in the country. That’s a huge problem.”

—ROBERT KOHN, MD, MPhil, and director of the Brown University Geriatric Psychiatry Training Fellowship, talking about the growing shortage of mental health professionals who focus on the elderly, on Rhode Island Public Radio

THEBEAT

HONORS

Dean's List

Four faculty earn teaching awards.

More than 250 faculty members teach and mentor the undergraduate and graduate students of Brown's programs in biology and public health. Just two from each program receive the annual Dean's Excellence in Teaching Awards.

Edward Wing, MD, dean of medicine and biological sciences, announced the 2013 honorees at the University Awards Ceremony in May: David Rand, PhD, and Diane Lipscombe, PhD, in biology; and Kate Carey, PhD, and Suzanne Colby, PhD, in public health. The dean will honor outstanding Alpert Medical School educators in June.

Rand, professor of biology in the Department of Ecology and Evolutionary Biology, earned the Undergraduate Teaching, Advising, and Mentoring award for his "leadership, nurturing, teaching par excellence, and curricular support," according to Marjorie Thompson, PhD, associate dean of biological sciences (undergraduate education). Rand studies how natural selection acts on genes and genomes.

The Graduate and Postdoctoral Teaching and Mentoring award went to Lipscombe. As director of the Neuroscience Graduate Program and the Brown-NIH Graduate Partnership Program, she has mentored countless graduate students and postdocs. In a letter of support, postdoc Summer Allen PhD'12 wrote that Lipscombe "gives great guidance while encouraging her students to become thriving, independent scientists."

Carey, recognized for Classroom Teaching, joined Brown just two years ago as a professor of behavioral and social sciences. "She shares her extensive knowledge while creating a safe place for students to learn, share experiences, and grow," says Terrie "Fox" Wetle, PhD, associate dean of medicine for public health. Carey studies the causes and consequences of risky drinking.

Finally Colby, associate professor (research) of psychiatry and human behavior in the Center for Alcohol and Addiction Studies, received the Mentoring award. She's associate director and postdoctoral training director of the center, where she studies adolescent substance use disorders. "Fellows rave about how giving and insightful she is as a training director and adviser," says Christopher Kahler, PhD, professor and chair of the Department of Behavioral and Social Sciences.

—P.H.



SAFETY FIRST

Take It Easy, Riders

Older motorcyclists incur more severe injuries.

It's the ultimate freedom for millions of Americans: speeding down the road on a motorcycle, the wind in your hair. But if it's gray hair whipping in the wind, take extra care. A new study out of Brown's Public Health Program found that bikers ages 40 and up are more likely to be injured, and those injuries are likely to be more severe than those of younger riders.

Authors Tracy L. Jackson MPH'11 and Michael Mello, MD, MPH, associate professor of emergency medicine, concluded that the increasing number of older riders magnifies the impact on public health, as they are more likely to require hospitalization if they crash.

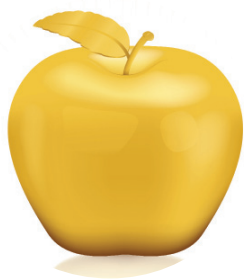
"As we age, we have changes in our body, like decreased bone strength, that make this age group more susceptible to getting injured," Mello says. A higher risk of secondary complications can lengthen recovery time, he adds.

The study, published in February in *Injury Prevention*, analyzed US motorcycle accidents between 2001 and 2008 and compared the data within three age ranges: 20 to 39, 40 to 59, and 60 and up. Though injuries increased across all age groups, middle-aged and older riders more often sustained internal organ damage and upper trunk fractures.

Mello recommends that older riders wear helmets as well as chest protection to shield those areas most prone to injury. "Hopefully with the knowledge of the pervasiveness of severe injury and ways to counter it, riders, especially older ones, are empowered to change the behavior themselves to improve their own safety and, in the long run, protect the health of the population," he says.

—D.G.

ISTOCK PHOTO (2)



ESSAY

BY ROBERT FENSTER, MD, PHD, RES'

*This essay was one of four finalists in the 2012 **Costs of Care Essay Contest**, which solicits stories from patients and their caregivers to elucidate “the challenges and opportunities to save patients money with routine, cost-conscious medical decisions.” Among the judges were New England Journal of Medicine Editor-in-Chief Jeffrey Drazen, former US Secretary of Health and Human Services Donna Shalala, bioethicist and former White House adviser Zeke Emanuel, and New York Times columnist and surgeon Pauline Chen. Costs of Care (see Brown Medicine, Fall 2012) is a nonprofit organization dedicated to helping physicians and patients lower medical costs. Visit www.CostsOfCare.org to read the other winning essays.*

The Need to Know

Confirming a diagnosis can compel unneeded care.

“I’d really feel better if we got the MRI,” Ms. James said. “I understand you think it’s a migraine, but I want to know, just in case. Wouldn’t you?”

We sat in her darkened hospital room—the light bothered her eyes and exacerbated her headache. She was a dialysis nurse with many years of experience in health care, and I was a first-year doctor trying to convince her that she was most likely suffering from a migraine and did not need additional tests.

Ms. James had woken the morning before with very concerning symptoms. Her head hurt terribly. She got out of bed, but felt nauseated and had to lie back down. She thought she needed coffee, but felt too sick to make it. Her headache worsened, and she noticed shooting pains in her left arm. She was scared. A few hours later, her daughter arrived to find her mother’s speech was slurred and called an ambulance.

By the time Ms. James reached the emergency department, her speech had improved but her headache remained. The fluorescent lights bothered her, and loud noises grated her nerves. The neu-


rology resident who evaluated her thought she most likely had a migraine and recommended medication to ease her pain. He said she could have suffered a TIA (transient ischemic attack, in which the blood supply to a part of the brain is temporarily blocked) but felt this was less likely. He did not think she would need an MRI scan of her brain unless her slurred speech returned.

The craft of medicine requires doctors to constantly manage probabilities. We hear patients’ stories, list possible diagnoses, then rank them according to likelihood, creating “the differential diagnosis.” We order tests to rule possibilities in or out and gradually refine the list until one diagnosis remains. This approach is systematic, but when followed too rigidly leads to unnecessary tests that inflate the cost of care. Tests frequently are ordered to eliminate highly unlikely possibilities (“just in case”), or when the added knowledge of the test won’t affect our therapeutic strategy, but we feel a “need to know.”

The latter arose with Ms. James. We had two most likely possibilities—TIA

and migraine—with only an MRI that might help us differentiate between them. However, due to additional medical problems like hypertension and diabetes, Ms. James was already being treated for secondary stroke prevention. In other words, ordering the MRI would probably have no impact on her medical care. It would only satisfy the “need to know.”

The need to know is powerful, on both sides of the doctor-patient relationship. In the October 17, 2012, issue of the *Journal of the American Medical Association*, Annemarie Jutel and Lynn McBain write that our society places a high value on certainty in diagnosis, yet this may be harmful, leading to unnecessary treatments or tests that do not influence patient care. Sitting with Ms. James, I felt the power of the “need to know.” It was as though I was withholding something from her by telling her why an MRI was unnecessary. These conversations are not easy, particularly when patients are anxious about their diagnosis, but if we hope to control the cost of health care, they are of utmost necessity.

Ultimately Ms. James got her MRI, which was negative. Her persistence, our discomfort with the uncertainty, and our worry about hard feelings and the omnipresent specter of litigation all played a role. She felt better knowing. But the decision still nags at me. If we had been able to convince her that fewer tests actually mean better care, perhaps we all could have reached a better outcome. 

Robert Fenster received his MD from Weill Cornell Medical College and his PhD from The Rockefeller University. He is a PGY-1 in the general psychiatry residency program at Brown.

BIG SHOT

BY JOAN TENO, MD MS'90

Red Sky at Morning

Sailor's warning is a photographer's delight.

Photographing sunrise for me is about patience, tranquility, and hope. A picture like this one, taken on the Barrington River near Narragansett Bay, can't happen every day. A perfect sunrise needs the right layering of clouds, a lack of wind, and the precise alignment of the sun with the intended landscape. Patience in the moment is critical because the colors and reflection evolve with time.

The sunrise is the most tranquil part of my day. There are no interruptions: just me, the camera, and my easygoing black and chocolate Labrador retrievers. The transition from darkness of night to first rays of light is always full of promise. No matter what happened the day before, there is hope of a fresh start. 📷

Joan Teno is a professor of health services, policy, and practice and associate director of Brown's Center for Gerontology and Health Care Research. Several issues of Brown Medicine have featured her photographs.





The Terrible Twenty-Twos

College-age patients are like toddlers—but their doctor loves them anyway.

College students are a lot like 2-year-olds: simultaneously endearing and exasperating. Bright, enthusiastic, curious, keen on exploration—they're fun to be around! Yet their developmentally appropriate attributes—internal focus, boundary testing, apparent indifference to consequences—can be frustrating.

Yesterday started off with a freshman still sick after two days of sore throat. I diagnosed a viral upper-respiratory infection and sent her to the pharmacy to buy ibuprofen and a thermometer. The next patient had punched a fire extinguisher while out drinking with friends. When the x-ray showed a serious fracture, we discussed ways to moderate her drinking and I referred her to orthopedics. My third patient had been struggling with fatigue and poor concentration for weeks. After he revealed roommate conflict, frequent all-nighters, and the occasional “Adderall from a friend,” I reviewed basic time management and risks of stimulants and referred him to the counseling center.

The morning hummed along with common presentations: respiratory ailments, urinary tract infections, birth control concerns, sports injuries, rashes. I (hopefully) convinced several patients that azithromycin doesn't cure bronchitis. Some ailments were foreseeable (alcohol + ibuprofen + cigarettes = heartburn) while others were a function of living in close proximity to 45,000 fellow humans.

And then my 12 o'clock “requests neurology referral” asked, 20 minutes



into her 15-minute appointment, “How do you know if someone is depressed?” Thirty minutes later, I sent her to the counseling center. Next week we'll discuss medications. After inhaling my sandwich while charting, I moved onto my afternoon schedule for more of the same.

Days like this are when I love college health! While they may seem at times (even to me) to be filled with trivial complaints, underneath it all churns the transformative process by which adolescents become intellectually, emotionally, and socially independent adults.

Many common challenges are expected—normal even. Some students struggle with the physical and emotional separation from family that comes with college. Others flounder trying to establish and maintain social connections without the structure of high school. Some worry about daily tasks of living: laundry, food preparation, sleep habits, self-care for basic illnesses. Most agonize to some degree over identity and future purpose. Many carry heavy non-academic workloads to offset educational costs.

Other students endure more severe problems. Some are serious medical illnesses: type 1 diabetes, inflammatory bowel disease, asthma, occasionally lymphoma or other malignancies. Others face significant traumas and mental illnesses: eating disorders, major depression, anxiety, alcohol abuse, sexual trauma, partner violence, or family bereavement.

I cannot provide much-needed therapy in spare moments squeezed between visits. Yet sometimes I can open the door and start the conversation. So I ask the “soft questions” about social, emotional, and academic functioning, hoping my patients will understand that these matter at least as much as fever, cough, and chest pain. I provide an open, comfortable environment, hoping my patients will feel safe enough to ask for help, share their fears, and disclose their challenges. I lay the foundation for a therapeutic alliance, hoping my patients will engage in treatment and begin the process of healing.

For in this way college students are most like 2-year-olds: they provide an opportunity to intervene at a critical developmental time when a stable, supportive relationship can foster self-efficacy that will last a lifetime.

Micaela Hayes provides primary care and women's health services for undergraduates, graduate students, and spouses at Pennsylvania State University's Student Health Center. She previously wrote as Brown Medicine's Resident Expert.

FROM THE COLLECTIONS

BY SARAH BALDWIN-BENEICH

The Master

Nearly a millennium ago,
a Persian polymath wrote
the book on medicine.

By the year 1000, although gunpowder had been invented in China and Lief Eriksson had made landfall on the eastern coast of North America, Europeans did not yet have buttons to fasten their clothing. In the Arab world, however, science, philosophy, medicine, and education were thriving. It was in the full flowering of this Islamic Golden Age that Abū 'Alī al-Ḥusayn ibn 'Abd Allāh ibn Sīnā—also known as Ibn Sina, or Avicenna, his Latinized name—was born, in 980. In the 57 years he lived, Avicenna made monumental contributions to human knowledge, including writings in astronomy, musical theory, and mathematics, and a highly influential proof for the existence of God. The wunderkind got an early start, reportedly reading and memorizing the Koran by age 10.

But of the hundreds of texts attributed to the Persian physician-philosopher (including 40 related to medicine), one of the most important was *Al-Qanun*, or *The Canon of Medicine*, which he finished in Hamadan (Iran) in 1025. Avicenna divided the *Canon* into five books: the first four are informed by Galenic and Hippocratic principles, the teachings of Arabic physicians, and Avicenna's own observations; the fifth covers compound medicines.

The *Canon* was translated into Latin as early as 1175. During the 15th and 16th centuries, Latin translations were disseminated throughout European medical schools; the *Canon* was as de rigueur then as Harrison's *Principles of Internal Medicine* is today. It remained the standard until autopsies were allowed in Europe, in the 17th century. (See *Brown Medicine*, Fall 2004.)

The edition in the Lownes collection in the John Hay Library was printed in 1552 in Venice. Somewhat moldering, the tome could be a prop in a Harry Potter film—large, thick,

Centuries
ago a doodling
scholar filled
the margins of
this edition
of *The Canon
of Medicine*.

heavy, it requires strong arms but gentle handling. The leather binding is damaged and many pages have water stains, but the fore edge of the text block is an astonishing shade of coral. Perhaps most beguiling, though, are the neat, spidery penciled notes of a scholar that fill the margins of the entire first book. On one page, the reader actually doodled on an initial, decorative “V,” perhaps while musing about Avicenna's recommendation to use wine in the dressing of wounds.

In addition to influencing luminaries from Leonardo da Vinci to William Osler, the *Canon* “carved an indelible space in Europe's emerging image of itself at the time as a rational, scientific, and universal culture,” says Beshara Doumani, director of Middle East Studies at Brown. “That is why Ibn Sina is the only other unabashedly admired historical Muslim—along with Salah al-Din, whose tolerance and humanity toward the Christians and Jews of Jerusalem would be long remembered—in the West.”

Sarah Baldwin-Beneich '87 is the former editor of *Brown Medicine*. She is now the communications director at Brown's Watson Institute for International Studies.

ZOOM



PAY IT FORWARD
After more than
30 years, Dennehy
tirelessly continues her
groundbreaking
research.

Early Intervention

Doctor, researcher, and educator Penelope Dennehy blazes trails for the next generation.

Let's call the child Elizabeth. She is 7 years old now—in the second grade, and performing at the top of her class. That would be a point of pride for any parent. But this young Rhode Islander's life represents something even larger than stellar individual achievement. She personifies the long-term promise of leading-edge medicine, informed and advanced by clinical research.

Born to a mother infected with the herpes simplex virus, Elizabeth could suffer long-term sensory or developmental disabilities as the result of her neonatal central nervous system herpes infection. But she faces none of those challenges, thanks to her pediatrician's participation in a groundbreaking 2011 study that tested six months of suppressive antiviral therapy in symptomatic infants born to mothers with herpes—research that resulted in standardization of this protocol for infants with neonatal herpes.

Professor of Pediatrics Penelope Dennehy, MD, who serves as director of the Division of Pediatric Infectious Diseases at Hasbro Children's Hospital and vice chair of Brown's Department of Pediatrics, was an investigator on the study and continues to see Elizabeth and one other child who started life with a similar diagnosis. It's a rare, long-term clinical relationship for Dennehy.

"As an infectious disease specialist, I usually treat patients during acute episodes," explains Dennehy, who also

serves as vice chair for academic affairs in Pediatrics at Alpert Medical School. "It's wonderful to watch children grow up, especially when it's clear that an early intervention has made so much possible for them."

The evolution of the Department of Pediatrics at Brown during her tenure has been "pretty amazing," Dennehy says, noting that she remembers being part of the clinical team that wheeled children from Rhode Island Hospital's outmoded Potter Building to Hasbro Children's Hospital when it opened nearly 20 years ago.

"When I came here, Pediatrics was tiny," she says. "We're now much more

of a presence, with a national reputation that draws very talented students and residents. Academic medicine has made a dramatic difference in the quality of care available in Rhode Island, as more and more talented physicians have come here for training and stayed to take great care of people."

PASSION FOR PREVENTION

Fresh from Tufts University School of Medicine, Dennehy arrived at Brown in 1976 as a resident in Pediatrics. Except

for fellowships in infectious diseases at Children's Hospital Medical Center at Beth Israel Hospital and the Dana Farber Cancer Center in Boston, she has never left.

"I commuted from my home in Barrington [RI] because I wanted to work with Ken McIntosh in his diagnostic virology lab," she explains, noting that she was married by then to her husband, Peter. "I had become very interested in viral infections, and there was a significant need here in Rhode Island at the time. We had no in-state ability to diagnose viral illnesses in children. You would send cases to the Centers for Disease Control [CDC] and hear back perhaps months later."

Dennehy brought new expertise to Brown and Rhode Island Hospital (before Hasbro Children's Hospital opened), where she began to treat patients, pursue research, teach, and estab-

"I see it as **seeding the future** and **also giving back** for all who did the same for me."

lish a pediatric virology lab as an assistant professor of pediatrics and assistant physician in the Department of Pediatrics and Medicine at Rhode Island Hospital.

Prevention became Dennehy's passion. She contributed to research that led to vaccines for varicella (chicken pox) and rotavirus, which causes severe diarrhea and dehydration in children. She served on the American Academy of Pediatrics (AAP) Committee on Infectious Diseases, where she guided the develop-

ZOOM

ment of recommendations for the introduction of the rotavirus vaccine for infants in the United States.

“We were a leading site to trial the vaccine for rotavirus, which used to be one of the most common causes of hospitalization for children,” she says. “There were once about 250 cases every year in Rhode Island. Now there are virtually none.”

There is still much work to be done. For instance, Dennehy is still studying respiratory syncytial virus (RSV), a core research interest during her fellowship decades ago. “We still have not been able to prevent RSV, which is incredibly common—every child gets it by the age of 2—and the infection is very serious in about 2 percent of children, leading to bronchiolitis and pneumonia. It would be great to be able to deliver a maternal

CDC, the AAP, the American Medical Association, the Institute of Medicine, and the National Institutes of Health (NIH).

‘ABSOLUTELY TIRELESS’

Dennehy invests more and more of her time these days in teaching, policy work, and other macro pursuits. “It’s rewarding to be involved on the policy side—helping to decide what vaccines we decide to recommend or require, for instance—and to help to develop the next generation of [infectious disease] docs,” she says. “I see it as seeding the future and also giving back for all who did the same for me.

“There was Roger Glass, MD, PhD, who now heads the Fogarty International Center at the NIH and encouraged me to visit his rotavirus lab and

motions, to serving on high-level search committees,” says Associate Dean for Academic Affairs and Professor of Medicine Michele Cyr, MD. “She is particularly sensitive to the needs of junior faculty who are building research careers in the current difficult funding climate. I don’t know how she does it all.”

Assistant Professor of Pediatrics and malaria researcher Ian Michelow, MD, says that Dennehy was instrumental in recruiting him from Harvard and Massachusetts General Hospital. “Penny’s one of a handful of top figures in the field, and she is really dedicated to helping junior people make progress, making vital connections and protecting time for research,” he says. “She’s absolutely tireless—she routinely works 12-hour days—and she personally takes on extra clinical load for junior faculty to allow time for their research.”

Dennehy says she feels particular responsibility to deliver perspective and guidance to young women in medicine. “Many in the generation of women right before me didn’t feel that they could have children, but I did,” she says. Her daughter, Johanna, 30, is an attorney, and her son, Peter, 27, is a geologist. “We had to balance our lives as best we could. Today, it’s a lot easier to say, ‘I need more family time.’”

“Penny is a great role model and incredibly generous in sharing her time as well as her considerable wisdom and expertise,” Cyr says. “If we could clone her, we would.”

Eileen O’Gara-Kurtis is the founder and president of Silver Branch Communications. She is a frequent contributor to Brown Medicine.

“She is dedicated to helping junior people make progress, making vital connections and protecting time for research.”

antibody—as we’re beginning to do with pertussis—so that babies would be born with immunity.”

In recent years, Dennehy has also been a visible adviser and spokesperson in Rhode Island’s public health response to H1N1 influenza. On the national level, she has served on the AAP’s Red Book Committee on Infectious Diseases and is a past president of the Pediatrics Infectious Diseases Society, in addition to numerous committee appointments and other leadership posts within the

publish when he was head of the viral gastroenterology unit at the CDC,” she says, recalling her early-career mentors. “There was also my friend and colleague Lynn Cates, MD, who now works at the policy level in research at the Veterans Administration. Support can come from all levels and all directions.”

Now Dennehy is offering that support. “Penny is omnipresent in the medical school, from mentoring faculty, to heading up one of the working groups that is drafting revised criteria for pro-

Humane Response

An interdisciplinary approach could improve disaster relief.

A funny thing happened on the way to South Sudan last summer. Initially, I had been called out by International Medical Corps to develop a training program for local doctors and nurses at some of the smaller, rural hospitals around the country. En route to Africa, though, I received word that I would be needed in another capacity. They had just been notified that 15,000 South Sudanese were being forcibly repatriated from Khartoum, Sudan, to Juba, South Sudan, and a camp was going to be set up to house them temporarily. International Medical Corps had agreed to manage health and nutrition programs for the returnees, and I was needed to rapidly set up a medical clinic for the camp.

While this particular crisis was an acute one, with nearly a dozen organizations, including my own, scrambling to ensure enough shelter, food, water, sanitation, and medical care for the returnees in the span of just a few days, it was not a new one. Hundreds of thousands of refugees have been pouring back and forth across the border between Sudan and South Sudan since long before the border even officially existed.

In many parts of the world, refugee crises have become protracted events, smoldering for decades without a clear end in sight. Even natural disasters can stretch on for years after the initial event,



with the 2010 Haitian earthquake being a prime example: three years on, thousands of people in Port-au-Prince still remain without permanent housing or adequate sanitation. And not only are humanitarian emergencies lasting longer, but the Center for Research on the Epidemiology of Disasters has found that the frequency of disasters and the number of people impacted by them have increased sharply in recent decades, a trend that is only likely to continue given the long-term effects of climate change and global patterns of migration.

All of which is to say that we need to stop treating humanitarian emergencies as one-off events, praying after each one that it never happens again, and instead start preparing for a future in which humanitarian emergencies are commonplace, but where we do everything we can to mitigate their effects on populations, improve the quality of response, and shorten the recovery period.

WORKING TOGETHER

This notion of improving the delivery of humanitarian assistance was at the heart of a symposium held in March at Brown. Titled “Humanitarian Assistance at the Crossroads,” it brought together humanitarian professionals and academics from several universities to discuss the adequacy of the worldwide response to recent large-scale disasters and refugee crises; the need for improvement in both the training of humanitarian aid workers and the quality of aid provided by humanitarian organizations; and the ways in which academia can partner with both the governments that fund humanitarian relief and the organizations that provide it in order to improve the delivery of humanitarian assistance in the 21st century.

One of the major themes was the increasingly interdisciplinary nature of humanitarian assistance. Speakers and panelists came from a variety of academic

FIELDNOTES

fields, including public health, medicine, international relations, political science, population studies, economics, technology, communication, gender studies, and human rights. In the past, it would be rare to find individuals from these various academic silos at the same conference, let alone in the same room. Yet the content of the discussion highlighted the importance of bringing together individuals with very different perspectives and sets of expertise.

Yong Lee, an economist from Williams College, shared some of his research showing that the quality and economic impact of housing and boat aid delivered by international humanitarian organizations after the 2004 Indian Ocean tsunami varied considerably depending on the specific channels they utilized to provide that aid. In a similar vein, Melani Cammett, a political science professor at Brown, discussed some of her research from Lebanon, which found that most aid was delivered by organizations with specific sectarian and religious biases, with profound effects on both the distribution of aid and electoral politics in the region. Captain Albert Shimkus, former commander of the medical treatment facility USNS Comfort and now a professor of national security affairs at the US Naval War College, discussed the biases inherent in the provision of humanitarian aid by the military, in many ways a byproduct of the US government's increased focus on the use of "soft power" to maintain American interests around the world.

Not surprisingly, technology and human rights were also prominent topics at the symposium. Jennifer Chan, co-author of the recent United Nations re-

port "Disaster Relief 2.0," discussed the future of information sharing in humanitarian emergencies and the ways in which new technologies from texting to Twitter can empower disaster victims and help direct humanitarian response—or, if used incorrectly, can lead to information overload and even put some communities at increased risk during violent conflict. Jennifer Leaning, director of the Center for Health and Human Rights at Harvard University, spoke of the human rights implications of various types of humanitarian assistance, highlighting the areas in which aid workers need to take special care to avoid exacerbating the plights of the very people they are attempting to serve.


THE NEXT GENERATION

The specific examples brought up by the various speakers make clear that aid delivery in the 21st century is about far more than just food, water, and medicine; humanitarian providers of the future need to develop a far broader perspective on the complex array of issues involved in order to ensure that their good work actually does some good—or at the very least does no harm.

The final, and perhaps most important, theme of the symposium was the need for better training and professionalization of the humanitarian workforce. Selim Suner, director of the Rhode Island Disaster Medical Assistance Team and associate professor of emergency medicine at Brown, and Hilarie Cranmer, director of disaster response at Massachusetts General Hospital, spoke about the importance of intensive and specialized training to prepare doctors, nurses, and other health care profession-

als to practice in the austere and often dangerous environments of many disasters and humanitarian emergencies. A recent report by the Global Health Cluster of the United Nations Interagency Standing Committee raised "serious questions ... about the clinical competencies and practices of some of the foreign medical teams deployed in recent years," and recommended "greater accountability, more stringent oversight, and better coordination of their work."

Partly in response to these recent criticisms, the symposium highlighted the work that Brown, alongside dozens of other academic institutions from around the world, has begun to do to professionalize this rapidly growing field. Collaborating under the umbrella of the Enhancing Learning and Research for Humanitarian Assistance project, these universities are working to create common competencies, develop core curricula, and establish a system of accreditation for training humanitarian professionals in order to reduce the variability and improve the overall quality of humanitarian response.

While much remains to be done, symposia such as this one represent important starting points for creating a far more robust and dependable system of response to future disasters and humanitarian emergencies. 

Adam Levine is an assistant professor of emergency medicine at Alpert Medical School. He serves as the clinical adviser for emergency and trauma care for Partners In Health-Rwanda and as a member of the Emergency Response Team for International Medical Corps. This article originally appeared in The Huffington Post.

Presenting Pornography

Little is known about the effects of one of society's greatest taboos.

Imagine this: a 12-year-old presents to your office with his parents. They are distressed, having recently discovered that he was accessing pornography on his gaming console at home and publicly on his cell phone. Parents and teachers are complaining. They ask: Is this normal? Is porn bad for him? Can you help them?

You research the issue but your literature review yields little information: no practice guidelines exist, no pharmacologic therapies are specifically indicated, and no research has demonstrated the clinical or developmental effects of porn use.

What do you do?

Pornography first entered my consciousness in college. Its role in society fascinated me. It was consumed secretly and habitually by every man I knew, but rarely discussed. Women spurned it. Porn earned more revenue than professional football, basketball, and baseball combined and rivaled Hollywood, but it seemed exempt from social scrutiny.

When I wrote my undergraduate thesis on porn in 2006, academic literature was sparse and professors shied away from advisory roles. They said, "Fascinating topic. Important topic. Not for me." Shame was impeding the quest for knowledge.

By 2012, porn had emerged into public discourse, but its effects, use, and influence remained largely unexamined by academia. When I told Professor of Medicine Edward Feller, MD, that I wanted to evaluate online porn for my community health clerkship project, he



OPINION

blushed and diplomatically suggested alternative means to assess its impact on public health.

It had to be the porn itself under examination, I insisted. Estimates suggest that 93 percent of teen boys and 62 percent of girls are exposed to material whose content has never been quantified. How can we speculate about clinical effects without a sense of what exposure means?

Dr. Feller agreed to advise the study: a content analysis of the 30 most popular clips on youporn.com, a free, public website easily accessed by teens. Our research showed that porn portrays a male-centered, permissive view of sexuality that is physiologically inaccurate. The videos look real and are homogeneous in their presentation of sexual practices, so sexually inexperienced viewers may view porn as normative and instructive.

Porn portrays unsafe sex. Condoms

ment misses pornography's greatest potential harm: the normalization of unprotected sex.

RISKY BUSINESS

Nearly half of teens get no sex education before high school. About 40 percent of Americans think condom use ought to be excluded from school curricula. The result is a society in which condoms are ignored by porn and by educators, and in which one in four girls ages 14 to 19 is *currently* infected with an STD, according to the Centers for Disease Control and Prevention.

Porn shows women to be easily aroused and satiated, expressing pleasure in less than two minutes in 29 of 30 videos, while medical literature demonstrates that 40 percent of women have low desire and one-quarter have difficulty achieving orgasm. Sexual desire was never diminished by force or violence, present in eight videos.

already exists. Mobbed, I ran out of fliers within an hour.

Child psychiatrists from three continents shared their struggles addressing and evaluating teen porn use and addiction due to the lack of research and clinical resources. I was repeatedly advised to devote my career to this research. The director of AACAP's media committee said our research made him realize that they had wrongly ignored porn out of personal discomfort, to the detriment of the clinical community. He asked me to build a larger program on pornography for a future conference.

Porn is a medical issue that demands physicians' attention. The average male now starts using porn at age 12, five years before having intercourse. Porn will affect sexual expectations and teens' conceptions of sexual function and dysfunction. It will skew understanding of anatomic and physiologic normalcy. It may affect risk-taking behaviors, especially unsafe sex.

There are as many pornography users as cigarette smokers in America today. As with cigarettes, it may take decades for medical researchers to elucidate the consequences of exposure and apply this knowledge to clinical practice. In the meantime, clinicians should be aware that porn is a popular, powerful, and engaging source of inaccurate information.



Pornography portrays unsafe sex. Condoms were not used in 29 of the 30 videos.

were not used in 29 of the 30 videos. The porn industry has recently come under attack for unsafe practices. Its defense, as recently reported in *The New York Times*, is based on the low incidence of sexually transmitted disease among actors due to routine testing. This argu-

At the American Academy of Child and Adolescent Psychiatry (AACAP) conference in San Francisco last October, I was the only presenter on pornography amid many posters on the effects of television, film, and video games—topics on which significant research

Lisa Jacobs, a third-year student at Alpert Medical School, researches health care economics and the clinical effects of adolescent exposure to pornography. She received her MBA from the University of Rochester in 2010 and works as a freelance medical journalist.

RESIDENT EXPERT

BY MANASA AYYALA, MD RES'

Who Has Your Back?

In the end, sometimes all we need is a friend.



Mr. T was a patient I inherited on the medical floor from the team the month before. He was obnoxious, downright rude, and “attention-seeking” was an understatement. Even the palliative care consult team had thrown their hands up in exasperation. As the primary team, we were lost.

As often occurs with those who are medically “stable” and closer to death than birth, Mr. T was pushed aside. He was dying, maybe not actively but increasingly, and of an end-stage medical disease for which he did not want major surgery to attempt to fix. This much was clear. But he didn’t want to admit it, and as a result we were scared that we were missing something. Was he delirious? Competent to make his own decisions? He had no family and his wife was long deceased. Was it then just the medical team who “had his back”?

Many mornings would be spent in circular reasoning; he was brilliant, I’ll give him that. Other nights were spent

emergently giving him IV Lasix and slapping nitropaste on his chest as he struggled to breathe. More often, he would yell, “Help me,” even when I was at his bedside. He may have been yelling at himself. One day he was shouting that he couldn’t see. I ran into his room, bewildered, only to realize he was clenching his eyes shut. As the days went by, I started to ignore him in my mind—upset that I couldn’t help him and frustrated that he couldn’t help us help him.

Finally, we searched through Mr. T’s records and tracked down his old nurse. She was exactly what he needed. It took weeks to set up a meeting, but she knew him. Actually knew him. And ironically, it was during my encounter with this woman whom I had only just met that I felt I had actually made a difference. She showed us who he was: a male nurse, one of the first in his class and likely the country. A man who had saved scrapbooks of pictures as his house was demolished, because he was a hoarder.

Many things became clear in this 45-minute conversation, but what was most obvious was that Mr. T wanted to be comfortable. He had already written his obituary; it was on her desktop at home. He just couldn’t say it, she said. He told her he was scared of voicing this decision. He had wanted her to be his proxy, but there just hadn’t been enough time to make it official. We had found an answer to his problem and it was ideal. I was giddy with excitement and surprised at this emotion.

We had found his voice. What he could not tell us directly, we had taken the effort to unearth. I no longer felt that our team was failing him, but that we had finally helped him. We weren’t going to save him. We were going to give him dignity as he died.

Manasa Ayyala graduated from Temple University School of Medicine. She is a first-year resident in the General Internal Medicine Residency program at Brown.





INTERVIEW BY KRIS CAMBRA
PHOTOGRAPH BY JARED LEEDS

Measure of a Dean

HIS TENURE DRAWING TO A CLOSE, **Ed Wing** REFLECTS
ON HIS YEARS AS THE DIVISION'S LEADER.

HAVE BIKE, WILL TRAVEL
Wing has maintained two offices since 2011. One, shown here, is in the Alpert Medical School building; the other is on campus, where he can be closer to the biology departments. His trusty bicycle ferries him between the two.

When top administrators step down, it's typical to begin a sort of farewell tour during which long, bulleted lists of the leader's accomplishments are used to prove his or her success. When Dean of Medicine and Biological Sciences Edward J. Wing, MD, announced he'd be leaving the deanship on June 30 of this year, the list of achievements was quick work, mainly because the individual successes were so large. It's hard to forget a gleaming four-story building or an entirely new professional school.

But Dean Wing isn't interested in just making lists. With his usual candor and inimitable style, he talked to *Brown Medicine* about how and why things fell into place, quick to point out that the successes were often the result of hard work by many people. He shared what he wished he could've gotten done and what he'll miss—and won't miss—about the corner office.

When you were appointed dean in 2008, you said in this magazine that you were “very optimistic about getting lots done.” Have you?

I think we have accomplished a lot. It goes from the new building, which has been the most visible, to improving the relationships with our teaching hospitals, which was a major effort on the part of many people. We have also worked to improve relationships with the clinical

chairs and departments and are working to develop a new faculty practice plan. We have a new school of public health that a number of deans before me helped to foster and that has come to fruition during my tenure. This is a huge watershed for Brown and its third professional school. Recently we were reaccredited by the Liaison Committee on Medical Education for seven years with no citations. That is a testament to our faculty

and administrators. Our new Primary Care-Population Health Program is being planned. It will be an entirely new program in the medical school educating MDs in both primary care and population health. Finally, we have hired scores of new faculty, but in particular chairs of Medicine, Neurosurgery, Neurology, Psychiatry, and Pathology. In Public Health, the recruitment of an entire evidence-based medicine group from Tufts Medical Center stands out.

The Medical School building will be part of your legacy. You said in 2010 that “the construction was only the beginning.” What has happened since it opened? How has it changed the School?

The building has allowed us to expand the Medical School classes from 96 to 120. All of a sudden the character of the School has changed. More students are admitted through our standard route, thus giving the class more diversity. The popularity of the School has gone viral—there are 70 applicants for every position. The building has expanded our facilities, such as the anatomy lab and the Clinical Skills Suite. In the past, anatomy was taught in a basement and clinical skills were taught in nursing homes. The building has academies that are a huge part of student life. We just recently put in a fitness center on the fourth floor that has the newest equipment and great views of the city (see page 9).

But maybe the most important fact is this building is closer to the principal teaching hospitals and is located in the community of Providence. It has been a symbol of Brown's commitment to the city and the rejuvenation of the Jewelry

“It was fantastic **TO LEARN DOCTORING FROM DEAN WING.**
EVERY TIME HE INTRODUCED ME TO A PATIENT he told me
a bit about their life—THEIR OCCUPATION, INTERESTS.
THIS GESTURE ESTABLISHED A DYNAMIC during patient visits
THAT WAS HUMANIZING AND RESPECTFUL.” —MARIE DELUCA '12 MD'16

District. The location has allowed us to have nursing students from the University of Rhode Island and Rhode Island College working with our medical students on interdisciplinary training, and we've recently affiliated with the new physician assistant program at Johnson & Wales. To work with other institutions in Rhode Island will be very important.

You mentioned the affiliation agreements with the teaching hospitals. Do you think that being the former chair of the Department of Medicine and coming out of the hospital system gave you an advantage in negotiating those agreements?

As chair of Medicine for almost 11 years, I had context and relationships that had been established over many years. I also knew the culture, the finances, and the workings of the hospital system, so I knew that we had to start with Lifespan first and negotiate a new relationship. Rhode Island Hospital wanted very much to be designated as the “Principal Teaching Hospital of Alpert Medical School” and we wanted very much to have tighter relationships, a strategic planning process, and resources coming from the hospitals. None of those things had happened before. We signed an agreement after a year and a half of negotiating and agreed to meet on a monthly basis to work on strategy and deal with areas of

disagreement. That has worked out well. We also have a trademark agreement so that Lifespan can use the Brown logo in appropriate ways. Once that process was done we went to Care New England and negotiated a similar affiliation agreement.

From my point of view, the most important outcome for both systems has been our monthly strategic meetings. We hash out issues and then we go forward and accomplish things together.

We have also established for the first time an affiliation agreement with Home and Hospice Care of Rhode Island, an outstanding institution that has had an informal agreement with Brown for years.

So, Public Health ...

Public Health has been a part of the research and education in BioMed for at least 12 years. And during those years, outstanding faculty have been recruited, the financial support has been developed, and it has grown remarkably in education, research, and service to the community. The School of Public Health is very research oriented and will be synergistic with the Medical School.

There's a potential risk of Public Health functionally moving further away from Alpert Medical School, so one of our goals is to prevent that. Future deans of both schools will need to preserve the current relationship.

What about the Division's research profile? How are you managing the tight funding climate?

BioMed in general has benefited enormously from the growth of the National Institutes of Health budget during the



SCOTT KINGSLEY

BORN TO TEACH: Wing saw patients at The Miriam Hospital's Immunology Clinic every Thursday throughout his deanship. Every year, he mentored a first-year medical student in the Doctoring course. Here he watches Marie DeLuca '12 MD'16 perform the physical exam.



DEANLY DUTIES: Wing says he'll miss the "hurly-burly" of the deanship but not the meetings.

"The hardest part OF WORKING FOR ED WAS trying to predict his next move. I HAD TO LEARN TO MOVE AT LIGHTNING SPEED JUST TO KEEP UP WITH HIM! The best thing ABOUT WORKING WITH ED WAS NOT BEING ABLE TO PREDICT HIS NEXT MOVE. My job has never been boring."

—KAREN SCANLAN, Communications and Administrative Manager, Office of the Dean

past 15 years. Since 2000, the budget had doubled, and then we had an infusion of funds through ARRA [American Recovery and Reinvestment Act of 2009]. Recently, NIH funding leveled and has even gone down. This type of cycle has happened in the past, and Brown needs to react and plan appropriately. We will need to be more strategic, collaborate more, and look for funding sources other than the federal government—for example, industry. I am confident that Brown's excellent researchers will weather this storm.

Also, the University and BioMed have to strategically support research where

it's appropriate. So if a faculty member runs out of a grant, we have to support that person while they submit the next grant. Eventually, funding will improve.

Is there anything you wish you could've accomplished?

I would've liked to see the faculty practice plan come together earlier. However, I am thrilled that it is actually happening at Lifespan. We have consultants, organizations of the faculty, the hospitals, and me working together to form a new employment model.

Faculty practice plans exist in almost every other academic medical center.

They are critical to align the strategy of the medical school, the hospitals, and the faculty, and particularly to support academics. Centralized plans can support parts of our Medical School that are essential but not profitable, like research and education or even some subspecialties and primary care. Without a shared mission and common financial resources, you won't have a good or even a mediocre medical school.

You alluded to the Primary Care-Population Health Program.

This program has been the idea of [Associate Dean for Medical Education]

KAREN PHILIPPI

Phil Gruppuso and his staff. The program will prepare students to be primary care physicians but also experts in population health. That's what distinguishes this program. They're going to be taking courses in medicine and the basic sciences, with an emphasis on primary care. But they're also going to be taking courses in population/public health, prevention, end-of-life care, epidemiology, health care policy, and the organization of health care. We think these will be important in the future.

Health care is changing. The landscape is going to be radically different in 10 years. There will be less emphasis on hospitals and much more emphasis on organized outpatient care. The patient-centered medical home, practice guidelines, and interdisciplinary care will be standard. You won't just be seen by a doctor—your care will be delivered by a team.

How will medical students who are not part of that track be exposed to these same principles?

This track will be important for Brown because the successful parts will be transferred to the rest of the School.

What will you miss about being dean?


I'll miss the opportunity to make a difference. You don't get a lot of positive feedback as dean, but you can have a big impact. You can influence the life and direction of an institution. I'll also miss the action, the hurly-burly of problems, solutions, and people.

I'll miss the people, for sure. There's immense satisfaction in mentoring and supporting and representing students, staff, and faculty. Forming my leader-

ship group [of key associate deans] has been very rewarding. We deliberately set out to organize a team—we had a retreat and a whole process to form it. Then we met every Monday morning. We deal with problems and issues throughout the system. When there's a problem, everyone feels it's their problem. That's so much more effective than people operating in their own little silos or the leadership just being "top down." However, sometimes it's sticky in our meetings. The associate deans have to advocate for their own areas, but they also have to step out of their box and advocate for the good of the institution. That's the hardest part.

I won't miss the tedium of meetings, which is much of the life of every dean. Goodness, they can be boring. I won't miss the restriction on what I say and the restrictions on my time.

What will you do next?

I'm going to travel overseas. I was just meeting with [Professor of Medicine] Jane Carter. I traveled with Jane to Kenya in 2001 to establish formally the program at Moi University, Eldoret, Kenya. I hired her after that trip to come on as full-time faculty and lead the program. The Kenya program is the mother ship of our international programs in Bio-Med. I'll also travel to other programs that I've helped set up, including those in the Dominican Republic, Haiti, and Ghana. I'm also very interested in a textbook I'm editing, *Cecil Essentials*. The book has the essentials of internal medicine, what you need to know when you graduate from medical school and residency in internal medicine. I love internal medicine, its fundamentals, which I have always taught. Finally, I will have more time in the future to practice and teach my profession. 



BACK TO HIS ROOTS: Wing launched Brown's Global Health Initiative and looks forward to traveling to its programs abroad.

General Anesthesia for the (Young Doctor's)

By Paul Farmer, MD

Portrait by Robert Shetterly

Commencement Address to the Brown Medical School Class of 2001

Last Monday, sitting in clinic in rural Haiti, I realized that I was sweating for two reasons. One, it was seasonably hot. We always sweat in clinic. Two, I was frightened about giving this address. The fear itself had two sources. One, it's a great privilege to be here on this day, the day of your oath taking and transformation. Two, most graduation speeches are boring and forgettable. (Some are memorable largely because they are so boring.) This latter realization struck fear in my heart. I sat there, hearing the multitudes outside, and tried hard to think of a single scrap, a word, an idea from a commencement address heard in high school,

college, medical school, or grad school. But not one of them stuck. I say this apologetically, of course, since good things must have been said. I was inattentive or perhaps engaged in overly robust celebration afterward. I'm not sure what happened, but it was neither a neurologic nor a vascular event that erased these speeches. (Nor, I must add as an infectious disease guy, was it an embolic event.) The speeches never got logged in!

On that Monday, I knew I had one week to find what might be called the

Excerpted from *To Repair the World: Paul Farmer Speaks to the Next Generation* (University of California Press, 2013), by Paul Farmer, founding director of Partners in Health, a global organization committed to improving the health of the poor.



Portrait by Robert Shetterly P'97, from his Americans Who Tell the Truth series, which “teaches the courage to act for the common good.” See more portraits and stories at americanswhotellthetruth.org.

roach-motel approach: speeches check in, but they don't check out. How could I find a way to get in your heads and stay? ...

On Friday, I bit the bullet and did what we do in internal medicine: I called a consult.

Deep in the Haitian hills there lives a wise woman. She's called a "mambo," which translates in Hollywood-speak to "voodoo priestess." I've known her for years, and she's said to have an answer for everything. She's a bit like the woman who bakes cookies in *The Matrix*, and especially so on that day as she was sitting on a low chair stirring something in a charred pot.

I laid out my dilemma. A pregnant pause ensued; my mambo friend did not look up from her work.

"First, why are they asking you to talk to them? Are they going to become tuberculosis specialists or something? Fever chasers? What?"

"No," I said, "they're a mix. You know, psychiatrists to surgeons. Scientists, too."

"Well, that's good," she said. "We need all types, as they so often say, however insincerely, in your country. But it still doesn't explain why they'd want you to talk to them."

This was a bit too much like that part of *The Matrix* where the cookie lady tells Neo that he's not the one. I must've looked crestfallen, since the mambo continued in a kindlier tone. "Who else will be there?"

"The students' parents and their teachers and their deans. And other sundry kin."

"Ah yes," she added. "Their 'significant others,' as you say in your country."

You will now be asked to worry about others, many of them perfect strangers, more than yourselves.

"Yes. I am very nervous about it because I would like to say something meaningful but have only a few minutes."

"I see your problem," she said, still stirring, "and I'm starting to remember something. A recurrent dream. What school is this?"

"Brown," I said.

She started, looked up from her pot, and smiled broadly. I knew she'd never left Haiti, at least not in the flesh, so I was wondering what was up.

"Brown! Now I understand the meaning of my dream!"

I took this to be a good sign but was puzzled.

"Look over there, child. What do you see?" She gestured to her left without looking up. A hummingbird hovered over a bush with bright red blossoms.

"A hummingbird," I said. But the word in Creole is *wanga neges*, which means "woman charm." It can be ground into a powder with power not to give meaningful speeches but rather to seduce women. I failed to see the relevance to my dilemma and knew that crude pre-feministic tactics are frowned upon at Brown. Besides, seduction of the entire audience was the goal.

"Yes, indeed. The *wanga neges*. In Latin, *Archilochus colubris*. And where is it?" (This, theatrically.)

"It's buzzing over the hibiscus bush near your temple." The Creole word for hibiscus is *choublak*, which comes, it is said, from the US military occupation of

Haiti earlier in the last century: the blossom was used to shine the soldiers' boots. Shoe black. Pretty flower, ugly name.

"What color is its throat?" she asked. "Red."

"No, silly, its throat is brown. This is relevant, since brown is a blend of white and black and yellow and red. Remember, too, that the heart of the woman charm beats 1,200 times per minute when feeding, faster than any other creature. Now, where is the talk to be delivered?"

"Providence, Rhode Island."

"Providence! On an island! That's really amazing. It all makes sense!"

"No, well, it's not really an island."

"You don't say? And I suppose 'providence' is happenstance, too? Unrelated to my dream?" She raised an eyebrow—archly, I thought.

"Look," I said, mustering a bit of pride, "what are you getting at?"

"Don't end sentences in propositions! It's all very clear now. You are going to the university that is brown to speak to them of providence, and to remind them that they are not really living on an island. Like the word *choublak*, which is both beautiful and ugly, you'll say something that is harsh but you will say it in a nice manner. You will fly there like a bird and not row in a boat, even though a boat is necessary to reach most islands."

"Ah," I said, "so that's what the hummingbird means?"

"No, silly. The hummingbird means

that you will charm them, even though your heart is beating fast.”

Stunned, I said nothing. It really did seem to hold together. But how would that help me with my speech?

“Look, I will give you four suggestions,” she concluded gravely, “not counting the one about prepositions. First, remember that it’s permitted to be anecdotal in such instances; you should talk about your poorest patients. Second, do not quote either Dickens or Shakespeare; use no Latin. Keep it heavy but light. Third, you can’t please everyone in such a diverse audience.

“Focus on those receiving their degrees but don’t try to get cute with them. For example, don’t say ‘Yo, what up?’ when you start. Fourth, because it’s Brown, be careful to offend no one.

“They’re very sensitive about that there, it is said. You can be PC and still get to the point.”

I took careful notes, thanked her, and left with new purpose. I had an entire weekend to get ready.

Now that you’ve heard the story about how I pulled these remarks together, you’re more than halfway there! Allow me to make one last prefatory

Brigham about how exciting their work must be diagnostically—all their patients have the same disease! And I also like the occasional joke about how best to hide something from the orthopedic surgeons: put it in the literature. But I hope to address all of you, from future pathologists to budding (sorry) endocrinologists. Allow me to salute you, in typical Brown fashion, as “differentially abled” physicians. What I’m about to say is meant to be applicable to all branches of medicine and medical research.

Providence. Good fortune, whether merited or not. You are going through the transformation even as medicine undergoes a great change. I use the word “transformation” because the moment is so often transformative: you will now be asked to worry about others, many of them perfect strangers, more than yourselves. And not just anyone: the sick and vulnerable.

Of course, almost all parents—and, may I add, especially mothers—do this whenever needed. But you’re not doing this because your patients are your children. You’re doing it because your patients are your patients and deserve fierce loyalty and the best you can offer. That’s

your patient, because everyone is a patient eventually. But who has ready access to the best that medicine has to offer, much of it based on relatively recently developed technologies and all of it available—providentially, it would seem—right here? Certainly not those who need it most. The irony, now, is the best that medicine has to offer keeps getting better—thanks in large part to the health sciences also represented here today. The big leap forward that physics made a century ago is now happening in medicine. That’s good news. The bad news is that unless we make equity our watchword, we become party to a process that promises to reserve its finest care for those who need it least, leaving billions of sick people without decent medical care.

All four points were hidden in there. But now, as the game show host says, in question form please.



To whom do we owe primary allegiance? To the sick, of course, and that’s easy enough to figure out on a busy call night because they’re in your face. But what if they’re not in your face? What if you’re busy in the lab, making medical progress possible? We all know that the burden of disease lies most heavily on the poor or otherwise marginalized and yet they do not receive the best care. So far, when physicians have banded together, we’ve fought mostly for ourselves. In the future, our allegiance to the sick must be stronger, even, than our allegiance to one another. Otherwise we start to slide

In the future, our allegiance to the sick must be stronger, even, than our allegiance to one another.

comment before I discuss providence with a small “p” and make, as did my mambo friend, four points. I’m not one of those who thinks that one medical specialty is somehow superior to another. Sure, I joke with the cardiologists at the

what medicine could be about, should be about, must be about.

That part is difficult but agreed upon. (Did I just end a sentence in a preposition?) The harder questions are about who gets to become a patient. I mean

down a slippery slope. I refer here not to the slope from Percocet to Versed to Halothane. I refer to the unintentional slide toward general anesthesia for the soul. When under such anesthesia, we can function in most settings but risk missing the great moral questions that face modern medicine. That brings me to the second question ...



Why, exactly, should we fear general anesthesia for the soul? As any intern can tell you, there's nothing wrong with some oblivion after a hard night on call. But general anesthesia for the soul threatens to cheapen medicine; indeed, it already has. We can still point with pride to the difference between a vocation and a job. Now more than ever, however, medicine needs to be about service rather than conventional rewards. Curing, preventing, easing pain and suffering, consoling—these are both our “product”

healer of the sick?” (Note that I am not breaking the Latin Rule, as Plato was Greek, not Roman.) Even in this affluent country, physicians have failed to make sure that all citizens have health insurance; most physicians are not yet active participants in this debate. In much of the rest of the world, including the countries in which I work, it's much worse. Equity of access was one thing in the era of leeches but quite another in our times. And the most peculiar thing about our times, as far as medicine goes, is related to important changes in technology. This segues to the third question.



What will be different about medicine in the 21st century, and how are these changes related to general anesthesia for the soul? The short answer: well, medicine is actually effective now. Or could be. I can't very well mumble something about the best of times and worst

cently as a decade ago are now managed effectively.

But each of these triumphant truths must be qualified by “for some.” Your generation will have to deal with a growing outcome gap as some populations have ready access to increasingly effective interventions while others are left out in the cold.

Worse, those excluded are those who would benefit most. Just take AIDS, the latest rebuke to hope. Over the last five years, AIDS deaths in this country have dropped sharply. So have HIV-related admissions to our hospitals. This is due, in large part, to the development of better therapy targeting the virus itself. But these advances have served only a tiny minority of those who stand to benefit. For most living with HIV, lifesaving drugs are unavailable. There are all kinds of excuses. The tools of my trade—again, I'm an infectious-disease doc—have been termed “not cost-effective” in an era in which money is worshipped so ardently that it's difficult to attack market logic without being called a fool or irresponsible. Treating AIDS in a place like rural Haiti, which lacks health infrastructure, is dismissed as “unsustainable” or not “appropriate technology.” Each of these ideas, from cost-effectiveness to sustainability, could be a means of starting conversations or ending them. But in my experience in international health, arguing that treatment is not cost-effective is largely a means of ending unwelcome conversations about the destitute sick. On page 6 of *The New York Times* of April 29, 2001, you can hear a high-ranking official within the US Department of the Treasury object to a strategy that would make HIV drugs available on the conti-

Equity of access was one thing in the era of leeches but quite another in our times.

and our reward. The commodification of medicine—health services for sale—continues apace without measures for caring for those who cannot pay. Soon we risk hearing, even in casual speech, the words of Plato, who in *The Republic* asked, “But tell me, the physician of whom you were just speaking, is he a moneymaker, an earner of fees, or a

of times, as that would be breaking the mambo ground rules, but think about it: no matter what specialty you've chosen, your practice will be completely different from that of only a single generation ago. The human genome is sequenced. Drugs are now designed rather than discovered. Surgical procedures are safer, less invasive. Diseases deemed untreatable as re-

nent on which they are most needed. According to the article, “He said Africans lacked a requisite ‘concept of time,’ implying that they would not benefit from drugs that must be administered on tight time schedules.” These ideas stop conversations because many who would continue them are under deep anesthesia.

This leads me to the fourth question, which is no doubt on your minds as you pick up your diplomas.

iv.


What is the key step in the Krebs cycle? OK, that’s a joke. Heavy yet light, she said. The fourth question: what will be the yardstick by which we gauge our success as a profession? Answering a question about the future calls for prophetic powers, and my mambo is not here. But I believe we’ll be judged by how well we do among the destitute sick. Strategies designed to prolong life into the 10th decade will flourish in the affluent world, but only if general anesthesia puts all souls to sleep will history judge us by the longevity of the affluent. No, discerning judges will look instead for falling life expectancies among the poor, wherever they live. What will historians of the future say about our actions over the past decade, during which 10 million African children were orphaned by AIDS, a decade in which life expectancies have plummeted in Haiti and a dozen other countries? And where life expectancies do rise for the poor, what of the fact that they rise so much more slowly for some than for others?

Many have documented the impact of poverty and social inequalities on the distribution and outcomes of infectious diseases. Working in Haiti or in a slum in Peru or in a prison in Russia, these are our priorities. But what about in affluent settings? What about with noncommunicable diseases? The *New England Journal of Medicine* has published studies documenting the impact of racism in choice of strategy for the management of coronary artery disease. After learning that African Americans are less likely to be referred for cardiac catheterization than whites with the same indications, do we really think that enalapril is more effective in whites with left ventricular dysfunction than in blacks with LV dysfunction for biological reasons? An acute editorial accompanying this study, published in the *Journal* earlier this month, draws different conclusions:

It is indisputable that social perceptions of what a person is or is not influence the availability, delivery, and outcome of medical care. It is incontrovertible that these perceptions apply with dismaying regularity to black people and other minorities in the United States. And it is undeniable that lifestyle, socioeconomic status, and personal beliefs are powerful influences on health. But these are matters of morality and culture, and we must clearly distinguish them from the biologic aspects of race-based medicine—from the danger of attributing a therapeutic failure to the patient’s “race” instead of looking for the real reason. ... Research to root out social injustice in medical practice needs continued support, but tax-supported trolling of databases to find racial distinctions in human biology must end.

Social injustice in medical practice. Science has revolutionized medicine but there was no revolution and no plan for ensuring equal access. Excellence without equity is what you now inherit. It’s the chief human rights problem of 21st-century medicine, and only when we’re all under general anesthesia of the soul will we be able to ignore it as the century marches on. So what, dear Class of 2001, do we need from you? We need excellence with equity, of course. And here’s the part I’d ask you to remember. We need you to shape the profession so that there’s commitment to equitable service in the face of growing inequalities of outcome; we need humility and resolve in the face of bold technological advances. Note that you can change the order around—service, humility, inequality, technology—and make that into a nice mnemonic, if you’d like.

And there you have my graduation speech. I hope, dear colleagues, that I have kept it heavy but light. I hope that even without a powdered hummingbird I have managed to charm. I feel lucky to be here, certainly, on the very day that you all make that marvelous transformation from students to physicians. I hope that you go out there and seize medicine with both hands, with your heads and hearts, and force science and technology to serve the sick. For science and technology will and should be the heart of modern medicine, but you must add the soul. You are, providentially, products of the finest medical education in the world. Resisting the easy anesthesia that privilege affords is going to be your next big challenge.

Thank you, congratulations, and good luck. 



POP CULTURE

BY PHOEBE HALL

DRUGSTORE HEROIN

OxyContin, the brand name of oxycodone, is one of the most popular prescription pain relievers. The US consumed 82 percent of the world's oxycodone in 2007, the equivalent of almost half a billion 80-mg tablets.

PRESCRIPTION PAINKILLERS: sweet relief for some patients, the gateway to addiction for others. Do doctors know how to tell the difference?

“The fastest growing drug problem in the United States,” as the Centers for Disease Control and Prevention (CDC) calls it, doesn’t discriminate, afflicting rich and poor, old and young, doctors and lawyers and teachers. And it didn’t start on street corners. It began in hospitals and medical offices, with well-meaning doctors following recommended standards of care to treat patients in pain.

Those standards, they have learned, are turning millions of their patients into addicts.

BITTER PILLS

Prescription opioid pain relievers, including oxycodone (the generic name for OxyContin®), hydrocodone (Vicodin®), and methadone, are derived from the opium poppy, the same plant used to produce heroin. That narcotic, notorious for its highly addictive potential, is, of course, illegal to buy, sell, or use in any quantity. Yet since 2003, more Americans have died of overdose from prescription opioids than from heroin and cocaine combined, the CDC reports.

“As physicians, we have to do a risk-

benefit analysis of opioids: when the risk of addiction or overdose is greater than the benefit,” says Donnah Mathews, MD RES’05, assistant professor of medicine (clinical) at Alpert Medical School. Ten years ago, as a general internal medicine resident in Rhode Island Hospital’s Medical Primary Care Unit (MPCU), she saw those risks firsthand. “With my own patients, I was uncomfortable with some of the prescription practices I was doing myself,” she recalls.

Changes in pain management had been well underway for years, as The

Joint Commission enacted pain management standards in 2001, and the new extended-release, opiate-derived painkillers came on the market. “There was a correct determination that pain was undertreated in cancer and postoperative patients,” says Mark Fagan, MD, professor of medicine. “It focused a lot of attention on improved treatment of pain.”

But the safety of using powerful opioids to treat chronic nonmalignant pain was never carefully assessed. As the drugs gained acceptance, doctors prescribed them to patients suffering from long-term conditions like back pain and rheumatoid arthritis, as well as acute pain due to injury or outpatient surgery, even dental procedures. In some cases, they were giving opioids before trying non-opiate pain relievers, physical therapy, or other treatments. Yet opioid misuse was on the rise, Mathews says. She saw “concerning behaviors” in her own patients: “lost” and forged prescriptions, requests (or demands) for early refills, untreated mental illness.

And threats, against her and the staff. More than a third of Rhode Island Hospital’s internal medicine residents reported threats of physical harm by patients, such as “Watch your back,” and “You’ll be sorry,” as well as warnings of

lawsuits and suicide, in a 2004 study coauthored by Fagan. Such incidents have hardly diminished with time. Providers have “difficult conversations” about opioids with patients every week, says Fagan, the director of the MPCU. “Starting a conversation with someone who doesn’t want to have it opens the door to conflicts,” he notes. “It’s much easier to just write the prescription.”

With 1.9 million Americans addicted to prescription opioids, as the 2010 National Survey on Drug Use and Health estimated, and the CDC reporting more than 16,000 overdose deaths annually—three-quarters of them unintentional—Fagan and Mathews felt a responsibility to help struggling patients. “We in medicine are at fault for promoting the idea that no one should live with pain,” Fagan says. In 2005 the MPCU instituted a “very strict” pain policy that requires patients to submit to urine toxicology screenings, frequent office visits, and the signing of a pain contract, which sets goals and spells out physician and patient responsibilities, to be considered for long-term opioid therapy. Of the more than 9,000 patients who visit the MPCU each year, only about 100 are maintained on chronic opioids, says Mathews, the unit’s associate director.

They acknowledge, however, that declining to prescribe opioids—due to red flags like getting prescriptions from multiple providers, known as doctor shopping, or a history of substance abuse or untreated mental illness—carries its own risks, as another physician at another clinic may not be so discerning, and anyway, pharmaceuticals are readily available on the street to anyone with enough cash. “We’re pushing people out

16,651 PEOPLE DIED of prescription opioid overdose in 2010, the CDC reports.

of the practice into the world, where they can buy what they want,” Fagan says.

IT’S ALL IN YOUR HEAD

Almost 220 million opioid prescriptions are dispensed annually by US pharmacies, according to IMS Health’s National Prescription Audit. The majority of users, whether they’re taking the drugs recreationally or under a doctor’s supervision, won’t become addicts, says Julie Kauer, PhD, a professor in the Department of Molecular Pharmacology, Physiology, and Biotechnology and an expert on the mechanism of drug addiction. This is due to genetic differences as well as to how the drugs are taken. But opioids trigger the same neural circuit in everyone, sometimes with literally mind-altering results. “Remember those ads, ‘This is your brain on drugs?’” she says, referring to the ubiquitous 1980s image that likened an egg sizzling in a pan to a drug-addled brain. “It really is different!”

Opiate drugs bind to the same receptors in the brain as endorphins, opioid compounds produced in the body. Food, sex, and other natural rewards cause the release of the neurotransmitter dopamine, producing feelings of pleasure. Normally, dopamine is quickly taken back up and the pleasure subsides. Opioid drugs remain in the body for hours, though, prompting neurons to fire faster and release more dopamine; they also block pain receptors and provide much-needed relief for patients in pain. But it’s the hours of calm and euphoria that her-

oin and prescription opioids produce that encourage misuse and, for some, dependence.

“No one who’s addicted wants to be addicted,” Kauer notes. But drugs that tap the same circuits that fire in the presence of natural stimuli can hijack lives. “The cravings overtake other priorities in life,” she says, even when the physical reward is gone, and the user is losing everything that used to matter more—family, job, home. “They do things that don’t make any sense.”

Kauer is trying to understand why this happens. Her lab studies synaptic strengthening, otherwise known as long-term potentiation, which is the basis of memory: the brain makes connections between new things it learns over time. Normally these circuits are wired for our survival; they drive a starving person to seek food, for example. But it appears that a similar mechanism can cause addiction. “If you give an animal any of those addictive drugs, you see the strengthening of synapses in 24 hours,” she says. In some cases, just one dose of a drug can reinforce those synaptic connections, pushing the user to keep using. “You can’t stop it because you’re not in conscious control,” she says. “You’ve changed the wiring.”

Though some who misuse prescription opioids simply pop pills, others get a faster high by crushing the tablets to inject, smoke, or snort the powder. This bypasses the extended-release coating on drugs such as OxyContin

and Opana® so the opioid travels from the bloodstream into the brain more quickly—accelerating its addictive potential. “OxyContin, if ground up, moves closer to heroin,” Kauer says.

In 2010 the manufacturers of OxyContin and Opana released new formulations that are more difficult to crush. Paradoxically, this may have pushed addicts to more dangerous behavior. While some figured out how to subvert the tamper-resistant mechanism or bought old formulas of the pills smuggled from Canada, others turned to a drug that was even easier—and cheaper—to obtain. “The products are pushing people to inject heroin,” says Traci Green, MSc, PhD, assistant professor of medicine (research). “I fear more heroin will be involved if efforts are only supply reduction or law enforcement-based.”

Green, whose research focuses on drug abuse and addiction, received a two-year grant from the CDC to study unintentional prescription opioid overdose deaths in Connecticut and Rhode

Island and to measure state and community responses, or lack thereof. Small towns in particular offer limited substance abuse treatment resources—Green calls them “treatment deserts”—but she also found that community leaders were unaware of the number of overdose deaths in their towns until she showed them the data, which she’d obtained from state medical examiners. “There are big challenges recognizing a drug problem in a community,” she says. “Many towns focus on youth. Schools talk about drug abuse prevention—which is needed, it’s good, it’s important.” But most overdose deaths occur in white males ages 35 to 54, she says. “What is happening with these adults that we are losing them at these high rates?”

BAD MEDICINE?

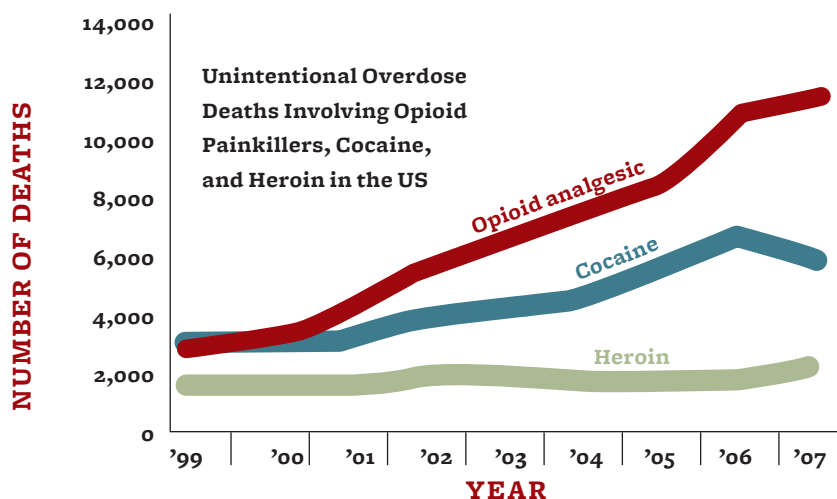
Restricting prescription opioids isn’t the only answer to rising addiction rates and overdose deaths, Green says. But access could be refined. “These medications are very needed, so we need to learn

to live with them—and transition away from them when they are no longer serving their purpose,” she says. When patients show signs of addiction, she adds, physicians can offer other resources “instead of just showing them the door when they realize they’re doctor shopping.”

Rhode Island Hospital’s MPCU created its pain policy in part to help such individuals. For each patient seeking treatment for chronic pain, a provider must take an extensive history, including substance abuse, mental illness, and previous treatments; retrieve medical, pharmacy, and incarceration records; perform a physical exam and urine toxicology screening; discuss treatment options and the risk of addiction; and set functional goals, such as walking again or returning to work.

Patients approved for chronic opioid therapy must continue to visit the MPCU at least monthly and submit to routine urine tests, which screen not only for other controlled substances but also the prescribed drug, to ensure the patient is taking it as directed and not diverting, or selling, it to other users. Other violations include missed appointments, getting a prescription from another provider, and threatening behavior. Patients with substance abuse are referred to treatment—a suggestion that’s not always welcome. “They don’t want help for that,” Fagan says. “It’s hard. It’s something we try to do, but it’s very hard.”

Dependence is always a concern because of how opioids affect the brain, so before they are discontinued the patient receives a tapering dose, over several weeks, to wean the body off the narcotic and minimize withdrawal symptoms. These can include achiness, insomnia,



and hyperalgesia, an increased sensitivity to pain so that it's even worse than if the patient had never taken opioids at all—which pushes some people to keep taking the drug.

Such complications beg the question, “why prescription opioids in the first place?” Fagan says. “The scientific evidence for prescribing opioids for long-term pain is really lacking. It's not like insulin. Opioids have never been shown to be clearly superior.”

Mathews agrees. “There are so many other options,” she says. “Many non-opioid drugs are less addictive, have less abuse potential, are much less dangerous.”

A LITTLE HELP

George Kenna, PhD, RPh, of the Public Health Program's Center for Alcohol and Addiction Studies (CAAS), says there's some truth to that. “Doctors themselves should know that if a non-narcotic drug can be used and is the drug of choice for a particular problem, then by all means they should use it,” the assistant professor of psychiatry and human behavior

Until last year Kenna was the senior scientific adviser for the Program on Prescription Opioid Risk Management at Tufts Health Care Institute. Though he worked with numerous stakeholders, from physicians to pharmaceutical companies to the Drug Enforcement Administration, to discuss ways to limit opioid prescriptions, he also heard the concerns of patient advocates. “Some patients legitimately need pain medication,” he says. To condemn all prescription opioids—to “throw the baby out with the bathwater”—is shortsighted, he argues. “Millions of patients use these drugs appropriately. It's not fair to all the people in pain.”

Kenna agrees that doctors should begin treatment with non-addictive alternatives before considering opioids for chronic nonmalignant pain. He advocates more patient education about the risks of substance abuse and opioids. And if children or grandchildren are around, the pills “should be locked up like a gun,” he says. “In Rhode Island and the rest of the country, the problem of opioids and opioid poisoning really

physicians and pharmacists to see all of a patient's prescriptions and detect signs of doctor shopping and other red flags. (“It's very revealing,” Mathews says of Rhode Island's program. “I feel like a detective.”) But many states, reacting to budget shortfalls, have cut or defunded their programs. When doctors and pharmacies can't see whether a drug is being overprescribed, they can't act to prevent misuse, addiction, and overdose.

Federal regulations, meanwhile, should require providers and pharmacists to have more substantive discussions with patients before handing them opioids, Kenna argues. He compares the Risk Evaluation and Mitigation Strategy (REMS) for isotretinoin, an acne medication known by the brand name Accutane®, to that for extended-release and long-acting opioids. Before women can obtain a prescription for isotretinoin, they must sign an informed consent, agree to use two specific forms of birth control, and acknowledge the chance of birth defects. Kenna calls this the “gold standard,” and says many had hoped the Food and Drug Administration, which regulates drug safety, would write similar rules for opioids. Instead the opioid REMS, released in 2012, requires pharmacies to give patients a printout explaining the risks. “You know the piece of paper they stuff in the bag with your pills?” Kenna says. “Maybe 20 percent of people read and even less understand those handouts.

“It's time for the FDA to get serious. But they're afraid to step on anyone's toes.”

BACK TO BASICS

Medical educators interviewed for this story say that physician education needs

“MILLIONS OF PATIENTS
use these drugs appropriately. It's not fair
to all the people in pain.”

(research) says. “And when they're prescribing opioids, they should worry about quantity given.” But for patients suffering from cancer and other long-term or terminal conditions, he adds, “restricting access could create unnecessary pain for them.”

begins at home. Kids learn about this stuff from their friends and know they can go into the cabinets at home. And if not your home, then somebody else's.”

But more needs to be done at the state and national levels, he adds. State prescription monitoring programs allow

“WE IN MEDICINE are at fault for promoting the idea that no one should live with pain.”

to step up, too. About 60 percent of prescription opioid overdoses are by patients who go to a single provider, according to the CDC. “Our culture is saturated with painkillers,” says Professor of Medicine Michael Stein, MD. For two decades Stein’s research has centered on opioid users; he wrote about his experience treating patients addicted to Vicodin in his 2009 book, *The Addict*. Talking about what physicians can do to prevent and treat substance abuse, he says, “What people should remember is that addiction is a fatal illness. ... Opioid addiction includes not only heroin use, but also the use of painkillers prescribed by health providers. Fatal overdose is associated with dose level of a prescribed medication, and painkillers are used widely.”

Most opioid prescriptions are written by primary care and surgical specialists—few of whom learn the finer points of pain medicine, another specialty, in medical school or later, says David Lewis, MD, professor emeritus of community health and medicine and founder of CAAS. “Pain is the most common symptom in any specialty,” he says, but some physicians, who don’t understand the effects of extended-release opioids on the brain, reason, “If these drugs help people in the short term, why not in the long term?” Lewis, who taught Brown medical students about prescription opioids for several years, now chairs the national organization Coalition on Physician Education in Substance Use Disorders, which is working to integrate drug abuse and addiction content into medical school curricula. “Just teaching the basics is enough,” he says. “We don’t have to get fancy.”

At Alpert Medical School the first-

year Brain and Behavior course includes a lecture by Professor of Psychiatry and Human Behavior Robert Swift, MD, PhD, about the neurobiology and treatment of addiction. He invites a patient who is recovering from addiction to the class to tell his or her story and take student questions. Several years ago the speaker was a physician on Brown’s faculty, now retired, who had been addicted to prescription opioids. As with Swift’s other speakers, it was an important opportunity for students to meet and interview a real patient—and for Swift to challenge stereotypes surrounding addiction. “Medical professionals themselves become addicted to drugs and alcohol just like everyone else, because they’re people,” he says.

Stein says many physicians need to be reminded that, “as with most diseases, there is no such thing as a stereotypical opioid abuser.” Nonetheless they are commonly profiled, and his faith that this will change is conditional. “If clinical medical training is best learned under the tutelage of a competent and empathetic teacher,” Stein says, “then until medical students learn the basic pathophysiology and pharmacology of the drugs of addiction and spend concentrated time with opioid users in the presence of such teachers, they can’t learn the skills of caring for a person suffering with an addiction.”


WHEN TO SAY WHEN

At Rhode Island Hospital, Mathews, who lectures Brown orthopedic residents annually about prescribing protocols, says a desire to teach motivated her to work with Fagan and other colleagues to create the MPCU’s pain policy. “We are trying to train our residents to love pri-

mary care,” she says. “Opioid prescribing is a very challenging area. I felt we needed to give them more guidance and support, backed by consistent policies.”

That guidance includes a multidisciplinary pain committee, of which Mathews is chair. The group, which includes a substance abuse counselor, a clinical psychologist, a pharmacist, internists, and residents, reviews patients to determine who are candidates for chronic opioid pain relievers. By standardizing case reviews, the pain committee “takes the pressure off the resident” who is having a difficult or contentious conversation with a patient. The hospital even created videos of tough encounters for providers to review; now practices elsewhere in the state use them in their own training.

Swift, who treats substance abuse patients at the Providence VA Medical Center, says many doctors naturally focus on the positive aspects when discussing a course of treatment, and downplay the negatives, including side effects. “We want people to get better,” he says. “We want them to feel about us as physicians that we’re doing something to help them. We don’t want them to think we’re doing something to harm them.” But when side effects can include substance abuse, addiction, overdose, and death, learning how to have an unpleasant conversation with a patient—along with understanding how drugs affect the brain and the physiology of addiction—is critical to curbing the prescription opioid epidemic.

“It’s so easy to say, ‘Here’s a prescription, this will take your pain away,’ and it does. And we don’t say, ‘Well, by the way, you can get addicted,’” Swift says. “But we are doing that more now.” 



MATCH DAY

Drop the Balloons

The MD Class of 2013 receives their residency appointments.

FLASH DANCE: Students, staff, and even some faculty pass the last few minutes of waiting with a flash mob. Left to right, Amy Robinson, Joelle Karlik, and Kezia Spence.

AMID BEAMING FAMILY MEMBERS, pyramids of festive cupcakes, and a flash mob, the spotlight on Match Day belonged to 106 medical students—the largest match yet—and the red envelopes that would reveal their professional futures. When the clock struck noon on March 15, and cheers filled the Alpert Medical School building, and students hugged and kissed and even jumped up and down, it seemed that for most of them, the future was bright.

Brown graduates will fan out across the US, with 14 staying in Rhode Island at programs affiliated with Alpert Medical School. Fifty-one percent matched to residencies in primary care disciplines, including internal medicine, family medicine, pediatrics, and obstetrics/gynecology. Keep reading to find out who's going where.

SCOTT KINGSLEY (2)

• **Anesthesiology**

IAN TAGGART

Brigham & Women's Hospital/
Harvard Medical School
Rhode Island Hospital/
Alpert Medical School
(Medicine-Prelim)

• **Dermatology**

BRANDON KIRSCH

Mayo Clinic (Florida)/Mayo
School of Graduate Medical
Education

• **Emergency
Medicine**

BRENNA BRUCKER

Vanderbilt University Medical
Center/Vanderbilt University

BRADFORD COTTER

University of Maryland
Medical Center/University
of Maryland School of
Medicine

ZACHARY DRAPKIN

University of Utah Affiliated
Hospitals/University of
Utah School of Medicine

TIM JOLIS

Albany Medical Center/
Albany Medical College

RORY MERRITT

George Washington
University/George
Washington University
School of Medicine

THOMAS SCUPP

University Hospital/
University of Cincinnati
College of Medicine

• **Family Medicine**

ALISON BROCK

University of Wisconsin
School of Medicine/University
of Wisconsin School of
Medicine and Public
Health

MICHAEL CHEN-ILLAMOS

Memorial Hospital/
Alpert Medical School

CAMIA CRAWFORD

Maine Medical Center/Tufts
University School of Medicine

TALIA FIRESTEIN

Group Health Cooperative

JESSICA HART

Memorial Hospital/
Alpert Medical School

MARINA MACNAMARA

Mountain Area Health
Education Center

CRAIG OTTENI

University of Pittsburgh
Medical Center-St. Margaret/
University of Pittsburgh
School of Medicine

WILFREDO PEREZ

Oregon Health & Science
University Hospital/
Oregon Health & Science
University

GABRIEL PLEASANTS

Memorial Hospital/
Alpert Medical School

TONI RAMIREZ

Sutter Medical
Center of Santa Rosa/
Sutter Health

SAUL RIVARD

University of Montana/
University of Washington
School of Medicine

JEREMY STRICSEK

Memorial Hospital/
Alpert Medical School

• **Medicine**

CAROLINE ANDREW

New York-Presbyterian
Hospital/Weill Cornell
Medical College

SUSAN ANICETO

Tufts Medical Center/
Tufts University School
of Medicine

ANDREW CRAWFORD

Hospital of the University
of Pennsylvania/Perelman
School of Medicine at
the University of
Pennsylvania

DUSTIN DEZUBE

Massachusetts General
Hospital/Harvard Medical
School



TRAGEDY/COMEDY: Michael Desimone, left, and Ravi D'Cruz have different takes on their fate as they accept their envelopes.

MATCHDAY

LESLEY GORDON

Maine Medical Center/
Tufts University School of
Medicine

ANITA KRISHNARAO

Tufts Medical Center/
Tufts University School
of Medicine

EMILY LAU

Brigham & Women's Hospital/
Harvard Medical School

JENSEN LAW

Georgetown University
Hospital/Georgetown
University School of Medicine

SHANNON OPPENHEIM

Boston University Medical
Center/Boston University
School of Medicine

ALEXANDER RAUFI

UC Irvine Medical Center/
University of California
Irvine School of Medicine

AMY ROBINSON

Oregon Health & Science
University Hospital/
Oregon Health & Science
University

JAMES SIMMONS

Boston University Medical
Center/Boston University
School of Medicine

AVANI SINHA

New York-Presbyterian
Hospital/Weill Cornell
Medical College

JONATHAN TREEM

Hospital of the University
of Pennsylvania/Perelman
School of Medicine at the
University of Pennsylvania

JIHOON YOON

North Shore University
Hospital/North Shore Long
Island Jewish Health Systems

•Medicine-Pediatrics

ERICA BRAVERMAN

Strong Memorial Hospital/
University of Rochester

•Medicine-Primary

COREY FINNERTY- LUDWIG

University of Washington
Affiliated Hospitals-Seattle/
University of Washington
School of Medicine

LAMIA KHAN HAQUE

Yale-New Haven Hospital/
Yale School of Medicine

EMILY LO

George Washington
University/George

Washington University
School of Medicine

JAMES ROTENBERG

New York University School
of Medicine/NYU School of
Medicine

SARA TRIBUNE

Tulane University School of
Medicine/Tulane University
School of Medicine

•Medicine-Psychiatry

ELIZABETH GILBERT

Duke University Medical
Center/Duke University
School of Medicine

•Neurological Surgery

VIVEK BUCH

Hospital of the University
of Pennsylvania/Perelman
School of Medicine at the
University of Pennsylvania

WENDY HUANG

Brigham & Women's Hospital/
Harvard Medical School

JERRY WALTERS

University of Arkansas/
University of Arkansas for
Medical Sciences

•Neurology

HANNA MCLANE

Hospital of the University
of Pennsylvania/Perelman
School of Medicine at the
University of Pennsylvania
Roger Williams Medical
Center/Tufts University
School of Medicine
(Medicine-Prelim)

ELIZABETH SILBERMANN

Barnes-Jewish Hospital/
Washington University
School of Medicine

MATTHEW SOCHAT

New York University School

of Medicine/NYU School of
Medicine

Rhode Island Hospital/
Alpert Medical School
(Medicine-Prelim)

•Obstetrics/ Gynecology

ATENA ASIAII

Thomas Jefferson University
Hospitals/Thomas Jefferson
University

MAYA BARSKY

Baystate Medical Center/
Baystate Health

ESTHER DORZIN

SUNY Upstate Medical
University/SUNY Upstate
Medical University

PAMELA ESCOBAR

Einstein/Montefiore Medical
Center/Albert Einstein
College of Medicine

ERIN KUNKEL

Pennsylvania Hospital/
Perelman School of Medicine
at the University of
Pennsylvania

DANA SCOTT

University of Minnesota/
University of Minnesota
Medical School

DEVIN SMITH

New York-Presbyterian
Hospital/Weill Cornell
Medical College

KEZIA SPENCE

Stamford Hospital/Columbia
University College of
Physicians and Surgeons

KARTIK VENKATESH

Brigham & Women's Hospital/
Harvard Medical School

•Orthopaedic Surgery

JASMINE BAUKNIGHT

Howard University Hospital/
Howard University



FIRST AND LAST: Brown President Christina Paxson, left, experienced her first Match Day, while Edward Wing watched his last as dean.



Case Western Reserve School of Medicine

VINAY KAMALATH

Children's Hospital of Philadelphia/Perleman School of Medicine at the University of Pennsylvania

JOELLE KARLIK

Children's Hospital of Philadelphia/Perleman School of Medicine at the University of Pennsylvania

ZOE RALEIGH

University of Utah Affiliated Hospitals/University of Utah School of Medicine

ELVERA SOFOS

Children's Hospital-Oakland/Children's Hospital Oakland Research Institute

ALONG FOR THE RIDE: Sol Adelsky shares the moment with his family, including his newborn son, Ezra.

MICHELLE GOSSELIN

Barnes-Jewish Hospital/Washington University School of Medicine

EVE HOFFMAN

University of Maryland Medical Center/University of Maryland School of Medicine

ANDREW MATSON

Duke University Medical Center/Duke University School of Medicine

GABRIELLE PACI

Stanford University/Stanford University School of Medicine

• **Otolaryngology**

AYUSHMAN SHARMA

Mayo Clinic/Mayo School of Graduate Medical Education

• **Pathology**

DANIEL LUBIN

Hospital of the University of Pennsylvania/Perelman School of Medicine at the University of Pennsylvania

RYAN ROSSI

Dartmouth-Hitchcock Medical Center/Geisel School of Medicine

• **Pediatrics**

MINAL BHOJANI

Georgetown University Hospital/Georgetown University School of Medicine

WILLIAM BRUCKER

University of Connecticut School of Medicine/University of Connecticut School of Medicine

CYNTHIA BUI

University of California Irvine Medical Center/University of California Irvine School of Medicine

RAVI D'CRUZ

Rhode Island Hospital/Alpert Medical School

WHITNEY ENG

University of Washington Affiliated Hospitals/University of Washington School of Medicine

BRYN GONZALES-ELLIS

University of Colorado/University of Colorado School of Medicine

JULIA HENEGHAN

University Hospitals/

• **Plastic Surgery**

ZACHARY OKHAH

Rhode Island Hospital/Alpert Medical School



HIGH FIVE: Avani Sinha celebrates her good news with family.

MATCHDAY

• *Psychiatry*

SOL ADELSKY

Cambridge Health Alliance/
Harvard Medical School

KEVIN COUGHLIN

Maine Medical Center/Tufts
University School of Medicine

ZACHARY ENGLER

Yale-New Haven Hospital/
Yale School of Medicine

KATHARINE JOO

Harvard Longwood Psychiatry/
Harvard Medical School

JEREMY PARKER

California Pacific Medical
Center

ALEXANDRA

REGENBOGEN

McGaw Medical Center/
Northwestern University

EMILY ROWLAND

Butler Hospital/
Alpert Medical School

SARAH SCHMIDHOFER

Butler Hospital/
Alpert Medical School

ELIZABETH SSEMANDA

University of Michigan
Hospitals/University of
Michigan Medical School

ERIN VALENTI

Harvard Longwood Psychiatry/
Harvard Medical School

• *Radiation/Oncology*

CHIRAYU PATEL

Vanderbilt University Medical
Center/Vanderbilt University
University of Pittsburgh
Medical Center/University of
Pittsburgh School of Medicine
(Transitional)

• *Radiology*

EMILY AMOS

University of California, San
Francisco/UCSF School of
Medicine

Exempla St. Joseph Hospital/
SCL Health System
(Medicine-Prelim)

THOMAS ANDERSON

Beth Israel Deaconess
Medical Center/Harvard
Medical School

Roger Williams Medical
Center/Boston University
School of Medicine
(Medicine-Prelim)

JEFFREY GUENETTE

Brigham & Women's Hospital/
Harvard Medical School
Mt. Auburn Hospital/Harvard
Medical School
(Medicine-Prelim)

BENJAMIN KOWITT

Thomas Jefferson University
Hospitals/Thomas Jefferson
University

St. Lukes-Roosevelt Hospital
Center/Columbia University
College of Physicians and
Surgeons
(Medicine-Prelim)

ALEEMA PATEL

University of Texas Health
Science Center at San
Antonio/University of Texas
Roger Williams Medical
Center/Tufts University
School of Medicine
(Medicine-Prelim)

• *Surgery*

ROSS BECKMAN

Johns Hopkins Hospital/
Johns Hopkins School of
Medicine

AUDREY BUTCHER

Memorial University
Medical Center

NICHOLAS CARTER

Vanderbilt University Medical
Center/Vanderbilt University

MICHAEL DESIMONE

Beth Israel Deaconess



YES!: Erica Braverman is happy with her med-peds match.

Medical Center/Harvard
Medical School

MASON HEDBERG

University of Chicago Medical
Center/University of Chicago
Pritzker School of Medicine

AYESHA NZERIBE

Stony Brook Teaching
Hospitals/Stony Brook
School of Medicine

INA SOH

Rhode Island Hospital/
Alpert Medical School

• *Surgery-Prelim*

MICHELLE BRAVO

Rhode Island Hospital/
Alpert Medical School

JAMES CHRISTIAN

BROWN

Shands Hospital/University of
Florida College of Medicine

TAI HO SHIN

Rhode Island Hospital/
Alpert Medical School

• *Triple Board*

JAMIE GAINOR

Rhode Island Hospital/
Alpert Medical School

• *Urology*

EUGENE CONE

Duke University Medical
Center/Duke University
School of Medicine
Duke University Medical
Center/Duke University
School of Medicine
(Surgery-Prelim)

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HANK RANDALL

MOMENTUM

Tribute to an Early Leader

A new scholarship honors an admired faculty member.

In 1967, Leon Goldstein, PhD '82 MD '86, P'85 MD '92, was an assistant professor of physiology at Harvard Medical School. Ensnared in those ivy-covered walls, he received an offer: join Brown's faculty as associate professor of biomedical sciences. At the time, Brown offered only a two-year Master of Medical Science degree, and there was no medical school. Goldstein understood, however, that change meant opportunity and appreciated that graduate medical education at Brown was intertwined with undergraduate learning. He decided with his wife, Barbara, to move to Rhode Island.

Goldstein, a professor emeritus of medical science, passed away on December 30, 2012. This would have marked his



LASTING LEGACY: Leon Goldstein continues to have an impact on medical education at Brown.

“He was a stimulating colleague, a productive scientist, a talented teacher, and an effective administrator.”

45th year in the Ocean State, where he had a significant influence on biomedical education. He advocated strongly for the creation of Brown's medical school and of the University's section of physiology, which he chaired for more than 20 years before becoming vice chair of the Department of Molecular Pharmacology, Physiology, and Biotechnology (MPPB). “He was a stimulating colleague, a productive scientist, a talented teacher, and an effective administrator,” says Professor Emeritus

of MPPB Donald Jackson of the colleague he worked beside for 40 years. “I will always treasure the memory of his wit and upbeat personality.”

Through his scholarly work, Goldstein also had impact well beyond Brown. He “made seminal scientific contributions to the field of physiology at large,” says Wayne Bowen, Upjohn Professor of Pharmacology and chair of the Department of MPPB. Goldstein's research, funded continuously since 1962, focused on renal acid excretion

and cell volume regulation. His work helped advance understanding of the mechanisms that cells employ in regulating their volume under normal conditions and during osmotic stress—research that may provide clues for diabetes and cancer treatment.

Most of all, Goldstein left behind those changed by his mentorship—including, notably, his children, Jonathan '82 MD '86 and Susanne '85 MD '92. “He was caring and fatherly—supportive, accessible, encouraging, and respectful,” says Siribhinya Benyajati PhD '77, professor of physiology at the University of Oklahoma Health Sciences Center and a former graduate student in his lab. This dedication extended well beyond the classroom. Every summer Goldstein would bring one undergraduate to Mount Desert Island Biological Laboratory in Maine (MDIBL)—a rare treat for a young scientist.

“When he left the MDIBL for the last time in 2010, I realized we lost one of our most productive and collegial scientists,” says David H. Evans, professor emeritus of biology at the University of Florida.

The impact of Goldstein's life reverberates, not only through his mentees and research, but also through the generosity of his family. To honor the considerable legacy of their late father and husband, the Goldsteins have established a medical student scholarship bearing his name. The gift will support students who exhibit a strong commitment to scholarship beyond the required curriculum.

—Kylah Goodfellow Klinge

ALUMNI ALBUM

CHECKING IN WITH BROWN MEDICAL ALUMNI

RAIN ON OUR PARADE

Will skies be clear on Commencement, or will rain prevail as it did in 2003? Let's hope dark clouds don't follow the MD Class of 2003 to their 10th Reunion.



CLASSNOTES

1978

Morris Birnbaum '73 PhD'77, professor of medicine at the Institute for Diabetes, Obesity and Metabolism at the University of Pennsylvania Perelman

School of Medicine, led a research team that found that metformin, a commonly used anti-diabetes drug, works differently than previously thought. The team's findings, which could lead to treatments for type 2 diabetes with fewer side effects, were published in *Nature* in January. In November 2012,

ANY NEWS?

Career news, weddings, births—your classmates want to know. Go to med.brown.edu/alumni and click on “**Updates and Class Notes.**”

Morris delivered the keynote address, “Control of Liver Metabolism in Health and Disease,” at a diabetes symposium at Vanderbilt University.

L. McTyeire “Mack” Johnston ’73, chief medical officer of Neighborhood Health Plan of Rhode Island (NHPRI), received the John H. Chafee award for his commitment to strengthening the community health centers at the Rhode Island Health Center Association’s 2012 annual meeting. NHPRI aims to provide the state’s at-risk population with high-quality, affordable health care.

1979

Griffin Rodgers ’76 MMS’79 was named a senior fellow of the W. Montague Cobb/National Medical Association Health Institute. In this role, he will support implementation of institute goals, including initiatives that address health disparities research and intervention as well as the paucity of African American researchers. Griffin is the director of the National Institute of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health.

1980

Peter P. Yu ’77 was elected president of the American Society of Clinical Oncology (ASCO) for a one-year term that begins in June 2014. He will take office as president-elect in June 2013. Peter, a

medical oncologist and hematologist, is the director of cancer research at Palo Alto Medical Foundation. He has been an active member of ASCO since 1986, serving on the Quality of Care, Cancer Research, Integrated Media and Technology, and Clinical Practice committees, the Health Information Technology Workgroup (current chair), and Board of Directors, among others.

1981

Esther J. Rolnick Nash ’78, P’09 was named vice president and medical director of Health Advocate Inc., a Pennsylvania-based health care advocacy and assistance company. She will lead the development of Health Advocate’s clinical condition programs and work closely

with Health Advocate’s new health informatics division, engage2Health. Esther joined Health Advocate from Optum-Health, where she was vice president of clinical innovation and strategy.

1986

Michael Perskin ’83 was recently named associate chair for clinical affairs in the department of medicine at NYU Langone School of Medicine.

1987

James A. Arrighi ’84, director of nuclear cardiology at Rhode Island Hospital and program director of the fellowship in cardiology at Brown, is the new president of the American Society of Nuclear Cardiology. A fellow of the ASNC since 2006, he has served on the board of directors, numerous committees, the *Journal of Nuclear Cardiology* editorial board, and the executive council.

William Reed was appointed vice president of clinical development at Cellarent Therapeutics Inc. in February. The San Carlos, CA-based biotechnology company develops novel hematopoietic stem cell-based cellular and antibody therapies for blood disorders and cancer.

Peter P. Yu ’77 MD’80 was elected president of the American Society of Clinical Oncology.

William joined Cellarent from Cerus Corp., where he served as director of clinical research and medical affairs and worked on the phase III clinical development of a red blood cell system in sickle cell disease.

1989

David Lyden received the Medical Breakthrough Award from the Children’s Cancer & Blood Foundation at its

ALUMNIALBUM

2012 gala. The award recognizes his groundbreaking discoveries in the mechanism of cancer metastasis with potential for the development of novel diagnostic and treatment options. David is the Stavros S. Niarchos Chair and associate professor of pediatrics and cell and developmental biology at Weill Cornell Medical Center and a pediatric neurooncologist at Memorial Sloan-Kettering Cancer Center.

1993

Albert E. Telfeian PhD'93 was named director of pediatric neurosurgery at Hasbro Children's Hospital in Providence in fall 2012. His prior appointments include assistant professor of neurosur-

Research in 2005, where investigators use laboratory and field studies to solve urgent global health issues. Her research addresses how parasitic diseases cause morbidity for pregnant women and children. Jennifer and her husband, **Jake Kurtis** '89 PhD'96, professor of pathology and laboratory medicine at Brown, live in Providence.

Yeuen Kim '92, clinical assistant professor at Santa Clara Valley Medical Center in San Francisco, received a seed grant from the Office of Community Health at Spectrum, the Stanford Center for Clinical and Translational Education and Research. Her funded project includes the implementation of a new seminar for medical residents at the

“Proud papa is Sean Becker, who did not have to deliver her before our arrival at the hospital.”

gery at the Children's Hospital of Philadelphia and associate professor of neurosurgery at the Texas Tech University Health Sciences Center. Albert and his wife, Jennifer, live in Providence with their sons, Clarke and Brooks.

1996

Alexander Chen '90, an internist, and his wife, Jung Lee, welcomed their first child, Lauren Mirae Chen, on October 6, 2012. The family lives in San Francisco.

Jennifer Friedman '92, associate professor of pediatrics at Brown, received the 2012 Bruce M. Selya Award for Excellence in Research from Lifespan, a health system affiliated with Alpert Medical School. Jennifer cofounded the Center for International Health

medical center to help foster empathy and observation skills through medical humanities such as visual arts and literature curricula. She and her husband, Tony Lee '92 ScM'94 PhD'96, live in California with their three children, Ben, Emily, and Eleanor.

1997

Yvonne Mark '92 MMS'97 was elected member-at-large to the executive board of the Mid-Atlantic College Health Association. Yvonne is a clinic physician at the Johns Hopkins Student Health and Wellness Center and a clinical assistant professor in the Department of Pediatrics at the Johns Hopkins School of Medicine. She and her husband, **Rob Sokolic** '91 MD'96, live in Columbia, MD, with their 4-year-old sons, Isaac and Lancelot.

1999

Melisa Lai Becker '94 welcomed a new member to her family, daughter Erin Lai Becker, on February 22, 2013. Erin joins big brothers Aidan, 4, and Ronan, 2. “Proud papa is Sean Becker, who did not have to deliver her before our arrival at the hospital, as much as it seemed like that might be the case up until the moment we reached the labor and delivery floor,” Melisa says. Erin's aunt and uncle are Dr. Naline Lai '89 and Paul Rehmet '89. Melisa is chief of emergency medicine for the Whidden Hospital campus of Cambridge Health Alliance, a three-campus health system in the Boston area serving Cambridge, Somerville, and Boston's metro-north communities.

Andrew R. Kalinsky '95 married Sara Miller in August 2012. They have three children between them and are “looking forward to an interesting life ahead.”

2003

Tyler M. Berzin '99 joined the Division of Gastroenterology at Beth Israel Deaconess Medical Center (BIDMC) after completing fellowships in gastroenterology and advanced therapeutic endoscopy there in 2011. He is an assistant professor of medicine at Harvard Medical School and serves as associate program director for both the Gastroenterology

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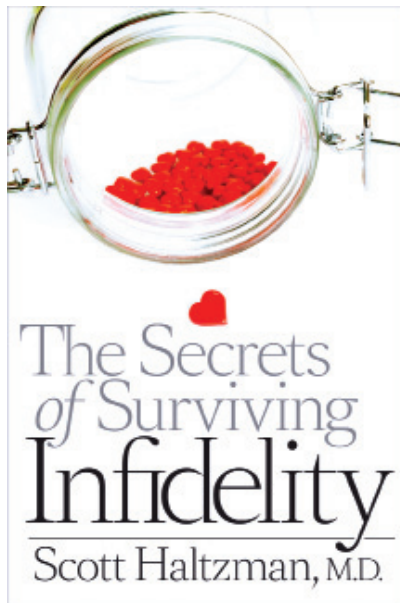
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A Pro-Marriage Stance

What are the secrets of marital longevity?

He's an authority on a malady that is painful, multifactorial in its etiology, cuts across age, racial, and socioeconomic distinctions, and increases in prevalence as the population ages.

In his latest book, **Scott Haltzman** '82 MD'85 deals with the subject of infidelity, which, if left untreated, can be fatal to many marriages. He hopes that *The Secrets of Surviving Infidelity*, due in June 2013 from the Johns Hopkins University Press, will help couples heal from the devastating effects of infidelity and even provide some preventive measures.



“Don’t expect a marriage to bubble over with excitement all the time.”

Haltzman, a psychiatrist at the David Lawrence Center in Naples, FL, and previously a clinical assistant professor of psychiatry and human behavior at Brown for 22 years, has become an expert on the subject of successful marriages. He’s the author of *The Secrets of Happily Married Men*, *The Secrets of Happily Married Women*, and *The Secrets of Happy Families* and he has appeared on *Today*, *20/20*, and *The Rachael Ray Show*.

Some 40 percent of marriages experience at least one episode of infidelity, and indeed, it turns out that a successful marriage requires skills that most of us don’t even realize we lack. Haltzman outlines them clearly and concisely in his most recent book. First, it’s important

for partners to recognize that each might have a different communication style. For example, she speaks volumes, laying out a long case complete with illustrative examples, while he says two words. That doesn’t mean he

doesn’t care. Second, couples need to be conscious of the parameters around maintaining (or not) attractive friends of the opposite sex—there are clear and unambiguous ways to do this, Haltzman says. Third, apologies and forgiveness can heal, if they are meaningful and follow certain principles. Most importantly, however, is the setting of appropriate expectations around marriage, which, thanks to Hollywood, are often out of whack.

Haltzman debunks the myth of “in-loveness,” that feeling of butterflies in the stomach, which is a useful relationship starter, but not helpful over the long term. He reduces the “crush” to a neurobiological cascade leading to craving, lack of productivity, and anxiety. “I don’t want people to expect that it’s normal for a marriage to bubble over with excitement all the time.

What’s normal is sometimes you hate your partner. But that doesn’t mean that you hate them for life.”

With any discussion of infidelity, this question always comes up: Is monogamy natural? Well, from the standpoint of evolutionary biology, no. But Haltzman, who is unabashedly pro-marriage, points out that the long-term benefits of marriage are known: greater satisfaction, better health, and more wealth. So doesn’t the maintenance of a monogamous relationship merit the same kind of attention as a heart-healthy diet or other things that we know we should do for our overall good?

Haltzman believes so, and he’s been married for 25 years.

—Mary Stuart

ALUMNIALBUM

EYE
ON ALUMNI

Foreign Service Alum is a diplomat for the state of women's reproductive rights.

Rachel Masch '88 MD'93 came to Brown to study international relations with the goal of becoming a diplomat. In her junior year, an internship in Geneva with the World Health Organization (WHO) set her on a different path. "The respected diplomats with whom I was working faced an arduous process," she says. "What we were discussing when I arrived in January we were still talking about when I left in June."

Masch wanted to contribute in ways that were more immediate. "Global medicine encompassed so many of my interests: politics, language, working internationally, and helping people in real need." She went on to complete her medical degree at Brown and a residency in obstetrics and gynecology at the Reading Hospital and Medical Center in Reading, PA, and to earn a Master of Public Health degree from Columbia University.

Today, as a gynecologist in New York City and the associate director of the Division of Family Planning at the Beth Israel Medical Center, Masch practices medicine focused on three themes: the culturally sensitive delivery of medical care, the reproductive rights of women, and improving patient access to health care in

the US and abroad. She has worked as a medical consultant and provider in American Samoa, Vietnam, South Africa, El Salvador, and Haiti.

Masch works with Basic Health International (BHI), a nonprofit organization dedicated to eradicating cervical cancer, and is the director of programs in Haiti. According to the WHO, 85 percent of cervical cancer deaths occur in women from low-income countries, predominantly because they lack cervical cancer screening. The multi-step screening methods used in the US and other resource-rich countries are costly, time consuming, and often require patients to return several times to their providers. It's not a viable option for areas of the world that have neither the medical infrastructure nor the health care budgets to support it, Masch says.

In Haiti and other countries, Masch is teaching local physicians a cervical cancer screening method called "see and treat," based on a screening modality called Visual Inspection with Acetic Acid (VIA). Physicians swab the cervix with vinegar, inspect it under white light, and treat abnormalities on the spot. VIA, which is a subjective, visual process, may result in the over-treatment of patients, Masch admits, but "in populations that don't have access to care, over-treating is better than under-treating." In the future, as rapid human papilloma virus tests that distinguish between high- and low-risk strains of the virus become available (and BHI is studying such a test now), visual triage combined with results from the test will help clinicians direct therapy more objectively.

Masch is also a champion of the reproductive rights of women, which include "the freedom for each woman to decide if, when, and how often she wants to be pregnant." She says there are many barriers that still prevent access to family planning methods and modalities. "We have a lot of work to do, much of it through education and politics."

The would-be diplomat is up to the challenge. "The diplomacy required to deal with all of these issues confirms that I have not strayed far from the path on which I started."

—M.S.



COURTESY RACHEL MASCH

Fellowship and Advanced Therapeutic Endoscopy Fellowship at BIDMC. Tyler and his wife, Lourdes '99, live in Cambridge, MA, with their 2-year-old son, Gael.

2005

Sam Andorsky and Rachel Siegal '00 announce the birth of Meital Eden Siegal Andorsky on July 3, 2012. She joins big brother Yoni, 6, and big sister Nava, 3. Sam is a pediatric ophthalmologist in private practice in Baltimore. They live in Pikesville, MD.

Charles Hebert '01 is on the faculty at Rush University Medical Center, where he graduated from the combined residency in internal medicine and psychiatry. Charles recently led a medical trip

We provide medicines to the people there at no cost and usually distribute a three-month supply since the next team will typically return at the end of that time frame." While their efforts initially focused on medical care, the groups are providing much more, including a water purification project. "For the first time ever, we have been able to ensure a safe public drinking water system for the people there," Charles writes. Rush is now expanding its programs into nearby Haiti.

2006

Robert "Treb" Becher writes that he'll be unable to attend Commencement-Reunion, as he's getting married May 24.

Antonio P. Cruz RES'10 created SKIN-

assistant clinical professor in the Department of Dermatology. With a background in internal medicine and dermatology, Anna treats a variety of skin diseases, including those that involve internal organs or underlying systemic disease. She, her husband, Nick, and son, Xander, live in San Francisco.

2008

Farrah J. Wolf '03 RES' and Leigh Schachter married on October 21, 2012, in South Beach, FL. Farrah is a third-year resident in Brown's Program in Diagnostic Radiology.

RESIDENTS

1988

Victor Pricolo was appointed chief of general surgery at Southcoast Health System in New Bedford, MA. Victor will lead Southcoast's general surgery program while maintaining his clinical duties as surgeon with Southcoast General Surgery. He has been a pioneer of minimally invasive surgery and continence-preserving procedures in colon and rectal surgery for decades, and will lead the initiative to create a colorectal center of excellence as well as a system-wide program for general surgery.

1999

Chong S. Park was appointed medical director of The Heart Institute at Jefferson Regional Medical Center in Pennsylvania. A cardiothoracic and vascular surgeon, he has long been affiliated with Jefferson's Park Cardiothoracic and Vascular Institute. Chong assumes his new role as the center plans to grow its Bethel Park outpatient campus to accommodate new and expanded services.

"We have been able to ensure a safe public drinking water system for the people."

to the Dominican Republic, where Rush has been working in Peralta. Charles writes: "We send medical groups there about three to four times per year, where we deliver basic primary care (hypertension, diabetes, and lung disease run rampant, as do some parasitic illnesses).

Pros LLC, a Providence-based practice with a focus on dermatological and Mohs micrographic surgery as well as cosmetic dermatology. The Mohs procedure examines the edges of removed skin for cancer cells to determine if a greater area may need to be removed. Antonio also performs Mohs micrographic surgery at Rhode Island Hospital, supervises the Dermatologic Surgery clinics for the senior dermatology residents of Alpert Medical School, and is clinical assistant professor of dermatology at Brown.

Anna Haemel joined the faculty of the University of California, San Francisco, School of Medicine as health sciences

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OBITUARIES

STUDENT



Laura Kibuuka

LAURA KIBUUKA MD'16

Laura Kibuuka, 26, died January 2, 2013. She graduated from the University of Massachusetts Boston with a degree in biology in 2009. Originally from Mengo, Uganda, she and her family later moved to Watertown, MA. Laura was committed to community service, teaching English as a Second Language to adults in Watertown and serving as a mathematics teaching assistant for rising first-years at UMass. She interned with the biotechnology company Genzyme as an undergraduate and worked at the Institute for Neurodegenerative Disease at Massachusetts General Hospital as a research technician. She is survived by her parents, Samuel and Diana Kibuuka, and six siblings. A memorial service was held at Alpert Medical School on January 14.

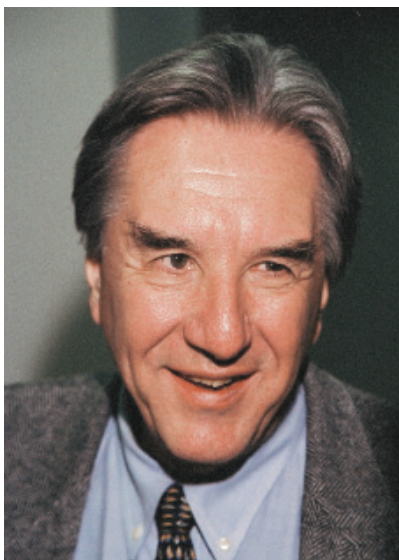
ALUMNUS

DAVID R. COX, MD, PHD '68 MMS'70

David R. Cox, 66, of Belmont, CA, died January 21, 2013. David, who earned his MD and PhD at the University of Washington, held faculty positions at the Uni-

His passion for science was **matched only by his passion for his family and friends.**

versity of California, San Francisco, and the Stanford University School of Medicine. As co-director of the Stanford Genome Center, he played a key role in the mapping and sequencing work of the Human Genome Project. In 2000 he co-founded Perlegen Sciences as its chief scientific officer, discovering genetic markers for disease risk and adverse drug effects. He then served as chief scientific officer of Pfizer's Biotherapeutics and Bioinnovation Center. David served on numerous national and international boards and was elected to the Institute of Medicine of the National Academy of Sciences. His passion for science was matched only by his passion for his family and friends. A devoted husband and father, he is survived by his wife, Vicki, and their three children, as well as two brothers. He was predeceased by his sister. The family requests donations in his memory to the A-T Children's Project at www.atcp.org/david.



David R. Cox



Seymour Lederberg

FACULTY

SEYMOUR LEDERBERG, PHD P'88

Seymour Lederberg, 84, of Providence, died February 1, 2013. A Navy veteran of World War II, Seymour graduated Phi Beta Kappa from Cornell University and earned his doctorate from the University of Illinois at Urbana-Champaign. The professor emeritus of biology and medical science taught at Brown for almost 50 years. He served as chair of Microbiology and Molecular Biology, was the associate dean for graduate studies in biology and medicine, and authored more than 30 scientific publications. He was a fellow of the American Association for the Advancement of Science and his professional memberships included the American Society for Microbiology and the Genetics Society of America. Seymour was predeceased by his wife, The Honorable Victoria Lederberg '59 AM'61 PhD'66, and a brother. He is survived by his son, Tobias, his daughter, Sarah '88, a brother, and six grandchildren. Contributions can be made in his memory to the Rochambeau Public Library, 708 Hope St., Providence, RI 02906.

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I can't imagine having gone through this without the support that I've had thanks to the Brown Medical Annual Fund. For a lot of us who don't have the resources to make this outstanding medical education happen on our own, it's absolutely life changing.

—Gabrielle Paci MD'13



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Questions? Contact Bethany Solomon, director of the Brown Medical Annual Fund, at Bethany_Solomon@brown.edu or (401) 863-1635.

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"I have attended literally dozens of programs over the last 45 years. Mini Med School was the best."
Fraser Lang '67, P'04, PMD'14



WaterFire Providence **September 7, 2013, 5:30 p.m.**

After a day of learning, enjoy Providence's spectacular multimedia fire installation, which will be co-sponsored by Alpert Medical School and Rhode Island Hospital. All Mini Med School participants are invited to a reception at Waterplace Park for a close-up view of 80 sparkling bonfires that magically transform Providence's downtown riverfront.