

BROWN MEDICINE



Volume 15 | Number 3 | Fall 2009

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

Big Love

A new approach to
neonatal intensive care
nurtures the whole
family.

PLUS:

A Burmese writer-surgeon
works to heal her country.

Students explain why they
want to be doctors.

LETTER

FROM THE DEAN

Big News for Little Patients

Brown's affiliated hospitals provide outstanding care for the citizens of Rhode Island and beyond. An excellent example is Women & Infants Hospital, one of the busiest obstetrical and gynecological hospitals in the country. A state-of-the-art Neonatal Intensive Care Unit (NICU) has just opened there, as described in the cover story of this issue of *Brown Medicine*.

The new chair of Obstetrics and Gynecology, Dr. Joanna Cain, recruited from the University of Oregon in 2008, is a nationally recognized leader who in her first year has already brought to Brown outstanding leaders in several specialties of obstetrics and gynecology. She and Dr. Jim Padbury, chief of neonatal medicine, oversee a team that provides the most up-to-date care available for infants who are premature or have serious medical conditions. Women & Infants CEO Connie Howes, the board, and the staff should be congratulated on the new NICU—a wonderful achievement.

My wife, Rena, and I recently had the first-year class of Alpert Medical School at our house for a backyard reception. The members of this class come from 25 states, Washington, DC, Canada, and Pakistan. Harvard is the second-most represented undergraduate institution after Brown. The students have arrived via different paths, including the PLME (Brown's eight-year combined degree program) and postbaccalaureate (premed programs at Johns Hopkins, Bryn Mawr, Goucher, and Columbia) routes. Many have come after years in the pursuit of other careers. For example, the class includes a lawyer, a former writer for *Seinfeld*, an Army paratrooper, a graduate of Dillard University (President Simmons' *alma mater*) who spent a year in Madagascar and earned two masters degrees, and a Navy veteran who served on a nuclear submarine. This diverse class brings tremendous talent to Alpert Medical School, Brown University, and Rhode Island. It is a privilege to serve as their dean. You can read more about why they have chosen to pursue medicine in this issue.

Edward J. Wing



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“Just do what you have to do in order to help them survive.”

—Amy Marchand Collins

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BY KRIS CAMBRA

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Political Medicine

BY SARAH WAKEMAN '05 MD'09

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ON THE COVER:

Paul Broben/iStock photo

LETTER

FROM THE EDITOR

Years ago I had a friend whose son had been born prematurely. I first met him as a wiry, bright, energetic 8-year-old. My son, several years younger, had weighed seven pounds at birth, and it was hard for me to imagine just how profoundly small this other child had been. “Five hundred grams,” my friend said. “Like a big steak.”

It’s a bit of a commonplace to say that as your children get bigger, so do the problems you’ll have to deal with. Extremely premature babies turn that saying on its head. They seem impossibly small—a 24-weeker can fit in the palm of your hand—but right from the start their challenges are as immense as their bodies are tiny. As Vicki Forman wrote in *This Lovely Life*, her excellent memoir of having premature twins, to a certain extent these infants are “bodies to preserve, a collection of levels (sugar, oxygen, blood pressure, respiration) to manage.” They risk brain hemorrhages, life-threatening infections, blindness, and, later, cerebral palsy, learning disabilities, and a multitude of other complications.

The cover story in this issue focuses on the latest in neonatology as manifested in Women & Infants Hospital’s state-of-the-art neonatal intensive care unit, or NICU. The field is complex and fascinating, and the article introduces many important questions we have yet to explore—about why there are now more than half a million premature births each year in this country, about the toll the experience takes on parents, about cost, outcomes, and quality of life. There is, after all, more to life than survival. But for the preemies and families who end up at Women & Infants, a great NICU is a good place to start.



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EDITOR

Sarah Baldwin-Beneich '87

ART DIRECTOR

Min O. Design

STAFF WRITER

Kris Cambra

EDITORIAL INTERN

Rebecca Kaufman '11

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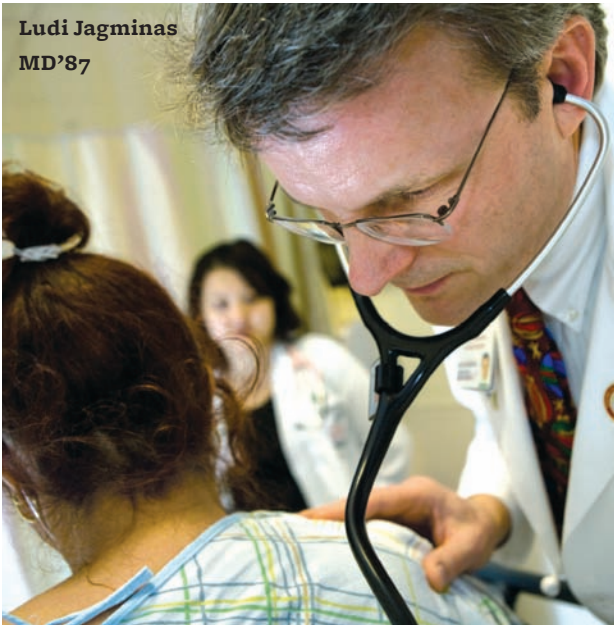
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INBOX

Ludi Jagminas
MD'87



ADRENALINE JUNKIE

As I read Kris Cambra's article "Expect the Unexpected," (*Brown Medicine*, Winter 2009) my mind was flooded with thoughts of my own experiences as an emergency physician and the challenges that we continue to face. In 1979, I knew upon graduation from Brown Med that the emergency department (ED) was the place for me. I had completed two month-long rotations in the ED at Rhode Island Hospital and I loved to "hang out" in The Miriam Hospital ED. There was something about the pace, mobilization, and call to action when that "bad case" came through the door that appealed to my adrenaline needs. Although expressing interest in completing a residency in Emergency Medicine, I was strongly discouraged by some advisors that it was a field without academic credibility.

My internal residency training in New York City was excellent, but I was most fulfilled when working in the hectic

and sometimes chaotic environments of the inner city EDs. I felt that I was reaching people at their greatest point of need. I did not envision myself treating chronic diseases in a doctor's office somewhere. So after some additional training in trauma, I took an attending position in the ED at Harlem Hospital, where I remain to date.

The early years in the Harlem ED were a fairly stark contrast to my experiences in the Rhode Island hospitals. The Harlem community was ensconced in the midst of a crack cocaine epidemic and major trauma was regular daily occurrence. Penetrating trauma (gun shot

Patients with bacterial endocarditis, active tuberculosis, and all manifestations and complications of HIV disease were regular presentations in our ED.

I was also struck with the apparent lack of primary care access for many of my patients. Many used the ED for minor problems, medication refills, and many other conditions that clearly could and should have been managed in primary care settings. As a medical student at Brown, I was often admonished to call the patient's PCP after my evaluation in the ED. At Harlem, ED patients generally did not have or could not identify a primary care provider. We attempted to provide good discharge planning with appointments to our on campus or community clinics, but 70 percent of the time, patients were "no shows." The real tragedies occurred when so many of these patients returned to the ED with catastrophic presentations of stroke, acute coronary events, end-stage renal disease, etc., because their risk conditions were not managed appropriately.

There was something about the **pace**, **mobilization**, and call to action when that **"bad case"** came through the door that appealed to my **adrenaline needs**.

wounds and stabbings) were a fairly rare occurrence even at Rhode Island Hospital. At Harlem, it was unusual not to see three or more of these victims daily. I recall a midnight shift where we received seven gunshot and two stabbing victims between the hours of midnight and 9 a.m.

Harlem and similar communities in NYC have changed considerably over the last 30 years. There is now million-dollar housing in Harlem and gentrification in the area is remarkable. We are still challenged with a hard core group of patients who struggle with alcohol and

INBOX

drug addiction, poverty, homelessness, violence and, for some, mistrust of the medical establishment. At Harlem, close to 90 percent of the inpatient admissions still come through the ED. Similar to the Brown hospitals we are an academic department with a home at the medical school (Columbia University College of Physicians and Surgeons). Residents, PAs, and other medical personnel train at our hospital. Harlem hospital has also been a training site for military medical corpsmen to provide experience in managing “war-type injuries.”

As my Brown colleagues expressed so well, we pride ourselves on being able to handle any situation that may come through the door of our emergency departments. No one gets turned away even if their condition is not of an emergency nature. During periods of economic downturn, stress and even reports of “swine flu,” the volume in EDs tends to increase. Although I have “matured” considerably over the last 28 years, I still work several evening and night shifts clinically to take care of

patients and fulfill my diminished but still present adrenaline needs.

Reynold L. Trowers,
FACEP ’75 MD’79
Director,
Emergency Department,
Harlem Hospital Center

NICE WORK

The spring issue of *Brown Medicine* was a pleasure to read—and to look at. The layout and graphics were easy on the eye and added positively to the variety of articles in the issue. Your cover story on Darwin (“A Shropshire Lad”), with its several contributors, was a highlight. Keep up the great effort!

Rick Marshall
’71, P’10

MORE PRIMARY CARE, STAT

I was pleased to see the mention of the Rhode Island Area Health Education Center (RI AHEC) in the most recent issue of *Brown Medicine* (Spring 2009). The article on the patient-centered medical home was especially pertinent to the work of the RI AHEC Program and its three affiliated centers operating in Rhode Island’s medically underserved communities, and to that of many of the AHEC programs in 52 medical schools, two nursing schools, and 220 community-based centers in 48 states. I was also delighted to see a number of other Alpert Medical School initiatives

and student and faculty profiles that had direct and indirect connections to RI AHEC. Each of these, in some fashion, supports the recruitment, retention, and continuing education of the primary health care workforce, particularly increasing access to quality health care for underserved populations. The National AHEC Program has a nearly



40-year history of influencing health policy and practice, and RI AHEC is proud to be one of the links between academic programs and local communities working to improve health outcomes and the supply, distribution, and diversity of the primary health care workforce.

Robert M. Trachtenberg, MS
Associate Director,
RI AHEC Program
Teaching Associate in
Family Medicine
President-Elect, National
AHEC Organization

JAMES YANG

MORE GOOD NEWS

The New England Society for Healthcare Communications recognized two *Brown Medicine* articles by Kris Cambra at their annual Lamplighter Awards. “Imagine That!” (Fall 2008) received the Silver in the Excellence in Writing: Feature Articles category, and “Live by the Code” (Spring 2008) took the Award of Excellence.

THE BEAT

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

ENTERPRISE

A More Perfect Union

Brown's myriad global health activities come under one umbrella.



Susan Cu-Uvin
plans to make
Brown's global
health enterprise
bigger than
the sum of its
parts.

This fall, Brown's varied and far-reaching global health efforts were united as one cohesive program, the newly created Global Health Initiative. The Initiative will provide faculty, students, and researchers with the necessary infrastructure to develop and nurture new and existing global health partnerships.

"Brown has a long tradition of faculty and students working to improve the lives and health of people in resource-

limited countries," says Dr. Susan Cu-Uvin, a professor of obstetrics and gynecology, renowned expert in HIV/AIDS in women, and the director of the Initiative. "The Global Health Initiative will coordinate these activities, which span Brown's departments, institutes, centers, programs, and affiliated hospitals."

Brown currently has medical, public health, and public policy projects and programs in 33 countries—28 of them in developing countries.

Much of the Initiative's focus will be reducing health inequalities among underserved populations locally and worldwide through education, research, service, and development of partnerships. In particular, physicians and scientists will work with international partners to develop sustainable solutions that will benefit communities in Africa, India, Southeast Asia, the Caribbean, South America, and the Pacific.

Global health involves a wide vari-

THE BEAT

ety of specialists, from doctors to public health researchers, from social scientists to engineers. The Initiative will cross these disciplines and facilitate engagement in research, teaching, and service opportunities.

Students and faculty spend countless hours in classrooms, labs, and hospitals. But for those who venture abroad to learn about—or contribute to—medicine and health care delivery elsewhere in the world, being or becoming a doctor or researcher entails more than rounds and lab work.

But the goal is not only to send people from Brown into the world. The Initiative is also intended to be a destination for global health leaders from the U.S. and abroad to gather, share insights, and promote innovative practices.

“Some of our international partnerships have been ongoing for more than 20 years,” says Cu-Uvin. “Many Brown trainees now occupy leadership positions in their countries. And students and faculty who have worked internationally come home stating that they have had a ‘life-changing experience.’ We have a truly fulfilling bilateral exchange with our partner countries.”

—Rebecca Kaufman '11

FINDINGS

Mail Order Health

Personalized nutrition info improves diets.

Brown University researchers have shown that there is an inexpensive way to help low-income, ethnically diverse people eat better: send personalized nutrition education materials through the mail.

That is the primary finding in a new study published in the *International Journal of Behavioral Nutrition and Physical Activity* by Kim Gans, associate professor (research) of community health and co-director of Brown's Institute for Community Health Promotion. The \$2-million Your Healthy Life/Su Vida Saludable study funded by the National Cancer Institute showed so much promise that the research team is in the middle of disseminating the program to local community agencies, funded by a \$1.3-million grant from the Centers for Disease Control and Prevention.



Less-educated consumers benefitted more from the tailored materials than consumers with higher education levels.

Participants received nutrition information in the mail. One study group received nutrition brochures from national agencies. The other three study groups received nutrition information that was individually tailored to their needs and interests, based on their answers to a telephone survey regarding their dietary habits.

Of the three tailored study groups, one group received the information all in one mailing. The two other groups received the information split into four mailings during a 12-week period. One of these two groups also received additional surveys between mailings to “re-tailor” the materials.

Gans and the other researchers found that people in the tailored groups had greater increases in vegetable and fruit consumption and larger reductions in their fat intake than those in the nontailored group. Of the tailored groups, those people who received their information in small batches over time made the strongest improvements in their diets.

Unexpectedly, the researchers also found that less-educated consumers benefitted even more from the tailored dietary materials. They improved their fruit and vegetable intake even more than consumers with higher education levels.

—Mark Hollmer

Over Heard

“We need to put our resources toward public health research, health care delivery, environmental studies, and research to combat other, less preventable diseases—all the while taking better care of ourselves.”

—Clinical Assistant Professor of Family Medicine and Graduate Medical Education Editor for the New England Journal of Medicine **TERESA L. SCHRAEDER, MD**, in an op-ed from The Boston Globe on July 6, 2009.

RANPLETT/ISTOCK

FINDINGS

Tiny Killers

Nanoparticles assassinate implant bacteria.

Infected implants now have a foe.

Brown researchers have created a nanoparticle that can penetrate a bacterial-produced film on prosthetics and kill the bacteria. The finding, published in the *International Journal of Nanomedicine* by Thomas Webster, associate professor of engineering and orthopaedics, and graduate student Erik Taylor, is the first time that iron-oxide nanoparticles have been shown to eliminate a bacterial

alone become infected, affecting thousands of patients, sometimes fatally.

More ominously, there is no effective antidote for infected implants. The only way to get rid of the bacteria is to remove the implant. "There is no [easy] solution," says Webster.

Now, Webster and Taylor have created a nano-sized headhunter that zeroes in on the implant, penetrates *s. epidermidis*'s defensive wall, and kills the bacteria. The



Tom Webster makes minute bacterial hunters.

Up to 2.5 percent of **hip and knee implants** in the U.S. alone **become infected**.

infection on an implanted prosthetic device (see *Brown Medicine*, Fall 2008).

Commonly found on human skin, the bacteria *Staphylococcus epidermidis* pose little danger. But *s. epidermidis* is a leading cause of infections in hospitals. The bacteria multiply on the surface of medical implants and then build a slimy, protective film to shield the colony from antibiotics.

According to a study in the journal *Clinical Infectious Diseases*, up to 2.5 percent of hip and knee implants in the U.S.

particles are able to penetrate the bacterial cells because of their super-small size.

In lab tests, the researchers noted that up to 28 percent of the bacteria on an implant had been eliminated after 48 hours by injecting 10 micrograms of the nanoparticle agents. The same dosage repeated three times over six days destroyed essentially all the bacteria.

The tests show "there will be a continual killing of the bacteria until the film is gone," says Webster.

—Richard Lewis

COMMUNITY

¡Hablamos Español!

Local company provides Spanish translation for the RI BioBank.

The Brown-based Rhode Island BioBank (RIBB) has an exciting and unprecedented mission: to gather DNA samples and data from thousands of Rhode Islanders to be used in genome-wide association studies—critical research that will help identify the genes and environmental interactions at play in a variety of diseases (see *Brown Medicine*, Spring 2008). Now, thanks to support from biotech company Amgen, RIBB has a tool that will allow Spanish-speaking residents to partner in the project.

Spanish-speaking staff from Amgen's Puerto Rico site translated the intricate health survey that all RIBB participants complete. The biological samples they provide and data are stored at Brown until researchers request them to use for genetic studies.

"Ensuring minority representation in BioBank collections is one way to address potential health disparities in future research," says Caroline Kingdon, research nurse supervisor at RIBB.

"We are pleased to offer our support to RIBB, which will surely be an invaluable resource for researchers and of significant value to Rhode Islanders," says Kimball Hall, vice president, Amgen RI Operations.

—Kris Cambra

THE BEAT



Lambrese
and Dean

CURRICULUM

Student Teachers

National award for
champions of LGBTQ
health issues.

“U.S. medical schools are doing a poor job of teaching about LGBTQ health care concerns,” says Jason Lam-

brese (LGBTQ) issues in their coursework. They designed the elective course “Gender and Sexuality in Health Care: Caring for ALL Patients” to increase students’ preparedness to deal with the health care issues faced by the LGBTQ community. The course was offered in fall 2007 and 2008 at Alpert Medical School.

“We believe that education is one of the most effective ways to enact change,” says Lambrese.

In May, Dean and Lambrese were awarded the American Medical Student Association and the Gay and Lesbian Medical Association LGBT Health Achievement Award. The two students presented the course at the Society for Teachers of Family Medicine Northeast Regional Conference in 2008 and the American Medical Student Association Convention in 2009, and at the Gay and Lesbian Medical Association Annual Meeting last September.

“Our short-term goal was to immediately increase the educational offerings [at the Medical School] on the health care needs of LGBTQ patients. However, our long-term goal is to include this information in our standard, required curriculum,” says Lambrese.

Dean and Lambrese’s curriculum-wide efforts have produced a case study for clinical examination that highlights

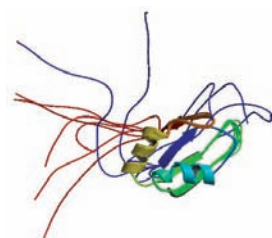
They designed the course to help educate
students about gender and sexuality-based
health care issues.

brese ’06 MD’10. Lambrese and Andrea Lach Dean MD’10 (see *Brown Medicine*, Spring 2007) are ensuring that these issues become incorporated into medical education at Brown.

As first-year medical students, Lambrese and Dean noted the absence of lesbian, gay, bisexual, transgender, and

LGBTQ issues. The Medical School’s Doctoring course and a lecture on adolescent psychiatry have also undergone changes. In the future, the pair hopes to address the material in the Embryology, Psychiatry, Endocrinology, Infectious Diseases, and Pediatrics courses as well.

—R.K.



STUDENT

Splice of Life

Research illuminates
the function of an
RNA splicing protein
implicated in cancer.

Brian Chang ’09 MD’14 may be a medical student now, but as an undergraduate he encountered disease on a scale far removed from patient care.

Many illnesses, including cancer, are known to have microscopic mechanisms. In the laboratory of Brown biologist William Fairbrother, Chang examined the function of splicing proteins implicated in cancer, ASF/SF2 and PTB, which process pre-mRNA. The pre-mRNA is transcribed from DNA to transport the genetic code to the sites of protein production in the cell. Splicing of the pre-mRNA creates an RNA template used to produce proteins.

Through use of RNA mapping techniques patented at Brown, the binding of the ASF/SF2 splicing proteins to pre-mRNA is visualized and may illuminate the nature of RNA processing mechanisms relevant to cancer.

“The method could be useful in developing therapies for splicing diseases as the affinity of small molecules [certain drugs] to RNA can be measured with the technique on a large scale,” says Chang.

The study, on which Assistant Professor of Applied Mathematics (Research) William Thompson and Jon Levin ’08 collaborated, will be published in the journal *Combinatorial Chemistry and High-Throughput Screening*.

Fairbrother is proud of the undergraduates’ accomplishment. “They pretty much did all the work together as a collaboration,” he says.

—R.K.

COURTESY AMSA/GLMA; COURTESY CHANG

Q&A

Home at Last

Lt. Gov. Roberts on Brown's new med school building and the future of Rhode Island.

At the May meeting of the Corporation of Brown University, plans were approved for the renovation of 222 Richmond Street in Providence's Jewelry District, paving the way for the Medical School to have its own home for the first time in its four-decade-long history. Following the \$45 million renovation, this Brown-owned building will be a dedicated, state-of-the-art medical education facility.

Brown Medicine talked with Rhode Island's Lt. Governor, the Honorable Elizabeth Roberts '78, about how this project will benefit Providence and Rhode Island.

Brown's decision to locate the medical education building in the Jewelry District was heavily influenced by Alpert Medical School's potential to catalyze economic development. What is your perspective?

A key element of economic recovery in Rhode Island will be our ability to capitalize on the strengths of the state's many institutions of higher learning. Alpert Medical School is the only medical school in Rhode Island, and is uniquely positioned to continue to be a significant driver of economic development, not only in training physicians and medical professionals, but in fostering translational research in biomedical and biotech development. The school already has success stories in this area. But there is room for growth.

I have worked closely with the emerging Research Alliance, which spans higher education institutions and clinical researchers to support these kinds of efforts. The co-location of the primary center for medical education with some of the most important hospital-based research efforts will surely take development efforts to a new level.

What is the "knowledge economy"?

To me, the knowledge economy is one of the most important paths to bring us out of the current downturn. Our record-high unemployment rate and dire economic conditions are due in large part to an inability to transition from a manufacturing- to a knowledge-based economy. Higher education institutions are among the most important assets for developing the concentration of talent needed in a knowledge economy.

Current efforts, including Brown's collaborative partnership with IBM and the development of the Rhode Island Center for Innovation and Entrepreneurship [RI-CIE], are decisively steps in creating a vibrant knowledge economy.

I am also a big champion of local small businesses. Many of these are retooling themselves to respond to the technology and markets of today. There is significant crossover between the Main Street businesses that continue to make up a significant core of today's Rhode Island economy and the local, entrepreneurial, knowledge-based businesses of our future economy. These two worlds meet in an important way at RI-CIE. Not coincidentally, RI-CIE, too, is located in the Jewelry District.

Brown says the new medical education facility will be good for the people of Providence and Rhode Island.

How do you see it benefiting the community?

The building will anchor a vital "knowledge district," a medical education and research complex in the heart of the state's capital and largest metropolitan center. With its proximity to Brown's affiliated teaching hospitals, it will optimize educational and research opportunities. In the short term, the construction and development of the facility will create jobs. And in the long term, the knowledge district will attract and retain highly skilled workers, growing the ranks and building the base of the state's knowledge economy.



Do you see this as a significant step in positioning Providence to compete with Boston as a locus of biomedical talent?

Rhode Island has tremendous potential to leverage its assets to become a regional leader in biomedical research and development. With strong partnerships between institutions of higher learning—Brown, URI, CCRI, and RIC, among others—and the health care industry in the state, Rhode Island is positioned to become a center that can attract and retain talent in the life sciences and biomedical research. We must also recognize those attributes that make it different from other regional research hubs such as Boston. Our cost of living, costs of doing business, physical environment, and excellent cultural offerings for a metropolitan area of this size are significant assets when we compare ourselves to other metros in New England. I see the relationship to Boston not as competitive but as additive. There are things we can offer that Boston cannot, and vice versa. We need to identify our strengths and play to those, even in collaboration with research entities throughout the region when appropriate.

—Sarah Baldwin-Beneich

THEBEAT

ON AIR

Don't Touch That Dial

Med students deliver health info via radio waves.

Learning how to speak with audiences from diverse socioeconomic, educational, and cultural backgrounds can be a challenge to medical students and physicians alike. The Department of Obstetrics and Gynecology and Latino Public Radio have teamed up on a new program that will develop these skills in medical students. It's called "Communicating Women's Health Concepts to Patients and the Community."

Through this program, students are involved in the pro-

Medical students produce the content and answer callers' questions.

duction and broadcast of a daily radio show in Spanish, "Nuestra Salud." Issues of cross-cultural communication, translation of science into common language, and the interaction between media and health care will be explored," explains Dr. Pablo Rodriguez, clinical associate professor of obstetrics and gynecology and associate chair of community relationships for that department. Rodriguez is also president of Latino Public Radio and host of "Nuestra Salud."

The program is funded by a National Institutes of



Dr. Rodriguez is ready to take your calls.

Health grant, "ESCUCHE—Evaluating the Spanish Radio Community's Understanding of Clinical Research and Health Topics," through which researchers are exploring methods to increase science and health literacy in the Hispanic community using radio.

The program is offered during the clerkship in obstetrics and gynecology. Rodriguez says, "Medical students are actually producing the content and will be interviewed on the radio program.

They also have the opportunity to answer callers' questions on the topic being discussed. At the end of the experience, I ask them to discuss their experience so that feedback can be provided to identify their strengths and weaknesses in communication, content, and effectiveness."

Topics to be discussed include hypertension in pregnancy, abnormal Pap smears, sexually transmitted infections, and contraception.

To listen, tune in to WELH 88.1FM or www.lprri.org.

FINDINGS

A Rough Patch

Skin lesion leads to more cancer types than once believed.

Dr. Martin Weinstock, professor of dermatology and community health,

and lead author Vincent Criscione MD'10 recently published a study in the journal *Cancer* illuminating the connection between actinic keratoses and squamous-cell carcinomas, a treatable skin cancer (see *Brown Medicine*, Fall 2008). Actinic keratoses are sun-damaged rough patches or lesions on the skin that often appear pink and scaly.

After studying patients with a high risk of skin cancers and patients from an earlier chemotherapy prevention trial, the researchers found that two-thirds of the patients who had developed squamous-cell carcinomas could trace the cancer to actinic keratoses. One-

third of patients developed basal cell carcinoma, the most common form of skin cancer in the United States. Actinic keratoses had not previously been connected to basal cell carcinoma.

Scientists estimate that 40 million people in the U.S. have actinic keratoses. The lesions become invisible and resurface over time, rendering some undetectable during follow-up appointments. Preventive removal of the lesions costs more than \$1 billion annually. Weinstock says research is under way to determine if one of the treatments for actinic keratoses will be effective in preventing skin cancers.

ADAM MASTOON

RESIDENTS

Girl Power

Urology practice is not just for men.

"I think people are still amazed to see female residents doing urology. There have been a few times that I've heard the comment 'I didn't know there were female urology residents!'" says Akanksha

urology residency program. "My year was the first that Brown took two females as the new residents," says Rashmi Licht '98 MD'02, who is now an attending. "After the two of us, things changed a bit."

Almost 15 years ago, an enormous gender disparity existed nationwide in urology. In 1995, 1.2 percent of board-certified urologists were female. But women were training in larger numbers, comprising 4.2 percent of urology residents. Just

In recent years about **half of Brown's residents in urology have been female.**

Mehta '02 MD'06, a resident currently training in Alpert Medical School's Urology Training Program.

Mehta is one of four females in the nine-resident program. In recent years about half of Brown's residents in urology have been female, but less than 10 years ago only one female resident trained in the Brown program at a given time.

A gender reversal occurred in 2001, when two women were accepted into the

seven years later, in 2002, 18 percent of graduates in urology were women.

"The atmosphere of surgery, as well as [having] more female role models, has created an increase in females," says Licht, one of two female attendings on the program's 20-physician staff. Although this number of females on the attending staff is typical of most urology programs, Mehta says "hopefully that will change as we graduate more women!" —R.K.

WHO KNEW

Tour de Brown

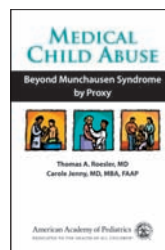
Neither snow, nor rain, nor heat, nor gloom of night stays this intrepid cyclist. Except in the icy heart of a New England winter, you can expect to see Dean Ed Wing—doubtless the nattiest bike rider in Providence—pedaling to Arnold Lab from his home on the East Side. —S.B.B.



Book SHELF

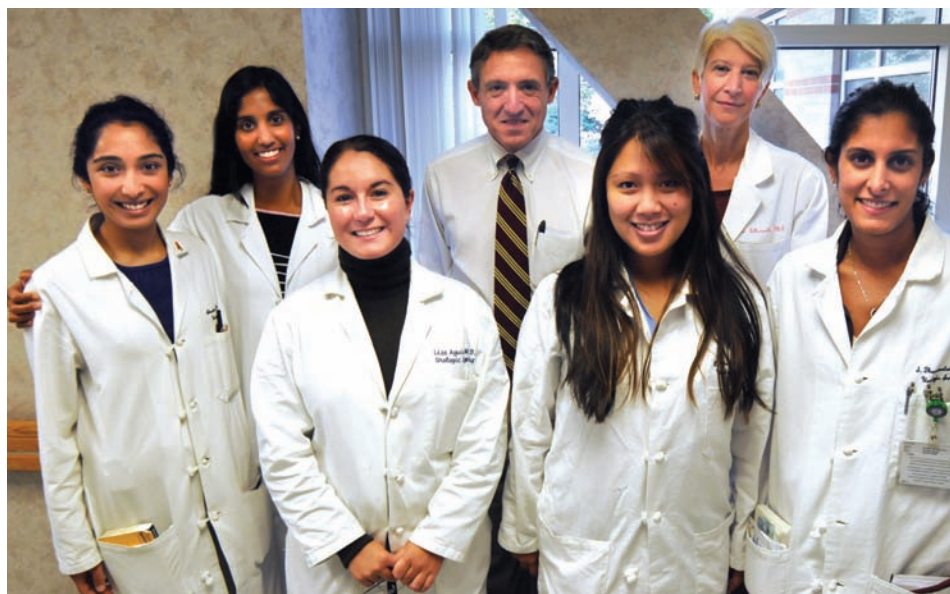
Medical Child Abuse

Beyond Munchausen Syndrome by Proxy



By **Thomas Roesler, MD**, Associate Professor of Psychiatry and Human Behavior, and **Carole Jenny, MD, MBA, FAAP**, Professor of Pediatrics, American Academy of Pediatrics, 2009

MD, MBA, FAAP, Professor of Pediatrics, American Academy of Pediatrics, 2009



Left to right, back row, attending physicians Rashmi Licht '98 MD'02, Director of the Urology Training Program Anthony Caldamone '72 MMS'75 MD'75, and Dr. Pamela Ellsworth. Front row, residents Akanksha Mehta '02 MD'06, Liza Aguiar '04 MD'08, Lanna Cheuck, and Simone Thavaseelan.

THE BEAT

ROLE MODELS

You Are Not Your Disease

Med students mentor teens with chronic illness.

“If you could get rid of your illness with a pill, would you?”

Dr. Gary Maslow HS’09 asks this question of participants in The Adoles-

ness shoulder responsibility for their care as they transition to adulthood. Mentors are undergraduates and medical students, and most suffer from chronic illness. The group meets monthly and every year the teens spend three days on the Brown campus for TALC camp. Joelle Karlik ’08 MD’12 and Elizabeth Silbermann ’08 MD’12 served on this year’s program staff. The program has grown to include about 25 regular participants, with 20 more teens waiting for spots.

At any another camp, the physical limitations imposed by use of a cane or


not the only person going through this,” says Deron Drameh, age 19. Drameh has participated in the program since it began in 2005.

“I needed to talk to other teenagers,” says Jessica Berry, 16. Berry met Maslow at Hasbro’s Partial Hospitalization Program and attended her first TALC camp in June. “Now I know that there are other people out there who have dealt with their issues and can support me,” she says.

Elizabeth Fisher, 16, credits camp director and mentor Joelle with helping her learn to manage her illness and overcome its limitations. “We have a lot of the same struggles, like fatigue and constant meds. She’s done what I’m doing and has taught me how to balance my life.”

Some of the older teens continue to benefit from TALC by returning to the program as mentors. Drameh became a TALC mentor after recovering from a stroke last October. “Being a mentor, kids are looking up to me. I have more of a reason to fight,” he says.

Despite statistics indicating that teens with chronic illness have decreased high school and college graduation rates, the next step for all TALC graduates is college. High school senior Elizabeth “feels less nervous about the transition” from high school to college and says that she knows now that she can take care of herself. She hopes that, like her TALC



TALC teens compete in a dance-off during June’s overnight program.

cent Leadership Council (TALC). The teens, who suffer from chronic illnesses such as lupus, multiple sclerosis, and Crohn’s disease, take up to 10 medications a day, are in and out of the hospital, and are constantly visiting doctors. But when asked if they would get rid of their illness, often the answer is no.

The education of residents and medical students is a major component of TALC. “A resident may not recognize that patients may value that illness,” says Maslow, TALC’s founder. But the teenagers of TALC are out to set the record straight.

TALC helps teens with chronic ill-

TALC helps **teens with chronic illness** shoulder responsibility for their care as they transition to adulthood.

multiple sclerosis would bar a teen from participating, but not at TALC. “TALC gives kids a chance to be normal...these are just teens,” says Maslow.

TALC is based on a body of research that has shown teens who suffer from chronic illness often become lonely and isolated. “TALC helped me realize I’m

mentors, she will attend Brown and mentor other teens in the program. But even if Brown is not in the cards for Elizabeth, TALC will never be far behind. She would like to start a program like TALC wherever she continues her education.

“I wouldn’t be this far if I hadn’t joined TALC,” she says.

—R.K.

FRANK MULLIN

FINDINGS

Chemo Lite

New treatment
for Hodgkin lymphoma
reduces long-term
risks.

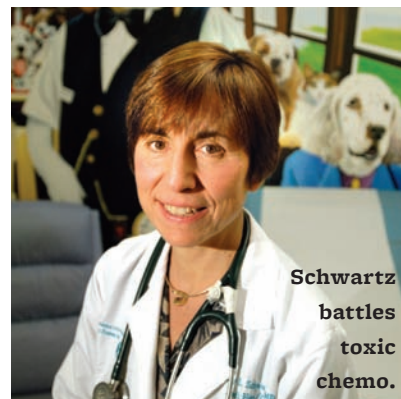
Research led by Professor of Pediatrics Cindy Schwartz MD'79 has identified a new chemotherapy regimen for pediatric Hodgkin lymphoma patients. Schwartz and the researchers of the Children's Oncology Group published their findings in the journal *Blood*.

"For decades, the chemotherapy

from toxicity, including infertility, second malignancy, and cardiopulmonary toxicity," Schwartz says. "With the new treatment paradigm we've developed, in essence, we've been able to cure the cancer while reducing the risk of long-term effects on our patients."

The group designed a new chemotherapy treatment known as ABVE-PC, combining six different drugs into one "dose-dense" regimen that could limit the cumulative doses of each drug below the recognized thresholds known for resulting in long-term toxicity.

The treatment focuses on early response after nine weeks, measuring to detect primary chemosensitivity—a



Schwartz
battles
toxic
chemo.

"We've been able to cure the cancer while reducing the risk of long-term effects."

regimens known as MOPP and ABVD had been the standard treatment options for these patients. However, while they yielded excellent survival rates, they often resulted in long-term effects

favorable response to chemotherapy, indicating that the therapy is working. Schwartz notes that this is important, because, "[t]his early detection allows for a reduction in therapy for those who

respond well to the dose-dense treatment, [so] individual response can be tailored for maximum efficacy."

As opposed to other regimens that require six to eight months of chemotherapy, 63 percent of patients in the study required only nine weeks. The new, shorter treatment results in less cumulative toxicity.

The outcomes are impressive. "We have successfully achieved five-year event-free survival in 84 percent and overall survival in 95 percent of our patients with this dose-dense, early-response based treatment algorithm," Schwartz says.

Ask THE EXPERT

Block That Sneeze

How to avoid the flu this fall.

Leonard A. Mermel, DO, professor of medicine and medical director of epidemiology and infection control at Rhode Island Hospital, knows we haven't seen the last of "swine flu." Below he offers practical tips on how to keep the spread of infection in check.

I am a health care provider. How can I reduce my risk of illness from swine-origin H1N1 influenza (S-O H1N1) virus?

Anyone with direct patient care responsibilities should, in my opinion, be required to receive both the seasonal flu vaccine and the S-O H1N1 vaccine.

Be pragmatic. Many health care workers infected by S-O H1N1 acquired their illness from a colleague. If you have influenza-like illness (ILI) symptoms, don't go to work. Encourage patients who call your office to stay home if their symptoms are mild. Patients coming to your office with ILI should be encouraged to put on a mask and clean their hands upon entering the waiting room. Space chairs at least three feet apart in the waiting room to mitigate risk of transmission.

If you come within six feet of someone with ILI and risk exposure to sneezing and coughing, wear a mask and observe scrupulous hand hygiene. Use respiratory and eye protection during cough-inducing procedures, such as nebulizer use.

Go to www.brownmedicinejournal.org for more details on how to avoid H1N1 or to ask a health care or medical question of your own.

MODERN LIFE

Squeeze My Virtual Hand

Technology puts deployed Marine in the delivery room.

Christina Ballard of Attleboro held her newborn infant, Claire. “Oh, look how beautiful she is,” Christina told her husband, Jacob. The proud dad smiled in agreement, saying she looked like her mom.

Although a seemingly typical moment for new families, the birth of Claire Ballard was far from ordinary. While mom and baby were in the Birthing Center at Memorial Hospital of Rhode Island, dad was seeing his daughter for the first time from a Marine base in Afghanistan.

With an Internet connection and Web cam, Marine Corporal Jacob Ballard was able to communicate with his wife and the birthing and care team throughout labor, delivery, and the hospital stay. “I’m so happy that the military allowed him to have the opportunity to be a part of this,” says Christina Ballard.

This was the first long-distance birth for Clinical Assistant Professor of Family Medicine Emily Harrison, who described the experience as very exciting. “The whole staff was emotional,” she adds. Harrison included Jacob in the entire process, noting that he was a great labor partner. “Even though he was not physically in the room, his presence was much more real than I had expected.”

—R.K.

Harrison **included the father in the entire process**, including labor.



Baby Ballard poses for her dad, stationed halfway around the world.



FINDINGS

Good and Cheap

“AIDS meds for all” policy works in Brazil.

Brazil’s nearly two-decade effort to treat people living with HIV and AIDS shows that developing countries can successfully combat the epidemic. Inexpensive generic medicines are a large part of the solution, say researchers from Brown University and the Harvard School of Public Health.

In the 1990s, the country passed a law guaranteeing free, universal access to drugs for AIDS treatment. The country also began producing generic AIDS medicines in public factories. Brazilian authorities pressured drug companies to reduce their prices drastically for patented medicines by threatening to produce generic versions of those drugs.

The results were enormously beneficial. Researchers say the country’s treatment initiatives helped minimize the spread of the virus in Brazil. The HIV/AIDS epidemic is confined to .5 percent of Brazil’s population. Today, some 660,000 Brazilians live with the disease.

“Brazil has proved it is possible to treat people with AIDS in developing countries,” says lead author Amy Nunn, assistant professor of medicine (research). She added that the country saved more than \$1 billion as a result of bargaining with multinational pharmaceutical companies.

Details of the findings appeared in the July/August issue of *Health Affairs*.

LOUISE PAIVA; YNGERMAN/STOCK PHOTO

RESIDENT EXPERT

BY JOANNA D'AFFLITTI, MD, MPH



How Can I Help?

A doctor learns that social ills keep patients sick.

From the beginning I dreaded going to clinic. This was an uncomfortable feeling for me. I had spent the last 10 years struggling through physics, biochemistry, and endless multiple-choice exams in order to do what I do: practice primary care medicine in an urban health center. “What I love about medicine are the stories,” I wrote in my personal statement for residency programs. “I want to work with people whose lives are complicated.” Yet here I was, two years into a general internal medicine residency, wishing for a torrential downpour every clinic day so that none of my patients would show up.

Most of us who go into medicine do so because we want to make people’s lives better. We are not naïve about this; we appreciate that forces more powerful than we are at work shaping health outcomes. In spite of this, we hold on to the belief that we *can* make people’s lives better, at least in some small way.

In clinic, however, this often feels impossible. Patients’ health problems are so tightly woven into the fabric of

their complicated lives that we cannot adequately address them without addressing the underlying social turmoil. I have one patient who comes to see me every two or three months for chronic, lower back pain due to several herniated discs. He has seen an orthopedic surgeon, who recommends surgery. But the patient, who is homeless, lives in his car, and the surgeon, quite reasonably, is unwilling to perform the operation without a stable, safe place for the patient to recover once he leaves the hospital. Nor does the patient have health insurance; he cannot even go to a nursing home for rehabilitation. No home, no surgery; no surgery, no improvement in back pain; no improvement, no ability to work and earn money; and no money, no home or health insurance. The cycle is dizzying.

I see another patient regularly for pain in her right wrist. An extensive work-up has revealed no medical cause of her symptoms, yet the pain is disabling. Each encounter is the same: I ask how she is doing, and she puts her head in her hands and says, “I’m running away,

I’m just going to run away.” I ask, “From what?” and she replies, “From the pain.” She has tried physical therapy and all of the medications I have in my armamentarium. I have sent her to specialists who send her back to me with notes stating that her pain is not neurologic, or rheumatologic, or orthopedic, or vascular. I do not know how to treat her pain. What I do know is that at 37 she has four children and two grandchildren; they have all been evicted from their apartment and are living with a friend; and the father of her children has been incarcerated for the past nine years.

One story is more complex than the next, and I leave clinic at the end of the day with a pounding headache that has no medical cause. What can I do for these patients? I can listen, try to comfort, but they need homes, jobs, childcare, education, access to mental health services, and, most of all, stability. Without these, my success in managing their pain, high blood pressure, and diabetes is limited. The problem is that there *is* no one to address the underlying issues. I refer my patients to the clinic social worker; I know that she, too, will listen and try to help. But she is no more equipped to single-handedly fix the social ills of our country than I am. I dread going to clinic because it is a constant reminder of how we, as a society, have failed to take care of our citizens and how I, as a primary care doctor, now feel responsible for shouldering the burden.

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

Justin Fallon, professor of neuroscience, seeks to cure a fatal form of muscular dystrophy.



Doing It for the Kids

A brain scientist takes a detour into muscle to understand—and someday treat—a disease.

Justin Fallon and his team of researchers work in the dynamic spaces between one reality and the next—the places where synapses fire to catalyze creative thought and long-term memory, and

where basic science may one day morph into a clinical therapy for children suffering the cruel fate of muscular dystrophy.

Fallon was recently awarded a \$5.3 million grant from the National In-

stitutes of Health (NIH) to continue to build on research suggesting that Duchenne muscular dystrophy—the most common form of the disease—may be treated with a new therapy. The

PETER GOLDBERG

new approach would be designed to prompt wasting muscle cells to express a specific fetal protein, replacing another essential protein no longer produced by those afflicted with the disease.

The grant is milestone-driven, delivering more than \$1.3 million annually to the project for four years as long as progress is being made. The earlier research was funded by the NIH along with three advocacy groups—Charley’s Fund, Parent Project Muscular Dystrophy (PPMD), and the Nash Avery Foundation.

POCKETS OF HOPE

Duchenne muscular dystrophy rides stealthily in on the X chromosome. It is a hereditary disease caused by a mutation in the gene that contains instructions for making a protein called *dystrophin*, which strengthens muscle fibers and protects them from injury as muscles contract and relax. Duchenne wastes and weakens little boys’ muscles as toddlers, puts them in wheelchairs by puberty, and takes their lives in young adulthood.

There is no treatment. There is no cure. There are just pockets of hope.

“In the absence of effective treatment, it’s very important for parents to know at least that people are working on the disease,” says Fallon. “And we are. There is a significant aggregate effort [of research targeting Duchenne]. The more shots on goal, the better. The big question is *Which one is going to work, when?*”

Pat Furlong knows how high the stakes are. The founder of PPMD, she is the mother of two boys who were diagnosed with Duchenne in 1984, at the

ages of 4 and 6, and succumbed to the disease at the ages of 15 and 17.

A nurse married to a physician, Furlong first sought answers in the medical community. There were none to be had. Then she turned to the scientific community, where she learned that the sum total of annual investment in research on the disease was under \$1 million at the time.

It was clear that her immediate mission lay not in medicine or science, but in advocacy.

PPMD was founded in 1994. Today, there are chapters on four continents and a website (www.parentprojectmd.org), and the organization is funding scores of research projects in its urgent push toward treatment and cure.

“If successful, Justin’s research represents an amazing opportunity to treat every single boy with muscular dystro-

phy,” Furlong says. “It’s stunning. And that possibility offers hope.”

THE FORK IN THE ROAD

The journey began not with a disease, but with a discovery.

Fallon never intended to work on diseases of the muscle. From the beginning, he was drawn to the mysterious domain of the brain, to “the alchemy of how our experiences are transformed in the structures of the brain,” as he puts it. He started working in the field in the 1970s, completing his doctoral studies in the anatomy department because the University of Pennsylvania did not yet have a neuroscience department. Today, a significant focus of his work continues to be on brain function, centering on the synaptic processes

“It’s very **important** for parents **to know** that **people are working on the disease.**”

phy,” Furlong says. “It’s stunning. And that possibility offers hope.”

“It’s affected every single family [that is coping] with Duchenne,” she adds, noting the vast international information network powered by the muscular dystrophy community.

Fallon carries that responsibility into the lab with him.

“I was trained as a basic scientist to create new knowledge [for its own sake], which is great fun and...is its own reward. But now, with this work, you

that may unlock the secrets of Fragile X syndrome, autism, and possibly Alzheimer’s disease—all devastating conditions that defy not only treatment but understanding.

But in 1984, Fallon encountered a fateful fork in the road. While studying synapse formation during his postdoctoral work at Stanford, he and colleagues discovered a glycoprotein called *agrin*, which is critical to the development of the neuromuscular junction at the very dawn of life, during embryo

ZOOM

development. In the early 1990s, when leading his own group, he discovered that *agrin* binds to *dystroglycan*, a transmembrane protein that binds to *dystrophin*—the protein that ceases to be produced in Duchenne patients—creating a complex that provides structural integrity in muscle tissues. In 2000 came the

offer the advantage of decreased risk of autoimmune response.

“Our focus is translational research for DMD, moving promising drugs from the labs to human clinical trials,” says George Vella, PhD, director of research and strategic planning at Charley’s Fund. “We’ve cast a fairly broad net, from

There is a fine line to be walked, in his work and in his conversations with the people most desperate to find a treatment.

“As a scientist, you have to be an optimist...90 percent of bench science is failure. On the other hand, you have to be a realist as well.”

There is also a line between basic and applied science—one that is increasingly blurred in the age of biotechnology. Fallon’s students are graduating into a new, highly integrated scientific milieu where greater knowledge about disease mechanisms has created a cellular-level collaboration zone between bench and bedside.

With that in mind, Fallon is teaching a new graduate seminar on therapeutic development this fall. “It’s designed to introduce students to the clinical-business-biotech interface—the environment many will be working in.”

“When I started out, there was a huge chasm between basic and clinical research, with the occasional rope bridge thrown across the divide,” he recalls. “Now, because of [advances in] genetics and also imaging, there are suspension bridges. That space is where the whole [research] enterprise is today.”



“The more shots on goal, the better.

The big question is, ***Which one is going to work, when?*”**

next link in the chain: the team discovered that *dystroglycan* binds to *biglycan*, a small glycoprotein known to play a role in bone, but whose function in muscle was mysterious.

Fallon believes that *biglycan* may hold the key to treating Duchenne muscular dystrophy. His team, spearheaded by Research Associate Beth McKechnie and Postdoctoral Research Associate Alison Amenta, has shown that therapeutic doses in mice can spark expression of *utrophin*—a fetal protein that is normally replaced after birth by *dystrophin* but is still present at very low levels at the muscle synapse. The theory is that symptoms could be significantly relieved if the muscle could be spurred to produce enough *utrophin* to compensate for the depleted *dystrophin*—translating to an effective treatment option for children suffering from Duchenne. Because *utrophin* and *biglycan* are naturally occurring substances, they would also presumably

gene therapy and stem cell research, for which more work is required, to other therapeutic approaches that are on the cusp of human clinical trials. Justin’s biotherapeutic approach is unique and promising. The basic science is showing very positive results in the dystrophic mouse model.”

MOLECULE BY MOLECULE

Significant pre-clinical work, designed to further explore the physiological effects of *biglycan* and identify its manufacturing requirements, lies ahead. And beyond that (in about two years, Fallon hopes) there will be clinical trials.

So far it has been a long and fascinating journey, emblematic of the painstaking nature of scientific discovery—a series of incremental breakthroughs fueled by tenacity, belief, and piecemeal funding from diverse sources.

“We’ve just taken it one molecule at a time,” Fallon says.

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.

FROM THE COLLECTIONS

BY STEVEN F. MOSS, MD, AND TOVAH REIS

PHOTOGRAPH BY PAUL CLANCY

Magic Touch

Reading online is easy, but nothing beats the sensuous pleasure of holding an old book in your hands.

The library at Brown University is used by the medical faculty, students, and staff, whether they reside on or off campus. The print collection is at the Sciences Library, but because Brown University subscribes to more than 13,500 online journals and 100 electronic medical textbooks, the current generation of students never need experience the thrill of locating an elusive manuscript in a dusty stack of journals hidden away in a little-frequented shelf.

That treat is available to those who visit the John Hay Library, the home of Brown University's Special Collections. Brown was the fortunate recipient of much of the Rhode Island Medical Society [RIMS] library, which transferred about 30,000 volumes to the University in 1987. Included are famous early medical texts dating back to 1501 (e.g., Pliny's *Historia Naturalis*) and works by Vesalius, Boerhave, Harvey, Willis, Addison, Jenner, and Laënnec. Several treasures are of interest to oncologists—including surgically oriented case reports on cancer, which offer fascinating insights into the causes of cancer. For example, in *The Chirurgical Works of Percivall Potts, FRS, Surgeon to St Bartholomew's Hospital* (1779), Potts records the first description of the occupationally acquired scrotal cancer of chimney sweepers: "The fate of these people seems singularly hard;

in their early infancy, they are most frequently treated with great brutality ... and when they get to puberty, become peculiarly liable to a most noisome, painful, and fatal disease".

Treatments for cancer are discussed in *Dissertation on Cancer* by Usher Parsons, which won the Boylston Premium of Harvard University in 1835. In it, Parsons notes with disapproval that "green lizards, swallowed fresh, have enjoyed high

reputation for the cure of cancer". *On the Treatment of Cancer* by John Clay is an 1882 collection of three *Lancet* papers that promoted Chian turpentine as an early form of chemotherapy.

Volumes from the RIMS collection and other rare books are searchable from the University's online catalogue. In our opinion, however, handling the musty-smelling pages of 500-year-old first editions of medical classics is infinitely more enjoyable than scrolling down a non-descript document on one's laptop.

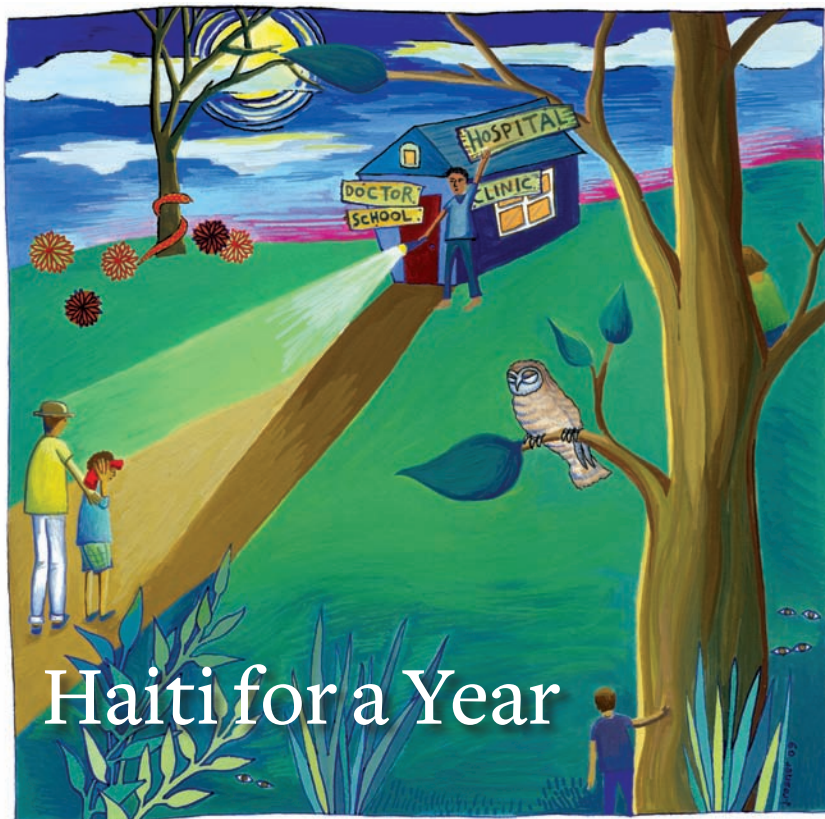
Steven Moss is a professor of medicine and **Tovah Reis** is head of medical and science information, Brown University Library.



An illustration in *The Chirurgical Works* of Percivall Potts shows various tools for relieving pressure after head injury.

FIELDNOTES

BY WILL PEREZ '08 MD'13



Haiti for a Year

A different kind of medical education.

On the day of my high school graduation, I received six copies of the book *Mountains Beyond Mountains* from six different people. I took this strange coincidence as a sign to find out more about its subject, Dr. Paul Farmer, and his work in Haiti. After reading the book, I contacted the author, Tracy Kidder, by email. The same day, Kidder responded to my email with a personal phone call. We talked for hours about Dr. Farmer and what it was like to follow him around on the ground in Haiti. He put me in direct contact with Dr. Farmer's office and a month later, I met Dr. Farmer for what would be the

first of many times. I began researching Haiti and its history. As my passion for the country, human rights, poverty, and infectious disease began to grow, I changed my major from neuroscience to public health and decided then and there that my future was to be a doctor for the poor.

At 4 a.m. on June 26, 2008, I set off on a plane to live in Haiti for a year as the first public health director for the non-governmental organization *Pwoje Espwa* (Project Hope) in Les Cayes.

I lived off the beaten path in a village known as Castel Perre, where the

houses are made of straw, patched with mud, and the roofs covered with palms. While Haiti is known for its political corruption, kidnappings, and rebel uprisings, I never once felt threatened or unsafe. I lived where I worked and my patients were my neighbors. I ate on the streets, ate only when I was hungry, and slept without bed nets, getting malaria, amebas, and shigella. Castel Perre soon became a home. People stopped calling me *blan* (foreigner) and began calling me by my name, *Dok* or *Ti Dokte* ("doc" or "little doctor").

BASIC NEEDS

I did not go to Haiti to serve as a doctor or work in a clinic. I was brought to create a public health program that would address the most immediate health needs of the residents in the orphanage and nearby villages. I deferred medical school so that I could experience the public health field through an anthropological lens rather than a strictly medical one. Yet, I was the closest thing they had to a medical person and for that reason, I found myself on duty at the clinic 150 hours per week as the on-staff doctor.

The clinic I worked out of was the only local health care facility for the 800 children and adults of *Pwoje Espwa* orphanage and the thousands of people living in the surrounding villages. Visiting doctors from the States came down every two months to teach me what they know—how to suture, perform minor surgeries, and treat common illnesses like TB, STDs, parasites, diabetes, hypertension, kwashiorkor, and anemia. The more I saw a sickness, the

JESSICA DEANE ROSNER

better I got at treating it. If I encountered a disease that I was unfamiliar with, I looked it up or contacted a doctor in the States who could help me. I referenced absolutely everything. I even referenced the things that I had seen a hundred times. I couldn't live with the idea that I may have overlooked something or that I may have given the wrong dose or worse yet, the wrong drug. I saw cases that are considered jewels in the states: nephrotic syndrome, schistosomiasis (blood flukes), shigella (bacterial infection), filariasis (elephantitis), cerebral malaria, and advanced TB. I was forced to step up, often before I felt ready, and act on my gut instincts. I learned that not knowing the answer could mean life or death for a patient.

In July 2008, I began a public health training program by teaching local volunteers about a variety of issues including hygiene, sanitation, nutrition, and water quality, along with testing, treatment, and prevention strategies aimed at reducing the incidence of diseases common in the area. I currently have 14 public health programs on these issues celebrating their one-year anniversary, in addition to others, such as malaria and tuberculosis testing, treatment, and prevention programs. There are now 16 certified public health workers who have graduated from the program. As health care workers, they help teach health education classes, perform mass treatment programs for scabies and ringworm, and administer TB and malaria medications using directly observed therapy. Recognizing that prevention is by far the most cost-effective and sure way of eliminating the diseases endemic to this country and the unnecessary deaths that are the result, several other health organizations in northern Haiti are beginning to adopt the public health training program.

It was impossible to separate the medical and public health work that I had undertaken, for the two were so intimately interwoven. Working in the clinic

is where I learned of the true needs of village residents, understood the fine line between religion and medicine and the importance of education. My public health interventions flowed effortlessly from my experience in the clinic. I knew from the beginning that without the support of the people, a public health program would fail. I never stopped asking them questions and never stopped listening.

A TEST OF FAITH

The emotional strain that comes with leaving those you love behind and moving to a place like Haiti is no secret. Faced daily with sickness, disease, hunger, and suffering, I would have surely believed that after several months, my heart would have hardened into a rock, impenetrable by the injustices one becomes accustomed to seeing there. However, that was not the case. If any-

I prayed that **I never forget what it feels like to see a child die** unjustly.


thing, I found myself ever more sensitive. I believe in God, yet I questioned my faith on a daily basis with every dying baby, every AIDS victim, and every starving child that came my way. I soon found that it was in situations of such extreme despair that I found God to be most present and faith among my patients to be strongest. I prayed daily for the strength to wake up in the morning and do the work that so badly needed to be done. I prayed that I never forget what it feels like to see a child die unjustly before my eyes. I prayed for the strength never to lose faith.

The streets, which to the visitor seem so broken and empty, are exactly the opposite. I admit that when I first came to Haiti, all I saw was pain and anguish in every face and sadness in every set of eyes. I know now that I saw only what I wanted to see. I was taught to see Haiti

as a country of absolute devastation, one that lacked hope and was destined for suffering. But there were smiles. There were people laughing. There were mothers hugging their children and husbands kissing their wives. I seemed to ignore all of the good things and only believe the bad things that I saw. Now, I understand more than ever that Haiti is a beautiful country full of beautiful people. This is a country like no other, a country that can be devastated by hurricane after hurricane, flood after flood, disaster after disaster and still wake up each morning singing and thanking God for what they have. There is no word for suicide in Haitian Creole.

Now I'm finally starting medical school, a new chapter of my life. I'm striving to be more than just a doctor. I want to be an advocate for human rights, a voice for those whose voice goes

unheard and a face for the poorest of the poor. I don't imagine myself in a hospital or in a lab. I'm interested in political medicine, changing policy, the way medicine is practiced, the way it is distributed, and how it is defined. I believe in a universal standard of care available to all.

I am still fundraising nonstop for Pwoje Espwa, trying to build a network among other clinics and NGOs in the area, building databases to account for the new information we have collected on endemic diseases, and creating a census to assess the needs of the people. The sheer enormity of these public health programs and all that they encompass require the combined effort of many. 

Will Perez was profiled in the Spring 2006 issue of *Brown Medicine*. To read Will's chronicle of his year in Haiti, visit <http://willinhaiti.blogspot.com/>.

'Net Profits

Online medical information has recast the doctor-patient relationship as a collaborative partnership.

Several weeks ago one of my patients asked if she could try a weight loss supplement she had read about on the Internet. Would it cause any problems with her existing medications? Did I know anything about it? Many doctors dread the so-called “cyberchondriac” who arrives at the appointment with an armful of computer printouts from dubious websites, convinced that “Dr. Google” knows best. What do you say to these patients? In the medical community, there are two markedly different responses to patients’ use of the Internet for health information: resistance and frustration; and collaboration and adaptation. The way that we respond to patients’ increased autonomy can shape the doctor-patient relationship and even treatment outcomes.

Those of us who have been practicing for a number of years can remember a time when physicians enjoyed considerable deference in medical decision making. Patients acquiesced to their doctors’ suggestions with little questioning or complaint. We did not need to squeeze many patients into one day in order to cover the expense of our malpractice insurance, and we did not have to spend hours filling out paperwork

for insurance companies. We had more time to talk to our patients and answer their questions. Now, when patients arrive with information they have gathered on the Internet, it is often difficult to find the time to help them understand it.

In recent years, numerous factors have contributed to a change in the model of care, not least of which is the adoption of Internet technology by

patients who wish to be more actively involved in decisions about their health care. More and more often patients are researching their conditions and their symptoms online and joining Internet support communities such as PatientsLikeMe (www.patientslikeme.com) to share advice and learn from other patients. When they want answers to medical questions, they often first seek information through

search engines rather than through the doctor's office staff. Some patients even order treatments online without telling their physicians.

To continue to provide high-quality health care, we need to adapt. We need to be open to a collaborative relationship in which empowered patients take a proactive role in their health care. Although many of us would like to believe that we have an encyclopedic memory of every possible diagnosis and treatment, we are not omniscient. We must be willing to read any information our patients bring to their appointments, and we should be ready to refer them to more reliable websites.


For starters, authoritative informa-

treatments that have worked for others, and this can be a valuable asset in treatment planning. Authoritative medical information found by the patient or family members on the Internet sometimes greatly enhances the informed consent process.

FULL DISCLOSURE

In response to my patient's inquiry, I asked for the name of the supplement and did some of my own research on the Internet. I contacted a pharmacist to rule out the likelihood of drug-drug interactions and known risks that would be relevant to her care. I informed the patient that I did not know of any reason why she should not try the supplement,

Although I was not thrilled that my patient wanted to try a nutraceutical that had not yet gone through clinical trials, I recognize the importance of respecting our patients' autonomy and encouraging them to be candid with us about information they find on the Internet. Patients should not feel that they have to lie about their Internet use in order to be perceived as cooperative, "good patients." Doctors who resent when patients question their suggestions may intimidate them into silence, with counterproductive results. Disempowered patients may avoid necessary preventive care, conceal relevant drug or nutraceutical use, and grow to mistrust their physicians and the medical profession as a whole.

When a patient brings information and questions to the appointment, we should encourage this type of collaborative care. We can help patients identify potentially unreliable sources of information, such as direct-to-consumer advertisements and dubious medical "advice" websites. Our patients can help us be better doctors, and we can help them obtain the best care possible for their health. The information that our patients find is a potentially valuable resource that can improve the medical treatment they receive. 

Disempowered patients may avoid necessary preventive care, conceal relevant drug or nutraceutical use, and grow to mistrust their physicians and the medical profession.

tion can generally be found on health care organizations' websites (www.carenewengland.org, for example, or www.lifespan.org) as well as on government websites, such as the National Institutes of Health's (www.nih.gov). In today's world, we must assume that our patients are going to try to learn more about their conditions and treatments online. A patient with a rare disease can invest a great deal of time on the web learning about the condition and about

but I cautioned that it had not yet been researched by the medical community and that there could be risks associated with it that we did not know about yet. I made a note in her chart indicating the dosage she planned to take and referred her to her primary care physician regarding this decision. I recommended increased observation of her health status, particularly in the initial weeks during which she started taking the supplement.

Patricia Recupero, a professor of psychiatry and human behavior at Alpert Medical School, is president and CEO of Butler Hospital, a private psychiatric and substance abuse hospital founded in 1844 and one of the School's seven affiliated hospitals.






BIG SHOT

Bird's Eye View


Graduates depart under a falcon's watchful eye.

John Zerillo, a retired NYPD detective lieutenant, photographed this falcon as it observed the Commencement procession of his daughter, Jessica, on May 24.

"A falcon assists in the healing of a soul, teaching swiftness and the understanding of magic," Zerillo noted. "A falcon can also accompany a soul back to the soul world. Was he there to protect and watch over the new doctors as they moved into the next step of their lives?" 

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!





Amy Marchand
Collins with her
twins, David and
Elyssa, at their
home in East
Providence.

Room to **GROW**

BY KRIS CAMBRA

Bigger, better, brighter—good for hospital rooms
and children.

PHOTOGRAPHY BY KATHLEEN DOOHER

Five sticks of butter. Imagine holding them in your palm. Feel their weight, approximately 600 grams. That's how much each of Amy Marchand Collins's babies weighed when they were born prematurely.

"Their due date was June 20," Marchand Collins, 42, recalls. "And they were born February 28, 2003."

At 24 weeks, the twins—a girl and a boy—had just barely reached the age of viability.

Amy and her husband, David, had been warned that multiples can often be premature, but still they were slow to grasp what was actually happening when Amy went into labor. She was admitted to Women & Infants Hospital, where doctors tried to stave off delivery. After a long night, it was clear the babies were not waiting.

"I took my cues from the professionals around me. They weren't panicking, so I decided that it wouldn't help things for me to panic," Marchand Collins says. "I knew the situation was perilous, but I felt that I was in good hands."

The twins were delivered via C-section and quickly placed in incubators. The Collinses hastily agreed to the names they'd only just begun discussing—Elyssa and David. The babies were wheeled past Marchand Collins, and she was struck, she says in a voice choked with emotion, "that they were so beautiful. They were small, but they were beautiful."

LESS IS BETTER

In 1974 the Neonatal Intensive Care Unit (NICU) at Women & Infants had one baby who weighed less than or equal to 1,000 grams, which is considered extremely low birth weight (ELBW). Now they have about 100 babies each year born in that weight category.

“We have 1,300 admissions a year [in our NICU],” says James F. Padbury, William and Mary Oh—William and Elsa Zopfi Professor of Pediatrics for Perinatal Research and pediatrician-in-chief at Women & Infants. Patients are drawn from Women & Infants’ 10,000 annual deliveries, as well as community hospitals throughout Rhode Island, Connecticut, and eastern Massachusetts. Located in the smallest state, the NICU ranges from the third to fifth largest in the country depending on the census.

Padbury says that while neonatology is a young discipline (first credentialed in 1971), major breakthroughs in treatment have made survival possible for smaller and younger infants. Now, 23-weekers have about a 45 percent chance of sur-



In the new NICU, nurses can see inside their patients’ rooms from the hall through L-shaped windows.

NICUs, Women & Infants (along with the University of Miami) has the best survival rate, the lowest chronic lung disease rate, and the lowest rate of cerebral palsy.

“How?” the network wanted to know. They chartered a benchmarking study

one. They’re not going to find it. It’s details. Less is better.”

“Less is better” is the mantra of what has come to be known nationally as the “Providence style.” Padbury says while everyone uses antenatal steroids to boost lung growth as much as possible before delivery and surfactant afterward to improve ventilation in neonates, each NICU develops its own formula for ventilation and other care. In Providence, they tread lightly.

Take, for example, a baby who has to be on a ventilator. “We think if you ventilate that child just the right way, with just the right nursing, you can get the child to calm down and breathe comfortably on the ventilator without using narcotics or other analgesics,” Padbury explains. One study found that they use one-fortieth the amount of narcotics as other nurseries studied. “We believe in

How do you design the NICU of your dreams, one that will **GIVE THE MOST VULNERABLE PATIENTS A CHANCE** for better survival?

vival, 24-week babies like the Collins twins have a 60 percent chance, and 25-week babies—still the second trimester of pregnancy—have an 80 percent shot. The Women & Infants’ NICU has numbers better than these national averages. Padbury says in prior studies among the members of the Neonatal Intensive Care Unit Network, a consortium of university

and sent doctors, nurses, respiratory therapists, and other NICU professionals to all 16 participating centers looking for outcomes. But they couldn’t find a singular reason why Women & Infants’ outcomes were better.

“The difference between good and great is details,” Padbury says. “They came around looking for some hole in

[blood] transfusion as needed but *just* as much as is needed, no more. We do fewer blood samples and less transfusion support. We still have the shortest length of stay, and the best survival.”

Less is not better, of course, when it comes to nutrition. Padbury says they also have better postnatal growth than other centers, and he attributes that to the nutritionists who round with them and “count every calorie” to provide optimal nutrition for each infant. The inclusion of nutritionists on the team is now the standard of care.

Built in 1986 and designed for 41 children, the original NICU comprised five open bays with isolettes and warming tables lining the walls. Babies and their attendant equipment filled every inch of space, with barely enough room for a rocking chair for each mother. Over the past two decades, growth in demand has outpaced available space, Padbury says. “Our average census last year was 67, average last month was 76.”

After two years of construction and \$76.8 million, Women & Infants opened a brand new wing on September 12 that boasts a two-story NICU capable of caring for 80 preemies at a time. Padbury calls it the “NICU of the future.”

THE VERY YOUNG, THE VERY SICK

This is not just a new building with more space. If surfactant and steroids were the first and second, then the next big sea change in neonatology, according to Padbury, will be the environment of care, and in particular a single-family room paradigm.

“The very young, the very old, the very sick really deserve an individualized



At public school, David is in a self-contained class for children with autism.

model of care, and I don’t know what we were thinking in neonatology,” he says. The open bay NICU exposes fragile infants to chaotic light, sound, and uncontrolled stimulation. “Disruptive things make for psychological disruption.”

The alarms triggered by a baby in distress can have a domino effect on neighboring babies. Heart rates accelerate and breathing decelerates in reaction to the loud noise, setting off a cascade of alarms around the room. Padbury once told a reporter from the *New York Times* that it sounds like a casino in his NICU, and while he regretted the choice of words once he saw it in print, “it’s true,” he says.

The building presented a grand opportunity: a chance to get it all right. How do you design the NICU of your dreams, one that will give the most vulnerable patients a chance for a better survival? Padbury started by convening a task force of neonatologists, nurses, support staff, and even a parent of a former preemie to travel around the country and visit the nation’s best hospitals. They selected NICUs of similar size that had teaching programs like the one at Women & Infants.

“We came back from those visits convinced that the only kind of nursery we should build is a single-family room NICU,” Padbury says with conviction. “We have incredible survival now but in a chaotic environment without controlled light, sound, and stimulation and not really focused on developmental care. We think that is compromising [the babies’] developmental outcome. If we can put them in a quiet, self-contained environment suited to each child’s needs and have the parents participate throughout the hospitalization, we will improve neurodevelopmental outcomes.”

APGAR Score

Prematurity by the numbers

Number of babies born prematurely (less than 37 weeks) in the U.S. each year

540,000 or 1 in 8

Preterm birth rate in 2007

12.7%

Rhode Island's preterm birth rate in 2007

12%

Rate at which preterm births have increased since 1990

20%

Increase in late preterm births (34-36 weeks) since 1990

25%

Preterm birth rate among whites
Hispanics
blacks

11.7%
12.2%
18.5%

Preterm birth rate among women
under age 20
age 20-29
over age 40

14.7%
12.1%
16.8%

Total annual cost of prematurity

\$26 billion

SOURCES: MARCH OF DIMES PERISTATS;
CENTERS FOR DISEASE CONTROL AND PREVENTION;
INSTITUTE OF MEDICINE

The single-room model is more expensive, but Padbury convinced Women & Infants' trustees that it was well worth the investment. There are no data on these single-room NICUs, though the literature shows clear evidence of the importance of regulating environment, particularly sound, around premature infants and providing individualized care.

With Professor of Pediatrics and Psychiatry and Human Behavior Barry Lester at the Brown Center for the Study of Children at Risk, Padbury is conducting an extraordinary four-year study. For nearly two years they have been studying children who were cared for in the old unit. They'll compare their outcomes with those of the infants who come into the new NICU over the next two years. It's "a chance in a lifetime" study, Padbury says.

BUILT FOR FAMILY

The task force's input didn't stop once the model was selected. Staff made recommendations about the unit and the individual rooms' design. A mock room was set up in a former conference area. "What a gift that was," says Marybeth Taub, the NICU's nurse manager. "The room was turned over four times. All of the staff was invited to come in and make comments, and when everything was done we all signed off on it."

Allowing the staff to have so much input on the design may offset some of the disorientation they may feel working in the new unit.

"We're looking at a total cultural change for us," Taub says. "Anyone who's worked in a NICU in the '80s and '90s will tell you: bedside nurses were the controlling factor. We told the par-

ents when they could come, when they couldn't, if it was OK to touch the baby, if it wasn't OK. We were in control of those things."

An open-bay model allowed for that. But in a single-family room, families will be able to stay at the bedside, with room for at least one parent to sleep comfortably. With walls for privacy, they'll be allowed to stay through rounds and shift changes—times during which they were asked to step out of the old NICU.

"We're going from a unit that was built for staff function to a unit that still supports staff function but is built around the baby and their family," says Taub.

That perspective is becoming more pervasive in neonatal intensive care, according to Professor of Pediatrics Abbott Laptook, medical director of the NICU. "There is a movement to consider the family as much as the baby as your patient. The sickest babies might be there for four months. For the family, having to share that experience and all that comes with it in the open bay... that's something we as providers probably never fully comprehend."

For the past three years administrators have been meeting with a Family Advisory Council composed of former NICU parents. "They have been extremely helpful in making us understand what affects parents most," Laptook says.

His biggest concern about the new NICU is its sheer size. At 50,000 square feet, the new unit is five times bigger than the old one. Rather than spreading out over one enormous floor, the unit comprises two floors. A two-story, light-filled staircase creates a visual connection within the unit, while auxiliary stair-

Jim Padbury is principal investigator on Women & Infants' \$11 million COBRE grant in perinatal research.



“There is a movement to **CONSIDER THE FAMILY AS MUCH AS THE BABY** as your patient.”

cases and elevators provide access from a number of locations. Still, Laptook says, “the distance is huge” and it will take some getting used to. “We’re coming from the other end of the spectrum, where everyone is on top of each other.”

Meticulous planning and preparation will facilitate continuity in the face of all this change. The physical attributes of the space provide good visibility from the corridors, with each room having sliding glass doors. Nurses can see the babies they are caring for from their workstations and inside each room, they can see vital signs on two babies using a split-screen monitor. All staff are equipped with “communicators”—wireless phones—that can be used to call other staff and are connected to the monitoring system. If a baby has an event, like an apnea or a slowing of heart rate, and a nurse is not

at the bedside to respond and silence the alarm, it will sound on the nurse’s communicator, and if she doesn’t silence it in 20 seconds, it will roll to her team nurse, and if it still gets no response, it will push to all staff in the adjacent zone, and then to the entire floor, and then it will call a code. The unit is gradually phasing in electronic medical records for even greater efficiency.

“We wouldn’t be attempting this if it weren’t for modern technology,” Padbury says.

Over the summer, Assistant Professor of Pediatrics Jesse Bender created medical simulation exercises based on scenarios that might happen in the new NICU set-up. Using pediatric simulation mannequins, teams tested different aspects of care, including communications. After debriefing, a 20-page document of issues to address emerged.

The National Patient Safety Guidelines were also factored into design, says Padbury. To improve patient outcomes, the guidelines recommend keeping credentialed staff in the patients’ rooms. “Each room is fully stocked with all of the equipment and medicines each patient needs. Even breast milk is kept in small refrigerators in the room. The nurse isn’t going to be leaving the bedside to get supplies she needs. She’ll call out on her communicator to a support person to bring it to her.”

BEYOND SURVIVAL

The hospital stay is only the beginning of what is often a life-long struggle for these babies. Some premature infants are at high risk for complications such as cerebral palsy and severe brain damage, deafness and blindness, respiratory disorders, and learning disabilities. The environment in the new NICU will certainly improve the experience for families, but the goal is to improve developmental outcomes after discharge.

After a four-and-a-half-month stay in the hospital, the Collins twins were sent home, on oxygen full time and connected to oximeters and apnea monitors.

"If you think about it, up [in the NICU] they have this incredible team," says Professor of Pediatrics Betty Vohr, "[but] when they go home it's mom, dad, and hopefully some extended family to help. We expect a lot of parents. There's a big education component that needs to be completed before discharge."

be survival: Does the baby go home? We now know it's so much more than that," Vohr explains. "We need to know how these children are doing three or five years later. Are they going to school? Do they have behavioral problems?"

Most studies show that at about 18 months of age, among very small babies (under 2 pounds 3 ounces) about half will still have challenges. There is some increase in the incidence of learning disabilities at school age. About 11 percent

"THE OUTCOME MEASURE 20 YEARS AGO USED TO BE SURVIVAL ...We now know it's so much more than that."

Vohr started Women & Infants' Neonatal Follow-Up Clinic in 1974. "I had been collaborating with a neurologist, seeing children with neurological or developmental problems for whom we had provided care in the NICU. We realized the importance of providing support and evaluation to our high-risk infants post discharge."

Now all neonatal training programs are required to have a follow-up component. For very high-risk babies the clinic provides additional information about prevention of infection, safety issues, transportation, and the importance of early intervention. The clinic calls the parents within 24 hours of discharge and a nurse practitioner makes a home visit within three days of discharge. "We've had a tremendous impact reducing the number of rehospitalizations of these babies," Vohr says.

Long-term study is critical. "The outcome measure 20 years ago used to

of ELBW children might have some degree of cerebral palsy, but with therapy and sometimes surgery many of these children will learn to walk. There's an increased rate of vision and hearing impairments. With better oxygen management in the NICU that number is decreasing. In Rhode Island less than 1 percent of very premature babies have a significant vision impairment, and 1 to 3 percent have hearing loss.

"We've learned also that sometimes a child will look pretty challenged at the time of discharge, but by providing a good environment, early intervention, and appropriate therapy, there is continued recovery," Vohr says. "We have data that the mean IQ by the time these kids reach school age is about 90 and sometimes higher. We're collecting data now on some of our very small preemies who are in college and graduate school. Some are marrying and having their own children."

Vohr says her research lends a cer-



At Rhode Island School for the Deaf, Elyssa learns both speech and sign.

tain level of optimism about ELBW children. “There is a recovery process that occurs post discharge. We refer to it as plasticity, or the ability to recover from a major insult. Having done this since 1974 I am a firm believer in the recovery process.”

And she’s also convinced that the new NICU will enhance recovery. With more privacy for families, she says, they’ll be more likely to do “kangaroo care,” where the infants are held close, skin to skin, to improve their breathing and bonding. And perhaps more mothers will pump breast milk for babies unable to nurse, which has been proven in studies done at Women & Infants to increase preemies’ IQ later in life.

The Collins twins are now 6-and-a-half and have experienced many of these long-term complications. Both children have a type of hearing loss called auditory dyssynchrony, and Elyssa was fitted with a cochlear implant at 4. When they were nearly 3 and still not walking, both were diagnosed with cerebral palsy. And in 2006, David was diagnosed with autism.

with it a slew of difficult ethical questions. When are interventions only prolonging an inevitable death? What will the baby’s quality of life be? Those decisions are made on a case by case, minute by minute basis. It’s difficult to predict which baby will do well and which will endure a host of complications. In Elyssa’s case, she suffered a brain hemorrhage that seemed so minor the doctors said “it was as if it hadn’t happened at all.” Yet, she still has cerebral palsy. Even twins can face very different outcomes from one another.

PARENTAL COMPLICATIONS

The need for greater focus on the experience of families is further evidenced in a recently published paper from Stanford’s Lucille Packard Children’s Hospital. Researchers there followed 18 parents of NICU babies and assessed them for post-traumatic stress disorder (PTSD). Four months after discharge, three had diagnoses of PTSD and seven were considered high risk for the disorder.

“I like going back into the NICU because no matter what my kids’ challenges are they see them as I do, as a complete success story because they are here.”

Their mother says the neonatologists had warned her about the potential complications, but she was only focused on their survival. “Just do what you have to do in order to help them survive,” Marchand Collins told them.

While technology has empowered doctors to save more babies, it brings

Some parents have described the NICU as a “war zone,” where parents look around the room and don’t know who is going to die and who is going to go home.

Today Amy Marchand Collins works as a parent consultant and family resource specialist at the Neonatal Follow-Up Clinic and says she has believed



Abbott Laptook (right) completed his fellowship at Women & Infants and returned 23 years later to be director of the NICU. At left is Professor of Pediatrics William Cashore.

for years that NICU parents exhibit PTSD. That’s why she works in the follow-up program, not as the NICU parent consultant.

“Maybe now I could, but a few years ago, no. There’s no way I could go back in there and keep reliving it.”

She tries to make her return trips to the NICU happy events, like the twins’ first birthday. The family sent trays of sandwiches for the staff, even hospital security, and a cake, from Elyssa and David. “Thank you for our first birthday,” it said.

“I like going back into the NICU because no matter what my kids’ challenges are they see them as I do, as a complete success story,” Marchand Collins says, “because they are here.”

ALL ABOUT ME

Maestro, MD
INA SOH, 23

Piano is my fourth language. It's an art that inspires, excites, and sympathizes with me. Beyond the physical dexterity, hand-eye coordination, and discipline that come with practice and precision, I have developed a unique ability to synthesize my art with reality in a way that will enrich my doctor-patient relationships.

Playing music has afforded me both expressive and listening skills, which allow me to establish rapport on all levels and jell well in teams. Interpreting Liszt's Hungarian Rhapsody No. 6 using crescendos and fermatas is similar to conveying messages with words, facial expressions, and body language. Committed to a career in service, I value the use of these skills to help children, senior citizens, and peers who are in need of love, compassion, and companionship.

From researchers and premeds to soldiers and scholars, from actors, writers, and musicians to IT experts, auditors, and economists, the MD Class of '13 is an astoundingly varied and accomplished group. Listen to some of their voices in these application essay excerpts.

Middle Man

SOLOMON ADELSKY, 25

Riveka rushed into the room, frazzled and out of breath. Each sentence crashed into the next as she hurried to update Dr. Yvgeny Velikiy about her granddaughter Nela's status. Just weeks ago, a porcelain vase shattered on Nela's head, one shard piercing her eye. Nela, only 12, has already undergone two surgeries, but she has developed an infection that is steadily causing her to lose vision in both eyes. Nela is in urgent need of a third surgery and essential drugs, both of which must be paid for out of pocket in addition to the bribes

expected by the surgeon. Desperate for help, she came to Dr. Velikiy, who runs a family services clinic in Odessa, Ukraine, where I am volunteering for the year.

I struck up a conversation with Riveka. She mentioned that she had a first cousin in America, but had not been able to contact him for years. Searching online, I found her cousin. Upon seeing his picture, she broke down in tears. I got in touch with him, but he spoke no Russian. I have been translating for the long-lost cousins, trying to facilitate a transfer of funds for Nela's urgent medical expenses.

I've been playing the role of trans-

lator my whole life. As a child of Russian immigrants, I constantly had to translate my parents' thickly accented English for everyone ranging from my friends to my soccer coach. Though my parents gave me the most American of upbringings, I have been acutely aware of the vulnerability of having one's needs entirely in the hands of others. As refugees, my family's most basic living and medical expenses were provided for by charitable organizations. Growing up, I heard stories about fellow immigrants who had forgone vital medical treatment because they felt lost in a foreign medical system—who had nobody to translate for them.

There's an App for That

MICHAEL DESIMONE, 28

The engineer in me can scarcely picture myself as a doctor without getting lost in a flood of ideas about the perfect hospital. I imagine a system where the instant a patient is scheduled to visit a hospital or comes through the doors of its ER, his physicians are greeted with every piece of information in his life-long medical history. Succinctly summarized, rapidly searchable and, above

all, complete, this record becomes a tremendously valuable tool in the course of his care. The system prevents adverse drug events through a bar-coding identification module, dosage checking, and screening for allergies and interactions. It can recommend tests, suggest diagnoses, and even actively analyze data looking for trends or deviations in test results that might

give a subtle indication of what is happening inside each patient. In addition to giving physicians the ability to make more informed treatment decisions, hospitals can also use such a system to better understand the way they treat patients... I intend to be a physician who is not only actively engaged in bringing about these changes, but who advocates for them passionately as an important step toward achieving a health care system that meets the needs of our citizens.

INFORMED ASCENT

THOMAS SCUPP, 23

His fingers unable to grasp rock, he began his plummet towards the ground. A thin rope quickly arrested the descent, and no, I was not the man falling. There I stood on the ground as the belayer holding the rope that had saved him from death. For three months, we had hiked to this climb four times a week. Each time, my climbing partner, Jeff, would lose his balance or strength in the difficult upper section. Each time, I would stop his fall. As Jeff's belayer, I would offer advice, encouragement, and support to him during his pursuit to complete this climb from my perspective on the ground in addition to my knowledge and experience as a climber. Belaying Jeff required patience, vigilance, and communication because when he fell, it was my responsibility as the belayer to ensure that he was safe.

For five years, rock climbing has been a centering focus of my life. Each climbing experience has been a lesson in trust, confidence, humility, dedication, and curiosity, all values that I believe are also integral to the medical profession. As the climber, I scientifically analyze my approach to a challenging route, testing new theories and sequences to tackle the unique obstacles but still remaining artistic in execution by relying on intuition and instinct to make the necessary changes. Each route is a puzzle to the mind and the body and sufficient control of both is necessary to resist fear and fatigue.

Inconvenient Truth

ZACH OKHAH, 22

Skeletal images of helpless people with bulging eyes looking for a savior welcome me as a volunteer to an AIDS hospice in Benin City, Nigeria. The busy scene in the patients' ward reminds me of a typical Nigerian market as doctors rush back and forth to attend to patients and administer a diminishing supply of medications in vain. Suddenly, a piercing moan transcends the others, and everyone converges on a dirty, ancient gurney with a moribund 7-year-old boy whose body is so consumed by his disease that I mistake him for a 3-year old. Doctors discuss the best course of action. It is agreed that morphine will be given to help mitigate his suffering until he succumbs to his illness. The nurse connects the intravenous line to an unsanitary needle and inserts it into the boy's arm. He asks me whether he is going to die, and I struggle to say no, but his doubtful expression informs me that he is wise beyond his years.

The Best Medicine

ANDREW ROBIN, 40

I've been told I have nice fingernails, but since comedy's been my meat and potatoes for the last 18 years, I'll go out on a limb and say my best attribute is my sense of humor.

Humor is hard to pin down and harder to explain. What's funny varies from culture to culture, person to person, and moment to moment. I'm not sure I'd have cut it as a comedy writer in Bhutan in 1258. For one thing, they wouldn't understand my references to Tivo. They might, however, laugh at my hopeless incompetence as a comedian. After all, one of the most reliably funny things is seeing someone taken down a peg.

Why would I pride myself on something that thrives on human frailty? In a medical school essay, no less? Medicine, after all, is about concern for people at their most vulnerable.

I think the answer lies in the origins of laughter. The most compelling explanation I've heard is that comedy developed to displace violence. The thinking goes like this: Unlike other animals, human beings are useful even when we're old and feeble. Thus, if transitions of power can proceed with laughter instead of violence, deposed leaders can live another day to share their...wisdom.

...Comedy can smooth not just the transition of an individual from power to weakness but the transition of an idea from worse to better. Comedy helps us point out logical problems and inconsistencies with impunity. It helps us speak truth to power.

BEDSIDE MANNERS

LESLEY GORDON, 29

Margaret's face was a patchwork of bruises and abrasions, with one eye completely swollen shut. A slender woman in her 80s, Margaret was brought to the emergency department (ED) where I volunteer. She had fallen two days earlier and was taken to her physician for x-rays, deemed to have not sustained serious injuries, and sent back to her assisted living home. However, in the 48 hours since her fall, her mental status reportedly spiraled downhill; now, at the ED, she existed in a state somewhere between sleeping and wakefulness. We transported her for a CT scan, transferring her from her hospital stretcher onto the hard CT scan table. Recognizing that the health care worker was not communicating with her under the assumption that Margaret was incapable of understanding, throughout the entire process I loudly explained each move we made. Although she occasionally flashed a sweet smile and readily agreed with what I told her, she appeared unable to comprehend my words. Her CT scan completed, we took her back to her room and made her comfortable with warmed blankets. To my surprise and delight, she tugged at my shirt and said: "Thank you for letting me know what was going on."

Comparative Advantage

BEN KOWITT, 24

Knowing that each trauma is unique, that there are a thousand nuances to each 911 call, hinders the work of a good economist as he or she works to parse, generalize and model. Without assumptions and abstractions, economics could not arrive at general conclusions. By the same token, practicing economics did not really help me become a better responder. As an EMT, I learned to focus on the unique situation and individual, and to respond quickly with practiced interventions and a human touch.

Boots on the Ground

TIM JOLIS

My boots dangle out of the Black Hawk helicopter door as the green hills sweep by. We suddenly climb up to 800 feet and the crew gives me the thumbs-up. I lean out and push off with my hands. There's a maelstrom of spinning and wind, then my chute pops open. I look down onto the quiet country and hope there aren't mines. My buddy Torlano drifts by just above me. He pulls out a big knife and makes like he's going to cut holes in my canopy. "Ha ha." Suddenly he puts it away. I look down again...a wheat field comes out of nowhere and WHAM. Welcome to Kosovo.

Some of my best days were in that country. Although there were some messy raids on militant groups and some cold wet patrols, what a feeling it was to rebuild a country. Everyone was so damned relieved to see us. I will never forget the waves of wind through the green wheat fields, and the simple joy of helping indiscriminately. Your kid is hungry, here's a bag of grain and seeds. Your donkey has a sore, here's some ointment and moleskin. I had been given medical training, so while I was leading my fire-team of Army paratroopers on missions, it was up to me to help locals or soldiers with their worn feet or diarrhea. This was when I first felt the satisfaction of care giving. The airborne infantry could be a harsh environment, so it was one of my quiet pleasures to see a normally tough soldier relax and smile when I bandaged his foot, or had him rest while I inserted an IV.

To Be Exact

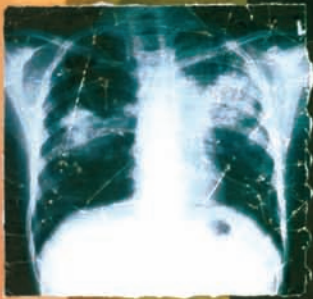
IAN TAGGART, 26

When people see my childhood photos for the first time, they invariably poke fun at me for being the youngest kid they've ever seen wearing a big, black, Casio watch. I asked my father to buy me one when I was four, so that I could look like him. When anyone would ask the time, I gave it with precision. Seven fifty-nine was never rounded to eight o'clock. The watch had to be waterproof, as I wore it everywhere, including when I went sailing with my grandparents. Learning from them, I grew to become a strong sailor mainly because I paid attention to the little things. To get the most out of a sailboat, the sails must be trimmed just right, the weight of the passengers should be well-distributed to prevent too much heeling, the hull must be freshly cleaned, and the skipper needs to always be looking for favorable winds and currents. Any imprecision slows you down, so it is important to stay focused on the details.

BODY AND SOUL

ERIN KUNKEL, 28

Acting is about the life of the body: its breath, senses, emotions, and impulses. Throughout my ten years as an actor, the experience of connecting deeply with a role and truly allowing a character to breathe and live through my body consistently proved exhilarating. This connection is not only a triumph of technique but of spirit, and is a testament to the commonality of human experience. As my life's path has moved away from the subjective and mysterious world of the arts and deeper into the more empirical and objective sciences, I am constantly struck by their symbiotic relationship. For a doctor, training and clinical knowledge in partnership with empathy and compassion creates an art all its own. Doctors heal bodies; artists heal souls.



POLITICAL MEDICINE

A conversation with Ma Thida.

BY SARAH WAKEMAN '05 MD'09

ILLUSTRATION BY JOSH GOSFIELD

Ma Thida is a 43-year-old writer and surgeon from Burma who recently completed a year-long writer's fellowship at Brown University through the Watson Institute. ★ She first began writing short stories while a medical student in Yangon (sometimes referred to as "Rangoon") about the daily lives of the people she saw in her medical training. ★ In the late 1980s, when political unrest was growing in Burma and the famous demonstrations of 8-8-88 occurred, she became actively involved in politics and worked with Nobel Prize Laureate Aung San Suu Kyi. ★ After being blacklisted as a writer in 1991, she was

arrested in 1993 for her work with the National League for Democracy (NLD) and sentenced to a 20-year term, of which she served five years, five months, and six days. ★ Her official crime was "endangering the public tranquility, having contact with illegal organizations, and distributing unlawful literature." ★ She was released early on "humanitarian grounds" after several human rights activists lobbied for her freedom. ★ After release she received the Reebok Human Rights award. ★ She returned to Yangon in late June and now writes for a teen magazine. ★ Ma Thida spoke to Sarah Wakeman shortly before leaving Brown in May.

Why did you decide to become a doctor?

In Burma many parents wanted their children to become a medical doctor, including my mom. My dad thought I should be a scientist or a mathematician. He was an accountant. But I loved dealing with people. So I said I would either study literature or become a doctor.

When did you begin medical school?

1982. I began writing in 1983 and had my first short story published in 1984.

What did you write about?

I wrote about daily life. At that time with the Burmese socialist party there was a lot of emphasis on “realism” and people wrote a lot about the daily lives of the poor. I argued that to write about realism you must write about the truths of people’s lives, whether rich or poor.

In America many doctors are also writers. Do you think doctors have a particular ability or interest in writing?

In Burma many medical doctors are also writers. I think when you spend all day listening to people’s stories it is only natural to want to write.

What was medical training like in Burma?

It was a seven-year system, essentially the same as the British system, with one year of internship. We had to learn all basic science the first year, then anatomy, physiology, and biochemistry the second year, pathology, microbiology, and pharmacology the third year. Then we went on to do medicine, surgery, ob/gyn, pediatrics, and other specialties, as well as forensics and public health. I also got my PG diploma in Health Systems Management from London University by distance learning.

How did you come to be a surgeon?

After I finished my training I wanted to work at the Muslim Free Clinic, which is the only non-profit hospital that is not state run in Yangon, so it treats the poor and the needy. I thought I wanted to practice pediatrics, but there was no pediatric ward at this hospital. So I ended up doing surgery and found I liked it.

Where does the Muslim Free Clinic get its funding?

Mainly from individual donors. After Ramadan we collect donations from all the mosques. Some rich business people also donate after Ramadan. And after I won the Reebok Human Rights award I donated that money to the hospital.

Does the hospital treat only Muslim patients?

It was built in 1937 and has an entirely Muslim board of trustees, but the staff and patients are mixed. Probably 40 percent of the patients are Muslim and 60 percent are mixed, because there aren’t that many Muslims in Yangon. In my outpatient general surgery practice I see about 70 patients a day. We don’t do emergency surgery, so I see mostly elective hernia repairs, hydrocoeles, piles [hemorrhoids], cancers, and circumcisions.

Is care entirely free?

It used to be, but since 2005 we had to start asking patients to contribute what they could afford. But if they can’t afford anything we still treat them.

How many patients does your hospital see?

We see about 500 patients a day and have 150 beds.

You said your hospital doesn’t do emergency surgeries, so what happens if a poor person needs an emergency surgery?

They have to go to the state-run hospital. But there they have a “cost-sharing” policy, where the patient must share the cost of everything, even bandages.

What if they can’t afford that?

Then they can’t be treated.

There are private hospitals in Burma as well, but they are very expensive. Is that right?

Very expensive. Even I wouldn’t be able to afford them! I go to my hospital for treatment.

Is there enough money from the donors?

No, but I just have to find more donors. I ask my friends and colleagues and I’ll try to get them to sponsor one patient for one treatment, like one round of chemo. But sometimes I can’t

and even the cost of the commute to the hospital is too expensive for patients. I had one patient who was the mother of a political prisoner (many political prisoners' families come to me) and I was treating her for TB and having her come every two weeks to get her medicine. But then she didn't come for several months, and I couldn't contact her. And then I found out she died and I went to the funeral and I was so upset and I asked why they didn't bring her to get her medicine and they said they couldn't afford the taxi ride even though they lived just south of Yangon.

When did you become politically involved?

My stories caught the attention of political figures, but I first became actively involved during the demonstrations in '88. I demonstrated and worked with Aung San Suu Kyi and the NLD and my writing became blacklisted at that time. In '93 I was arrested for organizing against the National Convention, which was aimed at drawing up a military-dominated constitution, and sentenced to 20 years.

You were at Insein prison. What was that like?

It was terrible, especially when I developed medical problems.

Were you able to get medical care in prison?

I told them I thought I had TB because I had back pain and nighttime fevers and weight loss, but it took two weeks for them to get me a chest x-ray and then another week to get the result even though I told them I could read the chest x-ray if they would only show it to me! Even after it was diagnosed as TB and my parents sent TB medications, they made me take two weeks of tetracycline first. They also put me on hormone treatment for the endometriosis, and from the combination of medications I had acute liver failure. I had to stop most of the medications and got reactivation TB. I finally got 10 months of TB treatment, but I think all of my medical problems may have been part of the reason I was released early. They also wouldn't let me go to an outside hospital for the night to have my endometriosis surgery, so I had to deal with terrible pain.

What happens if someone doesn't have family to pay and send them medicine?

Then they get nothing.

Who are the doctors in the prison?

They are just GPs with the regime, but most of them are very bad doctors. For the more than 2,000 women prisoners there were only three nurses, so they have other prisoners, criminals, working as nurses even though they have no medical training. Those prisoners would bribe the guards to get the job of doing the nursing work. One time a pregnant woman was having palpitations and one of the prisoners working as a nurse gave her four doses of beta blockers and the woman died. They knew nothing about medicine.

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Were there many women there as political prisoners?

Oh no. Most were there for drugs or prostitution.

I know that you meditated while you were in prison. Had you meditated before you were jailed?

Yes, but never so much. In prison, especially after I got sick, I would meditate to cope—sometimes as much as 20 hours a day.

You were released in 1999.

Yes, and I went right back to work at the hospital and then started writing again in 2001.

Are you still practicing medicine?

Oh yes, I see patients in the morning and write in the afternoons.

What is medical care like in Burma?

The main problem is we have no money. For example, with HIV, we screen people, but if they are positive we can't

even afford to do a CD4 count. How can we treat them if we can't even check their CD4 count? So we test them not for their benefit, but so that we know since we are handling their blood.

Do you see a lot of HIV?

Yes, more and more HIV.

How are people getting infected?

In the '90s it was mainly through IV drug use. Heroin was very popular. But now with the economy very bad, pills like meth are much cheaper so fewer people are injecting heroin. Also because of the economic situation, sex work is becoming more prevalent, so more people are getting infected that way.

Does the government offer any HIV treatment?

There is only one hospital in the country for people with HIV, called the CD, or Communicable Disease, hospital. But this hospital and Médecins Sans Frontiers have treatment for less than 20,000 people. More than 240,000 have HIV. Around 80,000 positive people urgently needed antiretrovirals. Even when people do get antiretrovirals or TB medicine, they often sell them to pharmacies because they need money to buy food even more than they think they need the medicines.

The WHO ranks Burma 190th out of 191 countries with regard to health care. What do you think it will take to improve the health care system?

I think we need policy and advocacy change. The biggest problem is the Minister of Health doesn't care about public health much and never encourages GPs to promote our health status. Also it is a big problem that people can buy any drug they want over the counter. Even though there is a law that drugs must be gotten with a prescription...people will go to the drugstore themselves instead of paying to see a doctor, particularly in the rural areas, or they will go to a traditional healer. In the cities, patients will go straight to a specialist instead of going first to a GP to get referred because they don't want to pay two doctors fees. But then the specialists end up treating simple problems that the GPs could treat. And the specialists never say no, they never turn patients away. I think it is largely the specialists' fault too for being irresponsible.

Are there enough doctors for everyone?

No. On average I think there is one doctor for 1500 people, and in the rural areas there are no doctors.

Is "brain drain" a problem in Burma?

Oh yes. Of the 250 in my graduating class, 45 now work in the United States.

What is your opinion of the foreign NGOs doing medical work?

There is a big mismatch between supply and demand. For example, the INGO will choose a project that the donors want to support, like de-worming, but the local people will come to see the doctors for their cough or abscess, and if the doctors refuse to help them because they are only doing de-worming, the people lose faith in the medical system. They think, What good are doctors if they can't treat my problem?

Another example is after Cyclone Nargis. I couldn't join an INGO because I had already accepted the fellowship at Brown, but I sent a bunch of my junior medics to work with INGOs. I had trained the medics myself and even though they didn't have official licenses from the government, they knew how to do minor surgery and prescribe medicines. But the INGOs wouldn't let them because they weren't officially doctors. They were only allowed to do things like give iron for anemia. So the people lost faith in the medics.

If you were going to design a clinic, how would you do it?

I would have a basic medical clinic but also a health center like a gymnasium, where I could show people how important exercise and taking care of your health is. It would be open to all ages and people could come there and it would be a place to talk about health. I would even invite the family members of the regime.

I recently spent a month working in Mae Sot at Mae Tao clinic. What do you think about border clinics?

I respect very much what they are doing, but if someone asks me if I think there should be more border clinics, I would say *Oh please, no!* We need more clinics *inside* the country and border clinics just draw people out of the country!

Since you were released from prison have you remained politically active?

I have chosen to keep a low profile because I think I am of more use outside of prison. I respect the people willing to take a public stand and risk going to prison and I have great empathy for them, but I don't think I would be of any use if I were in prison. Everything I do in life, I do to be useful. That is why I choose to stay in Burma. I am more useful there than I would be here in America.

What do you think it will take to change the political situation in Burma? Do you think more international awareness will help?

I think the key solution is not international, it needs to come from within. The average people in Burma are all waiting for someone else to solve the problem. They are waiting for Aung

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San Suu Kyi, or the NLD, or the U.S., but they need to see that they can do something. What we need is sustainable peace and democracy and we need to practice a culture of democracy in our everyday lives. People don't get political in their work. For me medicine is totally political. Many of my colleagues are political outside of their work, but I think they need to practice politics in their medicine and focus on health issues as a whole instead of just each individual patient.

In Burma doctors are still very dictator-like—they tell patients what to do and expect to be obeyed and don't communi-

cate what is going on with the patient. But I believe in telling the patient everything and giving them the options and the risks and benefits and then letting them make an informed decision. I tell my clinic staff that we are the same as our patients; the only difference is they have an illness and we have medical knowledge and our job is to share that knowledge with them. I am trying to create a democratic culture in my work.


Is it your hope that by creating a “culture of democracy” in your daily life, eventually that will spread?

Exactly. I don't think the answer is in overnight change. What would happen if we knocked down the regime overnight? The attitudes of the people would not have changed and there would be nothing to replace the regime with. I believe in bottom-up, sustainable change.

How can someone like myself, a foreign doctor who wants to help the situation in Burma, make useful changes and address the needs of the people?

You should join an NGO and convince them to let you run a program that actually focuses on the needs of the people. They will listen to you more than to me! Better yet, try to change the health ministry. Don't make it about politics or about attacking the regime, make it about health and show them you want to work with them. What we really need is more training. If you could convince them to open up their schools to those of us outside of the regime, we would be willing to pay.

If I were to try to develop a program that actually addressed the needs of the people, how would I best determine those needs and avoid the mismatch in supply and demand you mentioned?

Go and talk to the township medical officer. He won't tell you everything, and he probably doesn't know everything, but he will give you a rough idea of the needs. Then go to the monasteries and the churches and ask them. Then create a survey and have the religious leaders help you administer it. Then you will have data about what the people really need. 

Sarah Wakeman wrote about her own experiences in Burma in the Winter 2009 issue of *Brown Medicine*. She recently began her residency in medicine at Massachusetts General Hospital/Harvard Medical School.

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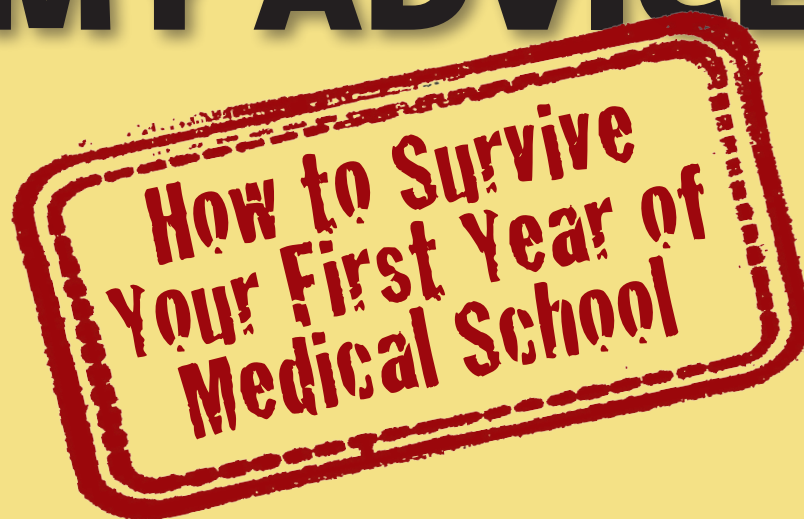
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TAKE MY ADVICE



+ At first, med school can feel like drinking from a fire hose. After the euphoria of being accepted, you suddenly find yourself faced with unprecedented demands. You have to memorize outrageous amounts of information. Dissect a cadaver with three people you just met. Perform a clinical neurological exam on a real patient. At times you might even wonder if you're going to make it.

But you will. Take it from those who know—the students who came before you. From members of the MD classes of '10, '11, and '12, here are some tips on how to complete this part of the journey and arrive in one piece.

SEEK SOLACE. Try to find someone in a class ahead of you with whom you have a lot in common. Run things by them when you feel nervous and let them assure you it will all be okay.

KNOW THYSELF. Understand where you derive your value as a person. It does not come from your academic achievement.

PRESS PLAY. I made a point *never* to miss my shows! I watched *Grey's Anatomy*, *Private Practice*, and *House, MD* no matter what. The TV medical dramas help me remember why I signed up for school!

STAY IN TOUCH. Medical school is not a sprint, but a marathon. That means protecting the parts of life outside of school that matter to you, such as relationships, exercise, meditation, and sleep. Set aside time to go for a run every day, buy fresh produce from the farmers market, garden, or read a book for pleasure.

GOT MENTORING? Actively search for the person you can go to for emotional support—someone to whom you can vent and with whom you can share personal successes. This can be a dean, an adviser, a physician in the community, or your significant other.

GET YOUR APRON ON. In my first year, I found that cooking a nice dinner was a great way to relax between study sessions—and it's a lot cheaper than eating out! For inexpensive, quality ingredients, try the fresh meat and tinned sardines at Central Meat Market

on Gano Street and the croissants and chicken empanadas at Silver Star Bakery on Ives Street.

SNAG A SPOT. The beautifully renovated J. Walter Wilson is the new hot spot for medical student studying. Know that you probably won't find an open room here in the week before an exam unless you arrive really early in the morning.

TREAT YOURSELF. Head over to Pastiche on Federal Hill for a delectable pastry to celebrate the completion of an exam.

JUST ASK. Overconfidence is a medical student's biggest enemy. We have tons of resources here, and saying that you need some help with a subject is always encouraged.

TAKE IT IN STEPS. If you like nice walks, try Swan Point Cemetery on Blackstone Boulevard on the East Side.

VALUE PIE. The appetizer pizza at Al Forno is the best pizza you'll find anywhere.

JUST BE YOU. Everyone has a different learning style, so find what works best for you and don't worry about what anyone else is doing.

JUST ACCEPT IT. You will never know all there is to know. In fact, you won't even learn everything you need to know to be a doctor in four years of med school.


SPEAK UP. Our administration listens earnestly to the students and

takes what we say very seriously. Take advantage of that if you have any suggestions for the curriculum or ideas for projects.

EAT, SWIM, LOVE. What got me through my first year was keeping in touch with family and past friends, surrounding myself with new people I loved to be with, eating good food with them, and hitting the pool every other day—even during anatomy lab!

WRITE AWAY. Every day, or at the very least once a week, write in a journal for five minutes, even if you say "Studied renal" or "Cut through a skull today." I haven't done a randomized controlled trial on this one, but I bet you will sleep better, be more sane, and maybe even learn something about yourself as you write and when you look back at what you've written.

LISTEN UP. Don't miss the Providence Sound Session. It's a series of concerts downtown all week, followed by a concert at Waterfire, complete with a parade through downtown that leads to a series of outdoor stages, beer and sangria, and tons of dancing. The last night, which always falls on a Saturday in mid-July, is without a doubt the most enjoyable night of the year!

TRAVEL SMART. If you decide to take your skull home to study for anatomy over Thanksgiving break, make sure you tell the people at airport security. 

Go to brownmedicinemagazine.org for more survival tips.

MOMENTUM

CAMPAIGN FOR ACADEMIC ENRICHMENT

Not Too Shabby

Despite economic meltdown, Annual Fund powers through.

In spite of the worldwide financial upheaval that struck right in the middle of the fiscal year, the Brown Medical Annual Fund (BMAF) somehow surpassed last year's record, reaching \$780,000 by June 30.

This remarkable success was due, in large part, to parents of PLME undergraduates and medical students. A \$50,000 challenge had been issued by two anonymous parent couples, who pledged to match all new gifts of \$250. Parents rose to the challenge and earned the full \$50,000, providing a major bump to the BMAF.

Term scholarships also proved popular. With a gift of \$15,000, donors are able to name a medical scholarship for a one-year term, and the scholarship is

awarded to a medical student with financial need. Adding to the appeal is the opportunity for donors to meet "their" students at the annual "Generosity and Gratitude" celebration. This year, four Brown Medical Annual Fund Term Scholarships were established: Daniel A. DiPrete '85 MD'89 Medical Scholarship; Yuan-Fei Chang MD'90 and Anthony Chien-Yang Chen MD'90 Medical Scholarship; David Gill Memorial Medical Scholarship (established by Nicole Gill '90 and John A. Deckoff); and the Merry Jayne Haworth MD'92 Memorial Scholarship (established by classmates and friends of the late Merry Jayne Haworth).

"After Merry Jayne's death in October 2008, seven classmates and I developed the idea of a memorial scholarship

with the knowledge that she would have loved the idea of helping another medical student with similar concerns to hers," says Sarah Wolk Bechta '88 MD'92. "Being a medical student as a single parent was an unbelievable challenge that MJ handled with grace. Financial concerns were an added burden that were almost career ending. When one student circulated a sign-up list to babysit for MJ's children on Sunday afternoons, we did not hesitate to give our time to help.

"Our class has come together again to support Merry Jayne. She would be so touched by the fact that so many good friends and acquaintances would contribute to a scholarship in her name. Her children, Mackenzie and Marshall, having lived through MJ's adventures at Brown, are thrilled that a deserving medical student can now complete her own studies with a lighter financial burden." April Wilhelm MD'12 received the scholarship.

Fifty-five percent of the BMAF is used to provide scholarships—and more than three quarters of Alpert medical students need some amount of financial assistance. The remainder of the Fund supports medical education, including curriculum features such as the Doctoring course and the Scholarly Concentrations Program.

All donors to the BMAF are recognized in the Honor Roll, which will be published in late fall. The book can be viewed online at <http://bmaf.brown.edu/>.

—Kris Cambra



Daniel (right) and Carrie DiPrete with their term scholarship recipient, David Washington '07 MD'11.

MATT FRANCIS

ALUMNI ALBUM

CHECKING IN WITH BROWN MEDICAL ALUMNI



Corporation member
Mark Blumenkranz '72 MD '75
MMS'76 is all smiles at the
start of the Commencement
procession.

CLASSNOTES

MMS 1969

Stephen Sullivan '67 still practices ophthalmology, is married, and has four sons and four grandchildren.

1971

Naomi Das Neufeld '69, P'99, '03 is in private practice in Los Angeles, special-

izing in pediatric endocrinology. She is on the attending staff at Cedars-Sinai Medical Center, where she formerly served as the director of Pediatric Endocrinology. In 2006 Naomi was a finalist for U.S. Surgeon General. KidShape, the pediatric weight management program she established in 1986, has grown to more than 40 sites nationally and she has published two related books, *KidShape: A Practical Prescription for Raising Healthy, Fit Kids* and *KidShape Cafe: Over 150 Kid-tested Recipes*. KidShape

has been featured on *The Today Show*, *Oprah*, and in *Time* and *Newsweek*.

Naomi has two daughters, Pamela Collingwood '99, who is an attorney and works at Cedars-Sinai Medical Center,

WE'RE ALL EARS

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

Scientist/CEO

Good science leads to good medicine and saved lives.



As Merck's Global Director of Scientific Affairs for Infectious Diseases/Virology, **Sandra Nusinoff Lehrman '69 MD'76** focuses an international team of scientists on improvements in HIV care and treatment, a field she knows intimately. In the mid-1980s, she and

her colleagues at Burroughs-Wellcome developed AZT, the antiviral drug for treatment of HIV infection. When they began, only 5,000 individuals in the United States carried the AIDS diagnosis. "The conventional wisdom was that antiviral drugs couldn't modify the course of the illness," Lehrman says, "but we believed that they would and took the chance to make a difference."

It was an extraordinary experience, says Lehrman, to be part of that team. "Before antiviral therapies, death typically followed an AIDS diagnosis within about nine months. Now, people live for decades. AIDS is no longer a death sentence."

After she left Burroughs-Wellcome, she discovered exciting opportunities for professional growth. As a founding member of a startup drug company, Triangle Pharmaceuticals, Lehrman helped develop new antivirals for HIV and hepatitis. The business components—raising millions in seed funding, identifying business partners, and developing strategic alliances with other companies—intrigued Lehrman.

Lehrman honed her business leadership and scientific research skills as president and chief operating officer with Cytotherapeutics, Inc., a biopharmaceutical

company developing innovative therapies for central nervous system diseases, and then as CEO of Genzyme Transgenics Corporation, a publicly held biotechnology company, for which she raised more than \$80 million in public financing.

In 2003, Lehrman left the private sector to serve in government as director of the Therapeutic Research Program for the Division of AIDS, at the National Institute for Allergy and Infectious Disease at the NIH. There, she coordinated clinical research programs developing worldwide therapeutic and prevention strategies for HIV, and worked closely with colleagues implementing the President's Emergency Plan for AIDS Relief, more commonly known as PEPFAR.

Today, at Merck, Lehrman is also deeply involved in the growing program to increase the cure rate of hepatitis C, a significant virus associated with liver disease and death from hepatocellular carcinoma worldwide. "Liver disease is now the leading cause of death," she says, "for patients with HIV in the developed countries." In the past, response rates to therapy have been relatively low, but by adding new drugs under development to treatment regimens for HIV, the rates of sustained viral response are substantially improved.

Lehrman and others also address the medical issues affecting an aging HIV-positive population, including increased rates of liver disease, cardiovascular disease, and central nervous system problems developing in patients with well-controlled viral replication.

"Liver disease is the leading cause of death for patients with HIV in developed countries."

Her career—from the NIH to academic medicine to pharmaceutical companies—has afforded Lehrman the opportunity to reach many more people than she could as a physician in private practice. "The multi-disciplinary approach of working on good science for good medicine enables us to continually evaluate what's next, to question what we are learning about diseases, and to develop strategies to maintain health and cure disease," she says.

—Nancy Kirsch

and Katherine Neufeld '03, who lives in New York City and works for a hedge fund.

Robin Winkler Doroshow '69 is chief of the Division of Pediatric Cardiology at Georgetown University Medical Center and a pediatric cardiologist at Children's National Medical Center. She moved to Washington, DC, from LA in 2003 and has since received her MEd at George Washington University. Robin's daughter Deborah Blythe Doroshow is studying for her MD at Harvard and her PhD at Yale.

1972

Stephen M. Sagar '68 became a clinical researcher at Lundbeck Inc. in Deerfield, IL, after a career in academic neurology. He says that his marriage to Susan Semonoff, Pembroke '68, "has been an even greater adventure than working."

MD 1975

Glenn Mitchell '67 ScM '69 has been named chief medical officer at the Sisters of Mercy Health System in St. Louis

after helping set up a patient safety center. Glenn writes: "I hope to take an active role in revamping our nation's health care system."

Valerie Parisi '72 is the vice dean of medicine at Wayne State University School of Medicine in Birmingham, MI, and is currently acting as the dean of medicine during the Dean's leave of absence.

1976

Alan Cole '73 and **Harriet Hanzel Cole '72** are the proud grandparents of Max Alexander Olin, born November 13, 2008. Max is the son of Jonathan '99 and Lisa Cole Olin '99. Lisa recently finished her residency in internal medicine at George Washington University and is a physician in Washington, DC.

1977

Claudia Gruss '74 has been appointed president of the Fairfield County Medical Association. Gruss practices internal medicine and gastroenterology with Arbor Medical Group LLC and is an attending physician at Norwalk Hospi-

tal. She is secretary of the Connecticut State Medical Society and a board member of the Women's Medical Association of Fairfield County.

Steven A. Rasmussen '74 MMS '77 has been appointed interim chair of the Department of Psychiatry and Human Behavior at Alpert Medical School. Steve joined the Brown faculty in 1983 and is currently an associate professor in the Department as well as medical director at Butler Hospital. His expertise is in the course and treatment of OCD.

1979

Frederick Fish '76 and **Lisa Humphrey Fish '77 MD '81** write that their youngest son, Colin '12, is becoming well acquainted with the Seekonk River, rowing with the freshman crew.

1981

Seth F. Berkley '78 was included in *Time* magazine's 2009 list of the 100 Most Influential People. Seth was recognized for his work with the International AIDS Vaccine Initiative, an organization that he founded and has run for 10 years.

Lisa Humphrey Fish '77 See Frederick Fish MD '79.

1982

Lloyd Minor '79 has been named provost at Johns Hopkins University, where he has served as a medical professor and head of the otolaryngology department for six years.

1990

William Ankenbrandt '87 writes: "Bill Cartwright and I celebrated 23 years together with a beach bonfire." Contact William at 1330 W. Elmdale Ave., #2W, Chicago, IL 60660-2516; wjankenbrandt@earthlink.net.



Jocelyn Burke MD '09
with her grandparents,
Roy and Gloria Burke.

KAREN PHILIPPI

Walk the Walk

A neurologist commits himself to his patients, their disease, and its cure.

Progress begets progress. That probably explains why **Peter Calabresi MD'88** and his 25-person team at Johns Hopkins School of Medicine have received \$5 million in research funding from the Multiple Sclerosis (MS) Society since 2004. The team of developmental neuroscientists, basic scientists, specialists, and clinicians focus on how best to repair and protect the nerve cells and myelin affected by the disease. They're out to solve "the big mystery of MS."

"We're on the brink of major results—where oncology was in the 1960s, just before you could cure many cancers and put more in remission," Calabresi says. "We should be there soon."

Most recently, funds were released for basic research with cell tissue, rat and mice studies, and for clinical trials examining novel brain and optic nerve and retinal imaging techniques.

"MS is slowly being put into long-term remission—

"With multiple sclerosis, I'm passionate about both the science and the patients."

patients may eventually die of something other than MS," says Calabresi, director of the Johns Hopkins Multiple Sclerosis Center. "Fifteen years ago, no medications were available. Now, we have six FDA-approved therapies."

MS is the second most common cause of disability—after trauma. An MS patient may look good, he says, but fatigue, pain, and depression are unseen symptoms. When the disease worsens, the patient's loss of balance is often mistaken for drunkenness.

Interestingly, some 100 drug compounds developed for other purposes, including several SSRIs, may have efficacy in helping MS patients. "Several drugs in this class have potent effects on nerve survival testing in animals, and that's very exciting," says Calabresi. "When we treat patients for depression, we don't measure whether their brains are atrophying less [because of the drug]. Maybe

we've been treating the nerve damage in MS as well as the depression without even realizing it."

Calabresi's interest in neurology, immunology, and brain development was sparked by a course in neuroscience during medical school. "I encourage other physicians to pick a specialty they have passion for," he explains. "With MS, I'm passionate about both the science and the patients. There's something so poignant about seeing a young person diagnosed with a lifelong disease."

Patients with positive attitudes manage the disease better, Calabresi says, and he's grateful that he can provide hope and reassurance to his patients. With depression impairing more than 50 percent of MS patients, appropriate treatment is critically important. "Then, they'll have better outcomes with medication, exercise, physical therapy, and other tools to manage MS."

Calabresi carries his own positive attitude into teaching and lecturing, laboratory research, and work with MS patients—both the 500 or so patients he sees at the clinic and those he meets in MS fundraising initiatives. "It inspires me to see people who are suffering and in pain, yet they're on the walk with their scooters or walkers,"

he says. Calabresi hopes these patients recognize his team's abiding commitment to them: some 80 to 100 Johns Hopkins colleagues consistently participate in an annual MS fundraising walk. —**N.K.**



Peter Calabresi goes the distance for MS patients.

1992

Joel Selanikio, professor of pediatrics at Georgetown University Hospital and founder of DataDyne, has been awarded the 2009 Lemelson-MIT Award for Sustainability for his development of Epi-Surveyor, a mobile, open-source software used for surveying disease and collecting public health data in developing nations.

1997

Jordan Orange '90 PhD'96 is the recipient of the American Philosophical Society 2009 Judson Daland Prize, which recognizes outstanding achievement in patient-oriented research. The prize will be awarded at the November 2009 meeting of the American Philosophical Society, which was founded in 1743 by Benjamin Franklin for the purpose of "promoting useful knowledge." Jordan is an assistant professor of pediatrics at University of Pennsylvania School of Medicine.

1999

Sara J. Newmann married Doug Govern '82 on May 24 in Calistoga, CA. Sara is an ob/gyn and assistant professor in obstetrics, gynecology and reproductive sciences at UC San Francisco.

2003

Barrett W. Bready is the CEO of NABsys, a startup company that has received \$4 million in investments to develop electronic DNA sequencing technology. NABsys was founded in 2004 by Professor Xinsheng Sean Ling. Professor John S. Oliver was hired as NABsys's Vice President of Research and Development in 2007.

Anish Mahajan '96 has been named one of 15 White House Fellows for the 2009-2010 year. Anish is recognized for his engagement in policy regarding international public health issues such as HIV/AIDS in South Africa. He will serve

**EYE
ON
ALUMNI**

The Big Picture

Life balance is key for MD/PhD.

For **Dorkina Myrick** MD/PhD'01, "personal best" is no mere figure of speech. As a high school student, she earned two years' worth of college credits by attending evening and summer classes. A predominantly African-American college, Prairie View A&M University recruited Myrick out of high school, offering her a full academic scholarship. And at Brown, she was the first African-American woman to graduate from the combined MD/PhD program—earning both degrees the same year.

Says Myrick: "I have always expected more of myself than anyone else has ever expected of me."

After a residency as a clinical pathologist at the National Cancer Institute's (NCI) Laboratory of Pathology, Myrick chose to focus on biomedical science administration. Now, as a leader of research programs in the NCI's Cancer Training Branch, she fulfills the expectations of her pathology advisers.

"Pathology skills came first, but we were encouraged to think strategically about the big picture," she says. "We were expected to become leaders in the field."

Today, Myrick shares her motivation with others. She mentors early career physicians and post-doctoral biomedical science fellows and grantees, providing grant application and career advice.

"We have an entirely new generation of researchers embarking on biomedical careers," Myrick says, "with so many fresh and innovative ideas."

This year, Myrick is also the NCI program officer overseeing a multi-year conference grant awarded to the American Physician Scientists Association, which provides resources to MD and MD/PhD students and residents embarking on careers as clinical scientists.

A participant in a two-year Brookings Institution Public Leadership program, Myrick engages in "up-close and personal" policy debates and discussions with key legislative and executive branch policy-makers, including some members of President Obama's advisory team. She hopes that this training will enable her to have a broader impact on scientific and legislative policies that affect biomedical research education at the NIH.

Although death is a constant in her work, as it is for husband and fellow pathologist Terrill Tops, Myrick is anything but morbid. "Life balance is key," she says. "Love more, laugh more, travel more.... It's vital to be passionate about what you are doing. If you are, the fun will follow and you will feel more inspired to serve."

— N.K.

**Dorkina Myrick
prescribes
the best
medicine:
more
laughter.**



ALUMNIALBUM

President Obama in Washington, DC, for the coming year, where he will gain leadership experience in public and community service.

Taraneh Shirazian '99 works as a faculty ob/gyn at Mount Sinai School of Medicine in New York City. She is also the director of global health for the department and most recently became the medical director for a new nonprofit called Saving Mothers (www.savingmothers.org). Contact Taraneh at taraneh.shirazian@mssm.edu.

2003

Robert Bercovitch '00 and Rhana Ishimoto '00 announce their Jan. 19, 2009, marriage in Santa Monica, CA. The couple met as freshman living next to each other on the fourth floor of Emery-Woolley and became fast friends, but didn't start dating until senior year. The wedding party included Robert's parents, **Anne Bercovitch** '69 MMSc'71, and Lionel Bercovitch, who teaches at Alpert Medical School. Also in attendance were **Carla Chibwesha** '00 MD'05, **Michael Garvey** MD'04, and **Naomi Neufeld** '69 MMSc'71. The couple currently lives in San Diego, where Rob is a fellow in pulmonary/critical care at UC San Diego and Rhana is an assistant chief counsel at the Department of Homeland Security/Immigration and Customs Enforcement.

HS 1989

John R. Handy Jr. was awarded an honorary doctorate by the National Medical Research Institute of Mongolia. He led a team performing cardiac and thoracic surgery there in May through his involvement with earthMed, an organization that works to improve medical care in developing countries. Handy is the director of Providence Thoracic Surgery and practices within The Oregon Clinic, both in Portland, OR.

OBITUARIES

FACULTY

SUZANNE G. RIGGS

Professor of Pediatrics Suzanne G. Riggs passed away on April 28, 2009. Riggs, 62, died of cancer complicated by kidney disease at the Philip Hulitar Hospice Center.

Riggs graduated *magna cum laude* from Brown University in 1968. She received her MD from Harvard Medical School and as a faculty member at Harvard founded the Children's Hospital's Young Parents Program.

After her return to Brown, Riggs started the Division of Adolescent Medicine in the Department of Pediatrics. Under her direction, the Division grew to include five physicians.

Riggs was nationally known for her research on the medical complications of eating disorders. She was a member of the Academic Pediatric Association,

Suzanne
Riggs



the Society for Adolescent Medicine, and the Academy for Eating Disorders. She served as medical director of clinical services at the Rhode Island Training School (the state's juvenile detention center) for more than 20 years and on the boards of Caritas House, Inc. and Planned Parenthood of RI. Last year, the Training School dedicated the Suzanne Riggs, MD Medical Clinic in recognition of her service. She also engaged in volunteer medical work in Guatemala.

She is survived by three children, including daughter Amy Hennessey

MD'04. Donations may be made in her honor to the Hasbro Children's Hospital fund for eating disorder patients and their families or to the Pancreatic Cancer Action Network.

LOUIS A. FRAGOLA JR.

Clinical Associate Professor of Dermatology Louis A. Fragola Jr. passed away May 25, 2009, at Rhode Island Hospital. Fragola practiced dermatology in East Providence and at the Brown University Health Center. He began teaching at the Medical School in 1972, where he was named Brown Medical School's Teacher of the Year (Department of Dermatology) in 1995 and 2004. Fragola taught at Rhode Island Hospital and the Providence VA Medical Center, and was a member of the Rhode Island Medical Society, the American Academy of Dermatology, and the Association of Military Dermatologists.

He is survived by his wife, Phyllis; his four children; two stepchildren; and nine grandchildren. Memorial donations may be made to the American Cancer Society in Warwick, RI.

TOM J. WACHTEL

Professor of Community Health Tom J. Wachtel passed away June 8. Born in New York City and raised in France, Wachtel received his medical degree from the Faculté de Médecine de Strasbourg. He returned to the U.S. to serve as a surgical resident in Rochester, NY, and then came to Rhode Island Hospital, where he trained as a medical resident in pathology and internal medicine. Wachtel joined the Medical School faculty in 1982 and advanced to professor of medicine and of community health in 1995. He cared for the elderly and the disabled at his western Rhode Island medical practice and at nursing and group homes statewide. Wachtel is survived by his wife and three children. Donations in his memory may be made to the DaVinci Center for Community Progress in Providence.

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"I appreciate the contributions of donors very much. I work hard every day knowing that some very generous people are invested in my future success as a physician. I cannot wait to use my skills to give back to my community, and I hope one day in the future I can also help others in my place just as they helped me."

– James Azzi MD'12



Did you know that 55 percent of the Brown Medical Annual Fund (BMAF) supports scholarships for medical students? More than 30 students a year benefit from your generous contributions to the BMAF, making their dreams of becoming physicians a reality.

Your gift to the Brown Medical Annual Fund counts as a gift to the Campaign for Academic Enrichment. So be bold. Consider becoming a member of the Brown Medical Society with a gift of \$1,000 or more. Your gift – at any level – will help us reach our goal of \$830,000 by June 30. You can mail checks payable to Brown University - BMAF to the address below or give online at www.gifts.brown.edu.

Questions? Contact Bethany Solomon in the Office of Biomedical Advancement at 401 863-1635 or Bethany_Solomon@brown.edu.



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REUNION WEEKEND 2010

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