# BROWN MEDICINE

Volume 16 | Number 2 | Spring 2010

A magazine for alumni and friends of The Warren Alpert Medical School of Brown University

**PLUS:**

Surgeon general's right-hand man

Match Day results

# BE AFRAID. BE VERY AFRAID.

What you don't know about animals and the diseases they carry.

# LETTER FROM THE DEAN

## Spring Ahead

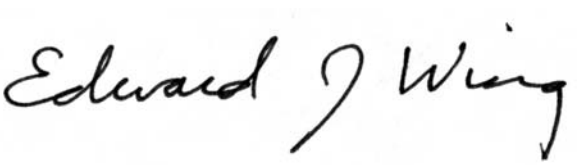
This spring has seen a number of important developments in the Division of Biology and Medicine. Construction on the new Alpert Medical School home officially began on April 26 at a groundbreaking ceremony. The target date for completion is August 2011, in time for the new entering class.

In a second important development, the Brown Corporation and Lifespan are about to approve an amendment to our current affiliation agreement. This initiates a closer relationship with our principal teaching affiliate, and includes a provision for direct support to the School from the hospital as well as coordinated, strategic joint investments. We plan to create similar amendments with our other affiliates.

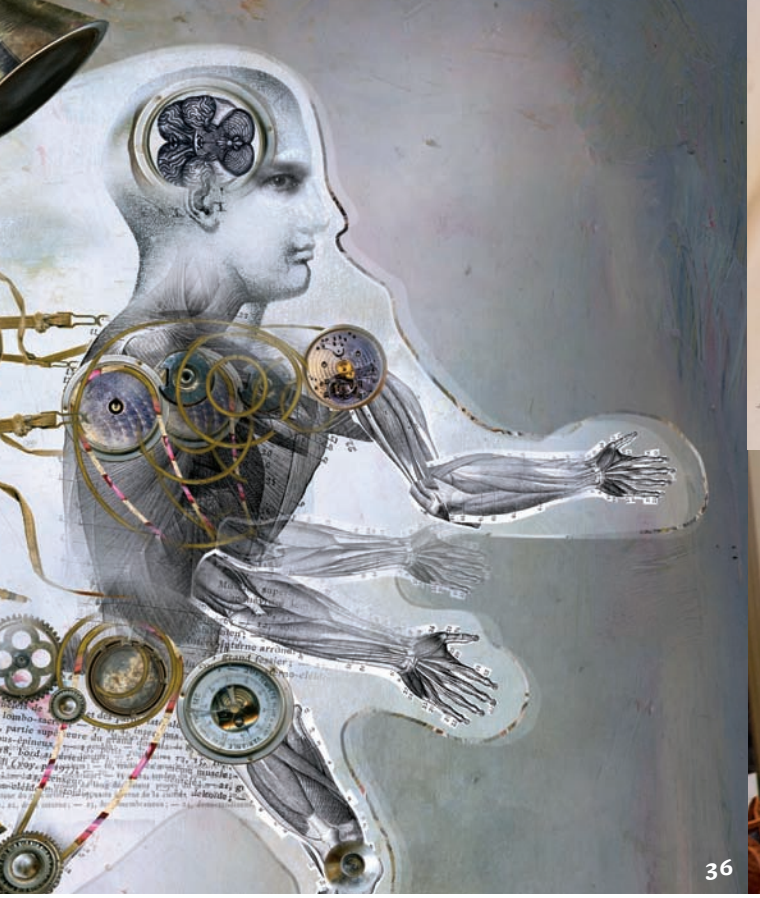
And finally, plans are under way for the Program in Public Health's transformation into a School of Public Health. The program has grown and matured to such a point that school designation can occur in the foreseeable future. I look forward to the challenges and opportunities during this next year and to continued growth of the Division.

This issue of *Brown Medicine* spotlights the pioneering work being done at Brown in the field of conservation medicine, notable faculty and alumni, and the response of Alpert Medical School faculty and students to the disaster in Haiti. Most important to our fourth-years is Match Day, in which our students did spectacularly well. Not only are our students recognized as some of the best in the country, but our residency programs are as well, for this June they will welcome outstanding medical graduates from all over.

I wish returning alumni a memorable and joyous Reunion, and all our readers a peaceful and productive summer.



CHRIS VACCARO



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> *"[T]his is the equivalent of every person in the country owning five pets."*
> —***Kate Smith,*** *Page 31*

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BY KRIS CAMBRA

Pets or threats? Most of the new infectious diseases afflicting humans come from animals, and between imported species and climate change, we're asking for trouble.

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BY ABBOTT GLEASON

Thoughts on life with Parkinson's disease, from the inside looking out.

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## Force of Nature

BY SARAH BALDWIN-BENEICH

Got a disaster? Rear Admiral David Rutstein MD'83 is your go-to guy.

**ON THE COVER:** Close-up of a leopard gecko
© Martin Harvey; Gallo Images/CORBIS

BRUNO MALLART; PAUL CLANCY; HANK RANDALL

## DEPARTMENTS

# LETTER FROM THE EDITOR

# Ecological Indicators

I like most animals, but I'm partial to mammals. And not just the ones that curl up in your lap. When I was 15, a three-week trip studying *megaptera novaeangliae* instilled in me an enduring love of marine mammals in addition to the terrestrial kind. If I had to choose a pet, though, I'd go for something with eyelids, fur, and exactly four legs before considering anything with scales. (A friend of mine had an iguana that her daughters professed to love, but it was dead for weeks before anyone noticed, and stiff as the branch it was clinging to. That is not my idea of a pet.)

This amphibian-reptilian aversion places me safely outside the circle of those who buy weird imported creatures as pets. As if it weren't enough to be without any discernible appeal, many such creatures come *with* plenty of risk: they harbor deadly bacteria on their rubbery skin, eat their frog cousins, or slither off and upset entire ecosystems.

Thank goodness Kate Smith is paying attention. In this issue you'll read about Smith's pioneering work in an emerging field known as conservation medicine. Like so much at Brown, it brings together experts and students from different disciplines who somehow manage to fathom the interconnectedness of it all.

BROWN MEDICINE

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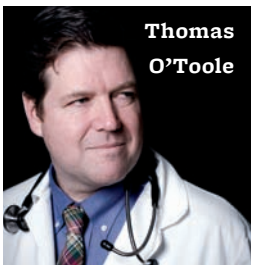
# INBOX

## HURRAY FOR PRIMARY CARE


Thomas O'Toole

**I cannot recall** ever reading an issue of *Brown Medicine* as thoroughly as I did the Winter 2010 issue. As a family physician, I feel proud that *Brown Medicine* pays more than just lip service to the importance of primary care in our patients' lives. This issue devoted several articles to primary care issues, including obesity, house calls, the OpEd, and the cover story, "Primary Consideration," by Eileen O'Gara-Kurtis. I hope many will emulate the patient centered medical home model practiced by Dr. Thomas O'Toole and his team at the Providence VA Medical Center.

Earlier this year, I attended a California Academy of Family Physicians (CAFP)-sponsored Family Medicine Summit that focused on innovations in family medicine education and the training curriculum addressing the Patient Centered Medical Home. It was well attended by over 100 residency directors, residents, and medical students. To make the point that academic medicine often neglects to publicize the achievements of primary care faculty and alumni, the keynote speaker challenged us in attendance to raise our hands if our alumni magazine had ever featured a primary care physician on its cover. No one raised a hand.

I will be happy to bring the Winter 2010 issue with me to future CAFP meetings. Please continue to highlight primary care alumni and champions of primary care at the Warren Alpert Medical School of Brown University so that their ripple effects may spread far and wide. The path I chose to follow was lit by several prominent family medicine faculty, including Dr. Alicia Monroe, while I was a medical student. After reading it from cover to cover, I hope this issue is indicative of a renewed commitment to training leaders in primary care. As our country's leaders work to provide universal health insurance coverage and to rebuild America's primary care workforce, my classmates and fellow family physicians urge our alma maters to light the way for more primary care physicians trained and empowered to provide their patients with a medical home.

***Michelle Quiogue '96 MD'00***
*Editor*, California Family Physician
*Bakersfield, CA*

**Dean Gruppuso responds:**

Dear Dr. Quiogue,

Your letter to *Brown Medicine* was passed along to me by the magazine's editor. We are in the process of redesigning our clinical curriculum. In doing so, we are striving to emphasize the fundamental clinical skills and attributes that I associated with primary care during my training. I must also say, however, that I too often feel as though we are fighting an uphill battle. A proportion of our students avoid primary care careers because of the disincentives built into our health care system.

As the school has matured, we have developed a core group of clinical faculty members who are wonderfully qualified to direct our students along primary care career paths. I hope that in our curriculum initiatives we will be able to reinforce the old paradigm that it was the generalist who faced the greatest patient care and intellectual challenges in clinical medicine.

Thank you for your comments and for your continued interest in our medical school.

***Philip A. Gruppuso, MD***
*Associate Dean for Medical Education*
*Alpert Medical School*

## NOTE TO THE DEAN

**This week** in my copy of the winter issue of *Brown Medicine*, I saw [Dean Wing's] excellent piece on health care reform. It presents beautifully the dilemma that faces us in this country as a direct result of our starting from pragmatism/profit/partisanship rather than from principle (that's a lot of p's!). [Dean Wing] makes the case for the principle with astonishing clarity in a mere two pages!

In addition to its clarity, the article is strikingly nonpartisan and presents a viewpoint that (perhaps) our elected leaders could rally around. Please don't let it remain local.

***John R. Coleman, PhD***
*Professor Emeritus of Biology, Brown University*

### HERE'S WHAT I THINK

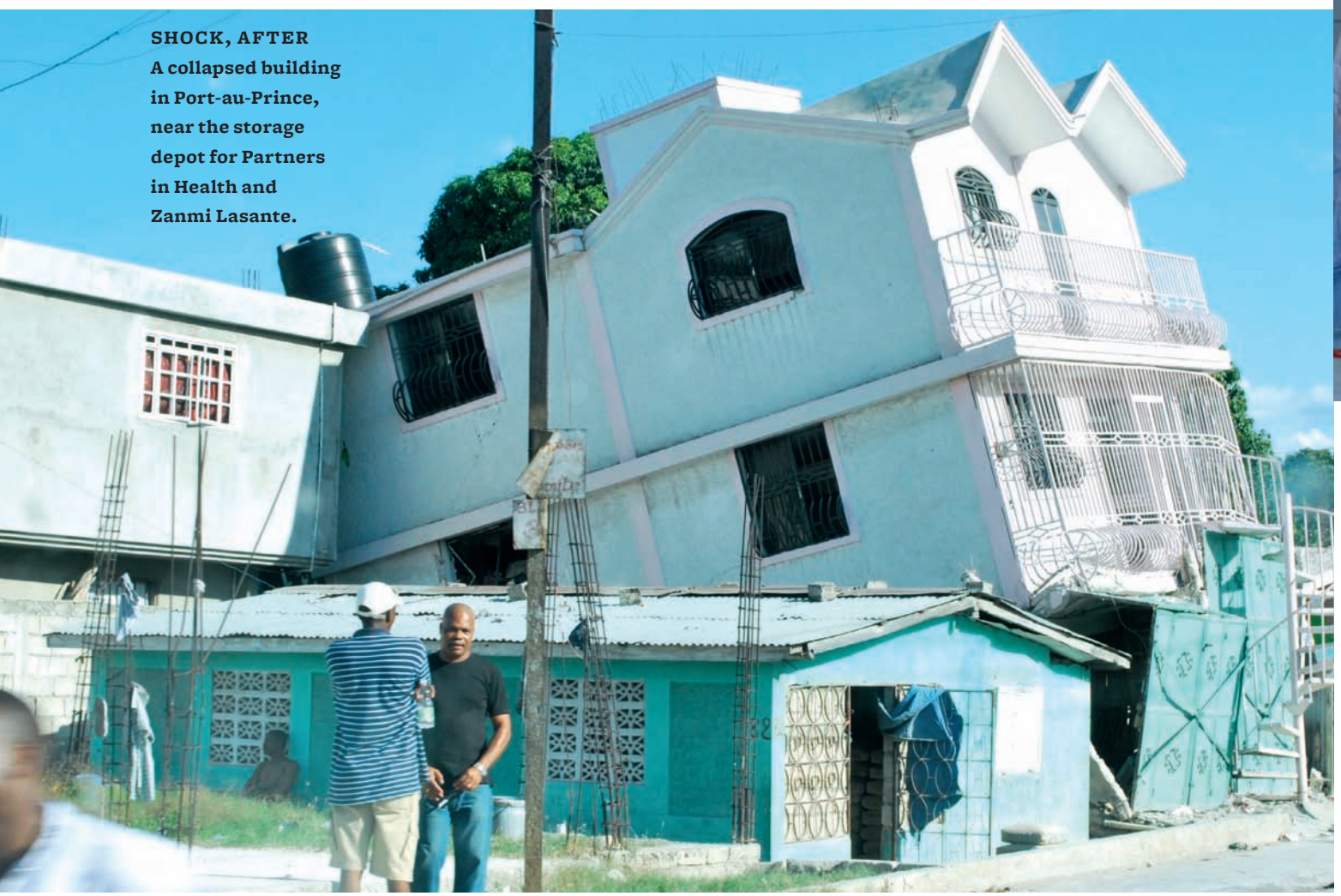
Please send letters, which may be edited for length and clarity, to:

- *Brown Medicine*
  Box G-S121-9
  Providence, RI 02912
- Brown_Medicine@brown.edu
- Brownmedicinemagazine.org

KATHLEEN DOOHER

# THE BEAT

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



**SHOCK, AFTER**
**A collapsed building in Port-au-Prince, near the storage depot for Partners in Health and Zanmi Lasante.**

COURTESY STEPHEN SULLIVAN (2)

**FORCE MAJEURE**

## Before the Dust Settled

### Doctors from Providence lend a hand in Port-au-Prince.

**He was 2 years old,** with an injury that—at a different time, in less desperate circumstances—might have just slowed him down for a little while. But for this child, like so many others, life was changed forever by the events of January 12.

By the time Kervins Noel reached Christopher Born's operating table, he had spent hours under the rubble of his home, along with his mother, who had suffered broken bones in her legs. He had been with her as she made her way through the ravaged streets of Port-au-Prince on a futile search for medical assistance. And then he had been taken with her to an encampment outside the city. There he had been placed on a helicopter—without his mother, whose injuries were less severe—back to Port-au-Prince, where Born and other members of an International Medical Surgical Team (IMSuRT) deployed by the U.S. Department of Health and Human Services had set up a mobile surgical unit.

Born didn't know any of that, at the time. He didn't know the child's name. All he knew was what he saw.

**HAITI OR** At a hospital in Cange, doctors treat a patient with a crushed leg. Left to right: plastic surgeons Stephen Sullivan and Helena Taylor, Alpert Medical School; orthopedic surgeon Alfred Hanmer, Tufts School of Medicine; and general surgeon Godson Jean-Louis, Haiti.

"He had a compound fracture festering just below the knee," says Born, professor of orthopaedics at Alpert Medical School and chief of orthopedic trauma at Rhode Island Hospital. "I ended up amputating just above the knee."

Clinically, the child's plight was not so different from those of the scores of other patients Born had seen during his two weeks of 12-hour OR shifts in Haiti. "We were seeing injuries four, five, six, seven days out—open injuries that were already infected, with skin and muscle crushed, and left unattended for several days," he explains. "And with so many people, and resources so limited, we only had time for one operation. It had to be the definitive operation."

The definitive operation, in many cases, was amputation—the only way to stop the deadly infections already rampaging in old wounds.

Back in the States, Born couldn't stop wondering what had happened to Kervins. He contacted an IMSuRT colleague still in Haiti, who sent him a link to a *Wall Street Journal* article detailing the rest of the story—including the child's eventual reunion with his mother, who had finally found him after weeks of searching and navigating the bureaucracy of proving her identity without the documentation that lay in the ruins of her former home.

> "[W]ith so many people, and **resources so limited,** we only had time for one operation. It had to be the **definitive operation."**

## AN ENDURING PARTNERSHIP

**Born's service was part of** a large response among Brown-affiliated individuals and groups, involving hands-on relief work, fundraising, and other initiatives. Alpert Medical School has a long-standing commitment to Haiti, notes Susan Cu-Uvin, professor of obstetrics and gynecology and medicine and director of Brown's Global Health Initiative. In fact, the School was finalizing a memorandum of understanding for collaboration with three Haitian medical schools when the earthquake struck. That work continues, advanced by a visit to Haiti after the disaster by Cu-Uvin, Professor of Medicine Timothy Flanigan, Teaching Fellow in Pediatrics (Infectious Diseases) Michael Koster, and Assistant Clinical Professor of Medicine Sybil Cineas.

What the group learned during the visit, funded by Brown and facilitated by the Providence-based Haitian Project, led by Patrick Moynihan '87, is that long-term, systemic aid is more critical now than ever.

"We learned that about 50 percent of the medical students and practicing clinicians who could leave the country have in fact done so—making it essential to enhance medical education experiences in Haiti and stop the brain drain," says Cu-Uvin. "Our goal is to build back Haiti's clinical workforce through close collaboration with the state medical school, the University of Notre Dame, and St. Damian's Hospital, a pediatric hospital in Port-au-Prince which is adding an obstetric service and other adult med-surg services."

Details of the collaboration with the two medical schools and St. Damian's Hospital—which was left remarkably unscathed by the earthquake—were being finalized at press time.

***—Eileen O'Gara-Kurtis***

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*To share the experiences of the Alpert Medical School community in Haiti through first-person accounts, photo essays, and articles (including the* Wall Street Journal *article about Kervins Noel), visit www.med.brown.edu/haiti.* Brown Medicine *has developed this special online report to honor their service in Haiti in the wake of the disaster, and to highlight the empathy, creativity, and depth that distinguish their accounts of their time there.*

# THEBEAT

**STUDENT**

## Power of the White Coat

### Students rally for health care reform.


Second-year student Hannah Watson addresses the crowd in Kennedy Plaza.

First-year student Jeremy Stricsek gets a supporter's signature.

**First-year** medical students are taught in their Doctoring course to ask patients: "Do you ever have to choose between paying for food or medication?" Hannah Watson '08 MD'12 says that lately, many patients in her physician-mentor's practice have answered "Yes."

That's partly why she joined other members of Brown's chapter of the American Medical Students Association (AMSA) at a health care reform rally on February 17. "Jobs Now, Health Care Now" was organized by a coalition of advocacy groups to raise awareness of Rhode Island's unemployment crisis and the need for health care coverage.

One of AMSA's national priorities is quality, affordable health care for all. "As students and future health care professionals, we are important stakeholders in this debate," Watson says. "We come to this with fresh eyes and we're saying 'This is not the system we want to work in or that we want for our patients.'"

Watson says listening to patients' stories at a community health center last year made her realize how joblessness and lack of adequate health insurance tie together to affect health. "These problems don't exist in a vacuum."

The AMSA chapter has organized a number of events to help students become advocates. Recently, the Rhode Island Medical Society, Ocean State Action, and a local physician held a workshop called "Patient Advocacy through Legislative Action," to teach students what doctors can do to lobby legislature. AMSA is planning a lobbying day this spring to speak out on three items before the state's General Assembly.

More than 20 Alpert medical students have been involved in the health care reform efforts, Watson says. "When we get that white coat as first-years we assume a lot of responsibility. We are in a privileged position—we're not just students. We can listen and advocate for our patients."

> **"We come to this with fresh eyes** and we're saying **'This is not the system** we want to work in or that **we want for our patients.'"**

And, she adds, sometimes being "just" a student makes people more apt to listen.

"Last August [the town hall meetings] were getting pretty heated. People were emotional. When we'd step up and say 'we're medical students,' the opponents trusted [us] in a way that surprised me. As students we're not as threatening, and we were able to get beyond all the aggression."

***—Kris Cambra***

FRANK MULLIN (2)

Ask THE EXPERT

# It's Not That Simple

## Depression relief or placebo effect?

**Last January**, the *Journal of the American Medical Association* (*JAMA*) published a study that concluded that for mild to moderate depression, most antidepressants are not more effective than placebos. Dr. Peter Kramer, clinical professor of psychiatry and human behavior and the author of *Listening to Prozac* and *Against Depression*, offers his perspective.

**What would you advise doctors whose patients have been taking antidepressants for mild to moderate depression? Should they discontinue the treatment on the assumption that the drugs are acting only as placebos?**

The *JAMA* report is a meta-analysis, a statistical integration of individual research trials—in this instance, studies of antidepressant efficacy. The mainstream press broadcasted the report's conclusions—that medications' utility "may be minimal or nonexistent, on average, in patients with mild or moderate symptoms"—as if they were decisive. But it is important to remember that meta-analyses are themselves experiments, limited by the choices researchers make as they prepare to combine data from existing studies.

...

The conclusion that antidepressants work for severe acute depression and mild chronic depression but uniquely not for mild acute depression is one that would require further explanation. The *JAMA* study should serve as a stimulus to additional meta-analyses and, ideally, to clinical trials designed specifically to look at how well or poorly antidepressants work in people with different levels of acute depression. In themselves, the *JAMA* findings should not transform clinical practice—although it is important to add that the broader literature and clinical consensus suggest that doctors should consider psychotherapy, alone or in combination with medications, in the treatment of minor depression.

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**To read the full version** *of Dr. Kramer's answer, visit www.brownmedicinemagazine.org.* **Have a medical question?** *Let us know at www.brownmedicinemagazine.org and we'll ask an expert for you.*

**FINDINGS**

# Cellular Self-Help

## Hope for tissue regeneration and cancer treatment.

**Researchers** have shed new light on how tissues repair themselves in times of cellular injury and offer hope for tissue regeneration as well as cancer treatment.

Lead author Jason Aliotta, assistant professor of medicine and a researcher at Rhode Island Hospital, and his colleagues focused their work on microvesicles. These sub-cellular-sized particles contain genetic information such as messenger RNA and protein.

"What we attempted to understand is how cells within the bone marrow are able to repair organs that are unrelated to those bone marrow cells, such as the lung," explains Aliotta. "Our work suggests that when lung cells are stressed or dying, they shed microvesicles. Those microvesicles are then consumed by cells within the bone marrow, including stem cells, which are present in small numbers within the circulatory system. Those bone marrow cells then turn into lung cells."

While microvesicles have been known about for years, their significance has been overlooked until now. "We are now recognizing the relevance of microvesicles: they are important mediators of cell-to-cell communication," says Aliotta. "What is unique to our research is the finding that microvesicles not only supply information to stem cells with lung injury, but with injury to other organs as well, like the heart, liver, and brain."

Among the practical implications from their findings is the possibility that microvesicles could be used therapeutically. Says Aliotta, "Our hope is that if we were to deliver large numbers of microvesicles to [an] injured organ, it would help the repair process."

The researchers also hypothesize that microvesicles could potentially be mediators of cancer metastasis. In cancer, there are higher levels of circulating microvesicles, which may be responsible for transferring the traits of the cancer to other organs. Aliotta notes, "If we can define the microvesicles that are shed from cancer cells, we can identify unique characteristics, which might help us to block their uptake into normal cells. This could, in theory, stop the metastasis of cancer."

The paper appeared in the March issue of the journal *Experimental Hematology*. ***—Susan Hsia Lew '97***

# THEBEAT

**Over Heard**

**"This collection, a public trust, constitutes your civic university. Ignore some books if you wish, perhaps even condemn their contents, but do not deprive others of access to them. Finally, do not deface them. Oh, and don't forget to return them within the allotted time."**

*Dean of Medicine Emeritus* **STANLEY M. ARONSON**, *reflecting on the value of the public library in his March 1, 2010, column for the* Providence Journal.

**ELEVATOR PITCH**

## University Diversity

### BioMed invests in the demographics of tomorrow, today.

**Associate Dean** of Graduate and Post-Doctoral Studies Nancy Thompson and Associate Professor of Medicine Andrew G. Campbell have been awarded the 2009 Harriet W. Sheridan Award and Medal for Distinguished Contributions to Teaching and Learning. They are co-directors of the NIH's Initiative to Maximize Student Development (IMSD), a predoctoral research program that aspires to increase the number of PhDs from groups traditionally underrepresented in biomedical and behavioral research. *Brown Medicine* recently caught up with Campbell.

**Why is diversity in the sciences so important?**

This is a good question. Graduate training programs in the Division of Biology and Medicine invest in students with the expectation that they'll go on to advance fundamental scientific knowledge that impacts science and technology, pharmaceutical practices and productivity, and the practice of health care. U.S. demographics are changing, and thus the range of individuals that graduate programs invest in must also change—this is diversity from a practical perspective, not a social justice perspective. Accepting the value of diversity practices is an investment in our future. To do otherwise would result in an under-staffed future scientific workforce that could not pursue science the way that we need, a scientific workforce that is not globally competitive, and a society of diminished production capacity, creativity, and education.

**How many other universities received the IMSD grant?**

There are 42 IMSD programs across the United States. Putting that into context, there are approximately 1,400 certified institutions in the U.S. that grant BS, MA/MS, MD/PhD and/or PhD degrees. All could and should have an IMSD program. I think that puts Brown among a very select group.

**What are the results so far?**

There are two measures of results. One is resource expansion created by the program and broader recognition for the program across the Brown community. The other is the increase in diversity as measured by more underrepresented minority students in BioMed graduate programs. IMSD has been very successful in both areas. Participation in IMSD activities [by students of all backgrounds] has grown each year since the program started. And prior to the start of IMSD, about 12 percent of our students came from underrepresented minority groups. Today, that number stands at about 21 percent. ***—S.H.L.***

**Members of Brown's IMSD community, with co-directors Nancy Thompson (third from left) and Andrew Campbell (far right).**

COURTESY IMSD

Dr. Indeglia says "Stick out your tongue and say, 'Arf'."

SANDOR BODO/*PROVIDENCE JOURNAL*

**WHO KNEW**

# Which One Is Top Dog?

## This heart surgeon can tell you.

**Robert Indeglia** really knows his stuff when it comes to cardiothoracic surgery—and purebred dogs. The clinical associate professor of cardiothoracic surgery and former chief of cardiac surgery at The Miriam Hospital happens to be one of the nation's most experienced and sought after dog-show judges.

Indeglia's journey to the top of the dog-show officiating world began in childhood. He grew up showing his family's cocker spaniels, and in 1960, began breeding champion Norwegian Elkhounds. He has bred or owned 50 champions and has served as president of the Norwegian Elkhound Association of America. He began judging in 1971, and is licensed to judge more than 100 breeds in four groups. In 2007, Indeglia achieved the highest purebred dog-show judge honor—to judge Best In Show at the prestigious Westminster Kennel Club in New York, heading a panel of 35 judges from three countries.

> Having an **MD comes in handy when judging dogs,** according to Indeglia.

Does a medical degree come in handy when judging dogs? "Oh, without a doubt," he says. "Knowing anatomy, musculoskeletal structure and how it relates to a dog's function helps you tell what's a better dog. Even as a young whippersnapper in the dog judging world, I could always hold my own with the more experienced judges in these areas."

Indeglia calls his involvement in dog shows over the past 40 years a wonderful diversion that helped him in his medical career as well. "I'd go away for the weekend to judge a show, to clear my mind, and then I could go back to taking care of very sick patients," he recalls. He credits the reliability of his colleagues at his private practice with his ability to go away on weekends to judge over the years. Today, he is retired from medicine but maintains a busy judging schedule: he judged five shows last year and is slated to judge six this year, so far. ***—S.H.L.***

HEALTH CARE

# They'll Pay for That

## Increased co-payments mean higher costs later for seniors.

**For years,** health care experts believed that higher co-payments helped control health care costs. Patients faced with the higher price tag, they theorized, would cut back on unnecessary visits, saving themselves and insurers money. In fact, studies from the early 1970s concluded that patients cut back on doctor visits when the cost of their insurance co-payments went up, and their health wasn't affected. The flaw in their logic, says Amal Trivedi, assistant professor of community health, was that those studies did not include the elderly.

Trivedi and his team of researchers have looked at Medicare data involving nearly 900,000 beneficiaries across the country aged over 65. They compared 18 Medicare plans with increased co-payments for outpatient care and 18 that offered similar coverage but kept co-payments steady. Their findings, detailed in the January 28, 2010, edition of the *New England Journal of Medicine*, have implications for insurers and politicians seeking ways to control costs but also improve quality of care.

"It is a lose-lose proposition for most health plans," says Trivedi. "Our study suggests that when you raise co-payments for ambulatory care among elderly beneficiaries, particularly those with low incomes, lower education, and chronic disease, they do cut back on their outpatient care but are more likely to need expensive hospital care."

Trivedi and his team also found that the negative effects were particularly magnified among lower income senior citizens and among patients who had hypertension, diabetes or a history of heart problems.

The study "answers important questions," Trivedi says. "We have almost no data for elderly patients on the effect of increasing outpatient payments. Our study suggests that increasing these co-payments for the elderly is an ill-advised cost-containment strategy." ***—Mark Holmer/S.H.L.***

ISTOCK (2)

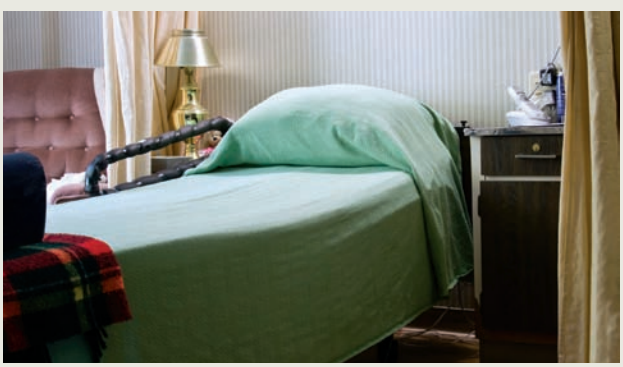
DISPARITY

# No Place Like Home

## Hispanic patients tend to live in lower quality nursing homes.

**Hispanic** senior citizens receive a lower quality of care compared to that of their white counterparts, according to new research from Brown University.

A team led by Mary Fennell, professor of sociology and community health, found that Hispanic elderly are more likely than whites to live in nursing homes of poor quality. The research follows up and expands upon a landmark 2007 study that suggested that blacks are more likely than whites to live in poor-quality nursing homes.



Fennell and her team also observe that elder care is changing among Hispanic families in the United States. Adult daughters at home have traditionally handled elder care, but acculturation and financial issues have led a growing number of young Hispanic women to work outside the home. As a result, Fennell says, the loss of home caregivers and the dramatic growth of the elderly Hispanic population has led to a rise in the percentage of Hispanic residents in nursing homes, from 5 percent in 2000 to 6.4 percent in 2005.

The impact of substandard nursing home care is a complex issue, says Fennell. Residents are often already suffering from serious health problems that require expensive, high-level care. Once placed in a nursing home, the patient is then often caught in a spiral of lower quality of life and chronic illness without a way out.

Details of the study were featured in the January 2010 issue of *Health Affairs*. ***—M.H.***

NURSING HOME

# To Tube or Not To Tube?

## Ask the patient.

**Researchers** from Brown University and Harvard Medical School are calling for improved decision making in the use of feeding tubes for nursing home residents with advanced dementia. Their findings were presented in the February 10 issue of the *Journal of the American Medical Association*.

Their opinion is based on an eight-year study of more than 280,000 hospital admissions of nursing home residents at nearly 2,800 acute-care hospitals, which found that the use of feeding tubes varies widely. Medical evidence has long suggested that feeding tubes do not improve survival or overall outcomes in patients with dementia, a terminal illness that affects a patient's mind and eventually the ability to eat.

"Our results suggest that decisions to insert a feeding tube in persons with advanced dementia are more about which hospital you are admitted to than a decision-making process that elicits and supports patient choice," says Joan M. Teno, lead author and professor of community health and medicine. Hospitals with a culture of aggressive care at the end of life were nearly three times more likely to insert a feeding tube. Larger or for-profit hospitals tended to use them more frequently. Smaller, rural hospitals not affiliated with medical schools used them far less frequently.

The findings point to a clear need to examine how treatment decisions are made for patients with advanced dementia, and to ensure that the decisions reflect patient wishes and values. Says Teno: "As we reform our health care system, ensur[ing] patient choice [is] key."

The research teams will publish hospital rates of feeding tube insertions on its website, LTCFocUS.org. ***—M.H.***



DANCE FLOOR

# Lords of the Dance

## Ain't no cure for the Biomed Boogie.

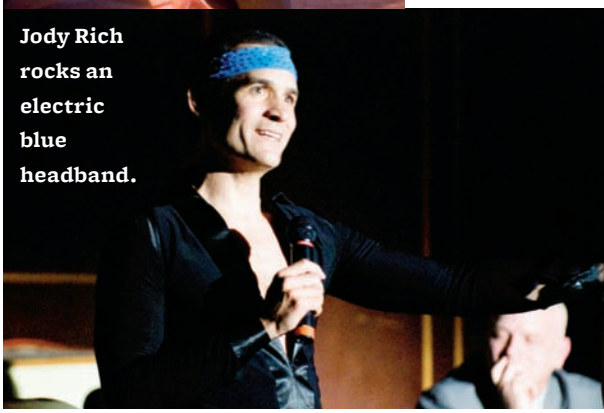
**Last February,** the annual "Dancing With the Profs" event proved beyond a shadow of a doubt that Biomed professors have got the moves.

Hosted by the Brown Ballroom Dance Team, the event pairs six faculty with six students who are members of the team. They danced before a panel of three judges in a packed Alumnae Hall. Senior Lecturer in Neuroscience John Stein, who performed in the first "Dancing with the Profs" two years ago, was one of the three judges.

Assistant Professor of Biology Gerwald Jogl began a sedate waltz with Ivana Miao '11 to the tune of "Moon River," but stripped off his tailcoat halfway through to finish the dance with a sassy, modern interpretation of a waltz set to Lady Gaga's "Just Dance."

Professor of Medicine Jody Rich, who danced with Hilary Treadwell '01, started out dressed in a doctor's coat and carrying a stethoscope. As the dance began, he took off the coat to dance a sultry samba in a form-fitting black shirt.

Gerwald Jogl busts a move.



Jody Rich rocks an electric blue headband.

> Professor **Jody Rich danced a sultry samba** in a form-fitting black shirt.

"Your solo will be spoken of," Stein said to Rich when the dance was over.

Stein also complimented John McGeary, assistant professor of psychiatry and human behavior, on his "suave and sophisticated look" when he danced a jazzy foxtrot with Angela Hua GS.

In the end it was Assistant Professor of Sociology Nancy Luke and her partner Daniel Hackney '12 who stole the show with their spirited jive. That's all right. Two years ago, Professor of Biology Gary Wessel took the crown (see *Brown Medicine*, Spring 2008). ***—Anne Speyer/Brown Daily Herald***

# THEBEAT

**FINDINGS**

## Live Longer and Thinner

### An enzyme holds the key.

**Weight loss** and longevity are two well-known health benefits of Sirt1, an enzyme that may be naturally activated in the body by fasting and drinking red wine. But what does Sirt1 do in the brain? Brown researchers, led by Eduardo Nillni, professor of medicine (research), recently published the first in-depth study of the metabolic role of Sirt1 in the brain.

Until recently, research indicated that fasting activates Sirt1 and thereby helps extend life. Drug companies and scientists have also thrown their support behind resveratrol, a compound found in red wine, thought to be beneficial because it may also activate Sirt1. Nillni's team found that inhibiting rather than stimulating Sirt1 in the brains of rats appeared to reduce appetite, leading to a smaller weight gain compared to untreated animals. They believe a similar mechanism exists in humans, potentially laying the groundwork for new treatments for obesity.

"It's still controversial whether calorie restriction or resveratrol are Sirt1 stimulators," says Nillni. His team did confirm that fasting helped increase Sirt1 production and activity in the brain. And they generated clear data showing that inhibiting Sirt1 activity in the brain led the animals to eat less and gain less compared to their untreated counterparts.

**Sirt1 under the microscope.**

The study also indentified specific brain receptors or sites where Sirt1 induced food intake—the melanocortin receptors. Nillni says that more work needs to be done to investigate whether or how the brain pathways involving Sirt1 and food intake are affected in obese animals.

The study first appeared online on December 15, 2009, in the journal *PLoS ONE*. ***—M.H./S.H.L.***

**STUDY SPACE**

**Science has never looked so inviting.**

## Come Together

### Students and faculty in the sciences have a place of their own.

**The Science Center,** a full floor of meeting rooms, study spaces, a laboratory, and high-tech communications and instructional tools in the Sciences Library, opened for business in February.

David Targan, associate dean of the College for science education and the center's director, called the space a "nerve center" that will draw together science education, learning, development, and teaching programs at Brown.

There are many attractions to entice both the dedicated scientist and the curious visitor. A reception area features three high-definition televisions that will showcase student research, display announcements and events, and possibly include a live feed from NASA TV or another science-oriented channel. The area also has a small lounge with a view of the main conference room, which seats up to 50 people and is the physical hub of the center.

Arrayed around the main conference area are six study rooms designed for group work and outfitted with "writable walls." Four of them will have smart boards that allow users to make presentations, edit them in real time using audience feedback, and save the changes.

In another part of the center is a counter on which students can plug in their laptops and display their work on flat-screen televisions above. There are individual study carrels, a room for faculty to hold office hours, and a student-help office.

A dry laboratory room will help showcase Brown's science initiatives in the community, notably the National Science Foundation-funded Graduate K-12 program with Providence-area schools and a similar program for Rhode Island high school biology teachers funded by the National Institutes of Health. ***—Richard C. Lewis***

WARREN JAGGER (2); COURTESY HAIM COHEN AND DAVID SINCLAIR (HARVARD)

# RESIDENTEXPERT

BY JOANNA D'AFFLITTI, MD, MPH

# Patient Prisoners

## Providing health care at the cellular level.

**From a health care** perspective, there are ways in which jail doesn't look that bad. I spend one day each week in an outpatient setting—one half in the resident continuity clinic at Rhode Island Hospital and the other half at the women's prison at the Adult Correctional Institute (ACI) in Cranston. The clinic contains gray metal file cabinets that line the walls, with stacks of papers and charts piled precariously on top. The windows don't open, and the heat is turned up so high that the air conditioner remains on all year long. Until recently, the examination table was missing half a leg. The gynecologic stirrups have no padding, so they are covered with oven mitts. In spite of these meager resources, the patients receive high quality, comprehensive care.

In my clinic at the hospital, where almost all my patients lack health insurance, it can take months to get them an appointment with a specialist. Psychiatrists are in particular demand. At the ACI, a psychiatrist is on site several days a week. If I have a patient who needs mental health services, I can walk into the next room and talk to the psychiatrist directly. If he or she is unavailable, a mental health worker will see the patient that day. Dentists and ophthalmologists have regularly scheduled clinics. There is on-site physical therapy, and extensive contraceptive counseling and services. There is a guaranteed supply of medication, without co-pays, that is brought daily in "med line." There is the security of drug- and tobacco-free housing, and three meals per day.

Certainly, all of this comes at a monetary cost to taxpayers and a social and emotional cost to inmates. Many of the women are separated from their children. Some report being treated harshly by other inmates. Punishments are doled out, justly or unjustly, with little recourse for appeal. However, while none of my patients would elect to stay if given the choice, many say they fare better with the stability that prison affords.

BLAIR THORNLEY

For a number of women, prison is the only way they have been able to access substance abuse services. I have one patient who was diagnosed with hepatitis C while at the ACI. She underwent a liver biopsy and is now scheduled to begin treatment, something she would not have accessed easily outside. Another underwent genetic testing for Huntington's disease and was connected to a neurologist when the test came back positive. Pregnant women receive scheduled prenatal care, and diabetics take their medications and have their blood glucose levels checked regularly. Many women survive outside as sex workers; many suffer physical and emotional abuse. For them, jail is safer. One could even view prison as a Patient-Centered Medical Home: women are cared for by a multidisciplinary team, electronic medical records are used, and follow-up is timely and guaranteed.

I am not advocating increasing the already high incarceration rate. I do not think that jail is the solution to society's problems. On the contrary, I am suggesting that services be put in place outside of jail so that people can be cared for without being incarcerated. There is something wrong with the fact that my patients in prison have access to more comprehensive care than do my patients in continuity clinic. Health care is a right to which all people, incarcerated or otherwise, are entitled. The question is not why prisoners receive such good health care, but why the rest of our citizens do not.

**Joanna D'Afflitti** *is in her third year of Brown's general internal medicine residency training program.*

# Building Anew

## Brown alum supports the new Medical School and the dean's leadership.

**With his recent gift** for the new Alpert Medical School building, Jerome Zeldis, MD, PhD '72 SCM'72, P'04 is advancing an exciting new project under the thoughtful leadership of Dean Edward J. Wing, MD.

Zeldis was a molecular biology concentrator at Brown, and in 1971, he participated in a Presidential Commission tasked with evaluating the six-year medical masters program at Brown and converting it into an MD granting program. For Zeldis, these discussions brought into focus the complex financial and social relationships between medical schools and hospital systems—challenges that he was passionate about solving. He's been a leader in academic medicine over the course of his career, and has had a lifelong interest in the training of medical students. This sentiment lies at the core of his appreciation for Wing's vision.

Given that medical schools serve such a wide range of constituencies—students, faculty, patients, clinical and non-clinical researchers—Zeldis feels that a good leader should recognize all of them, but decide on a primary focus to orient the institution. In fact, that has become his favorite question when speaking with medical school deans. "When I posed it to Dr. Wing," Zeldis says, "he quickly and confidently responded that his primary goal was to train people to think creatively about medicine and advance the field. That impressed me."

Zeldis earned an MPhil, MD, and a PhD in molecular biophysics and biochemistry from Yale University. Currently, he is chief medical officer of Celgene Corporation and CEO of Celgene Global Health. Although Celgene is a biopharmaceutical company developing therapies to treat cancer and immune-inflammatory related diseases in Europe and the U.S., Celgene Global Health is working on therapeutics for diseases of the developing world. Zeldis is a professor of clinical medicine at the Robert Wood Johnson School of Medicine in New Jersey. He has served on the Dean's Advisory Council on Biology and Medicine since 2008.

Zeldis has heard Wing speak with great enthusiasm about 222 Richmond Street—the site of the new medical school—and how renovating the space will have a positive and lasting effect on medical education. "He has a clear vision," Zeldis says. "The design of the building is well thought-out, and the direction in which he wants to take the Medical School is very good." Zeldis is also pleased with where the School will be, and how it will build and reinforce important community relationships. "A location that is both near campus and the hospitals will serve the Medical School well. This project is well worth supporting." ***—Amy R. Umstadter***

*To find out more about the new building, visit http://med.brown.edu/newbuilding/.*

FRANK MULLIN

### A PARTY FOR A CAUSE

**About 200 medical students gathered in the lobby of Alpert Medical School's future home at 222 Richmond Street on March 19. They toasted the new building and raised funds for the Brown Medical Annual Fund in a show of support for the project. The Medical Student Senate organized the event, while the Brown Medical Alumni Association and Office of the Dean offset its cost. Senate President Patrick Worth MD'11 says, "Our business, our patients, our learning environments are in the community ... the move underscores an evolution toward greater community involvement and civic responsibility that is taking place not only at Brown, but in Providence, and across the country in our generation." A BMAA Board member matched the funds raised two to one, bringing the grand total to $2,700.**

# FROM THE COLLECTIONS

BY SARAH BALDWIN-BENEICH
PHOTOGRAPH BY PAUL CLANCY

**Trained as a doctor and veterinarian, Gillet devoted his retirement to mycology. His wife and daughter painted the illustrations , including this one, of *hygrophorus psittacinus* (parrot mushroom).**

## From Puffballs to Pleurottes

### The Frenchman who documented the fungus among us.

**From an iconic red toadstool** flecked with white to scalloped growths like ladies' fans, the precise and subtle illustrations in Claude Casimir Gillet's guide to fungi are so sweet it's easy to forget that a mushroom is really the fleshy, flowering fruit of a fungus.

Gillet's 1890 book, *Les champignons (Fungi, Hyménomycètes) qui croissent en France*, is just one volume in the Snell collection on mycology, donated by Walter H. Snell '13, Stephen T. Olney Professor of Botany. The collection of some 300 monographs and serials documents the study of all sorts of fungi, from medical to culinary, between 1640 and 1970.

Botanical study figures prominently in the Library's collections. According to the History of Science Collection brochure, "The connections between botany and medicine were first recognized in the appointment of Solomon Drowne as Professor of Materia Medica and Botany in 1811. Although the first medical school at Brown was disbanded by President Wayland in 1827, botanical study was re-established ... 50 years later under William Whitman Bailey, who created the Brown University Herbarium. Over the next century, the Herbarium was a major contributor to the worldwide project to catalog and classify all known species of plants."

*Visit www.brownmedicinemagazine.org to see more images from Gillet's book.*

# ZOOM

BY EILEEN O'GARA-KURTIS

# Our Man in Haiti

## Amos Charles returns to his country of origin to create a post-op unit out of the rubble.

**Haiti runs in Amos Charles's blood.** He was born there and spent the first 19 years of his life there. And, as a physician, he understands the needs of patients in crisis.

Still, nothing prepared him for what he encountered in earthquake-shattered Port-au-Prince in January.

"The streets were full of people trying to survive, a lot of homeless people, people left with nothing," he says. "The numbers were astronomical, and we were stunned by the extent of the injuries."

Intensifying the impact, Charles was experiencing the scene—up close and devastatingly vivid—without the digital buffer that had introduced most of us to the disaster. "I don't have cable and I don't watch much television," he explains.

### THE ORGANIZER

**On January 15,** Charles, a pulmonologist, chief of the hospitalist division of the Department of Medicine at the Providence VA Medical Center, and a clinical associate professor of medicine, embarked on what turned out to be a two-day journey to the heart of the disaster. Traveling with a group of Haitian physicians, nurses, and other health care providers, and slowed by air traffic restrictions and gridlock on the ground, he arrived at L'hopital Universite d'Etat d'Haiti (the General State University Hospital) in Port-au-Prince on January 17—five days after the quake.

Life at the hospital was chaotic.

"There were hundreds of injured people, with broken arms and legs and other extensive traumatic and crush injuries, some with amputated limbs, some with open wounds, scattered everywhere in a large yard inside the hospital perimeter," he remembers. "People were lying everywhere. Dead bodies were everywhere. Many of the patients were housed under tents, and some were lying on beds, but others were just resting on bedsheets, mats, or mattresses on the ground."

The desperation was palpable. "They would reach out to you as you walked by, grabbing at anyone who looked like they could help—crying out for medical attention, for relief from pain. Many were hungry and thirsty."

Charles took a moment to absorb the situation. ("It takes a few minutes," he says. "It seems unreal. Your mind is not ready to see it.") Then he took action.

His primary mission, it turned out, would not be clinical. It would be organizational. Surgeons were feverishly working in five rudimentary operating rooms to address injuries before infection could set in—and, in many cases, dealing with the effects of infection.

All of the clinicians on site agreed

**LANGUAGE SKILLS A PLUS** **Charles brought fluency in Creole as well as clinical and organizational expertise to Haiti.**

KAREN PHILIPPI

that it was crucial to establish a post-op unit to receive the rapid stream of surgical patients. Charles volunteered to be administrator of what the surgeons would come to call the "post-op/ICU."

When they started, there was no system. There were no beds. There was only a debris-strewn room located in a hospital building that had survived the quake and been deemed safe. Armed with supplies donated by the international community and a shipment of light, portable, aluminum beds from a Norwegian relief group, Charles and his team cleaned the space to set up the unit. Then they split into two 12-hour shifts.

The patients started coming right away—75 by the end of the first day. Still, there were no pain meds. There was no food. There was little water.

# ZOOM

There were no charts, no medical histories—often just a name and a description of the procedure that had been performed. "Fortunately," Charles says, "many of the patients were young and healthy."

The next morning, Charles came back to find nearly all of the patients in his nascent post-op unit back in the yard, having fled the building during a 6.7 magnitude aftershock. The process of setting up the unit began again—and was repeated with every subsequent aftershock.

After six days in Haiti, Charles returned to the United States—only to fly back to the Dominican Republic two weeks later on a pre-planned mission with senior internal medicine residents and fourth-year medical students, under the auspices of a Brown medical exchange program. Charles and two of the students, Andrew Allegretti '06 MD'10 and Laura Slavin MD'10, were assigned to the Good Samaritan Hospital in Jimani, a border town about 45 minutes from Port-au-Prince, where earthquake survivors were being treated.

This time, the challenges were rooted in communication and clinical care. Charles, the only Creole-speaking physician on site, provided care for three critically ill patients and helped ease the concerns of their families in a language they could understand. Four days later, he returned to the States.

## TO THE MAINLAND

**Amos Charles** is no stranger to language barriers or the need for precise organization.

The first time Charles left Haiti for the U.S., in 1973, he spoke only Creole. His mother had come first, establishing a home in Brooklyn and then sending for her children. With the help of his mother's landlord, he enrolled at Brooklyn's Tilden High School—mostly to learn English—and graduated in two years, during which he caught the bus to an afternoon factory job every day after school.

**While completing his clinical rotations,** Charles flew back to New York City on Friday nights to **drive a taxi cab all weekend.**

Then came City College, financed by driving a New York City cab, and two years at the Universidad del Noreste in Tampico, Mexico, from which he transferred to Ross University in Dominica, West Indies. While completing his third- and fourth-year clinical rotations at Hyde Park Community Hospital in Chicago, Charles continued to finance his education by frequently flying back to New York City on Friday nights, driving a yellow taxi cab all weekend, and returning to Chicago late on Sunday night or early on Monday.

Following medicine residency training at Robert Wood Johnson School of Medicine/Jersey Shore Medical Center in New Jersey and pulmonary/critical care fellowship training at Brown, Charles joined the faculty at the Pulmonary Division of the Department of Medicine at the Boston University School of Medicine. He moved to Alpert Medical School and the Providence VA Medical Center in 1992.

## PRAYERS FOR HAITI

**Charles still has family** in Haiti—including a brother who moved back there, after several decades in the United States, shortly before the earthquake. They are all safe.

Yet, Haiti haunts him.

"The suffering will continue for a long time," he says. "It will take many years for the people to recover from the trauma and devastation. Many will continue to die from their injuries. Some will survive, but with lifelong disabilities. Some will suffer from post-traumatic stress disorder, and others from the loneliness of loss of loved ones. So many people have no place to live.

"I hope that the international community will remember Haiti long after the television images are gone," he continues. "I hope that people around the world will keep the people of Haiti in their prayers and will continue to provide the support they need for their eventual recovery."

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

# OPINION

BY NEEL T. SHAH '05 MD'09

# Assuming Responsibility for Patient's Pockets

## The doctor's role in health care spending.

As a Brown medical student, and now as a resident at Brigham & Women's Hospital in Boston, I've had the privilege of working alongside some of the most compassionate doctors imaginable, doctors who inspire me to always go the extra mile for our patients, to diligently attend to each physical symptom.

But even the best doctors can neglect something critical.

In a time when tightening belts and pinching pennies is especially important, our patients often pay exorbitant amounts—enough to bankrupt 2 million Americans each year—on medical care they may not even need.

Recently, I cared for a 45-year-old single mother of three who presented to our emergency room with a fever and abdominal pain. After a full work-up that included a CT scan and pelvic ultrasound, we determined that she had a small adnexal mass, most likely an abscess, which would require antibiotics and possible surgery. However, when describing the imprecise CT and ultrasound images, the radiologists wrote, "cannot rule out malignancy" in their final report, and suggested an MRI for further characterization.

The MRI, a study that bills for an average of $2500 in Boston, was unlikely to affect her management. Both clinical and statistical evidence strongly pointed to an abscess and not cancer. We had ample time to test our hypothesis, to trial treatment with antibiotics. It was likely we would directly visualize the mass during surgery and send it to pathology regardless. But still, I ordered the MRI.

That expensive decision was one of many we made during the course of her stay. While most decisions helped her get better, others (from the hundreds of dollars worth of "routine" serial labs we ordered reflexively to the thousands of dollars worth of extra hospital days we spent coordinating care) did not. Nonetheless, each decision we made was tabulated into a billing claim that ultimately inflated the out-of-pocket share she owed.

### THE BLIND SIDE

**Multiple surveys** of our profession demonstrate that fewer than one in five doctors understands the impact of the decisions they make on what patients pay for care. It is not our fault. For one thing, health care costs are notoriously opaque: the price a patient actually pays for an individual test is different from what their insurance company is charged which is different from what it costs the hospital to provide.

But traditionally costs are not something we are even taught to consider in medical school. If a medical decision does not cause physical harm and has a chance of being effective, our instinct is to go for it. It doesn't help that talking with patients about payment has always been taboo for doctors. Money is not meant to come between a sick patient and doing everything possible. In fact, doing more is equated with being thorough.

> Each decision we made was **tabulated by the hospital** and ultimately **inflated the out-of-pocket share she owed** for her stay.

Health care is the only arena in our market economy where we routinely

# OPINION

contract for services without knowing what the price is or even exactly what we are buying. For good reasons, patients trust doctors to make purchasing decisions for them. But when doctors are looking at menus without prices, it is easy to order filet mignon at every meal.

Granted, few of us would want to withhold tests and treatments that help sick patients get better, even if they are expensive. The problem is that we have fallen down a precipitous slippery slope. The Congressional Budget Office estimates that $700 billion (an amount comparable to our total spending on the Iraq War) is spent each year in the United States on medical tests and procedures that do not measurably improve health outcomes.

**$700 billion is spent each year** in the United States on medical tests and procedures that **do not measurably improve health outcomes.**

Doctors know it is not always clear *ex ante* how helpful a test will be. Nonetheless, many of my colleagues admit to ordering tests on a regular basis that they do not believe will improve patient health. When I asked why, they were quick to offer several reasons. Sometimes they are concerned about seeming negligent and order extra tests to lower their risk of being sued. Sometimes they get the test preemptively to decrease their future workload. Sometimes they are merely complying with their patient's wishes. But almost all the time, particularly at the point of care, the cost of their decisions is not something that they feel equipped to weigh.

Most doctors are aware, however, that health care costs present a large problem. Despite the historic expansion of health care coverage that was recently signed into law by President Obama, the challenge of reigning in spending remains.

Spending on health care is approximately 16 percent of GDP today, up from 8 percent 20 years ago, and 4 percent 20 years before that. In the near future, Medicare and Medicaid, which contribute half of this spending, will become unsustainable. Investment in other things that matter to us—roads, schools, security—may be crowded out.

And we're not even getting much bang for our buck. A 2008 *Health Affairs* report compared health care spending in the U.S. to other countries in the Organization for Economic Cooperation and Development (OECD). Per capita, we spend double the amount everyone else does, but we do not see a return in value. Among the OECD group, the U.S. ranks in the bottom half for most of the measured quality indicators. Meanwhile, medical bills remain the number one cause of personal bankruptcy in this country.

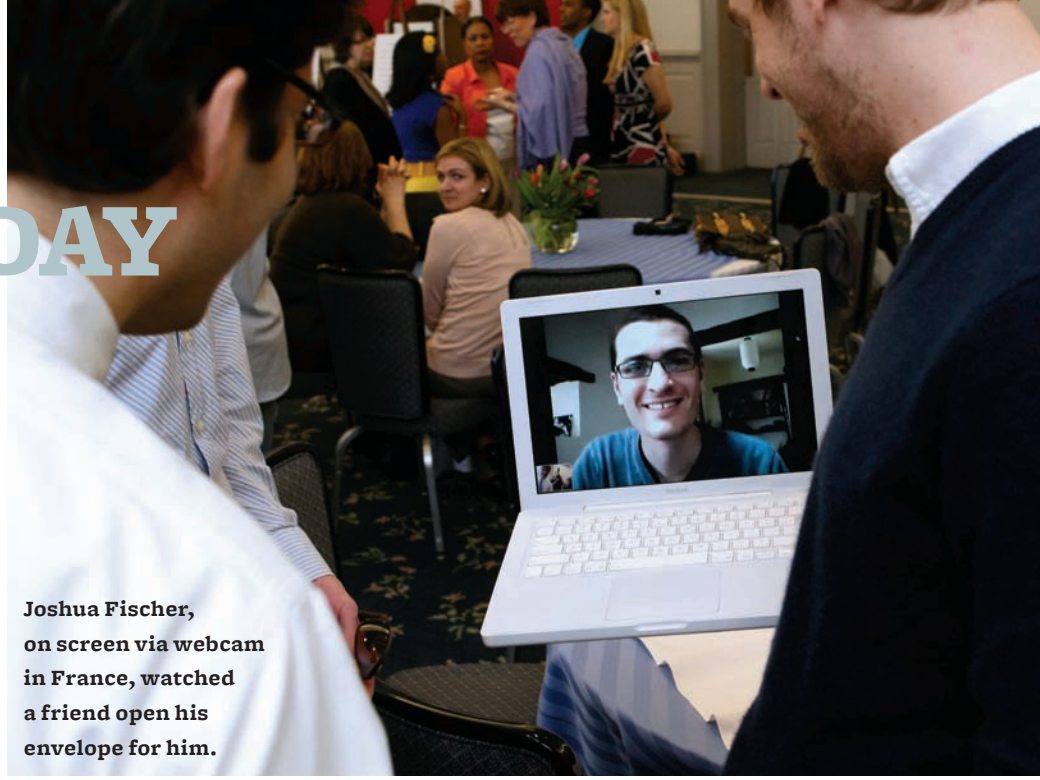
## THINK BEFORE YOU ORDER

**Our work as doctors** is humbling, and we are often reminded that much is outside of our control. We cannot always control how sick our patients get. Similarly, we cannot control how much individual tests or treatments cost. At the point of care, we cannot control the irrational malpractice awards, widespread inefficiency, or other systemic shortcomings that challenge our decision making. However, we are the ones who ultimately decide which tests go on our patient's bill. For the decisions well-within our purview, we must assume responsibility for our patient's pockets.

This is easier said than done. Scholarly articles on cost-effectiveness are becoming increasingly prominent in medical journals, but they are abstracted to the population level and it is often unclear how to apply them to the individual patient in front of us. Although consumer-directed efforts are under way to make the prices of medical tests more transparent, it is unclear how doctors should value risks to our patient's health. Nonetheless, I—and a small community of doctors and patients at www.CostsOfCare.org—believe these are conversations worth having. If you have ideas, we would love to hear them.

**Neel T. Shah** *is the executive director of www.CostsOfCare.org, a 501(c)(3) nonprofit that uses information technology to help doctors understand how the decisions they make impact what patients pay for care.*

# MATCHDAY



Joshua Fischer, on screen via webcam in France, watched a friend open his envelope for him.

# Rite of Spring

## Graduating students celebrate Match Day with friends and family.

With its happy tears and hoots, and one student falling to her knees in exaltation, this year's Match Day could have passed for the "kiss and cry" area at an Olympic figure skating competition. Ninety-four students excitedly tore into envelopes containing their residency program placements. Sixteen matched with hospitals affiliated with Alpert Medical School. Read on to find out which lucky residency programs will welcome the latest group of gold-medal graduates.

### ANESTHESIOLOGY

**Cheryl Bline**
- Massachusetts General Hospital/Harvard Medical School
- Loyola University Medical Center/Stritch School of Medicine (Medicine-Prelim)

**Catherine Cleland**
- George Washington University/George Washington School of Medicine

**Roman Portnoy**
- Brigham & Women's Hospital/Harvard Medical School
- Caritas Carney Hospital/Tufts University School of Medicine (Trans.)

### DERMATOLOGY

**Vincent Criscione**
- UMass Medical School/UMass Medical School
- Roger Williams Medical Center/Tufts University School of Medicine (Medicine-Prelim)

**Ashlynne Harris**
- University of Iowa Hospitals & Clinics/University of Iowa Hospitals & Clinics
- University of Hawaii/University of Hawaii (Trans.)

**William Tsiaras**
- Massachusetts General Hospital/Harvard Medical School
- Rhode Island Hospital/Alpert Medical School (Medicine-Prelim)

### EMERGENCY MEDICINE

**Peter Chai**
- Rhode Island Hospital/Alpert Medical School

**Dylan Dean**
- Oregon Health & Science University/Oregon Health & Science University

**Zachary Ginsberg**
- North Shore University Hospital-Manhasset/NYU School of Medicine

**Joshua Keegan**
- Yale-New Haven Hospital/Yale Medical School

**Erryn Leinbaugh**
- UMass/UMass Medical School

**Judy Lin**
- Washington Hospital Center/Georgetown University

**David Merino**
- New York Presbyterian Hospital/Weill Cornell Medical Center

**Henry Swoboda**
- Albert Einstein Medical Center/Jefferson Medical College

### FAMILY MEDICINE

**Sara Baird**
- Swedish Medical Center-First Hill/University of Washington

**Christopher Furey**
- Memorial Hospital of Rhode Island/Alpert Medical School

**Cristina Mota**
- UMass Medical School/UMass Medical School

**Emily Shaw**
- Sutter Medical Center of Santa Rosa/UCSF School of Medicine

HANK RANDALL

# MATCHDAY

**Mary Sutter**
- Memorial Hospital of Rhode Island/Alpert Medical School

## MEDICINE

**Andrew Allegretti**
- Massachusetts General Hospital/Harvard Medical School

**April Atiba**
- Beth Israel Deaconess Medical Center/Harvard Medical School

**David Bercovici**
- Exempla St. Joseph Hospital/University of Colorado School of Medicine

**Matthew Brown**
- NYU School of Medicine/NYU School of Medicine

**Andrew Brunner**
- Massachusetts General Hospital/Harvard Medical School

**Lauren de Leon**
- Rhode Island Hospital/Alpert Medical School

**Diana Feldstein**
- University of North Carolina Hospitals/University of North Carolina

**Joshua Fischer**
- Rhode Island Hospital/Alpert Medical School

**Brian Huang**
- Cedars-Sinai Medical Center/David Geffen School of Medicine at UCLA

**Steven Kassakian**
- Rhode Island Hospital/Alpert Medical School

**Andrew Moraco**
- Rhode Island Hospital/Alpert Medical School

**Ayana Morales**
- Boston University Medical Center/Boston University School of Medicine

**Eric Palecek**
- Hospital of the University of Pennsylvania/University of Pennsylvania

**Katy Tsai**
- University of North Carolina Hospitals/University of North Carolina

## MEDICINE/PEDIATRICS

**Margret Chang**
- Rhode Island Hospital/Alpert Medical School

**Christopher Prendergast**
- Christiana Care/Jefferson Medical College

**Jack Rusley**
- Maine Medical Center/Tufts University School of Medicine

**Stacey Weinstein**
- UCLA Medical Center/David Geffen School of Medicine at UCLA

## MEDICINE-PRELIM

**Elizabeth Niemiec**
- Rhode Island Hospital/Alpert Medical School

**Matthew Schutzer**
- University of Maryland Medical Center/University of Maryland

**Terence Sio**
- UCSF Fresno/UCSF Fresno

## MEDICINE-PRIMARY

**Sadie Barchini**
- Yale-New Haven Hospital/Yale Medical School

**Amy Hsu**
- Yale-New Haven Hospital/Yale Medical School

**Robert Velasco**
- Rhode Island Hospital/Alpert Medical School

## NEUROLOGY

**Clifford Meyers**
- Strong Memorial Hospital/University of Rochester

**Christina Saldivar**
- St. Joseph's Hospital/Barrow Neurological Institute
- Caritas Carney Hospital/Tufts University School of Medicine (Medicine-Prelim)

## NEUROSURGERY

**Ilias Caralopoulos**
- Tulane University School of Medicine/Tulane University School of Medicine

**Abigail Rao**
- Oregon Health & Science University/Oregon Health & Science University

## OBSTETRICS/GYNECOLOGY

**Tarra Evans**
- Pennsylvania Hospital/University of Pennsylvania School of Medicine

**Victor Long**
- University of California, San Francisco/UCSF School of Medicine

**James Miller**
- Mt. Sinai Hospital/Mt. Sinai School of Medicine

**Brian Nguyen**
- Oregon Health & Science University/Oregon Health & Science University

**Courtney Olson**
- Strong Memorial Hospital/University of Rochester

**Lloydia Reynolds**
- University of Connecticut Health Center/University of Connecticut

**Lily Wu**
- Beth Israel Deaconess Medical Center/Harvard Medical School

## ORTHOPAEDIC SURGERY

**Hans Van Lancker**
- McGill University Health Centre/McGill University Health Centre

## OTOLARYNGOLOGY

**J.P. Giliberto**
- University Hospital-Cincinnati/University of Cincinnati College of Medicine

**Anthony Okobi**
- University of North Carolina Hospitals/University of North Carolina

**Stanley Voigt**
- Tufts Medical Center/

*See more Match Day photos at www.brownmedicinemagazine.org.*

Tufts University School of Medicine

## PATHOLOGY

**Melissa Much**
- Yale-New Haven Hospital/ Yale Medical School

**Difu Wu**
- NCC Walter Reed Army Medical Center/U.S. Army

## PEDIATRICS

**Saira Alimohamed**
- Emory University School of Medicine/Emory University School of Medicine

**Sharon David**
- UC Davis Medical Center/ UC Davis School of Medicine

**Jacquelyn Hatch**
- University Hospitals/Case Medical Center/Case Western Reserve University

**Austin Larson**
- University of Colorado School of Medicine/ University of Colorado School of Medicine

**Emily McElveen**
- National Capital Consortium/ Naval Medical Center

**Leslie Morris**
- UMass Medical School/ UMass Medical School

**Natalie Nokoff**
- University of Colorado School of Medicine/ University of Colorado School of Medicine

**Kathryn Ponder**
- UC Davis Medical Center/ UC Davis School of Medicine

**Ronen Stein**
- Case Medical Center/ University Hospitals

**Juan Vasquez**
- Rhode Island Hospital/ Alpert Medical School

**Beverly Young**
- University of California, San Francisco/UCSF School of Medicine

**Nusrat Zaman**
- A. I. duPont Hospital for Children/Jefferson Medical College

## PEDIATRIC NEUROLOGY

**Peter Davis**
- Children's Hospital Boston/Harvard Medical School
- Einstein/Montefiore Medical Center/Albert Einstein College of Medicine (Pediatrics)

## PLASTIC SURGERY

**Michael Gart**
- McGaw Medical Center/ Northwestern University

## PSYCHIATRY

**Robert Haskell**
- New York Presbyterian Hospital/Weill Cornell Medical Center

**Jason Lambrese**
- Cambridge Health Alliance/ Harvard Medical School

**Khoi Le**
- Harbor-UCLA Medical Center/David Geffen School of Medicine at UCLA

**Joanna MacLean**
- Cambridge Health Alliance/ Harvard Medical School

**Lawrence Yu**
- University of Arizona Affiliated Hospitals/ University of Arizona

## PSYCHIATRY-NEUROLOGY

**Lindsey Gurin**
- NYU School of Medicine/ NYU School of Medicine

## RADIOLOGY

**Geraldine Abbey-Mensah**
- SUNY Health Science Center Brooklyn/SUNY Health Science Center
- Einstein/Montefiore Medical Center/Albert Einstein College of Medicine (Medicine-Prelim)

**Gil Abramovici**
- Yale-New Haven Hospital/ Yale Medical School
- Cambridge Health Alliance/ Harvard Medical School (Trans.)

**Scott Harada**
- Baylor College of Medicine/ Baylor College of Medicine
- University of California, San Francisco, Fresno/UCSF Fresno (Medicine-Prelim)

**Charles Mitchell**
- Johns Hopkins Hospital/ Johns Hopkins University School of Medicine
- Rhode Island Hospital/ Alpert Medical School (Medicine-Prelim)

**Nicholas Monu**
- Rhode Island Hospital/ Alpert Medical School
- St. Vincent's Medical Center/ University of Connecticut School of Medicine (Trans.)

**Sandra Rutigliano**
- Thomas Jefferson University/ Jefferson Medical College
- Abington Memorial Hospital/ Temple University School of Medicine (Medicine-Prelim)

## SURGERY

**Jonah Cohen**
- Brigham & Women's Hospital/ Harvard Medical School

**Scott Grant**
- UMDNJ-RW Johnson-Piscataway/Robert Wood Johnson Medical School

**Isaac Howley**
- Johns Hopkins Hospital/ Johns Hopkins University School of Medicine

**Connie Lee**
- UMassMedical School/ UMass Medical School

**Marie Nguyen**
- University of Hawaii/ University of Hawaii

**Mary Ottinger**
- Rhode Island Hospital/ Alpert Medical School

**Leslie Wong**
- New York Presbyterian Hospital/Columbia University Medical Center

## SURGERY (PRELIM)

**Shawn Fu**
- Rhode Island Hospital/ Alpert Medical School

# BIG SHOT

SARAH ANDIMAN MD'13

## Accidental Tourist

### Cambodia through the lens of a doctor-in-training.

**I began to learn about Cambodia while assisting a documentary photographer who has worked extensively in Southeast Asia. His images inspired me to visit Cambodia myself. Last summer I volunteered at Phnom Penh's Sihanouk Hospital Center of HOPE, which provides free care to the poor. I took this photograph while traveling through the countryside on one of Cambodia's major roads. This boy is likely helping to care for his family's rice farm. I plan to return to Phnom Penh this coming summer, where I will conduct a project for my scholarly concentration in global health.**

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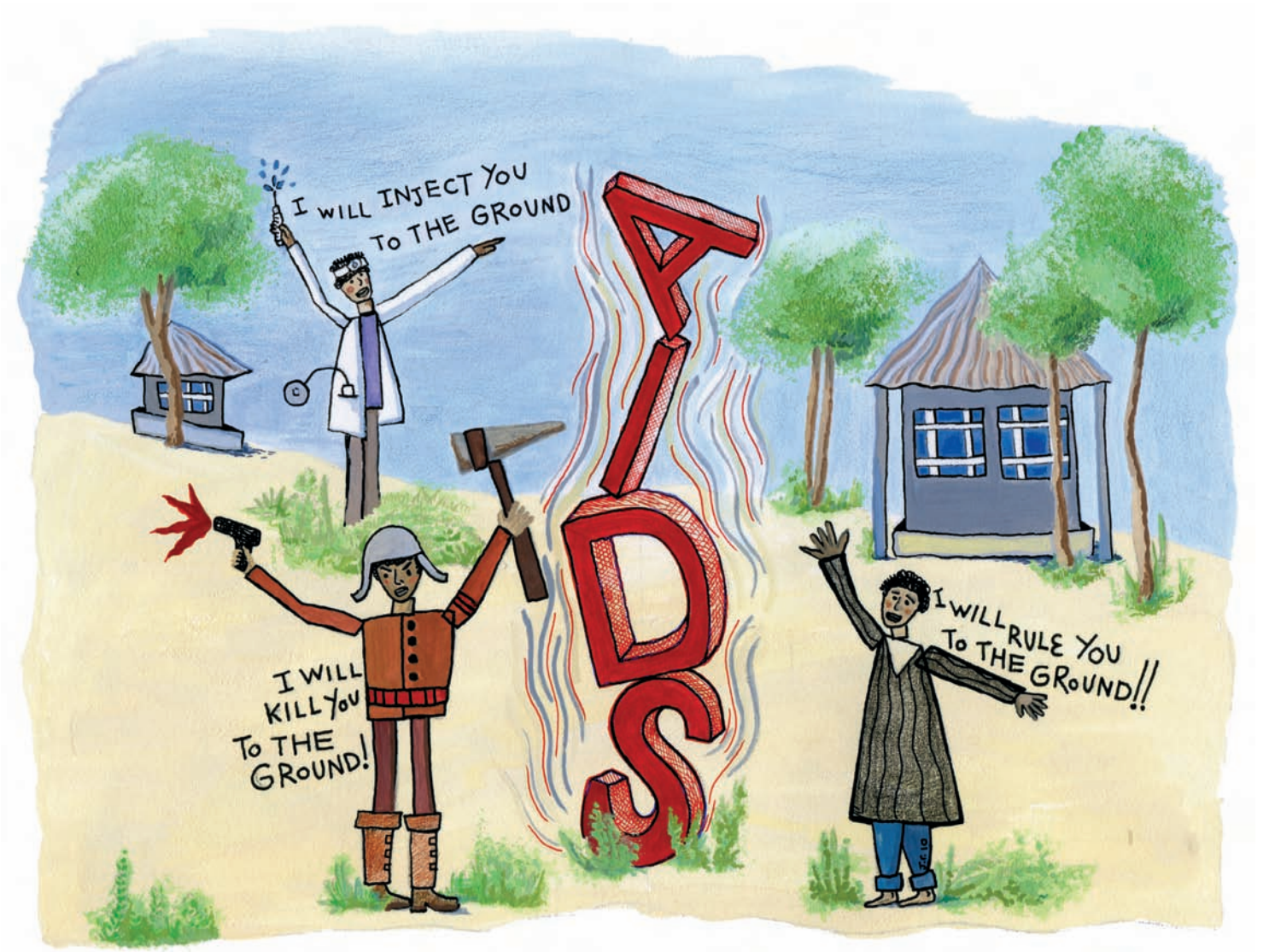
**Sarah Andiman** *received a BFA in photography from Rhode Island School of Design in 2003. Before deciding to become a physician, she taught photography, worked as a photographer's assistant, and undertook various freelance projects.*
**Give us your best shot.** *Go to brownmedicinemagazine.org/view/photos.php and follow the instructions for submitting a photo. Don't forget to include details about the image!*

# FIELDNOTES

BY LEAH M. SCHERZER '02 MD'06




JESSICA DEANE ROSNER

# Under African Skies

## The heartbreak and the joy of treating children with HIV.

***"My name is Masego,*** *I am a solider. AIDS you CANNOT touch me. I will kill you, to the ground. My name is Thabo, I am a doctor. AIDS you CANNOT hurt me. I will inject you, to the ground. My name is Nametso, I am a lawyer. AIDS you CANNOT kill me. I will rule you, to the ground."*

Bashi, a 6-year-old HIV-positive boy made up and sang this song while running around our clinic in Botswana. He amazed us all with his knowledge and his joy in singing about his power over something that only a few years ago would have killed him.

I came to Botswana after finishing my pediatric residency last July, as a member of the Pediatric AIDS Corps (PAC), a program sponsored by Baylor College of Medicine in seven African countries. Much of what I found in Botswana surprised me: most of the country is serviced by tarred roads, the majority of houses have access to drinkable water, school is free (though book and uniform fees keep some children from attending), and health care (including free antiretrovirals for HIV) is provided for all citizens. The government is able to offer these services largely because of revenue from its diamond mines. Despite the relative wealth of the nation, the vast majority of citizens are poor, unemployment is around 18 percent, and an estimated 37 percent of 15-to-49-year-olds are HIV infected, leaving thou-

sands of orphans and people requiring frequent and expensive medical care. There is also an incredible shortage of doctors, with 2.5 pediatricians/ 100,000 children versus 106/100,000 in the U.S. The PAC was established to help build pediatric capacity by training local medical officers and nurses in pediatric care.

The experience has been challenging, rewarding, and heartbreaking—sometimes all at the same time. Many patients will stick with me forever, including Neo. When I first met Neo she was 10 months old, HIV positive, and weighed 3.7 kg (six standard deviations below the mean). She had disappeared from clinic for two months and had run out of her medication, putting her at risk for developing drug resistance. I wanted to admit her to stabilize her nutritional status, but her mother was worried about her six other children. In Botswana, little children must be accompanied by a caregiver in the hospital; the nurses are not responsible for feeding or changing diapers. Given that the baby was not in significant distress, I agreed to close follow up. I involved the social worker, dietitian, and several nurses, and Neo's mother agreed to return in two days for a recheck.

Two days later, when she did not show up, we called the three phone numbers she had given us, but got no answer. We decided to do a home visit. A clinic driver, a nurse, and I set out to find her house. She was renting one room in the backyard of her landlord's house. The room contained a 3/4 size bed, a small bureau, and a hot plate for cooking. There was one window, no electricity, and it was 100 degrees! Neo lived there with her mother, the mother's boyfriend, and, on occasion, her siblings. Neo's mother explained that she had not returned to clinic because she had gone to apply for a food basket (Botswana's version of food stamps), a multiple-day process. After a long discussion, another home visit, and multiple social work interventions, we managed to get Neo admitted to the hospital and began the rehabilitation process for her malnutrition. After one week, during which she gained significant weight and her demeanor improved, her mother, frustrated with the hospital stay, took Neo home. One month later, we still have not found them.

After one week, during which **she gained significant weight and her demeanor improved,** her mother took Neo home. **We still have not found them.**

As heartbreaking as this case is, thankfully it is the exception. Most of our patients adhere to their treatment and come regularly to clinic. This case made me realize that providing free medical care is not enough. The social stressors, extreme poverty, and poor educational attainment of many of our patients make it challenging for them to utilize the services they desperately need.

## REASON TO HOPE

**But for each** of the distressing cases, there are many more children who surprise me with their tenacity and ability to smile and laugh in the face of adversity. I have never met children who light up so brightly when presented with a sticker or given a hug. There are hundreds of children who are positively thriving on antiretrovirals, when just nine years ago these medications were not available.

We have a blossoming Teen Club where HIV-positive teenagers get together one Saturday each month to have fun, see that they are not alone, and learn to deal with their HIV-positive status. At a recent event the teens created skits about disclosing their status to teachers, friends, and family members. They performed the skits in Setswana, but their skill and enthusiasm as actors conveyed their message even to non-Setswana speakers.

It is through these teenagers that I believe real change will be possible. We are working toward a new generation of healthy, happy, productive, HIV-positive children and teenagers, one of whom just might go on to find the cure for the illness that has shaped their lives.

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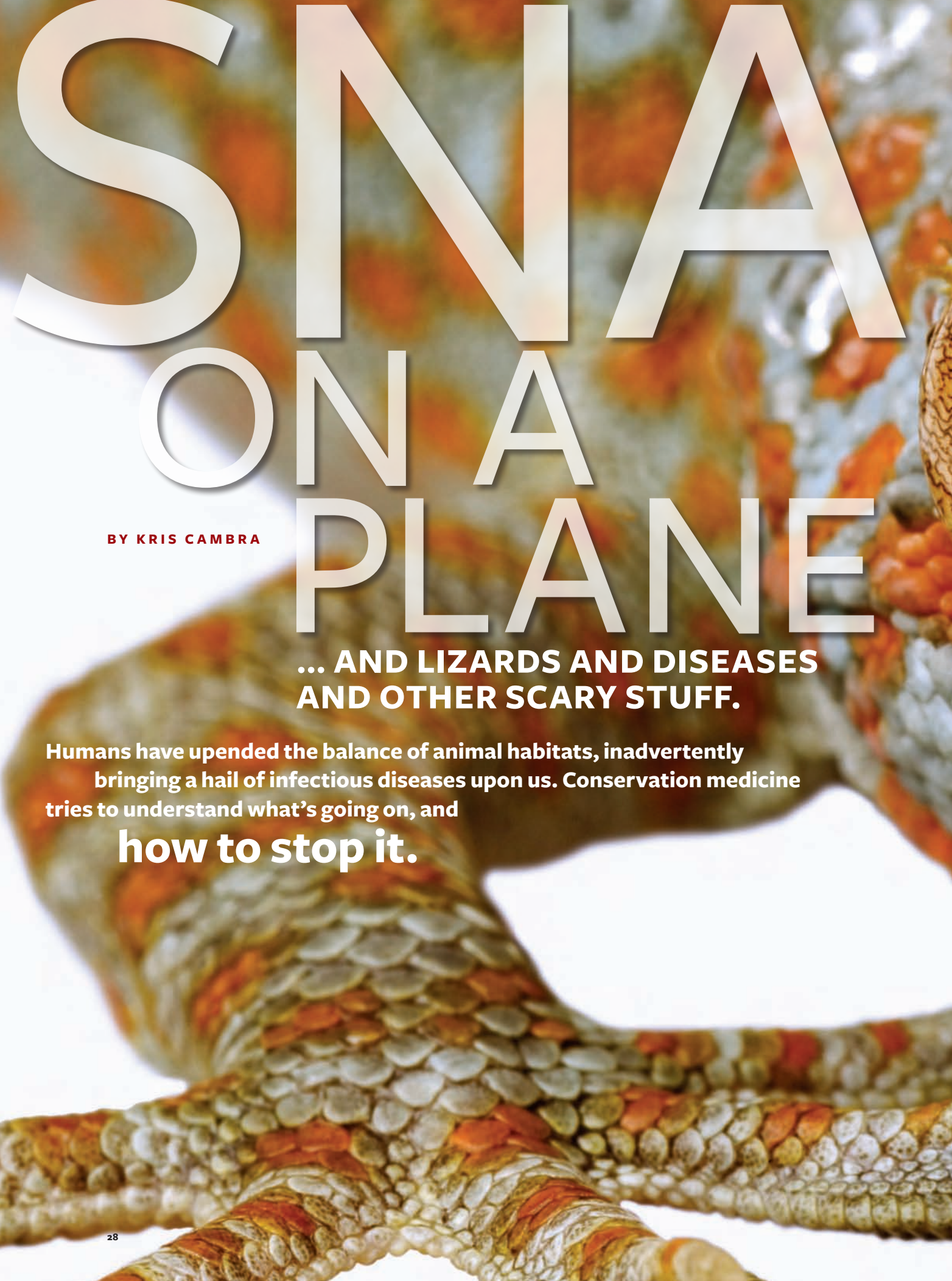
**Leah Scherzer** *will be in Botswana through 2010 and possibly into next year. She plans to combine U.S.-based practice with international work, and will continue to care for underserved children. Follow her at http://botdoc.blogspot.com/.*



# SNAKE ON A PLANE

BY KRIS CAMBRA

## ... AND LIZARDS AND DISEASES AND OTHER SCARY STUFF.

**Humans have upended the balance of animal habitats, inadvertently bringing a hail of infectious diseases upon us. Conservation medicine tries to understand what's going on, and how to stop it.**


KES

When swine-origin H1N1 influenza virus swept the globe last year, sickening millions and killing thousands, it stirred controversy and confusion over how a virus could have been transmitted from pigs to humans. While no smoking pig was ever found to trace the virus directly, the pandemic renewed awareness of zoonotic diseases—those that can be transmitted from animals to humans. This and other headline-grabbing outbreaks—like avian flu, ebola, and SARS—are just a few of the world's emerging infectious diseases that were transmitted by animal hosts. Since 1940 there have been 335 emerging infectious disease events. Seventy-five percent of such events originate in animals. These diseases are a threat to both human and animal health. Frighteningly little is known about the diseases animals carry and what causes them to jump the xenographic barrier to infect humans. Without better understanding of those factors, it's nearly impossible to predict or prevent more emerging infectious diseases from affecting us.

Interest in these diseases combined with concern for the impact global environmental change would have on human health led to the rise of a new field, called conservation medicine. Conservation medicine is an interdisciplinary field that examines the links between human health, animal health, and environmental conditions. Ecologists, veterinarians, infectious disease specialists, and epidemiologists are just some of the experts investigating where and how these diseases are emerging—and more importantly, trying to predict what the next ones will be before an even more deadly global pandemic is unleashed.

## SOME LIKE IT HOT

**Conservation medicine** emerged at Brown with the arrival of Katherine Smith, a young assistant research professor in the Department of Ecology and Evolutionary Biology. She and her husband, ecologist Dov Sax, were hired in 2007. Though Sax's expertise is in species extinction, invasions, and climate change, they've published a number of papers together on disease and environmental change.

"Conservation medicine is really a brand-new field," Smith says. "We're still asking very basic questions about how environments change and influence disease. We're able to study these interactions now because we finally have large global data sets of diseases, where they occur, and why. Likewise, we have new laboratory technologies that allow us to identify pathogens that we couldn't 20 to 30 years ago. It's a frontier science in that way."

"The phrase was coined in the '80s," says Peter Daszak, president of Wildlife Trust, the 35-year-old international conservation organization. As research on environmental damage progressed, scientists realized it was "no good just to look at human behavior and say 'we're going to fix it.' The diseases are coming from wildlife *and* the changes in their environment ... There's been a groundswell toward this holistic approach."

The number of emerging infectious diseases increased markedly in the 1980s and 1990s. Smith explains, "[T]he majority of these came from animals. This is the real question for conservation medicine: How are we altering and changing the environment in ways that we are setting ourselves up to get disease from animals?"

Human impact on the environment is well studied. Population size has grown, taxing natural resources. Deforestation and urbanization have led to humans encroaching on habitats that we've never been in before. "Hot zones" have developed throughout Asia and Africa, where climate change, unregulated development, and loss of natural habitat have given rise to infectious disease. We've even seen it happen in the U.S., where every summer brings warnings against mosquito-borne West Nile Virus and tick-borne Lyme disease—zoonotic diseases transmitted by para-

sites that feed on both animals and humans.

"Pathogens are opportunistic," Smith says. "[H]umans are coming into frequent contact with a diversity of animals, creating opportunity for pathogen spillover from them to us."

Climate change is making it possible for some animals—and their parasites—to live in new geographic areas, and that, too, has an impact on human health and emerging infectious disease. A report by the Center for Health and the Global Environment at Harvard, called *Climate Change Futures: Health, Ecological and Economic Dimensions,* examined the spectrum of physical and biological risks humans face from an unstable climate. Its conclusions? Warming favors the spread of disease; extreme weather events create conditions conducive to disease outbreaks; and climate change and infectious diseases threaten wildlife, livestock, agriculture, forests, and marine life. In an appearance at Brown in March, the report's co-author, Dr. Paul Epstein, MPH, said, "We underestimated the rate of climate change, and we've underestimated biological response."

**"In a six-year period we imported 1.5 billion live animals from 200 different nations."**

Within the field of conservation medicine, Smith says, there's an ongoing debate about the extent to which climate change will play a role in human infectious diseases occurring where they have never occurred before. Malaria and dengue fever, which typically occur in the tropics and subtropics, are two diseases that come up routinely as possible threats. Some argue that, "as climate warms, many diseases will migrate out of the tropics into temperate regions where conditions will favor vectors [mosquitoes, ticks, or other]. In this way, diseases would expand their range," Smith says. "But a lot of people suggest that is not realistic, arguing that it's going to get hotter and drier in the tropical areas where many diseases typically occur, thus causing the disease to fade out in the tropics." Will the area where disease occurs stay the same size but shift northward, or will the area increase in size?

Like so much that has to do with climate change, "It's a big debate right now," Smith says.

## PORT AUTHORITY

One thing we know for sure about how animals move is that many get where they are going with help from humans.

For as long as humans have moved, we've brought domesticated animals and our pets with us. Smith wondered, *How many animals do we bring to the U.S.? What kinds? What diseases might they be bringing that don't yet occur here?* Perhaps, she thought, we are unwittingly bringing animals that are a risk to the native wildlife, domestic livestock, and even to ourselves right to our shores.

With a prestigious David H. Smith Conservation Research Fellowship under her belt and the mentorship of Peter Daszak, Smith set out to answer those questions. She and Daszak started with a letter, a Freedom of Information Act request to the U.S. Fish and Wildlife Service for the shipment records of every live animal imported from 2000 to 2006. After a year it finally arrived, in massive Microsoft Excel files with literally millions of rows of information. No one had ever asked for it before.

Smith was astonished by the numbers.

"[The report] took a long time to analyze because it was huge. In a six-year period we imported 1.5 billion live animals, from 200 different nations, and the majority were collected from the wild. Over 95 percent were imported to be sold as pets," she says.

"To put it in perspective, this is the equivalent of every person in the country owning five pets. This is crazy."

The importation of wild animals is not regulated; nobody's scanning them at the border. You can import virtually anything you want as long as it is not endangered or identified as "injurious" by the Fish and Wildlife Service (and few are). The import records, Smith says, showed that animals from all the big taxonomic groups had come into the country, including more than 2,000 species that do not naturally occur in the U.S. Almost all were identified to the level of class, so a box might say "mammal" or "reptile." But is that mammal a pygmy shrew or a whale? A mere 13 percent of the shipments were identified to the level of species.

"The people examining them at the ports have no idea what they are. As long as they look healthy, they send them through," Smith says.

In collaboration with Defenders of Wildlife, Smith compiled all the literature that had ever been published on all the species that U.S. Fish and Wildlife has ever seen to see what exactly was known

about them. Did we know, for instance, what kind of diseases they carry? It turned out that only 3 percent of the species, according to the literature, carry a pathogen that can be spread to humans. Smith thought that seemed small. *Too* small.

"If the majority of emerging infectious diseases now are coming from animals, this percentage doesn't make sense," she says. "I think it's because nobody is studying all these weird, bizarre things. Scientists hardly study any of these exotic species in the wild, never mind see what diseases they carry. The scary part is how little we know."

The study landed on the pages of *Science* in May 2009. The research was a warning that we do not know enough about these imported animals, and that they could pose a serious risk to our health, as well as to ecology and agribusiness. She and her co-authors at Wildlife Trust, where she is a senior consulting scientist, called for stricter recordkeeping and better risk analysis of animal imports, third-party surveillance and testing at points of origin, and education efforts for individuals, importers, veterinarians, and the pet industry.

The publication coincided with the introduction of H.R. 669, Nonnative Wildlife Invasion Prevention Act, on Capitol Hill. The results of the importation research were presented to Senate committees considering the bill, but it eventually stalled. Opponents—namely the pet industry, who, Smith says, "is excellent at lobbying"—appear to have successfully thwarted it.

Humans, of course, are not the only species at risk. Invasive species have devastated natural habitats, most famously the Asian carps threatening the Great Lakes and the exotic snakes roaming Florida's Everglades. On March 8, Florida declared the first open hunting season on nonnative snakes and other reptiles. The prime targets are tens of thousands of Burmese pythons. With no natural predators in the area—even alligators have shied away from a fight with the 10-foot snakes—the pythons have proliferated. The pythons, imported as pets and most likely released in the wild when they grew too large to be managed by their owners, are strangling the Everglades' native wildlife, even the endangered Key Largo wood rat. And there's no guarantee the snakes will stop at the border. Wildlife experts believe that if not put in check, the pythons will migrate as far north as the Carolinas and possibly west to southern Louisiana.

## WORKING GROUP

**Conservation medicine,** by definition, is an interdisciplinary field. Brown's strengths in public health, global health, and infectious disease meant Smith had many ready collaborators on campus.

**Burmese pythons, brought to the U.S. as pets and then released by their owners, terrorize the Everglades.**

One of them was Assistant Professor of Medical Science Mark Lurie, an epidemiologist in the International Health Institute. A native of South Africa, Lurie has studied the impact of human migratory patterns on the spread of HIV/AIDS. The origin of his interest in conservation medicine smacks of a tall tale: he was helping a veterinarian at one of the biggest and most successful game reserves in South Africa track buffalo herds that had been infected with bovine tuberculosis. "I was painting numbers on buffaloes...," he says, "... and it struck me how human disease and animal disease are really similar processes.

"Some herds have high prevalence, some have low prevalence. The contact those groups have between each other is going to determine whether you have an epidemic or not. That's precisely what I was studying in humans," Lurie says.

Smith and Lurie applied for a grant from Brown's Environmental Change Initiative (ECI) to start a working group of faculty and students on conservation medicine. The group met regularly for a year, reading the major papers published in the field and hosting a series of speakers. The culmination was a well-attended research symposium on campus. "[T]he purpose was to show that people here were already working on parts of conservation medicine. If we came together and saw that we were each doing the foundational work for this discipline, we could unite in a way that would be productive," Smith says.

Professor of Community Health Stephen McGarvey, director of the International Health Institute, joined Smith and Lurie to apply for a second round of ECI funding this year. McGarvey spent years working in China and the Philippines on schistosomiasis, a parasitic disease carried by freshwater snails. Ecologic disruptions that cause an

abundance of snails lead to an increase of schistosoma larvae.

The additional ECI funding is supporting their work with three students—two undergraduates and a master's candidate—who are each tackling research questions related to conservation medicine. Smith, McGarvey, and Lurie all act as mentors and work together with the students, bringing to bear expertise in their respective fields. "We're teaching them how to ask the question, get the data, analyze it, and publish it—that's the real world that we live in. The requirement is that they publish this work in a peer-reviewed journal by the end of the year," Smith says.

"It takes resources to do that and it takes being open to ask the questions. We try to get the students to be critical—even of the literature published in very prestigious journals," McGarvey says.

The first student is determined to answer a controversial question: whether or not disease plays a significant role in driving species to extinction. While that is widely believed, Smith says there really isn't evidence to show that it's true. The student is going through a hundred years' worth of literature to identify all of the species that have gone extinct in the past and that are on the verge of extinction to figure out how many of those were really affected by disease. She'll compare the role of disease to more widely studied causes of extinction, such as habitat loss or climate change. "The evidence so far suggests that disease plays a very small role in species extinctions, but for some groups it's very important," Smith says.

**"Kate guides the students with encouragement *and* rigor. No sloppy thinking allowed."**

Sarah Rapoport '10 MD'14 is looking at the formal definition of emerging infectious disease. There are seven different ways that a disease can change to be considered "emerging." That's a challenge because diseases are changing all the time. The other big question is *how* are the diseases emerging? "Sarah is creating a database of how diseases have emerged since 1940—for example, via spread to new regions or evolution into new pathogens—and then will link the diseases back to the drivers. No one's ever done it," Smith says.

The third project is not as related to environmental change or conservation medicine, but it does tackle another controversial belief. Smith explains that in the 1980s, there was a definite spike in the number of diseases emerging. "One of the hypotheses floating around is that emerging infectious diseases peaked in the early '80s because that's when HIV/AIDS came on the scene which spread around the world and caused a huge number of people to become immune-compromised. Those people were better able to harbor or become infected by new things we'd never seen before. You see that hypothesis a lot but no one has ever tested it," Smith explains.

Johanna Schmitt, Stephen T. Olney Professor of Natural History and director of the ECI, encourages the growth of conservation medicine at Brown because of the important work the field is doing to understand the impact of climate change on humans. She says the working group was "one of the most successful ECI has ever had," and attributes the success to the "intellectual leader it has in Kate Smith."

McGarvey echoes admiration for his younger colleague. "I like Kate because

she pinpoints the question and she's dedicated to knowing with more confidence. She guides the students with encouragement *and* rigor. No sloppy thinking allowed—at least not the second time you say it."

## POOP PATROL

**Smith is working** with a multidisciplinary group of collaborators to study geckos, one of the most popular pet groups right now. A gecko can be purchased in any pet store for about $20 (juvenile) to $80 (full grown). Like many reptiles, geckos carry salmonella, and salmonella is on the rise in the U.S. as a result of the spike in reptile pets.

Much of Smith's work is in Indonesia, home of the tokay gecko. The tokay gecko carries numerous kinds of salmonella. In fact, it carries more strains than any reptile that anyone has ever studied. Smith wanted to know why they have such diversity of salmonella strains, including many that don't exist in the U.S.

"We started investigating where the dealers get them in Indonesia. From which forested region? And it turns out they don't get them from the forest. They collect them wherever they see them, and geckos are like pigeons there, so they occur around people. They're collecting these in their villages, around the livestock pens, off the walls of the houses," Smith says.

And that's alarming from an infectious disease perspective. If the salmonella from the livestock are brought to the U.S. and the domesticated stock have not been exposed to it before, it could contaminate herds, with devastating effects. Or humans could be infected because our immune systems have not built up defenses to these new strains. The level of diversity in salmonella makes it a nice thing to study from a scientist's standpoint, Smith says, but there are public health implications, too, because it's on the rise in the U.S. The immunocompromised, the elderly, and the young are particularly susceptible to salmonella infections.

Smith collaborates with a wildlife farm in Indonesia that breeds and collects reptiles and amphibians. "They used to deal in birds until avian influenza came along and shut down that trade," she notes.

Because salmonella is found in the intestines, Smith goes into the field with the reptile dealers and collects and preserves fecal samples from the geckos. The samples are sent to her collaborators at The University of Georgia who do the laboratory analysis to look for the exotic strains of salmonella. That work is highly specialized and they've developed the PCR (polymerase chain reaction) methods to tease out the strains.

**"They collect the geckos wherever they see them, and geckos are like pigeons there."**

"This project is a testament to conservation medicine and how it works," Smith says. "It requires lots of scientists who can do different things. I couldn't do it without them and they couldn't do it without me collecting the sample. It's a win-win collaboration."

Samples are also collected when the geckos arrive in the U.S., to see if they picked up any new strains along the way. At ports of entry, species from all over the world come in close contact with each other, creating an opportunity for pathogen swapping. "When they get to the pet stores, how many strains do they have? We're really tracking disease along these trade routes," Smith explains.

Pulling up a picture of the Indonesians who collect the reptiles, Smith says, "Our hope is to start sampling these people to see what diseases *they* are getting. Again, pathogens are opportunistic ... they're handling hundreds of these animals every day and they're not told 'wash your hands' or 'wear gloves'—that's not how they work. We think they are going to be the sentinel population for new emerging pathogens."

Smith and her team have data from 300 geckos, but are not done analyzing it yet. The next question will be how to use their findings in a way that it will impact regulation of the trade.

"I can tell you that Petco's not going to want to hear that they might be selling an animal loaded with different salmonella strains," she says. "Any mom going to the pet store to buy one of these things is not going to want to hear that. As soon as consumers start to hear that these things are loaded with weird kinds of salmonella from around the world, people are going to change the way they think about pets that they are buying."

That might be a quicker way to alleviate the danger from imports than taking on the valuable pet industry directly. Live animal purchases account for $2.21 billion of the $47.7 billion Americans will spend on pets this year.

# BUYER BEWARE

## The consumer's guide to safe pet buying.

Consumer education might be a faster and more reliable way to stem the flow of potentially dangerous pets. With colleagues, Katherine Smith is developing a program called "PetWatch." Modeled after the successful Monterey Bay Aquarium guide for selecting safe, sustainable seafood in restaurants and supermarkets, PetWatch advises consumers which pets are safe to buy.

"We looked at the top 100 imported animals in the U.S. that are sold as pets. We pulled teams of expert scientists together to compile as much information as they could, such as: What is that species' status in the wild? Does it carry any harmful disease? Is it invasive anywhere and has it caused anything to go extinct? We have a very complicated methodology to make sure that we have all the best available scientific evidence ... [B]ased on that information, we determine if a particular species would be a best, fair or worst choice pet," Smith says.

She uses the popular North American bullfrog (pictured above) to illustrate the system. The benign-sounding bullfrog seems like a good choice for the home terrarium. Not quite. The bullfrog is native to only specific regions of North America but has been shipped around the world and raised for frog legs. When it is re-imported to parts of the U.S. where it doesn't already occur, it terrorizes the indigenous wildlife and spreads the dreaded chytrid fungus that is decimating amphibians. That's what is happening in the American West, where bullfrogs are gobbling up smaller frogs and toads. It earned a "worst choice" ranking.

"It's not based just on disease; it's everything," Smith says. "We have birds, other amphibians—a good mix of pets."

So what is a good frog to keep? The exotic-sounding fire-bellied toad (below) is actually a "best choice" pet. The toad is not invasive, doesn't spread chytrid, and is stable in the wild. Its beautiful spotted skin is a bonus.

PetWatch will launch late this summer via www.petwatch.net, which will post the rankings, pet reports, project methodology, and downloadable applications for mobile phones. So when moms are in the pet store, they can pull up the ranking lists and compare pets.

"It's the consumer who is going to help change the industry. If they stop buying harmful species, [suppliers] are just not going to bring them into pet stores. I think this is where change is at," Smith says.

### THE BIGGEST FEAR

**Smith is currently** teaching the first-ever course in conservation medicine at Brown. Twenty-five students went on a waiting list for the class, on top of the 20 enrolled. She's also forged new collaborations, like the Research Seed Grant she received from Brown to work with Linda Amaral-Zettler, assistant professor of ecology and evolutionary biology and a research scientist at the Woods Hole Marine Biological Laboratory. Together they'll study pathogenic bacteria in pet shop aquaria. She was also invited to serve on the new Global Health Initiative's (see *Brown Medicine*, Fall 2009) Executive Committee, largely to help conservation medicine grow at Brown.

Peter Daszak, of Wildlife Trust, himself the foremost scholar in conservation medicine, calls Smith "a future leader of the field," and adds that this is a novel, fundable area that is only going to grow.

For Brown, it's bringing together a number of established research groups—in environmental science, global health, ecology, and public health—to concentrate on problems that are an enormous threat to people around the world. "It connects a lot of pieces that are otherwise quite disparate," Mark Lurie says. "It's very exciting and it's completely critical to public health."

Being on the frontier *is* exciting, simply because there's just so much to learn, so many questions that no one has tried to answer. And Smith's work so far has shown that we really need to know more about these potential threats. "You can only use the best available scientific evidence, and right now there is just so much we don't know," she says. "The unknown is the biggest risk—the biggest fear."


BRuNO MallART

A scholar of Soviet history and modern Russia describes life with Parkinson's.

# GETTING AROUND IN OZ

BY ABBOTT GLEASON

ILLUSTRATION BY BRUNO MALLART

Readers of L. Frank Baum's Oz stories will certainly recall the Tin Woodman, who achieved his entirely metal status by degrees (not academic ones). The sort of accidents endemic to his profession (wood-chopper) resulted in his losing limbs and

body parts, which were one after another replaced by an obliging tinsmith living nearby, until the transformation was complete. "Nick Chopper," as Baum sometimes referred to him, was on balance pleased with his shiny new body. Baum, a sometimes undiscriminating lover of puns, on occasion had the Tin Woodman reflect on what a polished gentleman he had become, or on what a shining example he could be to his friend the Scarecrow.

But there was one serious problem. If caught out in a rain shower, the Tin Woodman could quickly become immobilized. This happened to him several times (Baum wrote rapidly and often repeated himself), and as a little boy I used to empathize with his being caught in the rain and rejoiced when Dorothy or the Scarecrow managed to get him back into the hands of the amiable tinsmith for refurbishing.

When asked what it feels like to have Parkinson's, I invariably remember my childhood sense of the Tin Woodman's dilemma. I feel that I too am rusting into immobility. I imagine Nick Chopper trying to get to the tinsmith's house before the rust is total. I recall my sense of the increased effort he needed, the expenditure of will, what it must have been like, grinding it out. Unfortunately, my restoration to normal activity is not so simple a matter as it was for the famous Tin Woodman, who in Baum's paradise would again be his dazzling self in a page or two. No—unless stem cell research produces dramatically (and improbably) rapid results, I am going to rust away, although the process can be postponed and I hope will be.

I read a lot of the literature that I find online about Parkinson's, especially pieces by Oliver Sacks, but I haven't had much luck finding apposite descriptions of what P.D. is like to live with. Nor, so far at least, have I experienced any of the amazing or sinister side effects from the disease-cum-medication that Sacks describes so enthrallingly. To the relief of my family, I have not become a compulsive gambler. I do not suddenly spot little children—angelic or demonic—playing on the floor in front of me. On the other hand, much to my regret, I have seen no miraculous development of my musical abilities. I sit down at the piano hopefully, but I still don't find myself playing the slow movement of Beethoven's opus 109. Or anything else, for that matter. I sing, but never entertain the idea of charging admission. If anything, my ability to carry a tune has diminished. My dreams remain relentlessly ordinary.

Sometimes it feels to me as if I have become enclosed (or even encrusted) in a kind of membrane that in some way half conceals the outside world from me. This veil is physical and perceptual, but it's more mysterious than that. It both narrows my field of vision and shrouds my psychological take on the world. Only when I am motionless in the grip of a riveting film or some marvelous narration can I mobilize my sensory apparatus the way I used to. (Getting a massage, watching "The Wire" on a DVD and eating an ice-cream sandwich are blessedly the same.) Otherwise my world is constricted and translucent, rather than transparent. To bring another analogy from the kidlit I like so much, sometimes I feel as if I have been caught by the spiders in Tolkien's Mirkwood, like Bilbo Baggins' dwarf comrades, and am struggling in the gluey folds of their webs.

## RAGE OF AN OPTIMIST

**Most aspects of daily life** are in new ways a struggle. Getting my wallet out of my coat pocket, extracting the right bills—*No, not that one, stupid! That's a twenty*—can take an eternity.

Salespeople try to be patient, usually. Many objects are now determined enemies. Very few are neutral and none are friendly. When it comes to dressing and undressing, for instance, I'm a child again. Getting my clothes on is a project, as it was when I was three and my mother in desperation made a game of it. My clothes have lost all of their former docility and responsiveness. They are now outlaws. Buttons simply refuse to go through the button holes. Socks, which used to slide on and off my feet in the most obliging way, have grown surly; they wrinkle and stick, bunching around my feet, below

my ankles. They are uncompromising. How did they shrink and rigidify like this? I tug at them furiously. Sometimes I rip the tops off or suddenly plunge my heel through the heel of the sock. I rage helplessly, again like a 3-year-old. I feel stupid, but then remember that my Parkinson's doctor told me that rage is good, as it shows that I'm basically an optimist. But I wonder.

I hop around the room, trying to get my well-worn khakis to allow my leg to jam itself through. My doctor strongly advises that I sit down to put my trousers on, but I've always done it this way. I won't be dictated to by a pair of pants. I'll make them do it my way! Eventually I bully them into submission. I walk stiffly downstairs, running my hand along the banister, prepared to clutch it if I need to. My gait isn't too bad in the morning, but stiffens up as the afternoon goes on, even before I've had my glass of grog. To quote my new guru, Oliver Sacks, I've lost "the silent music of the body."

How bad is all this, really? How much worse than just getting old? I'll never know the answer to that question, I suppose. A friend of mine, a great historian, has ALS. We commiserate with each other via email, while he can. We've both written memoirs. We email about our pasts, how our books are doing. We make up limericks about pompous practitioners of unnecessarily arcane literary or historical arts. We address each other affectionately, as we probably would not under other, "daylight" circumstances. He is already in the shadows.

Let the daily struggle with my socks continue...

**MY CLOTHES HAVE LOST ALL OF THEIR FORMER DOCILITY AND RESPONSIVENESS. THEY ARE NOW OUTLAWS. BUTTONS SIMPLY REFUSE TO GO THROUGH THE BUTTON HOLES. SOCKS, WHICH USED TO SLIDE ON AND OFF MY FEET IN THE MOST OBLIGING WAY, HAVE GROWN SURLY; THEY WRINKLE AND STICK, BUNCHING AROUND MY FEET.**

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**Tom Gleason's** *memoir,* A Liberal Education, *was published in February by TidePool Press. Visit www.tidepoolpress.com for more information.*

## A GENTLEMAN AND A SCHOLAR

Abbott (Tom) Gleason is the Barnaby Conrad and Mary Critchfield Keeney Professor of History *Emeritus* at Brown. A Brown professor for more than 30 years and former chair of the Department of History, he is known as one of this country's premier historians of the former Soviet Union and modern Russia and an expert on totalitarianism. He is also a former director of the Kennan Institute for Advanced Russian Studies at the Wilson Center in Washington, DC. Perhaps best known for his work *Totalitarianism: The Inner History of the Cold War* (1995), he has edited and co-authored numerous others.

Following is an excerpt of an introduction by Christopher Lydon, host of Radio Open Source, a conversation on the arts, humanities, and global affairs produced in partnership with Brown University and its Watson Institute for International Studies.

"Tom Gleason might be everybody's dream of an intellectual mentor: there are touches of Mr. Chips about Tom, and of his friend George Kennan, and of my big brother Peter, and your big brother, too, if you're blessed to have one. It's my thought anyway that if you assemble a dozen or so people of Tom Gleason's range and reading and curiosity and conversational talent, you've got yourself a university.

COURTESY WATSON INSTITUTE

"*A Liberal Education* is the title of his memoir. It's the private side of a career in Russian studies coinciding with four decades of Cold War. It warms and deepens my pleasure in the book to have known Tom well from odd angles: our daughters were college roommates; we've listened to jazz bands many Monday nights at Bovi's Tavern in East Providence; we read *War and Peace* together in a small group two summers ago, then *Moby Dick* last summer. *The Brothers Karamazov* is next, in summer of 2010..."

To listen to the entire show, complete with music, visit www.radioopensource.org.

# FORCE OF NATURE

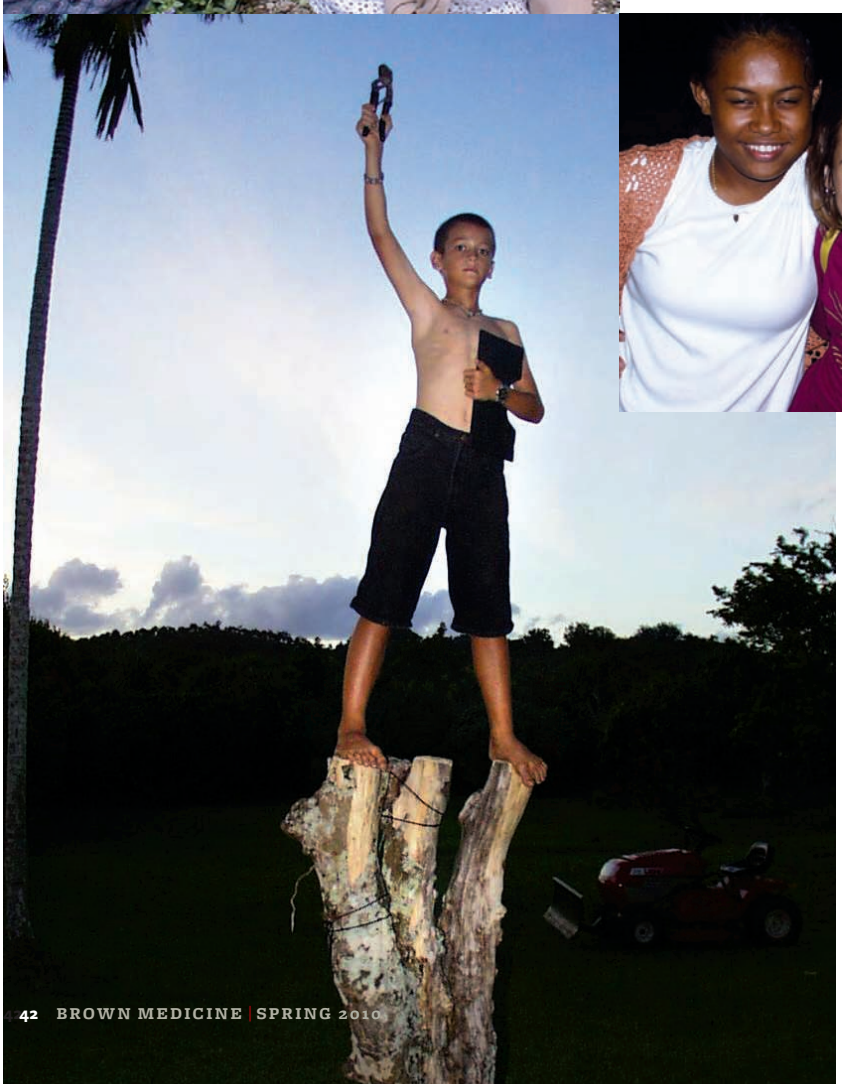
Primary care. Disease prevention. Disaster recovery.

David Rutstein, MPH MD'83 is ready for anything.

BY SARAH BALDWIN-BENEICH
PHOTOGRAPHY BY D.A. PETERSON

**POHNPEI ISLAND, MICRONESIA.** An 18-year-old man lies on an operating table. He has a ruptured Achilles tendon. Dr. David Rutstein is bent over an incision in the man's leg, carefully sewing the two ends of the tendon together. Suddenly he notices the patient's chest is damp. Looking up from his work, he sees water seeping through the suspended ceiling tiles and dripping onto the young man. As he watches, a bit of ceiling tile falls, then another, and then the whole piece drops and water and sodden tile cascade onto the patient's chest. Rutstein holds up his hands and jumps back, instinctively trying to preserve the sterile field. The circulating nurse tosses a towel onto the patient, moves the tray of instruments out of the way, and waits for the doctor to pick up where he left off.

**SERENITY NOW**
**Rear Admiral Rutstein is calm under pressure.**



**FAMILY ALBUM**
**Left, Rutstein on leave with Gayle, in Hong Kong; daughter Lauren, middle, with friends Zarin Goltimog and Quintina Letarewiply; Evan in 1997 in the family's backyard in Yap.**

"Am I the only one who has a problem with what just happened?" Rutstein asks, incredulous.

"Oh, doctor," the scrub nurse replies, "just be thankful this wasn't an abdominal case."

Today, more than 20 years and 7,700 miles separate him from that experience, but Rutstein tells this story with freshly amused disbelief, his Mount Rushmore features crinkling into a smile. "So I finished the operation," he adds with a shrug. "It was a good lesson for me in being adaptable."

It's this sort of adaptability and sanguine, do-what's-needed focus that Rutstein has consistently brought to his work, whether training native doctors in Micronesia or deploying to a devastated New Orleans. And it's what he's already bringing to bear on behalf of the American people in his new post as acting deputy surgeon general of the United States.

## ATTENTION: NOW LEAVING COMFORT ZONE

**Rutstein didn't always know** he wanted to go into medicine. A psychology major at Hamilton College in the '70s, he also played competitive soccer. One day on

COURTESY RUTSTEIN (3)

the field he suffered a knee injury and underwent surgery to repair it. The experience was pivotal. "When my knee healed I remember thinking, 'Wow, medicine is transformative! I'm going to be a doctor,'" he says.

A year spent doing research in a lab convinced Rutstein he wanted to care for people directly. And not just any people. He wanted to care for those who need it most.

(When he told his premed adviser, who taught chemistry, the professor said, "You will not get accepted to medical school, but if by chance you do, you'll be a terrible doctor." Rutstein wisely thought to himself, "What does a chemistry professor know about serving the underserved?" and proceeded with his plan.)

Rutstein's drive to serve is clearly rooted in his upbringing. Raised in the Bahá'í faith—a religion founded in the mid-19th century by a Persian nobleman and whose main tenet is the unity of humankind—Rutstein says, "I believe in the essential nobility of all humanity. So when [I thought about] large tracts of underserved people, it didn't sit well." His father, Nathan Rutstein, was a well-known journalist and author of 19 books (notably *Healing Racism in America*), as well as a prominent civil rights advocate who helped found the National Resource Center for the Healing of Racism.

"My father equated racism with being a disease. He felt that, just like the women's movement needs the high visibility of men, the movement to fight racism needs the high visibility of people deemed to be advantaged in society."

Which helps explain how Rutstein went from a small liberal arts college in upstate New York to the brand-new medical school at Morehouse College in Atlanta. Morehouse, an historically black college for men, is the alma mater of Martin Luther King Jr., former U.S. Surgeon General David Satcher, and filmmaker Spike Lee. One of three white kids in the school, Rutstein was study partners with a young woman named Regina Benjamin—the same Regina Benjamin whom President Obama nominated to be surgeon general last year. Because the school was just starting out, students went to other institutions for their clinical years. Benjamin went to the University of Alabama. Rutstein came to Brown.

**"I DEFINE PUBLIC HEALTH AS POPULATION-BASED APPROACHES THAT DEAL IN THE SPACE BETWEEN MEDICINE ON THE ONE HAND AND POLITICS ON THE OTHER."**

## WESTWARD HO

**Upon graduating, in 1983,** the young MD owed the government four years of service in a Health Professional Shortage Area (HPSA) as part of his National Health Service Corps (NHSC) scholarship. Rutstein started an internal medicine residency at Salem (MA) Community Hospital, but soon saw that it was not for him. The hospital had an ICU and a coronary care unit, and somehow he didn't envision such amenities in the remote places where he longed to practice. He was eager to learn to do without and to acquire as many skills as possible.

"The only way I'm going to learn to do surgeries and deliver babies, even do operative obstetrics, is to go where the distances are greater and there are fewer physicians," he thought. So he headed west.

Forced to start over, Rutstein began a new residency, this time in family medicine, at University of California-San Francisco's Natividad Medical Center in Salinas, lettuce capital of the world and the setting of John Steinbeck's *East of Eden*. He relished the experience.

"There were tons of migrant farm workers. I became fluent in Spanish. And there were so many disparities—the county includes the farms but also Carmel and Soledad Prison [where Sirhan Sirhan, who assassinated Robert Kennedy, was sent in 1968]. I started moonlighting in the Monterey County Hospital emergency department. Any time there was a prison riot they shipped the people to the county hospital. So this ED saw a lot of trauma cases, a lot of indigent people." By the end of his stint, Rutstein was both chief resident in the family medicine program and an attending in the county hospital ED.

Resuming his quest for a population in need, Rutstein got word from the NHSC that there was an opening in Micronesia. And so, in 1987, a week after his residency ended, he left for the island of Pohnpei with his wife, Gayle (a British student whom he had met, fallen in love with, and married the summer after his

**"YOU HAD TO GET OVER YOUR OWN SENSE OF INADEQUACY BECAUSE THE OTHER OPTION WAS YOU JUST WATCHED SOMEONE DIE."**

first year of medical school), and their three children, all under the age of 5.

### "THIS ISN'T MAUI."

**The Federated States of Micronesia** (pop. 108,000) comprise 607 islands ranging from mountainous land masses to coral atolls. The islands are organized into four states: Pohnpei, Chuuk, Yap, and Kosrae. Taken together, the islands' land area is 270 square miles (about a quarter of that of Rhode Island and four times that of Washington, DC) but they are spread over 1 million square miles of the North Pacific. There are nine different ethnic groups, and several languages are spoken.

Health Professional Shortage Area designations are based on rate of low-weight births, infant mortality, and poverty, ratio of health professionals to individuals in the area, access to care, geographic barriers, and so on. They are ranked on a scale of 2 to 25, 25 being the highest level of need. In 1987, of the world's 3,500 HPSAs only four had a ranking of 25. They were the four states of Micronesia.

It took the family 22 hours and several plane rides to get to Pohnpei. "There were no signs, no streetlights. Just dirt roads with potholes, trash, thatched houses. My wife said, 'Where's the downtown?' I said, 'We just went through it.'" Rutstein grins, remembering. "They have the highest rainfall on earth [300 inches/year] but only two hours of running water—and electricity—a day. I knew I was in exactly the right place."

Rutstein was exhilarated to find himself somewhere that really needed him. The paucity of medical resources meant that the introduction of even the most basic vaccines—hepatitis B, pneumococcal, influenza—made a difference.

"Just figuring out how to get the vaccines to the outer islands while preserving the cold chain, when only three of those islands have airstrips ... the public health challenges were amazing. How many young family practice doctors have the opportunity to influence the health of a nation?"

Out of necessity now, Rutstein continued to broaden his skill set. Because of their strong prejudice in favor of American physicians, the Micronesians believed he and the other two NHSC docs on Pohnpei could do anything. He did autopsies and trauma surgeries, for example, that most primary care doctors never see.

"I was functioning without diagnostic certainty," he says. "No CT or MRI, no specialist in the hallway to ask. I would operate with the textbook open, or call someone up desperately in another country to consult. Many were not willing to help because they didn't want to become liable.

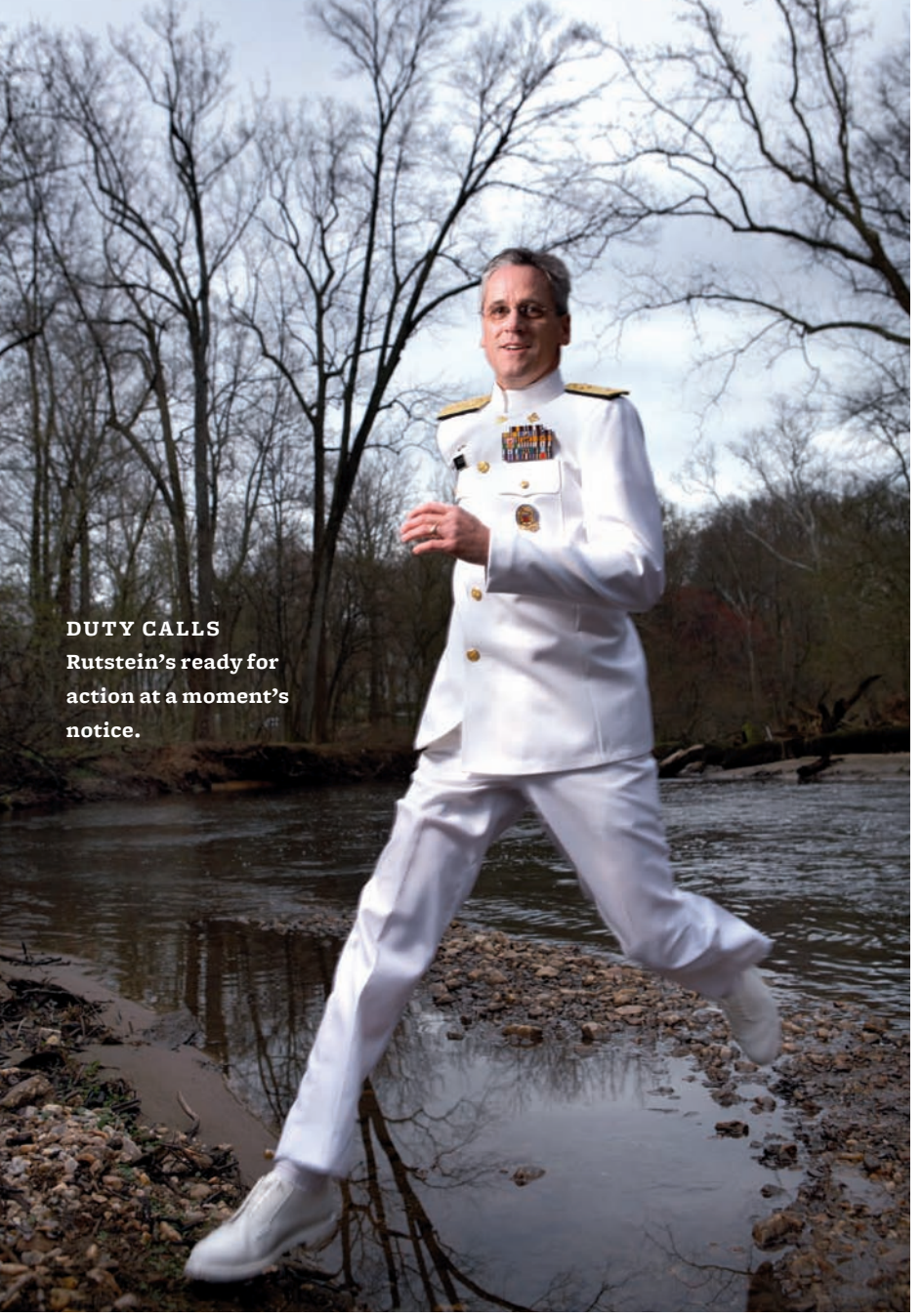
"The reality is, when you have a patient they just want to get better," explains Rutstein. "They're not thinking

COURTESY RUTSTEIN

## KEEPING IT REAL

In Rutstein's Washington office at the foot of Capitol Hill, an x-ray (left) leans against the window. It shows a skull with something protruding from the jaw, like a cigar. The man in the x-ray was accidentally shot in the mouth with a barbed spear while fishing in an outer island 400 nautical miles from Yap. Rutstein managed to divert a ship to transport the man to an island with an airstrip, from which he was flown to Yap. Rutstein eventually got to the man and removed the spear.

For Rutstein, the x-ray is a reminder of the issues he cares most about—access to care, proper allocation of resources, appropriate use of technology. "Every time I think I'm a big shot I look at that x-ray and say, *This is real. This is what much of the world has to cope with.* That guy spent two and a half days with a spear lodged in the back of his throat. A simple x-ray made all the difference."



**DUTY CALLS**
**Rutstein's ready for action at a moment's notice.**

**"IT'S ALL ABOUT PREVENTION. YOU CAN'T PREVENT AN EARTHQUAKE BUT YOU CAN BUILD BUILDINGS THAT WILL WITHSTAND THEM."**

liability. Their families are sitting on the floor outside the operating room with this anticipation and hope that you provide. If the patient does well (and most of the time, thankfully, they did), great. If the patient dies, the family is still tremendously grateful that you tried."

## ISLAND HOPPING

**After four years** on Pohnpei the Amherst, MA, native had fulfilled his obligation, but the family wanted to stay. Micronesia was home. To continue working for the NHSC Rutstein had to change locations, so they moved to Yap. On this, the most traditional of all Micronesian island-states, the men wore loincloths and the women *lava lavas*, or wrap skirts. A caste system was still in effect.

"They were trying to do primary care on the outer islands, develop dispensaries. They really were trying to improve the health status of their people," he recalls.

It was in Yap, where Rutstein worked in a 50-bed hospital, that his mission to improve public health and clinical care took on a certain urgency. When he arrived in Micronesia, there had been 39 American doctors. After four years, only he remained. He couldn't abide the idea that if he left there would be no one to replace him. So he stayed—for nine more years.

Rutstein set about creating a local health workforce. He started a residency program to train Yapese physicians, but at first it was tricky. "In Yap, people believe that knowledge is only useful to one person at a time. If you're standing up there lecturing, they're sitting there thinking, *How useful can this knowledge be if he's willing to give it away?* So you have to teach indirectly. When I really wanted someone to take a medicine, I would speak very softly. The implication is *This is very powerful information*. Everything's taught by apprenticeship. That model fits pretty well in medical education. A residency is really an apprenticeship.

"[The government of Yap] gave me carte blanche to do anything I thought would be of help to the people there," Rutstein continues. "I trained health aides in the outer islands, instituted all kinds of public health measures, started a peritoneal dialysis system. I trained local doctors to do C-sections and use forceps, to prevent disease, to get people to focus on prevention—what they eat, how much exercise they get."

## JUST LIKE "BEING THERE"

**In 2000, after 13 years,** Rutstein and his family did return to the States so that their oldest child, then 18, could prepare for college. (Before they departed Micronesia, Rutstein helped estab-

lish the national soccer team. But that's a story for another time.) They settled near Washington, where he was named chief medical officer of the NHSC.

The departure had been heartrending, but what the doctor found hardest was the transition from Yapese reticence to Beltway posturing: "In Micronesia, when you have something to say, you say it. Not before. In DC, [a lot] is based on what people think you know. The first six months were disheartening, mostly because I felt lost in the apparent complexities. As in any cross-cultural setting, I watched the local people, didn't make judgments, and adopted the customs. The only time I offered an opinion was when I knew I had something to contribute."

"People projected this wisdom [onto me]," Rutstein says, a bit bewildered. "But the wisdom I had was to be quiet."

Working for the Health Resources and Services Administration and then for the U.S. Public Health Service (USPHS), Rutstein—who had earned an MPH from Johns Hopkins in 2006—also had to get used to the idea that he was now improving health not by providing clinical care to individual patients but through less direct means, such as developing policies and implementing legislation that can nevertheless affect millions. He defines public health as "population-based approaches that deal in the space between medicine on the one hand and politics on the other."

"It's not as gratifying—you don't see the patient," he explains, "but I became enamored of that notion. Politics, after all, is about advocating for certain populations."

His thoughtful, analytic approach, combined with his unusual calm, make Rutstein the kind of guy you'd want in charge when disaster strikes. And he has been that guy. In 2005 he spearheaded the response of the Surgeon General's Office of Force Readiness and Deployment (OFRD) to the earthquake in Nias, an island near Sumatra, that followed the December 2004 tsunami in Banda Aceh. That same year he led two separate USPHS teams in response to Hurricane Katrina, and was chosen to serve as a director of Lessons Learned on the White House Homeland Security Council's Katrina Lessons Learned Review Group. Appointed director of the OFRD in 2007, he recently deployed teams to a New Mexico Indian reservation after a spate of youth suicides and to American Samoa following an earthquake-triggered tsunami.

For Rutstein the month in 2005 spent aboard the *USNS Mercy* off Nias was an eye-opener. The island had suffered terrible devastation; some 1,300 people had died. In his view, the experience redefined how the government approaches international assistance—and confirmed his belief in the power of what he calls "health diplomacy."

"If you want people to like you, you can either blow up their houses so they're afraid *not* to like you, or you can treat their kids' ear infections," he says. According to a public opinion poll, 85 percent of Indonesians who were aware of the *USNS Mercy*'s mission ended up with a favorable opinion of the U.S., compared with some 20 percent before the mission. The results of such population-centric efforts were so convincing that they became part of Department of Defense Directive 3000.05, "Elevated humanitarian assistance activities."

## NEVER A DULL MOMENT

**Twelve days into the year 2010,** 15 miles west of the Haitian capital of Port-au-Prince and just 8 miles beneath the streets, a 7.0 magnitude earthquake along the Enriquillo-Plantain Garden fault system released 31.6 megatons of energy—the equivalent of 25 nuclear bombs. Within hours, the USPHS Commissioned Corps was rallying its troops. Rutstein oversaw the response. Over the next few weeks, the OFRD deployed teams to the *USNS Comfort* and *USS Bataan*, which traveled to Haiti to perform public health assessments, administer vaccines, provide veterinary care, coordinate NGOs, bring Haitian nationals in need of health care to three U.S. sites, and repatriate U.S. citizens. The Department of Health and Human Services also set up a mobile morgue and provided mental health support services to both Haitian nationals and responders.

According to Rutstein, the next phase in Haiti's recovery must address public health issues, especially precarious living conditions—sanitation, water,

**"I WOULD ADVISE EVERY PHYSICIAN IN A RESOURCE-POOR PLACE TO GET PUBLIC HEALTH TRAINING."**

**"IF YOU WANT PEOPLE TO LIKE YOU, YOU CAN EITHER BLOW UP THEIR HOUSES SO THEY'RE AFRAID *NOT* TO LIKE YOU, OR YOU CAN TREAT THEIR KIDS' EAR INFECTIONS."**

**TEAM BUILDING Rutstein treats a victim of the 2005 quake in Nias, Indonesia, left. Below, Rutstein stands proud with the Federated States of Micronesia soccer team he helped establish. Israeli soccer legend Shimon Shenhar, second row at left, spent nine weeks in Micronesia helping build its national men's soccer team at Rutstein's request.**

COURTESY RUTSTEIN

the approaching rainy season. "We also must respond to the needs of the government of Haiti—the whole infrastructure, not just public health and medicine. That's a lesson from New Orleans and [Indonesia]: we must engage with local government institutions."

On February 3, barely three weeks after the quake, while the response was ongoing, Surgeon General Regina Benjamin appointed Rutstein acting deputy surgeon general.

In his new role, Rutstein's charge is to assist Benjamin "in articulating the best available scientific information to the public regarding ways to improve personal health and the health of the nation." This includes overseeing the USPHS's collaboration with the Healthy People process (a 10-year initiative intended to provide a road map for communities of all sizes to improve and lengthen life and address health disparities), the conclusion of Healthy People 2010, and the ramping up of Healthy People 2020. That might sound like a far cry from hospital ships and minimalistic conditions, but once again Rutstein is responsible for influencing the health of an entire nation.

# ALUMNI ALBUM

CHECKING IN WITH BROWN MEDICAL ALUMNI


**The Rhode Island Hospital residency class of 1905.**

COURTESY RHODE ISLAND HOSPITAL ARCHIVES

## CLASSNOTES

### 1978

**Harold Gever** '75 works as a staff physician at the Philadelphia VA Hospital. He still plays piano, chess, and the stock market, he writes, "with mixed results in all of them!" His daughter Allison teaches English in Mexico, his daughter Dana is a freshman at Emory, and his son, Evan, is an associate at J.P. Morgan in Manhattan.

The *Norwich Bulletin* named **Robert E. Levin** '75 a "newsmaker of the day" marking his 25 years of service as the first rheumatologist in the Norwich, CT, area. A physician at The William W. Backus Hospital, he was selected this year as a Castle Connolly Top

Doctor in rheumatology for 2009-2010. He is a clinical assistant professor of medicine at Tufts University School of Medicine.

**Alan Muney** '75, P'04 has joined CIGNA Corporation as senior vice president, total health and network, to lead the company's health management and network contracting activities. In this role, Alan will oversee the company's doctors, dentists, nurses, behavioral health clinicians and other health professionals who deliver health management and wellness programs to CIGNA customers.

## 1979

**Stephen Cannistra** '76 has been named the next editor-in-chief of the *Journal of Clinical Oncology*, the leading oncology journal in the world. The appointment is effective May 2011. Stephen is a professor of medicine at Harvard Medical School and director of Gynecologic Medical Oncology at Beth Israel-Deaconess Medical Center. He is co-leader of the Dana-Farber/Harvard Cancer Center disease program in gynecologic oncology.

**Griffin P. Rodgers** '76 has been elected to the Institute of Medicine. Griffin is director of the National Institute of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health in Bethesda, MD. He has worked at the institute since 2001 and was named director in 2007.

## 1980

**Mark Nunlist** '70 is a senior partner at White River Family Practice in White River Junction, VT, where he's practiced since residency. He has just received a MS degree in health care leadership from the Dartmouth Institute for Health Policy and Research. He writes that his practice just completed installation of an electronic medical record system with grant support from the Vermont Institute of Technology Leaders. He is on the faculty of Dartmouth Medical School, teaching primary care.

Mark's wife, Cappy '70 (Cathryn), has had dual careers, in general practice law in Hanover, NH, and as assistant director of the General Practice Program of Vermont Law School. She will be leaving her law practice in June to become a full-time VT Law School professor. Their son Cabot, 35, is married to Eva, who is completing her pediatrics residency in NJ. Daughter Kimberly (born at Women & Infants Hospital, 1979) is living in Kauai, HI, and Corey, 28, lives in Olympia, WA. Mark explains what they've been up to: "Trekking in Nepal and Peru. Sailing in the Virgin Islands. Hiking the Kalalau Trail and camping on the north shore of Kauai with Kimber. Canoeing in the Boundary Waters of Minnesota and on the Missouri River of the Lewis and Clark Trail. Herding cattle on horseback in northern Colorado. Hoping (and planning) to climb Kilimanjaro shortly after our reunion."

> "Trekking in Nepal and Peru. Hiking the Kalalau Trail and ... **hoping to climb Kilimanjaro shortly after our reunion."**

## 1983

**Richard G. Ellenbogen** '80, P'11 has been named co-chair of the National Football League's Head, Neck and Spine Medical Committee. Richard is Theodore S. Roberts Endowed Chair of Neurological Surgery at the University of Washington School of Medicine, chief of neurological surgery at Harborview Medical Center, and attending neurosurgeon at Seattle Children's. He is also co-director of the Seattle Sports Concussion Program and was a key advocate for the "Zackery Lystedt Law," the first state law requiring medical clearance for a young athlete suffering a concussion.

## 1986

**Eli N. Avila**, JD, MPH '81 was appointed chief deputy commissioner of health and director, Division of Public Health, for Suffolk County, NY. Eli is a Fellow of the American College of Legal Medicine and is one of only 300 MD/JDs in the U.S. to be board certified in legal medicine. He and his wife, Elena, and their sons will be moving to Suffolk County.

**Dan Medeiros** has been appointed chief of Child and Adolescent Psychiatry at St. Luke's and Roosevelt Hospitals in New York City. He had been acting director since October 2009.

## 1987

**Ippolit C. A. Matjucha** has been appointed medical director at Medflow, Inc., a leader in the development of electronic health records software for eye care physicians. Prior to this, Ippolit was a senior staff physician at the Lahey Clinic in the Department of Ophthalmology, supporting all aspects of neuro-

**WHAT'S NEW?**

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

ophthalmology, general ophthalmology and cataract surgery, in-patient consultation service, and resident surgical training.

## 1990

**Peter Kilmarx** received the Lester B. Granger '18 Award for Lifetime Achievement in Social Justice as part of the annual Martin Luther King Jr. Celebration at Dartmouth College on January 29, 2010. Peter is chief of the Epidemiology Branch in the Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention in Atlanta. The Branch has more than 60 staff in Atlanta and 250 staff overseas and is responsible for epidemiologic and clinical research to reduce the burden of HIV/AIDS worldwide. He recently received a U.S. Public Health Service award for exceptional leadership and service in the CDC's response to an ebola outbreak in Zaire, in the area of his Peace Corps service.

After stints in Thailand and Botswana, Peter and his wife, Nicha, and children Ben, 17, and Hunter, 13, now live in Decatur, GA.

EYE ON ALUMNI

# A Breath of Fresh Air

## Pediatrician opens airways for asthmatic kids.

**Marilyn Li** '92 MD'96 knows firsthand what life is like for her pediatric asthma patients. She had asthma, too.

Today, board certified in pediatrics and allergy and immunology, she helps some 600,000 children in Los Angeles County treat their asthma symptoms. "I remember visiting the emergency room multiple times when I was very young," says Li. "I felt suffocated."

Thanks to the Breathmobile program, which sends fully stocked medical vans out to LA County schools on regular—and frequent—visits, children receive low-cost, accessible, highly effective treatment. "Families are amazed at what regular routine care with the proper medications can do," says Li. "Before we treat these children, they may have made more than 50 visits to the ER. When they become Breathmobile patients, they visit the ER far less often."


**Marilyn Li and her asthma clinic on wheels.**

COURTESY LI

The program began with a single van in 1995; today, there are five in LA. Li, the Breathmobile's director of quality improvement and assurance, is gratified that 10 sites around the country have adopted their program. "Our model is clearly replicable and scalable," she says, adding that she is eager to bring Breathmobiles to neighborhoods throughout the U.S.

The results are breathtaking. Notes Li, "In patients who have engaged with our Breathmobiles for at least a year, we've seen a 76 percent reduction in hospitalizations, a 62 percent reduction in ER visits, and more than a 75 percent reduction in missed school days, due to asthma." That adds up to significant dollar savings and vastly improved quality of life, which is especially meaningful for the patients, many of whom lack access to quality, affordable care.

It's not just the patients who appreciate these outcomes. The LA County Board of Supervisors gave the program the "Top 10" award for enhancing citizens' quality of life, and the Quality and Productivity Commission bestowed it with the "Million Dollar Club" award for verified cost savings, cost avoidance, and revenue generated. Li herself was named Outstanding Physician of the Year by the Asthma and Allergy Foundation of America in 2009.

Breathmobiles use the most current recommended asthma treatments from the NIH Guidelines Expert Panel III. And, notes Li, the Breathmobiles' data contain the most comprehensive compilation of knowledge about asthma.

"I'm thrilled to provide this care to children who were just like me," says Li. ***—Nancy Kirsch***

EYE ON ALUMNI

# Gifts in KIND

## Calling all classmates: join the cause.

**Joe Diaz helps kids in need.**

**Imagine being** one of the 8,000 children who arrive in this country each year without a parent or guardian and are placed, alone and frightened, in U.S. custody. If Joseph Diaz MD'96 MPH'09 and the NGO Kids In Need of Defense (KIND) succeed, these young victims of sex trafficking, severe abuse, or persecution will receive free medical help in addition to the pro bono legal assistance that is KIND's raison d'etre.

Realizing that their young clients' medical issues complicated their immigration challenges, in 2009 KIND's directors approached Diaz, with whom they had collaborated on a 2005 medical mission to the Dominican Republic. Their goal: create a network of medical professionals to partner with KIND's nationwide network of volunteer immigration lawyers.

> "We want to find alumni across the country **who'll volunteer to provide medical expertise.**"

"We want to find alumni across the country who'll volunteer to provide medical expertise," Diaz says. "Many of these KIND children are traumatized and some have health needs that have been ignored. They need medical evaluations and treatment."

From testifying in court about the effects of trauma, abandonment, or other abuse on minors to providing psychological evaluations, the volunteer physicians would help protect the health and well being of unaccompanied children in the U.S.

Caring for the most vulnerable isn't new for Diaz. It was working to improve conditions for low-income families in Los Angeles that led him to medicine. Today an associate professor of medicine at Alpert Medical School, he continues to focus on those in need in both his clinical and research work at Memorial Hospital of Rhode Island. As co-director of the Department of Medicine's exchange program in the Dominican Republic, he travels there several times a year. His research focuses on health care disparities among the underserved in Providence County.

"My late sister Mary [Brown '82] was a tireless advocate for refugees and immigrants and helped foster in me a sense of social responsibility for the most vulnerable. As physicians, we all advocate for our patients. When KIND approached me...I was happy to help." ***—N.K.***

*Visit www.supportKIND.org for more information.*

KAREN PHILIPPI

# 1994

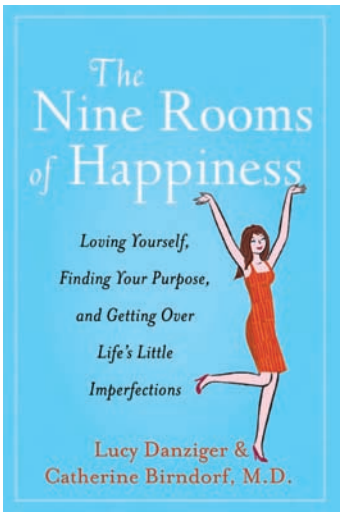
**Kamau Karanja** '90 is the medical director of the Joseph Smith Community Health Center in Waltham, MA, and **John Bassi** '90 is the medical director and physician in residence at St. Paul's School in Concord, NH. They continue to enjoy their annual fishing trips.

# 1995

**Joanne Wilkinson** '90 RES'98 is an assistant professor in the family medicine department at Boston University, where she runs a pipeline program to attract medical students to primary care careers. She writes: "[I'm] spending most of my time doing research on cancer prevention in vulnerable populations. I received a career development award from the [National Cancer Institute] in 2009 to study barriers to mammography for women with intellectual disabilities." Joanne lives in the Boston area with her husband, Duncan Vinson PhD'04, and their daughter, Maggie, born in March 2008.

# ALUMNI ALBUM

ALUMNI BOOK SHELF




## The Nine Rooms of Happiness

*Loving Yourself, Finding Your Purpose, and Getting Over Life's Little Imperfections*

**By Lucy Danziger and Catherine Birndorf MD'95**

Voice, 2010, $24.99

**"From the outside, you'd think I have it all: beautiful house, wonderful children, devoted husband. But am I happy? I think so. There's nothing that has gone terribly wrong. There's no reason for me not to be happy. But I don't feel happy so much as I feel I'm just going through the motions. Sometimes I have the feeling that there's more and I just haven't found it yet. But what ... and how dare I want more? Isn't all that I have enough?"** —*from* The Nine Rooms of Happiness

**There always seems to be something** that doesn't measure up to our high standards and we let the dissatisfaction distract us from taking pleasure in everything that is going right. Lucy Danziger, editor in chief of *Self* magazine, and Catherine Birndorf MD'95, women's-health psychiatrist and *Self* columnist (see *Brown Medicine*, Winter 2009), use the metaphor of a house to examine this phenomenon. They pinpoint common self-destructive patterns of behavior and offer key processes that help readers clean up their "emotional architecture." Once each room is "clean," Danziger and Birndorf help the reader "live a happier, more joy-filled life, in every room of [their] emotional house."

---

*Check out the book's YouTube channel for more information: www.youtube.com/user/ninerooms1.*

**Also from an Alpert Medical School alum:**

## The 15-Minute Heart Cure:

*The Natural Way to Release Stress and Heal Your Heart in Just Minutes a Day*

**By John M. Kennedy MD'92 and Jason Jennings**

Wiley, 2010 $25.95

## 1997

**Daniel Dickstein**, director of the Pediatric Mood, Imaging and Neurodevelopment (Pedi-MIND) program at Bradley Hospital, has been awarded nearly $2 million in federal funding from the National Institute of Mental Health to study bio-behavioral markers associated with childhood-onset bipolar disorder. He is an assistant professor of psychiatry and pediatrics at Alpert Medical School.

## 1999

**Parvez Sultan** is a cardiothoracic surgeon practicing in Birmingham, AL. He and Farah Sultan have two children, Sameer, 7, and Sophie, 4. Contact him at 3528 Tanglecreek Circle, Birmingham, AL 35243; parvez_sultan@hotmail.com.

## 2005

**Tripler Pell** writes: "I am currently practicing family medicine in Toronto, Ontario, and doing volunteer work at the Canadian Centre for Victims of Torture. Our children, Elias, Marina, and Atlas, are keeping us busy as well."

**Elizabeth Schoenfeld** '01 and her husband, **Pranay Parikh** '99 MD'03, announce the birth of their daughter, Zivia Parikh, on April 21, 2009.

## 2006

**Kathy Anderson** '01 joined Mid-Dakota Clinic Kirwood Mall Pediatrics in December and has become board-certified in pediatrics. She completed her residency at University of Hawaii's Kapiolani Medical Center for Women and Children in Honolulu.

**Christine Montross** MMS'07 RES'10 has been awarded a MacColl Johnson Fellowship from The Rhode Island Foundation. The $25,000 fellowships

COURTESY VOICE

EYE ON ALUMNI

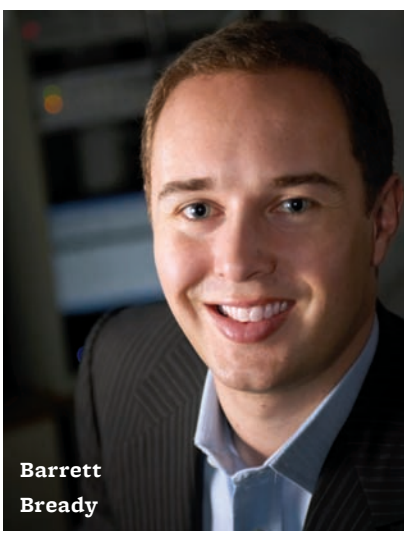
# Bullish on Biotech

## Brown-bred innovation and leadership.

**You may call** Adjunct Assistant Professor of Physiology Barrett Bready '99 MD '03 by his lengthy academic title, or you may call him CEO. The young Brown alumnus is at the helm of the newest tenant in Providence's Jewelry-cum-life-sciences-knowledge-District, NABsys, Inc.

Founded in 2005, NABsys is a DNA-sequencing startup based on technology developed at Brown. The company uses semiconductor technology to read DNA electronically. Current technology can sequence one genome per machine in a week to a month. Bready believes the NABsys technology could do it in as little as one hour. His goal is to make the NABsys platform the cheapest and most accurate method of DNA sequencing available. The product will help caregivers better understand the diseases they are treating and apply the best combination of existing treatments or develop new ones—a central concept for personalized medicine.

NABsys announced in February that it had secured a $7 million round of venture funding on top of the $4 million equity round it closed in early 2009. The 11-employee company plans to double its size over the next year. Bready is excited about their recent move to the Jewelry District in Providence, two doors down from the Alpert Medical School expansion. "The Jewelry District has a lot of advantages as a location for a robust life sciences cluster," Bready says. "We have Brown, the teaching hospitals, proximity to life sciences venture capital firms, ... a highly qualified work force...and a strategic geographic location between Boston and New York."



Barrett Bready

Bready joined NABsys in 2005 as CEO and the company's sole employee. Even while a medical student, he knew he wanted to make an impact on health care through technology. In 2002, he created a clinical elective in biotechnology at Alpert Medical School, an initiative he says is the first program in the country to allow medical students to receive academic credit for rotating through biotechnology companies.

While he stays busy as CEO of an emerging life sciences company, Bready makes time to spread the word about the potential of biotechnology. He teaches a class on the business of biotech at Brown.

"Biotechnology is going to be the biggest source of progress and change over the next 100 years," Bready says. "The more students understand that, the better prepared for the future they will be."

***—Adapted from Today@ Brown by Susan Hsia Lew '97***

COURTESY NABSYS

are awarded to Rhode Island-based composers, writers, and visual artists and are among the largest no-strings awards in the nation. The fellowship will allow Christine to work on a new series of poems called "Lunacy and Light," in which mental illness will be juxtaposed against the current and historical ways in which doctors have diagnosed and classified it, and to travel to Paris to continue her research into the origins of psychiatric treatment.

Christine is currently a resident in the Brown University General Psychiatry Residency at Butler Hospital. She says, "Writing and medicine enrich one another ... both are fields in which one is asked to look closely at small things, and to draw larger conclusions from those observations."

## 2007

**Robert J. Markelewicz Jr.** '04 MMS'05 RES' plans to marry Kimberly J. O'Keefe '02 in Providence in May 2010.

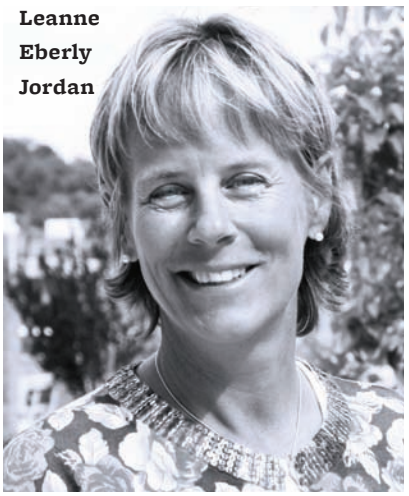
## FELLOWS 2009

**Jinsil Sung** has joined the staff at Norwood Hospital in Lexington, MA. Prior to that she completed the fellowship in hand and upper extremity surgery in the Department of Orthopaedics at Alpert Medical School.

# ALUMNI ALBUM

## OBITUARIES

### ALUMNI


Leanne Eberly Jordan

#### LEANNE EBERLY JORDAN

**Leanne Eberly Jordan** MD'89 died after a seven-year battle with breast cancer on March 13, 2010. She was 49. She graduated from Dartmouth College in 1983 and attended post-baccalaureate classes at the University of Rhode Island and Harvard University. During this time, she rowed crew for URI, Brown, and Boston rowing clubs. She won gold medals in Canadian and U.S. National Rowing regattas.

Leanne enrolled in the Brown/Dartmouth program and earned her MD in 1989. She completed her residency in obstetrics and gynecology at the University of Colorado Medical Center in Denver in 1994.

After her residency, she served as a major in the U.S. Air Force from 1994 to 1998. She and her husband, Harald, were drawn back to the Rocky Mountains and settled in Durango, CO.

In 1998, Leanne joined Four Corners OB-GYN. In addition to leading her practice, she served as chair of the Department of Surgery at Mercy Regional Medical Center. She later assumed the role of director of the Integrative Health Team–Touch, Love and Compassion.

Leanne was the honorary spokeswoman for the Mercy Regional Medical Breast Care Center.

Her obituary in the *Durango Herald* quoted her family: "More than anything, Leanne lived her life to the fullest. She was renowned in the community for her generosity and warmth, a rare and perfect combination of strength, determination, drive, grace, class and kindness."

She is survived by her husband, her daughter, Emily Elizabeth Jordan, and son, Kelsey Alexander Jordan, as well as her parents, a brother, a sister, nieces, and nephews.

Memorial contributions may be sent to Trails 2000, 1025 East Fifth Ave., Durango, CO 81301-5321; or the Mercy Regional Breast Care Center, c/o the Mercy Health Foundation, 1010 Three Springs Blvd., Durango, CO 81301.

### FACULTY

#### JOHN T. BARRETT

**John T. Barrett**, MD, died on January 26, 2010, in the 93rd year of his productive life. Born in Lewisville, IN, he attended Providence Classical High School and Brown University ('39). He then transferred to Boston University School of Medicine and was awarded his MD degree in 1943.

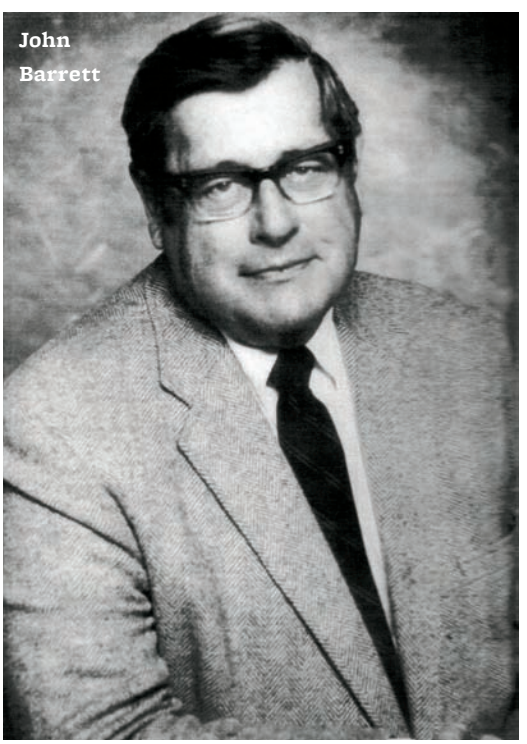
Following residency training in pathology at Rhode Island Hospital, John entered the United States Army, serving as pathologist to a sequence of military facilities in the States, Europe, and Korea. He was honorably discharged with the rank of Captain.

Back in civilian life, John resumed his residency training at Boston Children's Hospital and Providence Lying-In Hospital. In the subsequent 40 years, John was appointed pediatrician in chief at Providence Lying-In Hospital [now Women & Infants Hospital] and Rhode Island Hospital while serving as consulting pediatrician to many of the other hospitals in the state.

John chaired a cluster of Department of Health and Governor's commissions addressing a spectrum of problems regarding child health. When Brown University began its medical school in 1972, John was one of the first of the state's clinicians to be awarded a professorship. In addition, he was chosen to chair the admissions committee.

On March 10, 1985, The March of Dimes celebrated the 30th anniversary of the campaign to vaccinate the children of Rhode Island against poliomyelitis. A banquet attended by the medical and political leadership of Rhode Island was held to honor John Barrett's role in initiating and supervising this immense disease prevention campaign. The guest speaker was Dr. Jonas Salk.

In addition to his role as the leading pediatrician in the hospitals of Rhode Island, as pediatrician to many of the elementary and secondary schools of the community, and as the community pediatrician that a succession of governors had called for public health advice, John maintained a very busy private practice in association with Drs. Robert Lord Jr., Wilson Utter, Henry Utter, and Judith Shaw.


John Barrett

COURTESY DURANGO TIMES; ALPERT MEDICAL SCHOOL ARCHIVES

# OBITUARIES

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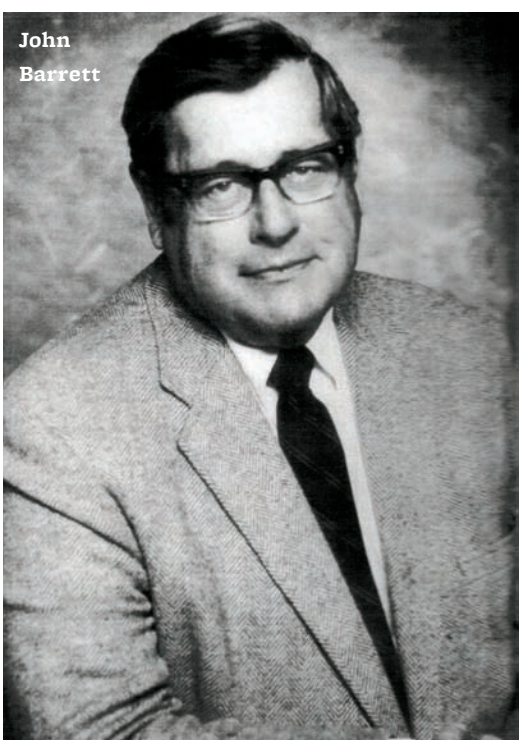


John Barrett

COURTESY DURANGO TIMES; ALPERT MEDICAL SCHOOL ARCHIVES

John Barrett was married for 69 years to Mary Sisson. They jointly parented five wonderful and productive children currently living in New England, New York, and California.

This is an objective distillation of the life of John T. Barrett. But it utterly fails to convey the enormous humanity of this gifted and generous man. It does not even mention the many thousands of children brought from sickness to health by this intuitively gifted physician; nor does it reflect upon the many younger pediatricians and countless medical students mentored over the decades by him. By his determined efforts a generation of Rhode Island children were protected from the paralytic residue of poliomyelitis—and this state is healthier because of him.

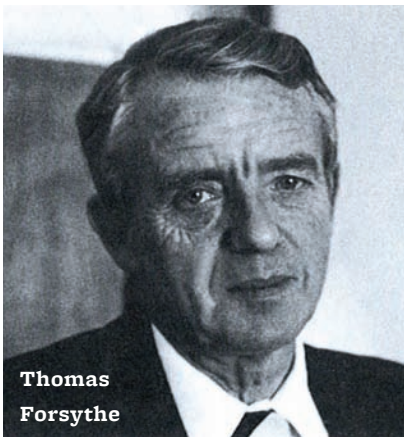
The Warren Alpert Medical School at Brown University, and indeed the people of Rhode Island, are collectively grateful for the life of Dr. John T. Barrett and the countless gifts that he bestowed upon us.

*Stanley M. Aronson, MD*
*Dean of Medicine Emeritus*
*Brown University*

## THOMAS FORSYTHE

**Thomas Forsythe**, MD, 89, of Warwick, RI, passed away on December 6, 2009. Born in Scotland, he graduated summa cum laude in 1942 from Brown University and received his medical degree from Tufts Medical School in 1945.

Forsythe served his country as a flight surgeon from 1946 to 1949 and completed his residency in radiology at Rhode Island Hospital in 1953. After completing a fellowship with the Oak Ridge Institute of Nuclear Medicine in 1955, he organized and directed the first radioisotope laboratory in Rhode Island. In 1964, he treated the cases of nuclear radiation sickness resulting from one of the first nuclear plant incidents. Forsythe served as the acting director of the Department of Radiology at Rhode Island Hospital for three years. He was awarded a Fellowship in the American College of Radiology for


Thomas Forsythe

his outstanding contributions to and service in the field of radiology in 1976.

A beloved professor with a passion and gift for teaching, Forsythe was known for his engaging and humorous lectures.

He is survived by his wife, Filomena (Caputi) Forsythe, three children, Nancy Forsythe, Thomas Forsythe, Patricia Donnelly, and six grandchildren, as well as many friends and family.

## ELIZABETH H. LEDUC

**Elizabeth ("Dukie") Hortense Leduc** passed away on January 30, 2010, at 88 years of age. She is survived by several cousins, including Ronald and Arthur Trahan, both of North Scituate, RI. Born in Rockland, ME, she grew up in northern Vermont and earned a BSc from the University of Vermont (1943), an MA from Wellesley College (1945), and a PhD from Brown (1948). Dukie held an NIH postdoctoral fellowship at Brown (1948-49) and was an instructor in anatomy at Harvard Medical School (1949-1953). She returned to Brown in 1953 as assistant professor, rising to associate professor in 1957. In 1964 she became only the third woman to be appointed full professor in Brown's 200-year existence. In 1967 she was appointed director of Biology, the first woman to lead an academic department at Brown, and served as dean of biological sciences from 1973 to 1977. She served as associate dean for the College from 1987 to 1988.

Dukie had an illustrious career as an effective teacher, a successful administrator, and a scientist with international credentials. She mentored seven PhD candidates and was a gifted teacher of cell biology and histology. Stanley Falkow, formerly a graduate student at Brown, wrote: "I remember especially Elizabeth Leduc's cell biology lectures seemed like poetry."

Dukie had broad interests in cell biology. Her early papers, co-authored with her PhD mentor, J. Walter Wilson, focus on mitosis in the liver and the effects of different stimuli on mitotic activity, and on the production of polyploid nuclei and multinucleate cells. She also pioneered important new methodologies in cytochemistry. In 1951 and 1952, she co-authored papers describing the use of histochemistry to localize acid and alkaline phosphatase. Later, in work with Wilhelm Bernhard of the CNRS Institut de Reserches Scientifiques sur le Cancer at Villejuif, France, she pioneered the use of water-soluble embedding media and ultrathin frozen sections for electron microscopy. Dukie described the CNRS as being like "a little scientific NATO" and relished the two months that she spent there during most summers from 1959 to the mid 1980s. She published a series of papers with her collaborators on the formation of perichromatin granules and the effects of quinacrine on nuclear structure. In 1984, shortly before her retirement, she brought together many of her scientific interests in a paper titled "Immunocytochemical identification of nuclear structures containing snRNPs in isolated rat liver cells."

Dukie traveled widely, and enjoyed good company and fine food. She was a member of 12 professional societies and served on several editorial boards. From 1969 to 1972 she served on the cell biology study section at NIH and was named a member of the National Advisory General Medical Sciences Council of the NIH (1972-1976). From 1979 to 1983 she was a member of the American Cancer Society Cell and Developmental Biology study section, serving as co-chair in 1980.

ALPERT MEDICAL SCHOOL ARCHIVES

# OBITUARIES

A founding member of the American Society for Cell Biology, Dukie also served on the ASCB Constitution Committee and the Legislative Alert Committee. Concurrently, she was appointed to President Gerald Ford's Committee on Science and Technology (1976-1977)—the only woman on the nine-person committee and one of few women to advise the President of the United States on scientific matters. This committee reviewed the entire structure of federal science.

Brown has recognized Dukie's contributions in many ways: the Elizabeth Leduc Award for Teaching Excellence in the Life Sciences, the Leduc Microscopy Facility, and the Elizabeth Leduc Prize in Cell Biology to an outstanding Brown undergraduate.

For all her achievements, Dukie was an approachable person with a ready smile who delighted in showing schoolchildren her mouse colony. In 1967, a reporter asked whether all her research on the liver had affected her taste for this organ. "No," she said, "I love it. There's a little restaurant in Paris..." As a pioneer in cell biology and cancer research, as a devoted teacher and as a stellar administrator, Elizabeth Leduc was truly a role model for women in science.

*Professors Susan A. Gerbi, Peter Heywood, and Kenneth R. Miller*

Elizabeth "Dukie" Leduc

## HENRY M. LITCHMAN

**Clinical Professor *Emeritus*** of Orthopaedics Henry M. Litchman '51 passed away at home on February 3, 2010. He was 80 years old.

Born in Providence, Litchman graduated from Hope High School in 1947 and then attended Brown University. He earned his medical degree from Tufts University School of Medicine and studied to be an orthopedic surgeon at the Hospital for Joint Diseases in New York. One of the founding physicians of the Orthopedic Group in Providence, Litchman worked with children with cerebral palsy.

Litchman is survived by his wife of 53 years, Judith (Melnik) Litchman, and by his daughter, Janet DuBose and her husband, William; son Michael and his wife, Elisa; son Jonathan and his wife, Jennifer; and grandchildren Joshua, Zachary, Bradley, Chase, Jack, and Jiselle.

Donations may be made in his memory to Home & Hospice Care of Rhode Island, 1085 North Main Street, Providence, RI 02904.

## MICHAEL B. MACKO

**Clinical Associate Professor** of Medicine Michael B. Macko passed away on January 24, 2010. He was 60 years old. He is survived by his sister, Nancy Shelby; niece, Amanda Lee Shelby; and nephew, Russell Shelby, all of Houston, TX, and by an aunt, Jane B. Steele, of Chapel Hill, NC.

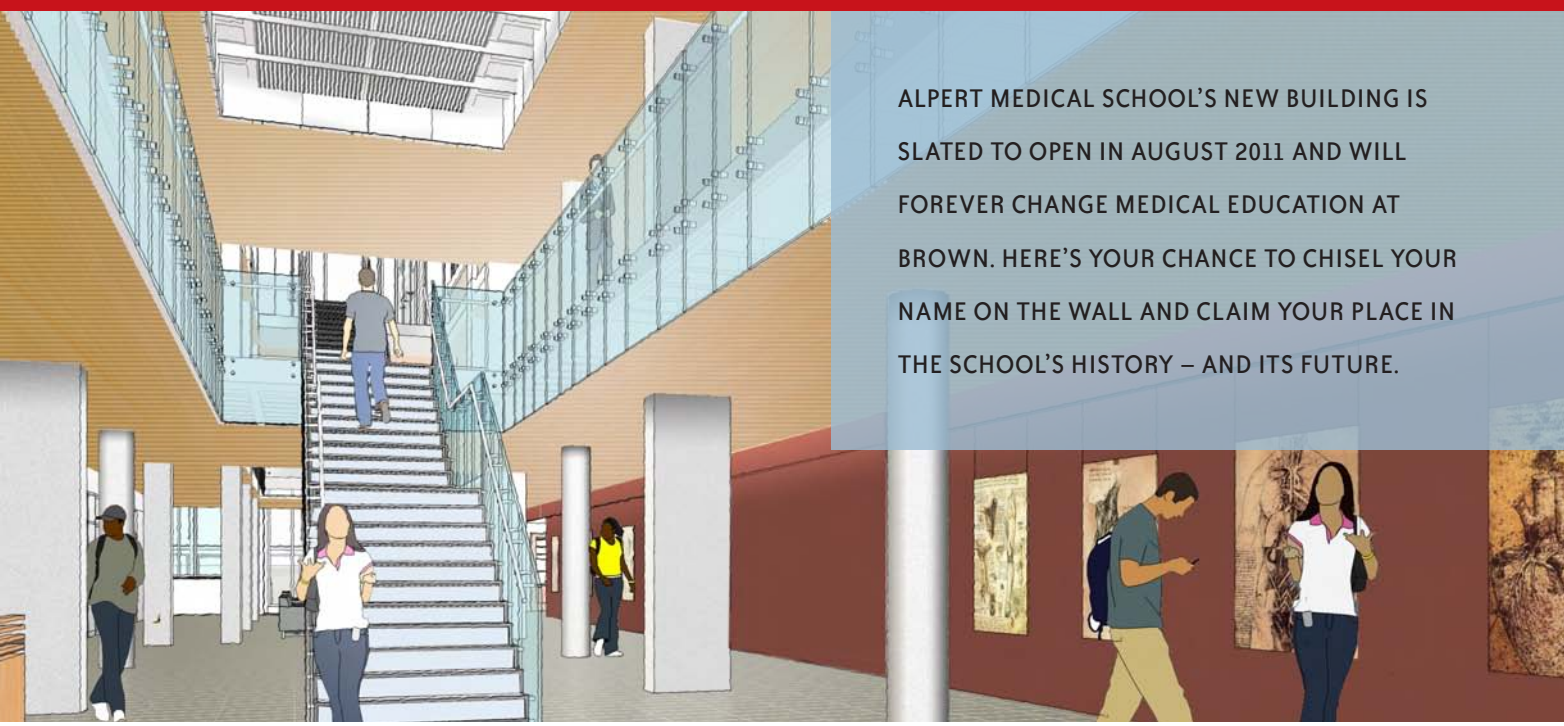
Macko grew up in Ardsley, NY. He graduated from Princeton University and received his medical degree from Columbia University's College of Physicians & Surgeons. He completed his medical residency at Roger Williams Medical Center and continued his affiliation with the hospital, teaching internal medicine for both Brown University and Boston University until his recent retirement. Macko was a past president of the Rhode Island Medical Society and of the Providence Medical Association.

An avid sailor, cook, musician and athlete, Macko was known for his wit, stoicism, and high standards. A dedicated teacher, he strove constantly to enhance the quality of medical education.

A memorial fund to enrich medical residents' education has been established in his memory at Roger Williams Medical Center, 825 Chalkstone Avenue, Providence, RI 02908.

# PARTNERS IN PROGRESS

## Here's your chance to make history.



ALPERT MEDICAL SCHOOL'S NEW BUILDING IS SLATED TO OPEN IN AUGUST 2011 AND WILL FOREVER CHANGE MEDICAL EDUCATION AT BROWN. HERE'S YOUR CHANCE TO CHISEL YOUR NAME ON THE WALL AND CLAIM YOUR PLACE IN THE SCHOOL'S HISTORY – AND ITS FUTURE.

With a gift of $50,000 or more (payable over five years) to the Brown Medical Annual Fund, you can become a Partner in Progress. The name of your choice will be listed in perpetuity on the honor roll of donors, which will be prominently featured in the new Alpert Medical School building.

All gifts to the Brown Medical Annual Fund directly benefit medical students and medical education. Alpert Medical School will show its appreciation for your commitment by displaying your name in the new building – the "home away from home" for medical students.

For more information about Partners in Progress or to make your pledge, please contact Bethany Solomon, director of the Brown Medical Annual Fund, at Bethany_Solomon@brown.edu or 401 863-1635.

BROWN
Medical Annual Fund

**Office of Biomedical Advancement**
Box G-S121-9 • Providence, RI 02912 • **www.boldly.brown.edu**

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CAMPAIGN FOR ACADEMIC ENRICHMENT

BROWN
Alpert Medical School

*Brown Medicine*
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Providence, RI 02912


**Check out the new Alpert Medical School building – one of the hottest properties in town!**