

BROWN MEDICINE

Volume 13 | Number 2 | Spring 2008

PLUS:

**MED SCHOOL
DEBT AND
CAREER CHOICE**

**MEET THE
DEAN**

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

They said mapping
the human genome
would revolutionize
health care.

ARE WE THERE YET?

LETTER FROM THE EDITOR

Tools of the Trade



Surrounded as I am by physicians, scientists, and medical students with their stethoscopes and test tubes, I'm often struck by how different the tools of my trade—words—seem in comparison. But they are what I know and what I rely on. They tell stories, they persuade, they mean. And they can always, always be put together in new and surprising ways.

Last March I attended an editors forum in New Orleans, where I was surrounded by my ilk: 350 alumni magazine editors from colleges and universities across the U.S. and Canada. This is a group whose idea of catharsis entails filling a message board with the mistakes they most commonly correct on manuscripts: "Dangling participles." "A book is not entitled, it's titled!" "IT'S vs ITS!!" My kind of people.

Then, after three days of discussing storytelling, fact checking, and how to cover controversy, I traded in words for a drill and a tool belt. Thanks to the extraordinary Jim Conings of Student Advocacy for Equitable Recovery, a Tulane student-led non-profit, I had the honor of meeting Pam, a New Orleans resident whose house was slowly becoming a home again after Katrina. The afternoon fellow editors and I spent hanging cement board in what would be Pam's bathroom was as precious to me as everything I'd learned in the three previous days. All the eloquence in the world won't give you the pressure you need to drill through cement in a tight corner thirty inches above your head. Words took a back seat to action, and it felt wonderful.

I tip my hat to the great people I worked with and to the woman and young man we worked for. Please find out more: www.safer.tulane.edu.

BROWN MEDICINE

Volume 13 | Number 2 | Spring 2008

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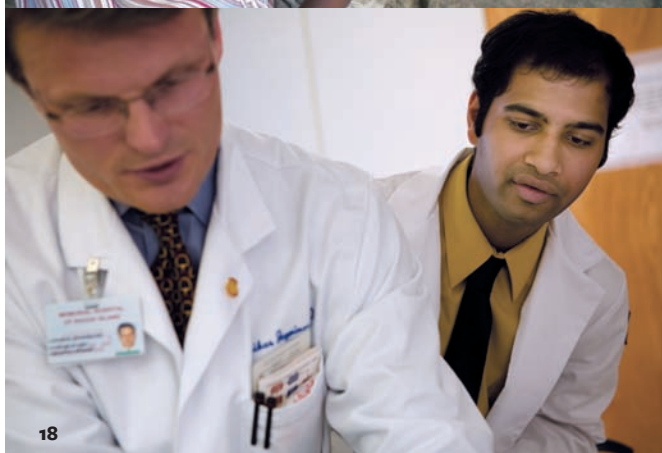
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CLOCKWISE FROM TOP LEFT: KAREN PHILIPPI, LUCAS FOGLIA, SCOTT KINGSLEY

“[G]enetic variations will be factored into medicine, bringing the right treatment to the right patient at the right time.”

—Edward Abrahams PhD’81

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COVER

Min O. Design

LETTER FROM THE DEAN



Foundations and Progress

It seems like it was only yesterday that the Provost handed me an ambitious agenda upon assuming the helm of Brown's Division of Biology and Medicine. How satisfying, looking back now, to realize how many of those goals we have—
together—proceeded to implement.

Our medical student body, now 370 strong, includes ninety-six members of the class of 2011, the largest ever in our medical school's history. Significantly, many of the students in question matriculated via the newly introduced standard/pre-med route of admission, the demand for which (about 3,000 applicants per year) has exceeded our most optimistic expectations. The Doctoring course and the Scholarly Concentration Program, in turn, anchor a new and integrated pre-clinical medical education curriculum, one that offers more and varied clinical experiences, as well as greater opportunities for individualized study and independent research. Three new degree programs offer urgently needed avenues for combining medical

home at the foot of College Hill, looks with confidence to its future as a fully accredited professional school, the second at Brown.

The unprecedented success of the Brown Medical Annual Fund is a proud sign of the exceptional loyalty of the School's alumni, parents, and friends. The five newly endowed professorships further showcase the dedication of our benefactors. The launch—with our hospital partners—of the Rhode Island BioBank (the first statewide biorepository in the country) lays the foundation for a Brown-wide program in personalized medicine and vividly conveys the exciting possibilities when visionary benefactors get behind one of medicine's most promising endeavors. Most grand of all, the Warren Alpert

The launch of the Rhode Island BioBank lays the foundation for a Brown-wide program in personalized medicine.

Foundation's spectacular generosity is a testament to its faith in the wisdom of joining forces and places firmly within our grasp ongoing preparation for a new medical education building and other exciting initiatives.

Toni and I appreciated the opportunity to have made a difference and to have

education with public health and public policy. The successful recruitment of more than twenty new faculty members, with another dozen searches under way, has energized an already leading faculty body known for its dynamism and talent. The inauguration of the Sidney E. Frank Hall for Life Sciences and the complete renovation of the research space of the Biomedical Center further cemented Brown's advances in the life sciences. Markedly enhanced collaboration with our teaching hospital partners coincides with a rise of twelve rungs in the *U.S. News & World Report* research rankings, thereby firmly planting Alpert Medical School within the nation's top quartile. The Public Health Program, whose expanding ranks are secure in their new

opened our home, arms, and hearts to students, faculty, staff, alumni, trustees, community leaders, and academic officers. We both wish Brown, its Division of Biology and Medicine, and its new dean, Edward J. Wing, MD, all the best in their ongoing quest for ever growing excellence.

To all of those who have played such an important role in advancing this exciting enterprise, I express my deepest gratitude and thanks.

EW

LUCAS FODLA

INBOX

THEY'RE JUST LIKE US

As a “lay” reader, I have rarely enjoyed any magazine as much as *Brown Medicine*, much less an academic/alumni journal. The articles are beautifully written and informative, touch on fascinating and timely subjects, and capture the emotional and psychological aspects of practicing medicine as well as the scientific ones. I was particularly taken by the sensitive article in last month’s issue about the doctor grappling with the involuntary psychiatric commitment decision (“Safekeeping”). It was heartfelt, honest, and exposed—not words one associates with the stereotype of a doctor. *Brown Medicine* reminds me that stereotypes are just that—that doctors are more than the medical knowledge stored in their brains. The breadth of topics in the magazine reminds me that your alumni and other medical professional readers are also patients, parents, world travelers, movie-goers, etc.

I also love the layout and the catchy headlines—it’s a visually appealing, readable magazine for those of us interested in the world of medicine but without medical training.

Thanks for a great job and I look forward to the next issue.

MARTHA MAZZONE
Boston, MA

WHAT DID YOU THINK?

Brown Medicine welcomes readers’ letters, which may be edited for length or clarity.

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HUZZAH!

Brown Medicine received a 2008 Lamplighter Award in the external periodical category from the New England Society for Healthcare Communications, and staff writer Kris Cambra won the Lamplighter for Excellence in Writing-Feature Articles for “The Hardest Word,” published in the Fall 2007 issue.

The Lamplighter Awards are presented each year in recognition of excellence in a variety of communications and public relations areas.

RESIDENTS ADVOCATE, TOO

I was pleased to read your article on physician activism in *Brown Medicine* (“First, Do No Harm. Then Make Some Noise,” Fall 2007) and thank you for highlighting two superb physicians.

I feel bad that the researcher was not made aware of the fact that the Brown pediatrics residents have had a formal advocacy program (which has received national recognition on two occasions from the American Academy of Pediatrics and also national press), called the Pediatric Resident Advocacy Network that I founded in 1998. These include community programs like “Sail Away,” the Young Doctors Club, and the Chronic Illness Council (which involves Brown undergrads). On a yearly basis the Brown Alumni Association gives out advocacy awards to these residents. Our residents are doing all this AFTER working eighty-plus hour weeks. We held our third Northeast Pediatric advocacy conference on November 2, 2007.

I would love to see the faces of some of our RESIDENT advocates on a future cover, to serve as role models for other residents and undergrads. Thanks for your consideration and your interest in highlighting our young physician advocates. Please check

our website at www.brown.edu/pediatrics and click on Advocacy and then on each of the programs.

ROSALIND M. VAZ, MD
Medical Director of Adolescent Healthcare
Associate Professor of Pediatrics (Clinical)
Resident Advocacy Director

NEW AND IMPROVED

Great job in modernizing, re-formatting, and improving *Brown Medicine*. Happy to see the essay of Sarah Wakeman MD’09 (“It’s Simple, Really”) and the important note from Carly Levy MD’07 (“Ana and Mia Are Not Your Friends”). I’m pleased to see some of our most innovative faculty and student role models featured, including a moving story on Scott Allen in the last issue of 2007.

As parents of a Brown Medical School graduate, both Wendy and I are proud that all our present and former students are receiving and reading *Brown Medicine*...this is a winner.

EDWARD FELLER, MD PMD’03
Clinical Professor of Medicine and
Community Health
Co-director, Clerkship in Community
Health
Director, Division of Gastroenterology,
The Miriam Hospital



THE BEAT

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



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No Half-Measures

For significant weight loss, minor changes just won't do.

According to Rena Wing, professor of psychiatry and human behavior at Alpert Medical School and director of the Weight Control and Diabetes Research Center at The Miriam Hospital, people who are most successful in preventing weight gain, and dieters who lose weight and keep

FINDINGS

the pounds off, have made major changes in their diet and exercise routines.

Using new research findings, Wing made her case as part of a symposium titled "Fighting the Global Obesity Epidemic: Small Steps or Big Changes?" at the annual meeting of the American Association for the Advancement of Science (AAAS), the world's largest general scientific society, held in February in Boston.

"We live in an obesogenic environment that relies heavily on fast food, automobiles, and remote controls—all of which can be

National Weight Control Registry, the largest prospective investigation of long-term successful weight loss maintenance in the world. The registry includes data on more than five thousand men and women who have, on average, lost seventy pounds and kept the weight off for six years.

At the symposium, Wing and Hill presented alternative views of how best to address the obesity epidemic, a worldwide crisis health experts are calling "globesity"—with more than one billion adults overweight, and at least three hundred million of them clinically obese.

Hill argued that small daily changes—using the stairs, for example—are enough to prevent incremental weight gain that can lead to obesity. Wing, however, made the case that much larger lifestyle changes—exercising sixty to ninety minutes a day—are needed to prevent weight regain.

"We live in an **obesogenic environment** that relies heavily on fast food, automobiles, and remote controls—all of which can be **'toxic'** to maintaining a healthy body weight."

'toxic' to maintaining a healthy body weight," Wing said. "Our research aims to determine the most successful strategies for maintaining a normal weight in this toxic environment. We've found that bigger changes are needed for success."

Along with James Hill of the University of Colorado-Denver, Wing founded the

"Our data from the National Weight Control Registry suggest strategies associated with successful weight maintenance include high levels of physical activity and conscious control of eating habits," said Wing. "Dieters who remain diligent about diet and exercise are much less likely to gain weight back."

BRIAN STAUFFER/THE SPOT



If you want to
get smaller, Wing
says, go big or
go home.

Examples of conscious control include frequent weighing, following a consistent dietary regimen across the weekdays and weekends, and taking fast action if small weight gains are observed.

Wing also presented new research findings that support the notion that large behavior changes are necessary in maintaining a normal weight, even in those without a genetic or physiological propensity toward obesity.

JULIE BRIGIDI

“There’s no way around it,” Wing said. “If you want to lose weight and keep it off, you need to really change your lifestyle, particularly if you’re overweight or have a family history of obesity. The obesity epidemic won’t go away simply because people switch from whole to skim milk. They need to substantially cut their calories and boost their physical activity to get to a healthy weight—and keep minding the scale once they do.”

Also presenting at the AAAS annual meeting were Professor of Biology Kenneth Miller, who argued that there is a concept of “design” in nature that supports evolutionary theory, and Heather Leslie, the Sharpe Assistant Professor of Environmental Studies and Biology. Her presentation demonstrated how resilience science can produce more effective ocean protection policies.

—**Wendy Y. Lawton**

Strangers to These Shores

Med students work to improve health care for refugees.

Darfur. Sierra Leone. Kenya. Civil war seems endless on the African continent, and each wave of violence brings refugees seeking asylum to the U.S.

Hundreds land in Rhode Island, where they must learn to navigate the complicated bureaucracies and cultural norms of their adopted home—including its health care system.

In March, medical students led by Margret Chang MD'10 convened the second annual Issues in Refugee Health conference, which this year explored health care issues facing the African refugee community. "This event was designed so that members from the refugee community would be able to stand up and speak in front of health care providers and students," says Chang.

African community leaders Danlette Norris, MSW, and Ndumba Kamwanya, MA, facilitated a panel of recent refugees who shared their experiences.

"Last year, the focus of the refugee symposium was on health care issues facing

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FINDINGS

CO in the ER

Carbon monoxide poisoning more prevalent than we thought.

Brown researchers have developed a simple screening process to identify unsuspected carbon monoxide (CO) poisoning in patients. Led by Associate Professor of Emergency Medicine Selim Suner, who is also director of emergency preparedness and disaster medicine at

Rhode Island Hospital, the study involved the use of a non-invasive pulse CO-oximeter to screen 14,438 patients visiting the hospital's emergency department in a three-month period. Twenty-eight cases of CO poisoning were detected, eleven of which were unexpected, where patients showed none of the usual signs of CO poisoning, such as headaches, dizziness, or flu-like symptoms. Nearly one-third of the cases were severe enough to require hyperbaric oxygen treatment. The research findings suggest that as many as 11,000 cases of CO poisoning across the country go undetected each year.

"We demonstrated that it's possible to conduct quick...and inexpensive carbon monoxide screening on every patient even in a high volume, urban emergency department," says Suner. "This is a public health initiative that could be applied universally in other large health care institutions."

—**Susan Hsia Lew**

Cambodians, who first came to Rhode Island in the 1980s," Chang says. As a direct result of last year's symposium, a group of Cambodians teamed up with other Southeast Asian community leaders and health care providers to form a group called the Southeast Asian Health Coalition.

"This coalition has already been making a difference in the lives of local Cambodians, helping to deal with trauma and other related health issues that have built up over two decades of refugee resettlement," she says.

Chang hopes similar connections will come of this year's conference. She's currently working with another med student, Pojen Deng MD'11, to prepare a report for Physicians for Human Rights that will compare the health care challenges facing Southeast Asian refugees with those of current refugee streams from Africa and the Middle East.

To illustrate how cultural and social barriers play out in the exam room, the students have also begun a documentary video series in collaboration with the International Institute of Rhode Island. Sample clips, which use role playing between medical students and refugee patients to highlight the communication breakdowns, can be viewed at <http://www.youtube.com/watch?v=bbi8c9XZfBQ>. —**Kris Cambra**

COURTESY MARGRET CHANG





Dr. Michael Atalay (right) and MRI technologist Dan Arcuri examine a cardiac MRI.

TOP OF THE CHARTS

Residency program best in the nation.

HIGH FIVE

Brown's Diagnostic

Imaging residency program was ranked number one in the U.S. The ranking, released annually by the American Board of Radiology, objectively measures 186 residency training programs

training, but our patients are receiving the best possible care as well," says Associate Professor of Diagnostic Imaging Martha Mainiero, director of the residency program and of the Anne C. Pappas Center for Breast Imaging at Rhode Island Hospital.

STAT SHEET

RHODE ISLAND STACKS UP

The little knowledge engine that could.

According to a 2004 report by the National Science Foundation, Rhode Island ranked fifth in intensity of total industrial R&D spending in the U.S., at 3.15 percent. The national average industrial intensity was 1.79 percent.

With eighty-six colleges and universities located within a fifty-mile radius, Rhode Island has the highest concentration of higher education institutions in the United States.

The Rhode Island Science and Technology Advisory Council's Collaborative Research awards provided support to thirty-two researchers from fifteen institutions pursuing projects in medicine, engineering, chemistry, biology, oceanography, and environmental science.

More info? <http://stac.ri.gov/>

—Sarah Baldwin-Beneich

based on the past five years of written and oral Board examinations. Based at Rhode Island Hospital, the program's twenty-eight residents also spend one month training at both The Miriam Hospital and Women & Infants Hospital each year.

"The physician faculty work hard to ensure that our residents are receiving the best possible training and we are proud of this recognition. We also recognize the link between superb teaching and quality clinical care, so we know that not only are we providing excellent

Dance Dance Evolution

Bio prof is a star on the floor, and that's no jive.

At age five, Professor of Biology Gary Wessel was the only boy in his ballet class. "I also danced ad lib when my parents went to restaurants, bars—basically any place where music was played," he says. "People felt sorry for me and threw nickels and dimes, likely to encourage me to try a different career."

Wessel has since glided to the cutting edge of genomics research, but the dance floor still beckons. He returned to it last fall



to train for Dancing with the Profs, a take-off on ABC's hit reality show, which paired Brown faculty with students from the ballroom dancing team.

At the final competition in February, Wessel and partner Hilary Johnson '09 wowed the audience at Alumnae Hall with a high-energy jive. Judges crowned them the winners, calling their performance "fantastic."

Wessel credits Johnson with the win. "Hilary was a real taskmaster. After some practices, and several changes of shirts on my part, I learned that she would then do several hours of dance practice with the team! I was just a warm-up!"

—Jumoke Akinrolabu

Red Alert

Flat funding threatens biomedical research—and the nation's health.

Brown and six other academic research institutions released a report in March that describes potentially devastating effects of an unprecedented five consecutive years of stagnant funding for the National Institutes of Health (NIH). The report, *A Broken*



BAD NEWS

Pipeline? Flat Funding of the NIH Puts a Generation of Science at Risk, warns that if the NIH does not receive consistent and robust support in the future, the nation could lose a generation of young scientists to other careers and other countries. Also lost with those investigators is the promising research that could result in the discovery of new cures for diseases currently afflicting millions across the country.

"The life-saving advances in imaging, vaccines, cancer tests, and treatments that we've seen in recent years," says Clyde Briant, vice president for research at Brown, "all that may slow dramatically."

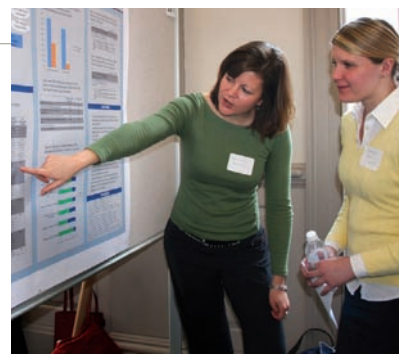
Co-authored by Brown, Duke, Harvard, Ohio State, Partners Healthcare, UCLA, and Vanderbilt, the report profiles twelve junior

Dr. Christine Tompkins explains the finer points of her work to fellow MPH student

Kathryn Wojcik
at Public Health
Research Day on

FORUM

April 8. The day was capped by the annual Barnes Lecture, delivered by Governor Tommy Thompson.



researchers, including two from Brown: Tricia Serio, assistant professor of medical science, and Carthene Bazemore-Walker, assistant professor of chemistry.

Serio, Bazemore-Walker, and the others attest to the difficulties junior faculty increasingly face to secure Ro1 grants—the major, multi-year NIH funding needed to launch an academic research career. During 2006-07, for instance, Brown junior faculty in biology, medicine, and public health had only a 24 percent success rate for Ro1 applications. The average age of first-time Ro1 recipients is now 43, up from 39 in 1990.

"My worst fear is that we will lose an entire generation of researchers," says Serio. "So many young investigators struggle—even the most gifted scientists with the most creative ideas. If they leave academia, they won't come back."

The report follows up a related March 2007 study that documented how stagnant NIH funding was slowing biomedical dis-

covery and squandering opportunities for breakthroughs that were once in reach.

Between 1998 and 2003, Congress and the Clinton and Bush administrations doubled the NIH budget, an effort that helped transform entire fields of biomedical research through achievements like the sequencing of the human genome. In 2003, however, the budget increases stopped, with the NIH experiencing a 13 percent drop in real purchasing power in the years since. Only one in ten of first submitted grants is funded.

Serio, who is studying infectious proteins linked to mad cow disease, did her postdoc training at the University of Chicago during the boom years, when "the NIH pot was full, and one in three proposals was funded." In those days, unlike today, "people never talked about difficulties in funding. We talked about science."

The President's latest budget proposal calls for another year without an increase in NIH funding.

—W. Y. L.

OVER HEARD

"In the past twenty to thirty years, the incidence of obesity and overweight in kids has tripled. At the same time, the amount of sleep that kids are getting has declined. There are now over a dozen studies that show there is a link between short sleep and obesity. Inadequate sleep causes changes in hormones...which actually control hunger and appetite. Sleep has to be a priority for good health."

JUDITH OWENS, MPH '77 MD'80

—Associate Professor of Pediatrics

DAWN LANDRUM/ISTOCK/BETH SUNDBROM



Respect Your Elders

At Brown, medical training gets better with age.

This winter Alpert Medical School was named a Center of Excellence in Geriatric Medicine and Training by the John A. Hartford Foundation, the nation's largest private foundation focused solely on aging and health. The Medical School was one of three chosen from a pool of twenty-seven applicants. Rhode Island Hospital received the three-year, \$450,000 grant award that accompanies the designation.

GOOD NEWS Grant funds will be used to train thirteen geriatrics junior faculty and fellows—a tactic that will help ensure that Brown's doctors-in-training can meet the needs of older patients. According to the U.S. Census Bureau, the number of Americans age

“The first ripples of the **silver tsunami** are lapping at the shores of our country, but there is **not a coordinated or strategic response** taking place in America.”

sixty-five and older will double to 71 million by 2030. By that time, demographers predict a shortfall of 26,000 geriatricians across the country.

“We’re looking down the barrel of a loaded gun,” says Center of Excellence project leader Richard W. Besdine, MD, the David S. Greer, MD, Professor of Geriatric Medicine, director of the Division of Geriatrics in the Department of Medicine, and head of the Center for Gerontology and Health Care Research. “We simply don’t have enough medical specialists to care for the coming ‘silver tsunami...’. The Hartford Foundation award will help Alpert Medical School support the fellows and junior faculty who teach the next generation of doctors how to care for older adults and how to conduct research to improve that care.”

The Hartford Foundation grant comes on the heels of a \$2-million, four-year award to Brown last year from the Donald W. Reynolds Foundation. That award is being used to provide aging-related content for every course for every year of medical school. The goal is to ensure that all Alpert Medical School students graduate with the knowledge and skills needed to treat the elderly.

—W. Y. L.

NO FEES, PLEASE

A recent Brown-led study shows that even a modest co-payment significantly reduces the likelihood that a woman will get a mammogram, the recommended

breast cancer screening test for women over the age of forty.

In the January issue of the *New England Journal of Medicine*, Brown researchers

and their collaborators at Harvard School of Public Health concluded that biennial breast cancer screening rates were 8 to 11 percent lower among women facing a co-payment than among women whose mammography costs were fully covered.

Led by Assistant Professor of Community Health Amal Trivedi, MD, MPH, the researchers also found that over a two-year period, mammography rates decreased by 6 percent in health plans that introduced co-payments, while screening rates increased by 3 percent in plans that retained full coverage. “We’ve isolated the effect of co-payments on an important preventive health measure,” Trivedi says. “By eliminating them...we could get more women tested [and increase] breast cancer survival.”

DON'T FORGET THE MEN AND BOYS

In the *Journal of the National Cancer Institute* late last year, Brown researchers reported that two known causes of head and neck cancer do not act together to increase cancer risk. While human papillomavirus type 16 (HPV16) and heavy alcohol and tobacco use are each risk factors for head and neck cancers, the researchers found that among people exposed to HPV16 and already at risk for head and neck cancer, the existence of heavy smoking and drinking behavior did not increase that risk.

INK

According to lead author Karl Kelsey, director of the Center for Environmental Health and Technology, the findings strongly suggest that HPV16-associated head and neck cancer is a different disease from that caused by heavy smoking and drinking. Because head and neck cancers are predominantly male diseases, and because HPV16 is a sexually transmitted virus, “our current HPV vaccine recommendations should change,” says Kelsey, and should include the vaccination of boys and men, not just girls and women, as current guidelines for cervical cancer prevention suggest.

TAILOR THE TREATMENT

New options exist for teens with treatment-resistant depression. In the February 27 issue of the *Journal of the American Medical Association*, Brown researchers, led by Martin Keller, Mary E. Zucker Professor and chair of Psychiatry and Human Behavior, report that teens with depression who do not respond to a first course of selective serotonin reuptake inhibitor (SSRI) can experience improvement when they are switched to a different SSRI and when cognitive behavioral therapy is added to the treatment plan. The findings

are the result of TORDIA (Treatment of SSRI-resistant Depression in Adolescents), a large, multi-site trial funded by the National Institute of Mental Health (NIMH).

SSRI-resistant depression occurs in “about 40 percent of adolescents...and clinicians have no solid guidelines on how to choose subsequent treatments for these patients,” says NIMH Director Thomas R. Insel, MD. “The results from TORDIA bring us closer to personalizing treatment for teens who have chronic and difficult-to-treat depression.”

THE NEW MATH

Brown mathematician Charles “Chip” Lawrence and graduate student Luis Carvalho have developed a new class of statistical estimators, tools that improve the ability of researchers to extract information from extremely large data sets. Their seminal work

This finding calls into question **the very root of the animal tree of life**, which traditionally placed sponges at the base.

appears in a recent issue of the *Proceedings of the National Academy of Sciences* and will have an impact on fields from biology to business.

For decades, the most commonly used methods for statistical prediction have involved identifying the single most probable solution from a set of data. But new technologies that generate billions of points of data—genomic sequencing, Internet transaction-tracking, and high-resolution imaging from outer space, among others—pose new challenges called “high dimensional” or “high-D” unknowns. Using the old methodology, “the most likely outcome would be very, very, very unlikely,” Lawrence says, “so we knew we needed a better estimation method.” Lawrence and Carvalho used statistical decision theory to find an estimation procedure called “centroid” estimators, which identify not the single most probable solution, but the solution that is most representative of all the data in a set.

“What’s exciting about this work—what makes it every scientist’s dream—is that it’s so fundamental,” Lawrence says. “These new estimators have applications in biology and beyond and they advance a statistical method that’s been around for decades.”

STRESS RELIEF

Neuroscience graduate student Jodi Gilman, part of Brown’s Graduate Partnerships Program with the National Institutes of Health, has published research in the February 14 issue of *Science* showing that a brain circuit associated with stress is a promising treatment target for alcoholism. Gilman and researchers at the National Institute of Alcohol Abuse and Alcoholism (NIAAA) report that a receptor in the brain called NK1R plays an integral role in stress-related alcohol consumption.

The researchers first determined that mice engineered to lack NK1 receptors consumed far less alcohol than mice with functional NK1 receptors. Subsequently, they found that an experimental compound designed to block NK1 receptors reduced alcohol craving and improved overall well being among recently detoxified alcoholics who were experiencing anxiety.

REWRITING HISTORY

An international research project led by evolutionary biologist Casey Dunn uses new genomics tools to answer old questions about animal evolution. The study, which appeared in the March 6 issue of *Nature*, is the most comprehensive animal phylogenomic research project to date.

Researchers developed a new, computationally intensive approach in order to compare large numbers of species without having



to sequence the entire genomes of each. Among many findings that clarified previously disputed evolutionary relationships between animal species was one surprise: comb jellyfish—common and extremely fragile jellies with well-developed tissues—appear to have diverged from other animals even before the lowly sponge, which has no tissue to speak of. This finding calls into question the very root of the animal tree of life, which traditionally placed sponges at the base.

“What is exciting is that this new information changes our basic understanding about the natural world—information found in basic biology books and natural history posters,” says Dunn, assistant professor of biology (research). “These new genomic approaches will be able to resolve at least some problems that have been previously intractable.”

WORM WORRIES

A recent paper in the new journal *PLoS Neglected Tropical Diseases* suggests the global burden of schistosomiasis is higher than previously thought. Led by Professor of Community Health Stephen McGarvey, who is also director of Brown’s International Health Institute, the researchers used updated data about the parasitic worm disease and judged that its true burden in terms of disability and other measures is seven to forty-six times higher than the current World Health Organization (WHO) estimates suggest.

“We’re basically ringing the bell, saying attention must be paid,” says McGarvey. The researchers report that 20 million people worldwide have severe and debilitating schistosomiasis. Nearly 800 million people are at risk in tropical and sub-tropical areas. Although schistosomiasis is not a major killer like malaria, the researchers hope their findings will convince WHO policymakers and governments to devote more resources to combating the disease.

—S.H.L.

COURTESY CAITLIN COHEN

MOVIN’ ON UP

Alpert Medical School ascends the ranks.

The latest *U.S. News & World Report* rankings reveal that in the Research category, Alpert Medical School has risen from forty-three to thirty-one in just four short years. It has also risen in the Primary Care category, from twenty-seven to twenty-one, well within the top quartile.

RANK AND FILE In the Research category, the Medical School is tied with Dartmouth Medical School and the University of Iowa’s Carver College of Medicine. Alpert Medical School is now firmly planted within the top quartile of accredited U.S. medical schools, a key goal articulated in the Plan for Academic Enrichment. —K.C.



Caitlin Cohen
(right) in Mali

Academic All-Star

Student activist gets national props.

This winter, Caitlin Cohen ’08 MD’12, already a recipient of a prestigious Royce Fellowship, was named to the second team in *USA Today*’s nineteenth annual All-USA College Academic Team program. Each February, *USA Today* awards twenty undergraduates with national recognition, a trophy, and \$2,500. The students are recognized for using their

scholarship and intellectual abilities to benefit society.

Cohen is co-founder of Mali Health Organizing Project (see “The Activist’s Agenda,” *Brown Medicine*, Winter 2008). MHOP acts as a catalyst to bring slum residents and their governments together to break down deadlock in Mali’s capital, Bamako, through accountability, communication, seed funding, and health organizing.

—S.B.B.

You Never Know What'll Turn Up

Research on diabetes yields surprising details about Parkinson's.

Perhaps the most important recent finding about the neurodegenerative disorder Parkinson's disease has emerged from a lab in the Division of Endocrinology at Brown.

Wait a minute. Endocrinology?

In addition to extensive clinical work as director of the Hallett Center for Diabetes and Endocrinology at Rhode Island Hospital, Professor of Medicine Robert Smith runs a robust basic science lab that studies the molecular underpinnings of diabetes and human growth disorders. Much of his work focuses on the ways that insulin and related hormones called insulin-like

DETOUR

growth factors (IGFs) work in cells. The action pathways of these hormones in cells are important causes of human disease and are also targets for new treatments. Five years ago, his lab found a new protein—GIGYF2—which attaches on the inside of cells to insulin and IGF receptors. This suggested that GIGYF2 might have a role in diabetes and growth disorders, so they set out to study its function.

They first tried a traditional method of putting a tagged version of GIGYF2 into cells and then watching where it went and what it did. The results were interesting—the GIGYF2 aggregated into clumps and killed the cells. However, the GIGYF2 was so toxic that the cells could not be used to study its function.

“So we had to try another approach. We figured out where the gene for GIGYF2 is located, and then searched human genome data to see if the position of the gene maps to any known disease,” Smith says. Sure enough, the GIGYF2 gene was smack in the center of PARK11, a region that was previously shown to be linked to the development of Parkinson's disease in people with a family history of the disease.

Because they knew there were possible connections between Parkinson's, IGFs, and diabetes, Smith and his team decided to investigate the involvement of GIGYF2 in Parkinson's disease. Colleagues in Milan, Italy, and Paris, France, provided close to 250 DNA samples from patients who had Parkinson's and at least one first-degree relative (parent, child or sibling) with the

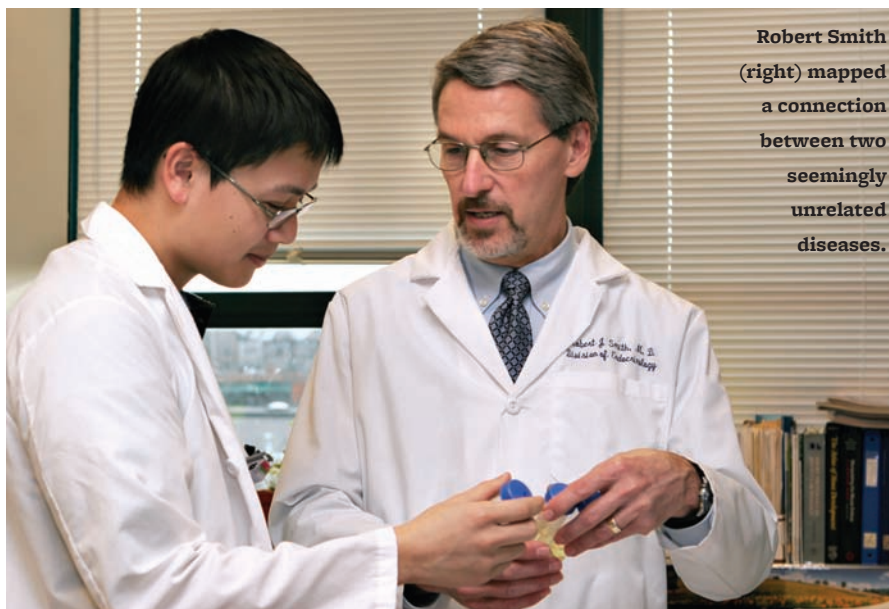
disease. For comparison, they also studied DNA from more than two hundred unrelated healthy controls from both countries.

Following gene sequencing and mutation analysis, the researchers identified seven different forms of GIGYF2 mutations occurring in twelve different people—approximately 5 percent of those in the study. When available, relatives with Parkinson's were also sampled and the researchers found they carried the same mutations, which led to single amino acid substitutions in the protein encoded by the GIGYF2 gene. None of the mutations was observed in the healthy controls.

“Our data provides strong support for GIGYF2 as a PARK11 gene with a causal role in familial Parkinson's disease,” says Smith. The findings were published in the April issue of the *American Journal of Human Genetics*.

They also add more evidence linking insulin and IGFs with neurodegenerative diseases like Parkinson's and Alzheimer's disease (see “Implicating Insulin,” *Brown Medicine*, Fall 2006).

“We know IGFs are important in the central nervous system. You can rescue damaged neurons with IGFs, for instance,” Smith explains. “A better understanding of the link between insulin or IGFs and Parkinson's may lead us to new treatment strategies for



Robert Smith (right) mapped a connection between two seemingly unrelated diseases.

Parkinson's and also new insights into the connection between diabetes and nervous system disorders.”

In a study published by a group in Finland last year, he notes, people with diabetes were shown to have twice the risk of developing Parkinson's disease. Maybe the GIGYF2 gene will help to explain why. While he has no plan to give up his work on diabetes and become a full-time neuroscientist, Smith says his lab will continue to pursue this research because of the likelihood that Parkinson's “is connected to IGFs and insulin and maybe diabetes.” —K.C.

Alzheimer's at the Wheel

Reliably assessing the driving ability of people with dementia is key.

A new study takes an in-depth look at the dangers of driving for people with early Alzheimer's disease (AD). Published in the January 23 edition of *Neurology*, the study confirms previous reports that

FINDINGS people with early AD experience more accidents and perform more poorly on road tests compared to drivers without cognitive impairment. Led by Professor of Clinical Neurosciences (Neurology) Brian Ott, director of the Alzheimer's Disease and Memory Disorders Center at Rhode Island Hospital, the researchers studied the driving performance of eighty-four persons with early AD and forty-four age-matched control subjects.

"People with mild dementia were nearly four times more likely to fail a road test than those with only very mild dementia, indicating

Higher age and lower education status were also **significant factors in driving performance** among all study participants.

that people with very mild dementia may be able to drive safely for longer periods of time," says Ott. Higher age and lower education status were also significant factors in driving performance among all study participants. The odds of failing a road test increased by about



6 percent for every year over the age of seventy-five, and increased by 10 percent for each year the subject lagged behind the average education experience of fourteen years.

Of interest, the frequency of motor vehicle accidents in the drivers with early AD declined during the course of the three-year study. "The results suggest that a regular driving assessment program may actually reduce the frequency of motor vehicle accidents in drivers with mild dementia," says Ott. "This, however, may also result in premature termination of driving privileges for some persons with dementia."

The researchers note that a major challenge facing clinicians is the development of valid and reliable assessment tools to help them make recommendations regarding driving safety for patients with early AD. Their recent four-year grant renewal from the National Institute on Aging will allow them to continue addressing this challenge.

—S.H.L.

DRUG MONEY

The push and pull of prescription meds.

GO FIGURE

According to a national survey conducted by *USA Today*, the Kaiser Family Foundation, and the Harvard School of Public Health last January:

- prescription-drug ads prompt nearly 33% of Americans to ask their doctors about an advertised medicine;
- of those, 82% say their physicians recommended a prescription and 44% say physicians gave them the one they asked about.

The conclusion? Drug advertising works. The result? "Many people get drugs they

otherwise wouldn't," according to Drew Altman AM'74, P'08, president of the Kaiser Foundation.

The survey also found:

- money spent on drug advertising has risen from \$2.6 billion in 2002 to \$4.8 billion in 2006;
- over the past two years, due to cost pressures, 29% of American families have not filled a prescription;
- 23% halve their pills or skip doses to make their meds last longer;
- 41% sometimes have trouble affording drugs.



EXAMROOM 1

Feel My Pain

A physician and dean urges educators and students not to take the health care quagmire lying down.

BY PHILIP A. GRUPPUSO, MD

For most of the two years since becoming associate dean for medical education, I have considered the mission of our medical school as training future leaders in medicine and health care. Recently I have found myself re-thinking that goal.

Leaders in health care and academic medicine are first and foremost charged with shepherding their institutions. They almost always have financial responsibility for the organization they lead. This necessarily limits a leader's ability to focus on change, and I believe change is of the greatest necessity at this time.

The U.S. health care system is in trouble. The dialog taking place in the context of the current presidential race focuses on coverage—universal, mandated, and so on. I have not heard any meaningful discourse on the need or way to limit total cost. At present, the proportion of the U.S. gross domestic product that is accounted for by health care is more than twice that of many other industrialized nations. The 2007 data of the Organization for Economic Co-Operation and Development (OECD) show health care expenditures as 15.3 percent of GDP for the U.S.; the next-highest are 11.6 percent, for Switzerland. The mean for the thirty OECD countries is 9.0 percent, and the U.K. comes in at only 8.3 percent. Per capita numbers parallel the GDP percentage figures.

Unfortunately, this high cost is not producing high quality. A World Health Organization's health care system performance report released in 2000 placed the U.S. thirty-seventh out of the 191 countries examined. There is no evidence that our status has improved in recent years, and we continue to be one of the only industrialized nations not to have universal health care.

I believe medical educators are in a position to help shape the future of health care in this country. After all, physician behaviors and their skill in delivering care greatly influence their patients' behavior. If a physician is too insecure to assess the patient without the applica-


tion of the most current technology, or too willing to accept what they heard at the last drug company-sponsored dinner, patients will adopt the same behaviors and biases.

I recently had the opportunity to view what I see as the wrong approach. At the 2007 meeting of the Association of American Medical Colleges, I manned the Alpert Medical School booth. Across from me was a mid-western medical school's booth. It was the length of a Greyhound bus and dedicated to an educational program aimed at training students to use a bedside ultrasound device for physical diagnosis. The implications had me completely flummoxed. What additional high-tech testing would result from the use of

a device that made every primary physician a walking diagnostic imager? Wouldn't the availability of such a device contribute to growing health care disparities? Would taking a medical history be relegated to...history? This was a sure sign of the demise of civilization.

The unabated application of technology, the daily assaults by device manufacturers and drug company representatives, the allure of high incomes associated with high technology, and the "unsexy-

The U.S. continues to be one of few industrialized nations **without universal health care.**

ness" of primary care and cognitive specialties have led me to the following conclusion: our medical school must prepare students to be change agents. They should feel every bit as uncomfortable with the current health care system (and its awful trajectory) as I do. In the context of the required medical curriculum, training students to be change agents is difficult but doable—in part by incorporating scholarship and creativity, as we are striving to do. It will be through questioning and creative thinking that our graduates will envision change and devise ways to achieve it. I hope that the medical curriculum my colleagues and I have devised will be not merely a serviceable one that produces licensed physicians, but one that gets our students thinking in a way that leaves them perpetually loath to accept the system in which they work. In short, I wish on them my own fate. 

Phil Gruppuso is associate dean of medicine for medical education and a pediatric endocrinologist.

JENNIFER FRIEDMAN, MPH, PHD '92 MD'96

FIELDNOTES

Women and Children First

Temporarily grounded, a pediatrician and researcher longs to return to the field.



Anyone who has traveled to a lesser developed country (LDC) and witnessed poverty in any of its myriad manifestations returns a different person. Some return with an increased appreciation for what we have in more developed countries. Some wake every day and take a moment to be thankful that their children are healthy and will not be hungry today. For some, like myself, the experience is additionally life transforming, dictating career paths and inspiring us to find any way to return.

Leyte, the Philippines, is such a place. In 1942, Douglas MacArthur made his famous pronouncement, "I shall return," as Japanese forces were overtaking the country. Until he did, the people of Leyte and

other Philippine islands suffered greatly from Japanese brutality. The Philippines experienced significant loss of life and physical destruction by the time the war was over. An estimated one million Filipinos were killed, and Manila was extensively damaged.

In 1944 MacArthur did return, at the head of an American army, landing on Leyte and ultimately freeing the Philippines from Japanese control. He was joined by Philippines resistance, "Hukbalahap," or People's Army Against the Japanese, which armed approximately 30,000 people. The landing was followed by what some describe as the greatest naval engagement in history, the battle of Leyte Gulf.

A year-long experience in Kisumu, Kenya, following medical school had galvanized my interest in pursuing a career in global maternal-child health research. In Kenya, I had been overwhelmed by the enormity of childhood illness. For every sick child helped, there were thousands more like her. I hoped that research would inform ways to most efficiently improve the health of children in LDCs.

I first visited Leyte in the spring of 2002, to help lay the groundwork for two NIH-funded

research studies. I returned for six weeks in the fall of that year, when we formally started the studies. The large National Institutes of Allergy and Infectious Diseases R01 study, led by Jonathan Kurtis '89 MD'96 PhD'96 and Filipino co-investigators, addressed rational

In Kenya, I was overwhelmed by the **enormity of childhood illness**. For every sick child helped, there were **thousands more like her**.

approaches to vaccine development for *Schistosomiasis japonicum*. This parasite is contracted when individuals come in contact with fresh water such as lakes, streams, and rice paddies and are exposed

FIELDNOTES

to the cercariae stage of the parasite life cycle. The cercariae penetrate the skin, the schistosomule stage then migrates to the liver, and adult worms live in the peri-portal circulation. Eggs laid by the worms often lead to hepatic fibrosis with related morbidity and mortality. The infection also causes more subtle morbidities including anemia, under-nutrition, and cognitive impairment.

The second study, led by myself and Filipino co-investigators, examined mechanisms by which the parasite causes morbidity in children and how best to address them. As a relatively new investigator, my learning curve was steep, and I benefited greatly from the

When a pipe broke, filling the laboratory with **two feet of water**, Luz dispatched the driver to collect clothespins so she could **air-dry the documents**.

existing twenty-five-year collaboration between investigators at Brown University and Lifespan and the Research Institute of Tropical Medicine, Manila. Most inspiring are RITM's director, Dr. Remigio Olveda, and the head of the Department of Immunology, Dr. Luz Acosta. Both are understated and humble, and have sacrificed a great deal in devoting their careers to improving the health of impoverished Filipinos.

Dr. Acosta is unflappable, addressing concerns in the field unthinkable here and resolving calamities never mentioned in research protocols. For example, all staff and visitors are issued knee-high black rubber boots to visit the study villages, to ensure none contract the parasite they are studying! When a pipe broke at the field station, filling the laboratory and office space with two feet of water, including file cabinets, Luz calmly dispatched the driver to collect clothespins and air-dried about 300 study documents. When the rented "Jeepney" (a Jeep-like chassis from the World War II era extended to function as a small bus capable of packing in thirty people and random livestock) shuttling study participants back to the village was held up by robbers wanting to steal the fifty pesos (one dollar) given to participants for the "time cost" of participation, Dr. Acosta found alternative means of transportation.

IT'S SAFE, BUT CAN WE USE IT?

These two studies ended in May of 2007, culminating in seventeen publications addressing *S. japonicum* vaccine development and morbidity. During study visits there, however, we were all struck by a group that was notably under-represented in our study sample: women of reproductive age. This was largely due to the fact that study

participation began with eradication of the parasite with a single dose of the highly effective drug praziquantel. Praziquantel was released in 1979, but was never studied in pregnant or lactating women, thus necessitating its FDA designation as a Pregnancy Class B drug. These drugs are presumed safe during pregnancy based on animal studies, but caution should be used when given to pregnant women. In practice, this has led to withholding of treatment for pregnant and lactating women in most schistosomiasis-endemic countries. Because many women in LDCs experience cycles of pregnancy and lactation that are almost continuous over long periods of time, they go

untreated for over a decade. These women, therefore, continue to accrue the morbidities of this parasitic disease during these highly micro and macro-nutrient demanding times.

Our dismay with praziquantel's status, particularly given that the drug is very likely safe but simply never studied during preg-

nancy, inspired our current work. We are now conducting a large, randomized controlled trial of the effect of treatment for *S. japonicum* on pregnancy outcomes. This NIH-funded study is treating pregnant women with praziquantel at twelve to sixteen weeks gestation to assess both safety and efficacy of treatment. Six babies have been born thus far and we hope to share results of this work with schistosomiasis-endemic communities globally in the two to three years coming. It is our hope that we can determine that the drug is safe during pregnancy, liberalizing its use for pregnant and lactating women. Further, if praziquantel is shown to positively impact outcomes for pregnant women and their newborns, this inexpensive drug may be able to improve birth outcomes in the setting of scarce health care resources in LDCs. In addition, we have received funding from the Thrasher Foundation to follow infants born from this study until one year of life. We will assess the impact of treatment during pregnancy on infant nutritional status, iron markers, hemoglobin, and cognitive function.

As I conclude this report "from the field," I am struck by how much I miss being able to spend long periods of time in Leyte. The demands of academic medicine and three children under the age of five currently preclude such lengthy stays. I am privileged to work with such dedicated and bright colleagues in the Philippines, who ensure the day-to-day success of our work. I look forward to many returns to Leyte in the coming years as each trip reinvigorates, informs, and motivates our next steps.

Jennifer Friedman is assistant professor of pediatrics at Alpert Medical School and director of clinical studies at Lifespan's Center for International Health Research.

RESIDENT EXPERT

BY MICAELA HAYES, MD

Aversion Therapy

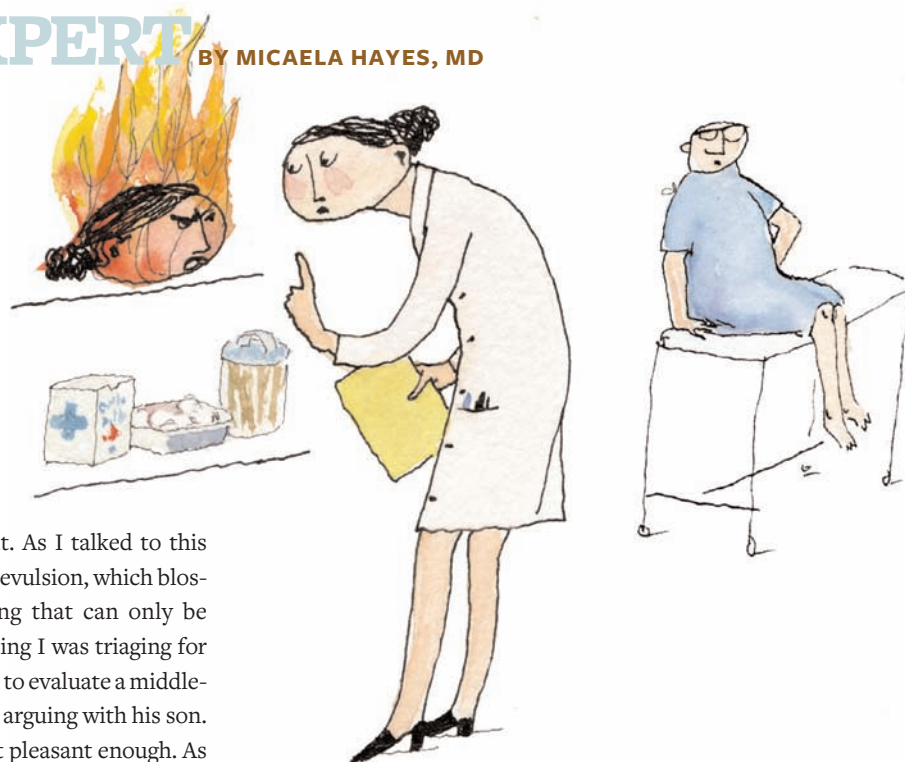
What to do with a patient you'd rather do without.

Hatred. There was no denying it. As I talked to this patient, my distaste turned to revulsion, which blossomed into that primal feeling that can only be described as hatred. That evening I was triaging for the cardiac step-down unit and had been asked to evaluate a middle-aged man who presented with chest pain after arguing with his son. At first he seemed rough around the edges but pleasant enough. As he matter-of-factly described picking up his thirteen-year-old son and throwing him down the stairs, my impression began to shift. When he told me his other teenage son takes martial arts to defend himself, my last wisp of empathy disappeared. Surprised by the strength of my reaction and cognizant that it shouldn't alter my care, I set it aside and completed my interview in what I hope was a polite and non-judgmental fashion.

Fortunately for me he did not need the cardiac unit. I was free to revile him without compromising his medical care or my professional ethics. But what if he had needed my unit? Would I have properly cared for a patient I hated? Would I have even recognized the inadequate care that might have resulted? Trust and empathy are the foundation of the therapeutic relationship. What is a physician to do when this foundation is undermined by suspicion, distrust, and outright antagonism?

This gentleman's case was the exception. The source of my visceral reaction was easy to pinpoint and there was no ambiguity surrounding the appropriate course of action for his pain. More common, however, is smoldering conflict that goes undetected or ignored, leading to a dysfunctional relationship and sub-optimal care. When patients sense a lack of trust, they are less forthcoming with information, inconsistent with medications, and unreliable with appointments. Physicians in turn label them "non-compliant" and disengage from the relationship, blaming poor outcomes on them.

The complex issues posed by chronic narcotics provide a useful illustration. The internal medicine resident clinic serves a mostly uninsured population with serious medical problems, minimal education, and few resources. Many patients truly need chronic narcotics to manage their pain, yet others have diverted narcotics to alleviate their financial woes. At one point, half of our chronic narcotics



patients were "clean" when they should have tested positive for opiates. Lest we unwittingly become dealers, our clinic has a strict pain contract with prescribed steps for starting narcotics and clear-cut indications for definitively stopping them. And yet we became physicians to heal people, to lighten burdens, to alleviate pain. These clashing agendas create a perfect storm of tension, suspicion, and anger.

As a result, I approach chronic pain differently than any other problem. Though it shames me to admit it, part of my brain now instinctively searches for proof of malfeasance. What exam maneuver can I perform to show this person is faking? *They might be selling the stuff—that urine tox screen had better be positive!* When symptoms are ambiguous, complicated, or suspect, part of me secretly hopes the urine will be negative so I can wash my hands of the matter. When patients storm out of my exam room hurling expletives I feel relieved and justified: one less drug-seeker to take time away from patients who really need me. In my kinder moments I remember to search for the human being underneath the pain. And I when I look, I find the depression, the social devastation, and the hurt of being treated as a pest rather than a patient. I also see my cynicism and that of my colleagues.

As internists we reflexively reach for our prescription pad to fix problems while neglecting our most powerful therapeutic asset: a healthy patient-physician relationship. If we are to be healers, we must recognize our own suspicion, distrust, and even hatred. And then we must move past it and attempt to restore empathy and reestablish trust. And if that means finding the kernel of humanity inside the man who assaults his child, so be it. No one ever said practicing medicine was going to be easy.

Micaela Hayes is a resident in Brown's general internal medicine residency program.

BLAIR THORNEY

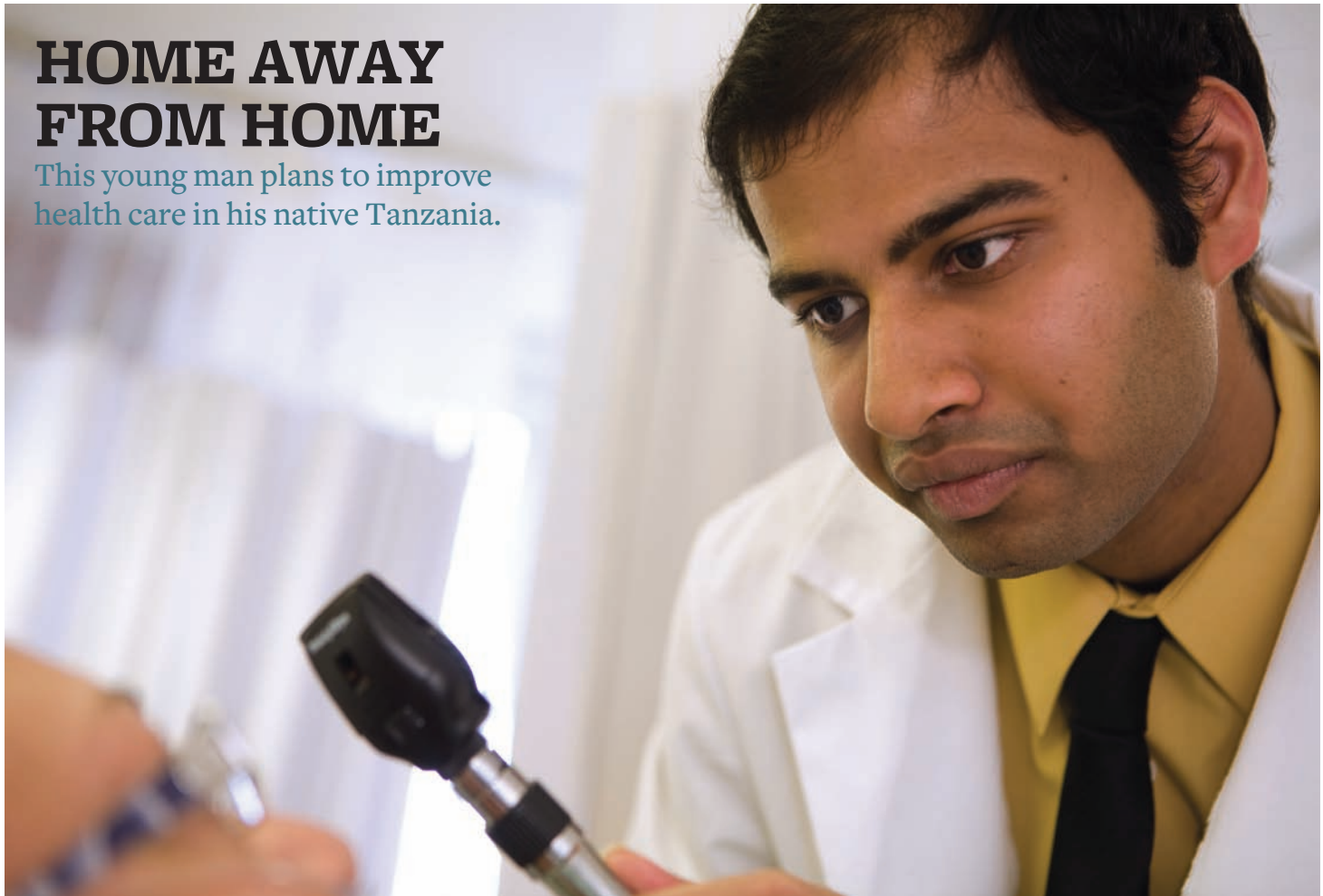
ZOOM

BY LISA ROWLEY

UP CLOSE AND PERSONAL WITH NITIN AGGARWAL

HOME AWAY FROM HOME

This young man plans to improve health care in his native Tanzania.



When it came time to decide where to attend medical school, Nitin Aggarwal MD'11 sought advice, like many young people, from his friends. He had applied to twenty-two medical schools, interviewed at six, and narrowed his choice down to two: Brown and his undergraduate alma mater, the University of Miami. Unlike most of his peers, however, the friends he consulted included the university president, Donna Shalala.

"She's even cooler than you think," says Aggarwal of Shalala, who previously served as U.S. Secretary for Health and Human Services in the Clinton administration and recently was appointed by President Bush to co-lead, with former U.S. Senator Bob Dole, a bipartisan commission to improve medical care for combat veterans and wounded soldiers. "She told me there's always great value in

going to a new place with new people," Aggarwal says, "but she also said I could always come back to Miami for residency."

Opting for the new, Aggarwal came to Brown for its small size, personalized instruction, and strong international programming.

He may yet follow both parts of Shalala's advice; he considers Miami his home in the U.S. and regards his friends there as family—ties that exert a powerful pull on a young man so far from his own.

Aggarwal was born and raised in Arusha, Tanzania, a medium-sized city of 300,000 about fifty miles from Mt. Kilimanjaro. His parents had emigrated earlier from India, along with five uncles who together started and still run the family wholesale business. He

First-year students like Aggarwal (above) examine patients as part of the Doctoring course.

SCOTT KINGSLEY

grew up with a brother, a sister, and thirteen cousins who were indistinguishable from siblings. At fifteen, he went with his brother to a British school in Nairobi, Kenya, where they finished their last two years of high school and prepared for college in the West, a goal long-cherished by Aggarwal's parents.

For Aggarwal, part of that equation was the expectation that he would return to Tanzania and give back to the community that had helped launch his future. From an early age, he knew that meant a career in medicine. He loved science and the time he spent volunteering in a hospital in Kenya. "The more I saw, the more I felt that the area of greatest need was health care," he says. "I was fortunate enough to have the capability to become a physician."

Toward that end, Aggarwal enrolled at the University of Miami, attracted by a strong pre-med program, international focus, and generous financial aid package. Parting ways with his brother for the first time was "extremely difficult but also an invaluable learning experience," as it taught him to "rely on new friends who become your family."

No wallflower, Aggarwal filled his extracurricular dance card with activities, including Miami's Model United Nations team, which for four consecutive years won Most Outstanding Delegation at the annual national competition at U.N. headquarters in New York. He also served as a dormitory resident assistant and on a committee that disbursed funds to student groups, starting down a path of leadership positions that led to his election as student representative to the University's board of trustees, his favorite undergraduate experience.

"Sitting with the one hundred most influential people in Miami and seeing the talent and charisma on display as they tried to make positive change for students was very humbling," says Aggarwal. He appreciates what a rare opportunity he had to be part of the decision-making process for important issues like whether to buy or build a new hospital for the medical school, whether the football team should move out of the Orange Bowl, and how to revamp the science, technology, engineering, and mathematics curricula. "The learning curve [on the board] is so much higher than in the classroom," he adds.

What may have been the Tanzanian's culminating extracurricular at Miami came at graduation, when he was chosen to deliver the student commencement address. Before an audience of six or seven thousand people—including Aggarwal's parents, on their first trip to the U.S.—he was only nervous for the first few minutes of his

speech, after which he enjoyed himself: "It was a nice closure to my undergraduate experience."

Only twenty-one when he arrived at the Medical School, Aggarwal is the youngest member of his class. He has lost no time finding "a new family of Brown friends" much more quickly than he had in Miami. He's been elected first-year class representative to the Medical Student Senate, and next year will chair the Patient Advocacy Coordinating Council. This winter he traveled to Washington, DC, for a national gathering of the American Medical Student Association, where he lobbied members of Congress, including staff for RI Representative Patrick Kennedy, on a "PharmFree" bill to require doctors to disclose gifts over twenty-five dollars from pharmaceutical and medical supply companies. He's pleased with Brown's culture of advocacy, believing that as students at the only medical school in the state, "we have an obligation to advocate on behalf of patients."

"Sitting with the one hundred most influential people in Miami and seeing the talent and charisma on display as they tried to make positive change for students was very humbling."

In the classroom, anatomy has been the highpoint of his year, citing the faculty's sense of humor and dedication to the students. He was deeply moved by the closing ceremony, where students paid respect to their cadavers.

Excited to incorporate his interest in global health into the medical curriculum, this summer Aggarwal will spend eight weeks in the Philippines conducting research on schistosomiasis, a parasitic disease, as part of his work in the Global Health scholarly concentration. Working with his "phenomenal" mentor, Jennifer Friedman, (see "Field Notes," page 15), he will help train local practitioners in assessment measures.

Aggarwal also plans to acquire an MPH or an MBA en route to a career that combines infectious diseases and international public health—hardly an improbable goal for a British-educated Tanzanian of Indian descent with a family background in business. Ultimately, he hopes to open clinics in Tanzania, to help build infrastructure currently lacking in developing East African countries.

"I could always go into private practice in Tanzania," he says, "but would that be the best return on the investment in my education? I want to make a larger impact than that."

EXAMROOM 2

In the Here and Now

A psychologist holds tight as her father slips away.

BY HEDY S. WALD, PHD

He sits quietly, in a familiar zone, his comfy recliner. Oblivious to the incessant sounds of the television and without adequate vision to decipher the images anyway, he dozes, head bent into his cupped hand. His daughter approaches, nameless yet familiar, joining him on the journey back to awareness. “It’s me, dad, your oldest daughter, Hedy” (“momeleh,” the endearing Yiddish term, helps here)—come back to me now, from the land of the existing to the land of the living.

Dementia has been described as a cunning thief, robbing the innocents of their memory, intellect, their being. It is difficult to even utter the dreaded “A” word—Alzheimer’s, with all its connotations. There, I said it. How intimately I know this thief. It is hard to escape the irony—I am the psychologist making her living testing memory impaired folks for the docs. One piece of the jigsaw puzzle so to speak as I help to document what the family often already knows. The objective and the subjective intertwined—the clinician me, the family member me duality grappling with the demon. Like reading all the parenting texts doesn’t guarantee being a good parent, can being a clinician, I ponder, ever really prepare you for this challenge in your own life? Genuine empathy (been there, done that, and my devoted mom still doing it) I can offer to tired caregivers, some of whom are poised like deer in the headlights at early stages. Wondering how the promise of a comfortable retirement so quickly evaporated. How they got a raw deal, the short end of the stick. Golden years, maybe, but not the 24-carat kind. Not quite what they expected, not quite.

Amyloid plaques and neurofibrillary brain tangles, the textbooks

say. In other words, brain rot, cell gunk without magic Formula 409 to degrease the electrical wiring. It’s tangled telephone lines, some spliced—the ones that once efficiently connected images of your first day at kindergarten, college graduation, taking your kid apple-picking, what you ate one hour ago, what someone said ten minutes ago. Now it’s the roundabout word search—what was the name of that college anyway? But it’s the new learning that really trips them up. Sometimes you can dial it up—more often, you forget to remember.

Perhaps it is the cunning thief who ignored the Do Not Trespass sign—I call it being suspended between heaven and earth. After years of decline, my father—the one who never missed a beat, sharp as a tack, shrewd, comical, proud family man, and party animal extraordinaire—is a poster boy for this disease in its severe stage. Tenacious he is, however, even in illness. In the darkness, I peer at the clock and it is 2 a.m.—I hear him. Day is night and night is day. Oh please, let me

be your child again instead of a parent to you. I instinctively rise to hush him as he sings “Hava Negila” in a reverie—my tired mom needs her rest—and I am thankful that it is not one of his agitated nights. With quiet resignation, I approach the shell of a man who once ruled my world. I no longer attempt to cut and slash Rambo-style through the thick jungle invading his brain, as I did at the onset. Now, it’s the gentle touch of my hand, a stroke on the cheek, bringing his favorite

Can being a clinician, I ponder, ever really **prepare you for this challenge** in your own life?

foods, children’s laughter, and listening to music, lots of music that are the keys to unlock his soul. Capturing the moment before it falls through the hour-glass and enjoying it to the fullest. Here and now. Now and here. After all, the wise ones say, yesterday is history, tomorrow is a mystery, and today is the present—a true gift.

So let’s have some fun. He delights in wondrous news about his grandchildren and we revel in that news over and over again—it’s always new news. “A granddaughter in medical school, dad, how cool

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is that?" "Maybe she can help me," a rare piece of insight. "Yes, maybe she can," I reply. Hope springs eternal. My husband Mark's expanding his neurology practice ("doing more work," I translate into dadspeak), "Vunderful," he nods. Now, turn up the volume on the CD of the Italian singer who's doing a remarkable job with Hebrew tunes—dad joins in with gusto—still on pitch, right on tune. Hey, dad, you're the one that tied a rope onto your Rambler to connect our sled, providing a most unusual ride down an icy street—yes, mom almost had a cardiac arrest. A flicker in his eyes—recognition of precious times past?—I can only hope so. Later, I state my name, the one he bestowed upon me in memory of his mother. "What's my name, dad?" We giggle together at the ten second delay—it has gone poof. Gotta hand it to him—he's a creative guy. He calls me "beautiful woman" and later "lucky woman"—you've got that right. Ah, a sharpshooter after all.

Ever the nurturer, mom tends to his every need and it's complicated, especially after his two cancer surgeries, including stomach removal. His toileting is quite the chore and daily aides provide some respite. He is clean, nails clipped, shaving himself, and able to use a fork with bite-sized food morsels prepared with love. She guides the food toward the center of the plate—a crucial nutritional maneuver given the left neglect in his field of vision. Thankfully, her attendance at a caregiver support group provides some respite from the ever-

lurking sense of despair. Rooms are adorned with colorful photos of a smiling couple enjoying kids, grandkids, and hard-earned vacations through fifty years of marriage—these help too. Still, managing every detail of running a household and administering medications like Florence Nightingale can be overwhelming. With pleasure, I treat her to a mind vacation with my friend Prof Lee's remarkable book on the arts—for a short while, she is absorbed by vibrant paintings of the masters, far away from the challenges that confront her daily. Family doc Steve, the bird maven, helped me connect with nature so I now pay closer attention as she delights in a mother duck—the one with the black cap and white neck patches—and her cookie-cutter ducklings that traverse the yard, near the water's edge. After all, my mom raised four, this momma duck's got eight, and though he cannot see the flock, dad joins in the enthusiasm for nature's gifts.

He's thin and frail and the Holocaust survivor number tattooed on his arm that I could never recall (effective defense mechanism) is now more prominent. He's still a dad. About my bike trips—always the same two-word reply—"be careful." For the eighth time, he inquires if I slept well. "Yes, dad I did." "Did you eat something here?" he asks. "Yes, dad, we had a nice lunch together—the fish you love, the fish I made." "Ah, the fish," he exclaims with glee, "when are we having the fish?"

In the afternoon, he cries like a baby and I'm trying hard, oh so hard, to evoke a smile. "You're leaving tomorrow," he weeps. Somehow, in his vague world of disconnect, he has clung to this pitiful detail and it hurts. Both of us. I mobilize my distraction techniques but it's not so easy this time. Tenacious, he is, even in illness.

Early morn. I'm leavin' on a jet plane today because I have a family to raise—this I am certain he understands. I stare at his face, smooth with very few lines—it always belied his true age. Always a pause before his gaze engages mine. "You look at me as if I'm a nobody." An entire phrase, a bombshell that forms a crater in my soul. No dad, not at all. I was searching for you but you were there all the time. Still very much here on earth. With Hedy, your oldest daughter, in the here and now. Heaven can wait.

Hedy Wald is a clinical assistant professor of family medicine and a preceptor in the Doctoring program.



LIVE BY THE
CODE



Brown makes a bold move

toward using genetic information

to guide patient care.

BY KRIS CAMBRA

Let's face it—much of medicine is about trial and error. A patient presents with depression and you determine that an antidepressant is in order. You prescribe a selective serotonin reuptake inhibitor, and if that doesn't alleviate symptoms, move to another drug in that family. If that doesn't work, it's on to a different class of antidepressants. And so on, until with any luck, a drug that works is found.

But imagine an alternate scenario, where the process starts with a diagnostic test that characterizes the patient's genetic profile and identifies the biological type of depression the patient suffers from. Last year, researchers discovered the genetic variations that affect specific neurotransmitter functions, which, when disrupted, cause depression. Because antidepressants work by acting on specific neurotransmitters, if you can identify the affected neurotransmitter, you can prescribe the right drug. And your patient finds relief on the first try.

That's personalized medicine—an emerging field that uses new methods of molecular analysis to better manage a patient's disease or predisposition to a disease. It's what we've been waiting for ever since the sequencing of the human genome was completed. It's what will enable physicians to factor in a person's genetic profile and environmental exposures as they make key decisions about therapeutic approaches.

In practice, that "hole in one" scenario is still a few years off. But if it is ever going to become a reality, the research and development needs to happen now, and Brown has a running start. There's a lot of work yet to be done. By conducting whole-genome surveys of large groups of people, scientists can determine which gene variations will result in a positive or negative reaction to a drug or contribute to a certain disease.

"This is the new biology," says Associate Dean for the Program in Biology Edward Hawrot. "We are trying to identify genome-wide variants in genes that no one knew were involved in disease states."

Brown recently became a member of the Personalized Medicine Coalition (PMC), a three-year-old education and advocacy organization composed of 130 higher ed institutions, biotech and pharmaceutical companies, patient advocacy groups, and insurance companies interested in advancing personalized medicine. The Washington, DC-based

PMC is dedicated to representing the interests of academia and industry, in order to advance our understanding of personalized medicine and implement it in a way that will benefit patients.

"We want to put an end to 'one size fits all' medicine," says Edward Abrahams PhD'81, P'10, executive director of the PMC. "This is the post-genome era, where individual variations, especially genetic, will be factored into medicine, bringing the right treatment to the right patient at the right time."

While still in its infancy, personalized medicine is already happening thanks to more than twenty products that are considered "targeted therapies"—such as the breast cancer drug Herceptin, which is only given to women with tumors that exhibit a certain protein. The drug has little to no effect in women with other types of tumors.

Investments in research that makes such discoveries possible are on the rise. "Discovery, development, and delivery of medicine will be different," Abrahams predicts. "We are trying to rejigger the system so that it supports a personalized approach. Our legal and regulatory systems have changed little since they came into being prior to 1953, the year DNA was discovered."

The PMC's membership includes a large cohort of academic medical centers, including the Mayo Clinic, Harvard, Penn, the Cleveland Clinic, and the Karolinska

Institutet. "They self-identify as wishing to advance personalized medicine," Abrahams says. "They want to be on the cutting edge."

SPEED BUMPS

Personalized medicine has been slow to evolve since the sequencing of the genome for a few reasons, not the least of which is the deep and abiding public fear of sharing genetic information with physicians and researchers. "They worry that it is not confidential and that it can be used to discriminate against them. It's a very real issue," Abrahams says.

A February *New York Times* article described just how leery patients are, to the point of keeping their known genetic risks even from their own doctors, for fear it will enter into their medical record and get back to their insurance company. That can be risky. The article described how parents of one teen prevented her from getting tested to see if she inherited the gene for a blood-clotting disorder because of the potential financial impact of higher insurance premiums. A gynecologist prescribed birth control pills (which increase any woman's risk of blood clots), unaware of her family history, and the girl developed a dangerous clot from her knee to her abdomen.

Discrimination based on genetic profiling is why the PMC lobbied hard for the Genetic Information Nondiscrimination Act, or

"We want to put an end to

'one size

fits all' medicine."

FAMILY HISTORY

A gift to put Rhode Island on the map.

"I have always been interested in having Brown do something in the area of multiple sclerosis for the simple reason that my mother has MS...And every time I would hear a presentation by a faculty member I would go up and say, 'Are you thinking of expanding this and perhaps doing something on MS?' And they'd say 'No, but we'll let you know,'" says Joan Sorensen '72, P'06, '06.

Sorensen asked that question one more time, in 2007, when she first heard Brown's plans for establishing a biobank. This time, the answer was yes. With a significant gift Joan and her husband, Paul '71 ScM'75 PhD'77, P'06, '06, got the Rhode Island BioBank off the ground.

"Rhode Island was the perfect place to study MS, because it seems to have a slightly higher incidence than the rest of the country. For reasons we don't understand, the farther you live from the equator, the higher the risk of MS," Associate Dean for the Program in Biology Edward Hawrot explains.

Joan's mother, Mary Wernig, was diagnosed in her forties, later than most people with MS. The first symptoms usually appear in young adulthood.

"She was too old when she got it to do the cutting edge things they are doing now with drugs and rehab," Joan says. "She has a tremendously positive outlook. She just accepted that she had this disease and knew exactly what was going to happen to her."

At eighty-five, Mrs. Wernig is mostly bedridden but "strong as a horse." She and Joan's father live with another daughter and her husband, just a half-mile from Paul and Joan.

The Sorensens, who both attended the University as did their children and some of Joan's sisters, are very much a Brown family, and though they are not native Rhode Islanders, are closely tied to their home state. Their support for the Rhode Island BioBank is as much about Brown as it is about multiple sclerosis.

"It's a matter of circumstance," Paul says. "Rhode Island happens to be a very small state, with a lot of human connections. People know each other, doctors talk to one another, and there are not that many hospitals, so it's a very attractive place to do something like this. The fact that it fits in with our vision that Brown should be a leading institution and be recognized as such makes it all the more appropriate."

Joan adds: "I could've gone someplace else and probably found somebody interested in doing cutting-edge research on MS, but my husband and I really wanted to keep it in the family."

So far she's been amazed by how quickly the BioBank is coming together. Praising Hawrot and Clyde Briant, the University's vice president for research, Joan says, "I know the hardest gift to get is the first one, because there's nothing to show for it. You just have to put a lot of trust in a lot of people."

Joan knows quite a bit about fundraising: in addition to past work experience, she currently serves as one of the Rhode Island co-chairs for Brown's Campaign for Academic Enrichment and co-chair of the Brown Annual Fund. The BioBank initiative fits in very well with the Plan for Academic Enrichment, she says, and is a stellar example of how multidisciplinary study is fostered and encouraged at Brown.

"It's the perfect time," she says, "with the gift from Warren Alpert, plans for a medical education building near the hospitals perhaps, and we're forging new relationships with the hospitals—it's a really exciting time at Brown and at the Medical School."

GINA. The bill passed unanimously in the Senate as *Brown Medicine* went to press, and the President was expected to sign it in May. The legislation prevents health insurers from denying coverage to a healthy individual or charging that person higher premiums based solely on a genetic predisposition to developing a disease in the future. The legislation also bars employers from using individuals' genetic information when making hiring, firing, job placement, or promotion decisions. Stephen Fodor, MD, CEO of Affymetrix, a founding member of the PMC, said in a press release about the law's passage, "We will look back at this time as a historic turning point in the evolution of medicine."

Another hurdle has been the lack of a clear regulatory pathway for the co-development of diagnostics and therapeutics. The PMC says it is also essential that ways be found to demonstrate the clinical utility of new products so that insurers are more willing to pay for them. The FDA might also consider adding new efficacy requirements to the drug approval process, Hawrot says.

Reimbursement for diagnostics and for some of the products that have been developed that require diagnosis has been slow to happen. "It's hard to make the case for personalized medicine," Abrahams says, if insurers and the Medicare system (which spent \$440 billion on health care last year) aren't going to pay for it. Pharmaceuticals that have been marketed to date and are only effective in select populations, such as Herceptin, also tend to be more expensive, since their sales are limited by the number of individuals who are known to respond to the drug. But overall costs could and should decline as inefficiencies are eliminated.

That's not to say that all personalized medicine approaches are costly. As the genetic variants for common diseases like diabetes and cardiovascular disease become known (and that's expected in the next few years), interventions might include more aggressive

approaches to lifestyle changes, rather than drugs, that can offset such diseases.

Abrahams says there's one more issue that often gets overlooked: physicians who were not trained in the current era are less likely to adopt personalized medicine strategies if it requires extensive medical training. That's understandable, he concedes, in light of the time constraints placed on them by an ever-increasing clinical load. Medical schools and continuing medical education events need to incorporate personalized medicine training.

THERE WILL BE BLOOD

Before personalized medicine can become a mainstay of medical practice, a tremendous amount of research must happen. And that's where whole-genome studies of large groups of people come in.

Methods of genetic analysis have come down in cost just enough to make it feasible to analyze the DNA of individuals. Since all human beings are approximately 98 percent the same, it makes sense to study only the areas of variation. Microarrays can scan an individual's DNA paying attention only to those areas, called single nucleotide polymorphisms, or SNPs.

Studies like these require blood samples and lots of them to produce statistically significant results. Discussions about establishing a biorepository at Brown—a core facility that collects, stores, processes, and distributes biologic materials—began last year. Naturally, building the infrastructure is costly, and funding for that type of undertaking is rarely available from federal sources. That's when longtime Brown supporters Joan and Paul Sorensen (see sidebar on page 25) stepped forward with a leadership gift to help establish the biorepository.

"The Sorensen gift liberated us," Hawrot says. So far, the funds have helped purchase

cryogenic freezers, a bar code scanning system for tracking the samples, computer hardware and software for an inventory and database system, and a secure facility to keep them in.

The first study using the biorepository will try to determine the genetic and environmental risk factors for multiple sclerosis (MS). Researchers will collect blood samples from people who suffer from this chronic, often disabling disease that attacks the central nervous system. The samples will be genotyped (once additional funding is obtained) to identify the genetic variants they have in common. The results will be compared with the genotypes of matched controls who do not have MS. The MS patients will complete a detailed questionnaire about their health, environment, and lifestyle. With the patients' consent, researchers will also obtain their medical records. All this information will be encrypted and coded to maintain confidentiality.

That epidemiological data is what will make the Brown study the first of its kind. Last year, David Hafler and colleagues at Harvard published the first paper describing the suspected genetic variants involved in MS in the *New England Journal of Medicine*. But the Harvard researchers only had DNA samples; they didn't know, for instance, if an individual had an aggressive form or the relapsing-remitting form of the disease, or if the person smoked. They couldn't draw correlations between genes and course of disease or environmental interplay, and that's critical.

It is believed that the genetic component of MS is about 30 percent, meaning that whether or not a person who carries the relevant genetic mutations actually develops the disease is influenced by up to 70 percent by his or her environment. Even if a person has the genetic disposition, what he or she does in life—like smoke, for instance, since smoking is thought to be a risk factor for MS—could affect whether or not he or she

gets the disease. In addition to having the participant's DNA analyzed, Hawrot and his co-investigators, Professor of Community Health Stephen Buka, Assistant Professor of Neurosciences (Neurology) Albert Lo, and Assistant Professor of Neurosciences (Neurology) (Clinical) Syed Rizvi, will be able to make correlations with environmental factors to determine their impact on disease progression.

Hawrot explains: "It's not just asking the question 'Is this gene associated with this disease?' We can [also] explore environmental cues. People in higher latitudes are more likely to get MS. Exposure to the Epstein-Barr virus [mononucleosis] might be a factor... This is where the Rhode Island study could play an important role." While it's difficult to assess exactly how many people in Rhode Island have the disease, estimates from the state's MS Society seem to indicate a slightly higher rate of incidence here than in other states.

Genome-wide association studies are not cheap. It costs approximately \$500 to analyze each person's DNA, and typing a large enough sample is therefore an expensive undertaking. But Brown already has the equipment for conducting the studies in its genomics and proteomics core facility, and the bioinformatics expertise to make sense of the data in the Center for Computational Molecular Biology (see *Brown Medicine*, Spring 2006). Clinical connections were easily made with neurologists treating people with MS in the state. It was just a matter of connecting the dots.

HELD IN TRUST

With the core facility in place, Brown has the opportunity to think big. The samples collected for the MS study will seed a larger, population-based Rhode Island

The RI BioBank will be the first

based on the general population

rather than a clinical group.

BioBank at Brown. It will serve not only Brown researchers interested in genome-wide association studies, but scientists at any institution. For example, Hawrot's collaborator, Gideon Koren, director of Rhode Island Hospital's Center for Cardiovascular Research, is planning a study of the genetic contributions to sudden cardiac arrest, a major cause of cardiovascular deaths in Rhode Island and throughout the world.

"Biobanking is a building block of personalized medicine," says Ed Abrahams of the PMC. "You have to have data to understand the genetic variables."

While there are a handful of biobanks at private hospitals and universities in the U.S., Hawrot says, Brown's will be the first one based on the general population rather than a clinical group. "We want to make it a random sampling of the population, geographically and ethnically random. That's something that hasn't been done anywhere else in the USA."

The objective is for the RI BioBank to grow to contain 20,000 to 25,000 samples after five years. Samples for the MS study would start the BioBank, but it could then be used as a resource to further research in other areas, by scientists within the Brown academic medical center and beyond, if they meet the appropriate IRB approvals and quality standards.

"It would be similar to the Framingham Heart Study or the Women's Health Initiative, where we can ask a range of ques-

tions... In the least, we have a control group," Hawrot says. He uses the example of a clinician in the Department of Psychiatry and Human Behavior who approached him with an idea for a genetic study of a mental illness. The Department had blood samples from patients but did not have samples from controls. That type of undertaking can be expensive. The samples in the BioBank could serve as controls for most types of genetic studies.

Samples in the BioBank would not be genotyped until they were needed for a particular study. When the person's phenotype is needed—say a researcher was looking for male smokers aged twenty to thirty years—then samples from people fitting that profile would be analyzed.

But is it plausible that thousands of Rhode Islanders will roll up their sleeves and allow their genetic material to live in a freezer at Brown? Based on random surveys conducted around the state, they will. Ten thousand surveys were mailed, and achieved an 11-percent response rate. Of those who responded, 89 percent said they would participate in a genetic study. Questions were also tacked onto the state Department of Health's monthly telephone survey, and eleven focus groups were held around the state. The overwhelming majority of respondents said they would give their blood for such studies. Their number one concern? They didn't want to travel too far to a collection site.

On the national level, when other insti-

tutions have sampled the public sentiment the results have not been as favorable. Interestingly, the University's positive reception in Rhode Island appears to be because of the public's trust in Brown.

THIS TIME, IT'S PERSONAL

As news of biobanking capabilities spreads, researchers are quickly finding ways to incorporate genetic analysis into their studies.

Discussions are under way to use the biorepository to add genotyping to the National Children's Study site at Brown and Women & Infants Hospital, and to research the role of environmental exposures in cancer.

The U.S. government is considering starting a national biobank, similar to one in Great Britain that hopes to have 500,000 samples. But the expense, at a time when funds are being diverted away from the National Institutes of Health, could keep it from materializing.

Leaders in the field of genomics, like Director of the National Human Genome Research Institute Francis S. Collins, say a biobank is the only way to make full use of the human genome map. While small studies have revealed the genes responsible for single-gene diseases like cystic fibrosis, more common conditions, like cardiovascular disease and diabetes, are caused by multiple genes and are affected by environmental factors. Only large scale, genome-wide studies can tease out all of the genes in play.

That knowledge will push personalized medicine ahead, with the end result being better outcomes and lower health care costs for diseases that are both disabling and incredibly taxing on resources.

With the BioBank, Hawrot says, "Little Rhody can lead the nation. The lives of many individuals and families will be touched by this exciting, ambitious, pioneering, and far-reaching project."



AS TOLD TO SARAH BALDWIN-BENEICH

Brown Medicine *takes the history of the next dean of medicine and biological sciences.*

I grew up in Port Jefferson, New York, and met my wife, Rena, in high school. We were in English class together—we passed notes. Rena went to Connecticut College and I went to Williams, so we had a commuter relationship. I was a chemistry major. I was also a Little All-American football player at Williams. Played tailback my junior year. I had a really good line and very

WING
ON

WING



Snicky the
springer spaniel
is ready for
his walk.

high statistics. At Williams you could play football *and* go to labs.

Rena and I married after college. She went to graduate school in psychology at Harvard and began what has turned into an outstanding academic career [see page 4]. I went to Harvard Medical School, trained at the Peter Bent Brigham [now Brigham and Women's Hospital] for two years, and then went to Pittsburgh with the National Health Service Corps, a program that put physicians in physician-poor areas. I worked in Hazelwood, one of the poor areas of Pittsburgh, and used to ride my bike to the clinic. I enjoyed the patients there. I also rounded as an attending in Montefiore Hospital [part of the University of Pittsburgh Medical Center since 1989].

I spent two years at Stanford for my fellowship in infectious diseases, and Rena

International programs in medicine are very important to me. As dean that'll be an interest of mine.

came out and did her postdoctoral fellowship there as well. Then we moved back to Pittsburgh and both joined the faculty at the University—she in psychiatry, me in medicine. I became chief of medicine at Montefiore and head of infectious diseases at the University of Pittsburgh, then vice chair of the Department of Medicine and eventually interim chair, for two years. We spent twenty-one years in Pittsburgh. We

raised our two sons, Jonathan and Ken, there.

When I was recruited to Brown [in 1998] to be chair of the Department of Medicine, I really had to wedge Rena out of Pittsburgh! She had several big grants going. In many ways she had to start over here. She's amazing. She and I have been real partners through our life.

OVERSEAS EXPANSION

Why was I attracted to Brown? First of all, the reputation of the University and that of its medical school. And second, the strength of the hospital systems. The hospitals have financial strength and a commitment to academics and clinical medicine. I was recruited both by Dean Donald Marsh and by the hospitals. Over the past ten years the department has developed tremendously. Research grant dollars have quadrupled and clinical services have expanded. Even more important, the quality of our faculty and their research programs have increased. In many ways I was the first chairman of medicine here with full authority both at Brown and at the hospitals. I found a lot of strength when I came here, and we used resources to build on that strength.

In addition we've been very active setting up programs overseas. International programs in medicine are very important to me. As dean that'll be an interest of mine. I established funds in the department and at Brown to support them. One is with Moi University in Eldoret, Kenya [see this issue, page 42, and "Hope Springs Eternal", Spring 2004]. Dr. Jane Carter brought me over there in 2000. She was in private practice and I hired her to run that program. She's now full-time faculty in the department. I've been very committed to that program. We've estab-

WING ON THE FLY

What's your best quality?

A "can-do" attitude.

What's your worst vice?

Compulsive reading.

What are you reading now?

Brian Fagan's *The Great Warming*.

What's your pet peeve?

Long meetings and e-mail.

What did you want to be when you grew up?

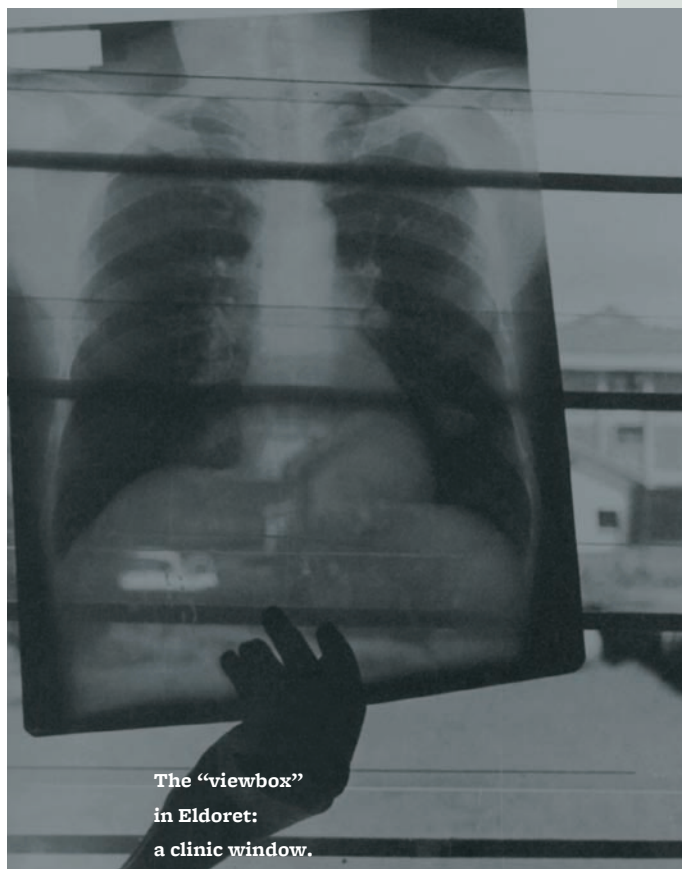
An archaeologist.

You've traveled a lot. Where do you want to go next?

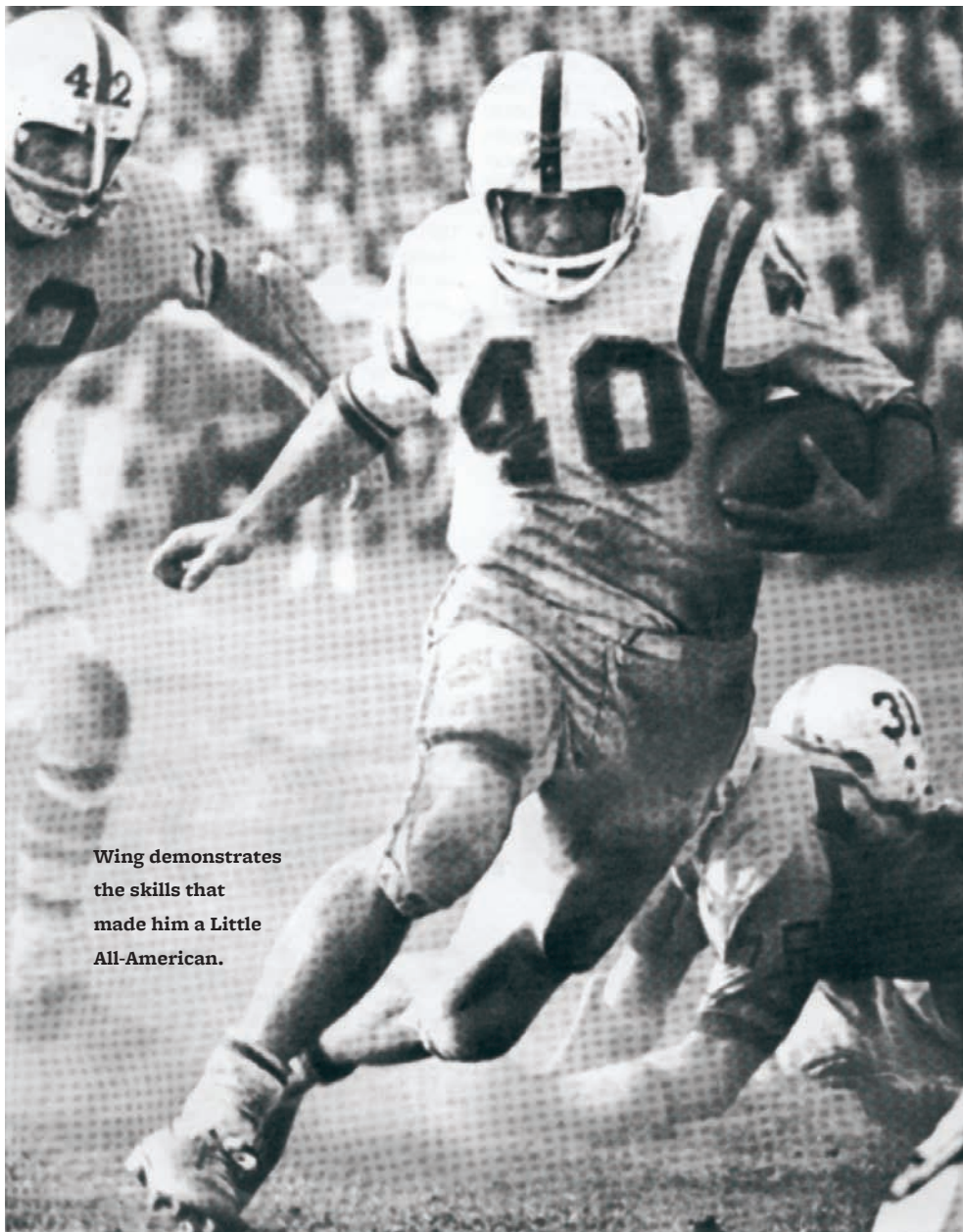
Peru.

Who's your favorite sports team?

The Patriots.



The "viewbox"
in Eldoret:
a clinic window.



Wing demonstrates the skills that made him a Little All-American.

My goal for the Medical School and all parts of the Division is to be one of the very best in the country.

lished important funding for it at Brown. Students, residents, and faculty from Brown spend time at Moi, and Kenyans come to Brown. In fact, there are two residents from Moi here now. I've been to Eldoret five or six times and rounded as an attending on the wards. There's no radiology, no viewboxes. When you get an x-ray, you hold it up to the window.

In our program there we have almost 30,000 AIDS patients being treated with antiretrovirals and another 35,000 in the clinics. In December during the unrest the clinics all shut down. One physician who was left, Joe Mamlin—a fabulous person who set

up a lot of these programs—described looking all along the horizon and just seeing smoke from the burning buildings. The ERs were filled with bodies. One day they ran out of suturing needles so they had to use them over and over. He said it was the worst day of his life, and he's been through a lot. Now we've got people going back.

We also established a program in the Dominican Republic run out of the Department of Medicine. We bring people from there here, too, and we have strong research programs in India and Cambodia, as well as in China, through Dr. Lance Dworkin and our renal division. I'm even an honorary pro-

fessor at Nanjing University. We also have a relationship with Jordan.

When I'm not working, I'm often on the water. I grew up sailing. Narragansett Bay is one of the most desirable places in the world to sail. I bought a boat here before I bought a house! It's a 35-foot Catalina called *Wing n Wing*. We sail out to the islands a lot—Nantucket, Block Island. And I just bought a 16-foot Hereschoff sloop called *Wings*. So now I have a fleet of two.

I also bike a lot—I'm on the bike path almost every day, especially in the fall and spring, when I'm not sailing. And I love to read. I read about a book a week. Mostly history, some junk—there are some detective writers I like.

KICK-OFF

I'm very committed to clinical medicine and I've always done research. I love to teach and to see patients in internal medicine. But the area I've been committed to for the last twenty years is HIV care. I have patients at The Miriam Hospital that I've been following for years, and I'll continue seeing them one afternoon a week even as dean. And I'll be coming over to the hospitals for conferences, to take morning report, go to grand rounds.

This is a huge time of opportunity for Brown. The Alpert gift is an enormous infusion of resources into the institution. There's a new feeling about the relationship with the hospitals, which I regard as very positive. I have the advantage of coming out of our hospital systems. My goal for the Medical School and all parts of the Division is to be one of the very best in the country. We are already in the top quarter. We will be in the very top tier. We'll accomplish this goal through outstanding research and innovative programs. We need to support our faculty, recruit outstanding new faculty, and build on our strength.

I'm very optimistic about getting lots done. 

PHOTOS COURTESY WING

Connection

Match Day

Photos by Hank Randall



All Fired Up

Members of the MD Class of 2008 meet their Match.

The band played on as sixty-nine graduating medical students tore open the envelopes that held their fate. Champagne glasses clinked, cameras clicked, and moms and dads clucked proudly. Alpert Medical School students were part of a history-making year that saw more than 94 percent of seniors nationwide who applied for residencies paired with a program of their choice—the highest percentage in more than three decades, according to the National Resident Matching Program. Read on to find out which lucky residency programs will soon welcome the latest crop of Brown docs.

• **Anesthesiology**

JEAN TURNER

Beth Israel Deaconess Medical Center/Harvard Medical School
Cambridge Health Alliance/
Harvard Medical School
Transitional

• **Dermatology**

ELIZABETH NAYLOR

Duke University Medical

Center/Duke University
Health System

*Yale-New Haven Hospital/Yale
Medical School Internal Medicine
(Prelim)*

• **Emergency Medicine**

SIRI DAULAIRE

Rhode Island Hospital/Alpert
Medical School

BENJAMIN HODGSON

University of Massachusetts
Program/University of
Massachusetts Medical
School

SOYUN KIM

University of California,
Los Angeles Medical
Center/David Geffen School of
Medicine at UCLA

MICHAEL LEE

Rhode Island Hospital/Alpert
Medical School

DAVID ZINN

University of Michigan



Hospitals/University of
Michigan Medical School

• **Family Practice**

CARMEN BARNES

St. Vincent Regional Medical
Center/University of New
Mexico School of Medicine

JULIANN GAYDOS-GABRIEL

Swedish Medical Center/

University of Washington
School of Medicine

JOSHUA GEPNER

Oregon Health & Science
University/Oregon Health &
Science University School
of Medicine

GLORIA GUTIERREZ

Memorial Hospital of Rhode
Island/Alpert Medical School



Match Day

LISA NORLANDER

Ventura County Medical Center/ David Geffen School of Medicine at UCLA

ELIZABETH STRAWBRIDGE

Maine Medical Center/ University of Vermont College of Medicine

• Internal Medicine

DAVID AIN

Massachusetts General Hospital/Harvard Medical School

FOLASADE AJAYI

Long Island Jewish Medical Center/Albert Einstein College of Medicine

SOPHIA CALIFANO

University of Michigan Hospitals/University of Michigan Medical School

LUISA DURAN

Santa Clara Valley Medical Center/Stanford University School of Medicine

GRACE FARRIS

Beth Israel Deaconess Medical Center/Harvard Medical School

AMI PARIKH JHAVERI

New York University Medical Center/New York University School of Medicine

MICHAEL JOSEPH

Boston University Medical Center/Boston University School of Medicine

ALEXA LAFAUNCE

Oregon Health & Science University/Oregon Health & Science University School of Medicine

SYED LATIF

Brown University Internal Medicine Residency Program/ Alpert Medical School

MARGARET MCKINNEY

Stanford University Program/Stanford University School of Medicine

RUSHABH MODI

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

SAMANTHA NAZARETH

New York Presbyterian Hospital/Weill Medical College of Cornell University

JOSHUA SPAETE

University of Michigan Hospitals/University of Michigan Medical School

JANET YOUNG

University of California, Davis Medical Center/University of California, Davis School of Medicine

• Medicine/Pediatrics

APARA DAVE

Duke University Medical Center/ Duke University School of Medicine

E. JOHN LY

University of California, Los Angeles Medical Center/David Geffen School of Medicine at UCLA

MONTOYA TAYLOR

Ohio State University Medical Center/Ohio State University College of Medicine

• Neurology

MICHAEL WANG

University of North Carolina Hospitals/University of North Carolina School of Medicine
Brown University Internal Medicine Residency Program/ Alpert Medical School Internal Medicine (Prelim)

• Neurosurgery

DAVID HAHN

McGaw Medical Center/ Northwestern University
McGaw Medical Center/ Northwestern University Surgery (Prelim)

• Obstetrics-Gynecology

AUTUMN DAVIDSON

University of Massachusetts Program/University of Massachusetts Medical School

SYBIL DESSIE

Beth Israel Deaconess Medical Center/Harvard Medical School

MICHELLE GLASGOW

Yale-New Haven Hospital/Yale Medical School

MISA PERRON-BURDICK

Kaiser Permanente Medical Group-Oakland Medical Center/University of California, San Francisco School of Medicine

• Orthopedic Surgery

MIN JUNG PARK

Hospital of the University of Pennsylvania/University of Pennsylvania Health System

JAMES WILKERSON

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

• Ophthalmology

WENDY CHEN

University of Pittsburgh

Medical Center Medical Education Program/University of Pittsburgh School of Medicine

University of Pittsburgh Medical Center Medical Education Program /University of Pittsburgh School of Medicine Internal Medicine (Prelim)

CHRISTINA MOON

Johns Hopkins-Wilmer Eye Institute/Johns Hopkins School of Medicine

Albert Einstein Medical Center, PA/Jefferson Medical College Transitional

• Pathology

SHAHRZAD EHDAIVAND

Rhode Island Hospital/Alpert Medical School



J. BENJAMIN MATHIS

Hospital of the University of Pennsylvania/University of Pennsylvania Health System

CHRISTIAN NIXON

University of California, San Francisco Program/University of California, San Francisco School of Medicine



• **Pediatrics**

GINA COSCIA

New York Presbyterian
Hospital/Weill Medical College
of Cornell University

BRADLEY DENARDO

Rhode Island Hospital/Alpert
Medical School

SILVIA HARTMANN

Children's Hospital/Harvard
Medical School

KATJA KARRENTO

Rhode Island Hospital/Alpert
Medical School

OLGA LEMBERG

Kaiser Permanente Medical
Group-Oakland Medical
Center/University of California,
San Francisco

CHRISTINA RONAI

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

BETHANY STAFFORD

Children's Hospital of Los
Angeles/Keck School of
Medicine of University of
Southern California

VIVIAN TANG

Tufts Medical Center/Tufts
Medical Center

MICHAEL TRACY

Stanford University

Program/Stanford University
School of Medicine

• **Plastic Surgery**

RAHIM NAZERALI

University of California, Davis
Medical Center/University
of California, Davis School of
Medicine

• **Psychiatry**

JOYCE CHEN

Cambridge Health Alliance/
Harvard Medical School

ANITA CHU

University of Virginia Medical
Center/University of Virginia
School of Medicine

STACEY DIPALMA

Long Island Jewish Medical

Center/Albert Einstein College
of Medicine

• **Radiation-Oncology**

GITA SUNEJA

Hospital of the University of
Pennsylvania/University of
Pennsylvania Health System

• **Radiology**

CHRISTINA CINELLI

Johns Hopkins Hospital/Johns
Hopkins School of Medicine

Mercy Medical Center/

University of Maryland
School of Medicine

Internal Medicine (Prelim)

REBECCA GERBER

University of Virginia Medical
Center /University of Virginia
School of Medicine

Brown University Internal

Medicine Residency/Alpert
Medical School

Internal Medicine (Prelim)

JUSTIN ROUTHIER

Brigham & Women's
Hospital/Harvard Medical
School

Tufts Medical Center/Tufts
Medical Center

Transitional

ALBERT SCAPPATICCI

Rhode Island Hospital/Alpert
Medical School

Brown University Internal

Medicine Residency

Program/Alpert Medical School

Internal Medicine (Prelim)

• **Surgery**

JONATHAN GREER

Massachusetts General
Hospital/Harvard Medical
School

JOSHUA HONEYMAN

Robert Wood Johnson Medical
School/ University Medicine &
Dentistry of New Jersey

• **Surgery (Prelim)**

ALAN CHU

University of California, Los
Angeles Medical Center/ David
Geffen School of Medicine at
UCLA

CARLA MOREIRA

Rhode Island Hospital/Alpert
Medical School

FARRAH WOLF

Rhode Island Hospital/Alpert
Medical School

• **Transitional**

REYNALDO GOMEZ

San Diego Naval Medical
Center/Naval Medical Center

• **Urology**

LIZA AGUIAR

Rhode Island Hospital/Alpert
Medical School

Rhode Island Hospital/Alpert
Medical School

Surgery (Prelim)

EZEKIEL YOUNG

University of Miami Miller
School of Medicine/University
of Miami Miller School of
Medicine

Jackson Memorial

Hospital/University of Miami
Miller School of Medicine

Surgery (Prelim)





BY SHARON TREGASKIS

ILLUSTRATION BY HADLEY HOOPER

Don't + DO the Math

*Med students factor
looming educational debt
into the career choice
equation.*

AS THE DAUGHTER OF A VERMONT COUNTRY DOCTOR,

Anna Groskin had some very good reasons to resist the pull of a career in medicine. She knew about the hours, the frustrations of fighting for compensation, the struggle to balance patient needs and family responsibilities. At Williams College, Groskin skipped the pre-med classes, and after her 1998 graduation, landed a job at a web firm. In her spare time, she volunteered at a family planning clinic. In 2002, Groskin earned a master's in public health, integrating her interest in reproductive issues and adolescent medicine, and moved to San Francisco to work in HIV research. A week after her boyfriend of seven years proposed, she finally gave in to the allure of clinical practice and started applying to post-baccalaureate programs. "I tried to ignore it," says the thirty-one-year-old, now completing her third year of medical education at Alpert Medical School. "There was the expense, the who-knows-where-I'll-be, the putting off of child-bearing."

And the debt. By the time Groskin earns her MD, she'll have borrowed at least \$200,000, plus the loans she accrued in the science-intensive Bryn Mawr program that made her a viable candidate for medical school admission, and the master's she

sequent assessments of student competency. Even the cost of facilities has grown exponentially, with every classroom wired for multimedia and the cost of fuel to heat and power such spaces on a steady up-tick. Meanwhile, physicians face increasing pressure to gener-

the University. For those with loans, the average hovered at \$133,000. By contrast, the Class of 1990 graduated with an average debt load of \$48,000.

With the Medical School's commitment to admitting qualified students regardless of

Today 85 percent of MDs graduate in debt, owing on average almost \$140,000.

earned at Johns Hopkins. She'll have done stints in Pennsylvania, Rhode Island, and wherever she lands a residency. Including her husband's educational debt for an MBA at Yale, Groskin says the couple expects to spend about \$16,000 annually on loan repayment. "It's insane," says the aspiring primary care doc. "I want to work with underserved populations, and I'll be paying back the same loans as a radiologist."

Over the past two decades, medical student debt has sky-rocketed, in step with tuition hikes throughout higher education. "Expectations of what will comprise a medical education have changed," says Associate Dean of Medical Education Phil Gruppuso, who graduated from the University of Rochester's MD program in 1977 and saw an almost 100 percent jump in tuition during his final year, from \$2,800 to \$5,000. "It used to be lectures and apprenticeship in the clinical setting; now it's much more complex than having people show up in a lecture hall."

Today's Brown med students learn in small groups, receive intensive mentorship from clinical faculty, and explore high-tech simulations crafted to bring lessons home. Standardized patients—real people trained to enhance the educational experience—initiate the aspiring physicians into their clinical responsibilities and play a role in sub-

ate revenue through patient care, sharply curtailing their teaching time. "We've changed what we do and how physicians are compensated," says Gruppuso. "Factor in inflation and it begins to make sense."

Nationwide, the equation for medical students has become more complex, as well. In Gruppuso's day, it was still possible to work your way through med school, or at least make a significant dent in the repayment schedule through summer employment. Today, 85 percent of freshly-minted MDs graduate in debt; they owe—on average—almost \$140,000 (for private medical schools, the average is almost \$156,700), and will commit 9 to 12 percent of their after-tax income to debt service. If current trends hold steady, the Association of American Medical Colleges projects that in twenty-five years, debt levels for both private and public medical school grads will hover at \$750,000, diverting as much as 30 percent of after-tax income to debt service.

At Alpert Medical School, mean debt is slightly lower than the national average. During the 2006-07 school year, the entire student body borrowed a total of \$7,728,056, at interest rates ranging from 5 to 9 percent. Sixty-six percent of the Class of 2007 received some form of financial aid, and 45 percent received support directly from

their family finances, a policy implemented in 2003, administrators expect demand for financial aid to keep growing. Factor in the likelihood of student body expansion in coming years, and administrators will have to hustle to stay ahead of need. "We're holding our own," says Gruppuso. "For the time being."



PAY UP

It's hard to know just how debt shapes a medical student's career path, but as the cost of training climbs and physician shortages in relatively low-paying fields become more acute, the issue is gaining greater attention throughout the world of academic medicine. "Right now we're in a very critical period," says Chair of Family Medicine Jeffrey Borkan, who recalls that when his own tuition at Case Western doubled to \$10,000 a year in the early eighties, the class staged a protest in the dean's office. "Salary differentials between specialties are much greater and everyone's debts are higher. All of us are concerned that even when students are not willing to say it, there's a sense that they are fearful about the relationship between earning potential and debt, and that's keeping qualified students away from primary care. It's creating a significant crisis."

Gruppuso sees the issue as merely a symptom of the ongoing disintegration of the American health care system. "You can say that the problem is medical schools, but to a large degree, [the number of] people choosing high-revenue specialties is a result of the fact that the high-revenue-generating specialties are high revenue generating," says the pediatric endocrinologist, noting the shortage of young physicians pursuing training in his own specialty. "It's not just the debt, it's the income."

According to the ongoing salary survey compiled by Allied Physicians, a radiologist with more than three years of experience can expect to make about \$355,000 annually. A family physician whose practice excludes obstetrics can look forward to averaging just

broader, public policy issue—whether Congress wants to move a certain cohort of students into certain programs through forgiveness of loans and other efforts."

Meanwhile, Medical School administrators have focused their efforts on containing tuition increases, bolstering financial aid, and coaching students through the array of public and private scholarship funds and low-interest loans available to medical students. In February, the Corporation of Brown University approved enhancements to the financial aid program, including increased payout from the University's \$2.8 billion endowment. "That increase...will mean students borrow only slightly more than they had to borrow last year," says Director of Admissions and Financial Aid

helping to establish a clinical center in an impoverished, rural community. "I want to have a life, but it's a larger calling."

That said, the thirty-two-year-old admits the loans "hang over my head like an anvil." Nationwide, internal medicine residents earn between \$40,000 and \$50,000, adjusted for regional differences and years of experience. And while Palazuelos admits that Brigham's relative wealth puts his current income at the high end of the spectrum, the young physician drives a Dodge Neon, joined a wine club so he can afford to indulge his oenophilia, and gets discount movie tickets through the hospital when he craves an evening out. "With the meaningful international work that I'm involved in, I'm having more fun than my friends who are invest-

"I'm having more fun than my friends who are investment bankers, but when it comes to creature comforts,

I have to forgo them."

\$135,000 a year, while an orthopedic surgeon with an emphasis on spinal care can expect annual take-home pay around \$670,000.

The trend suggests that market economics just don't work very well in medicine, says Gruppuso. "If we have a shortage of primary care docs, why aren't their salaries going up?" he asks. "There's very little focus on what the population needs: excellent health care."

A solution, says Executive Dean for Administration John Deeley, will have to come from the federal government. "We need to hold our overall costs down," says the School's chief financial officer, "but I don't have a good answer for what an individual institution can do. It has to be a

Kathleen Baer. "Sixty-eight percent of the increase in cost from 2007 to 2008 will be covered by Brown scholarships, to keep borrowing increases to a minimum."



SWORD OF DAMOCLES

When Daniel Palazuelos graduated in 2004, the Long Island native had \$88,000 in federal loans and an additional \$25,000 loan from Brown. "Medicine is something I do as a service to humanity," says Palazuelos, now a resident in the Brigham and Women's Hospital Global Equity program who splits his time between Boston and Chiapas, Mexico, where he's

ment bankers, but when it comes to creature comforts, I have to forgo them."

Of greater concern than the shortage of pricey drinks and sporty new cars is the prospect that debt might compromise his ability to fulfill family responsibilities, says the resident, whose father was recently diagnosed with diabetes and peripheral neuropathy. Palazuelos found himself worrying that if his father's insurance did not cover a number of the largest expenses he wouldn't be able to provide financial assistance while his father's health kept the older man out of work. "Everybody has their own determinants of what makes them happy," he says. "But money is power and money is freedom and if I ever get into a pinch where I need to

start making major money to support family members, I may simply have to give up social justice work. It's sad."

Like Palazuelos, third-year student Josh Lakin worries about the impact of his debt on his ability to care for his parents. "My mom is an independent person who's prepared carefully for retirement," says Lakin, who will be thirty when he graduates. "But I want to be able to take care of her if necessary—she's done so much for me. And hopefully someday I'll get married and have a family." Owning a home and investing for retirement will be priorities, too, says Lakin, who spent his early twenties working in finance and high tech. "Part of me is a little scared," he admits. "I probably could have made far more in finance and business than being a primary care doctor."

Meanwhile, Lakin and his girlfriend economize by limiting their trips to see his

loans he received from Brown, by moonlighting—working as a physician outside his residency placement—between his assignments at Brigham and Women's and his travel to and from Chiapas. "My long-term trajectory is to create this clinic," says Palazuelos, who's currently earning a master of public health and admits he may be "pretty naïve" when it comes to his own finances. "The way I'm looking at it, I'll have some small investments, I'll do some moonlighting, I'll have a Roth IRA, put away some retirement." He and his fiancée, Lindsay Broockman, a Brown grad who manages the clinic, share a commitment to their social justice work, a vision he hopes will sustain them through frugal times as they repay his loans. "I think we're committed to forgoing the ten-dollar martini," says Palazuelos. "Our long-term goal is to do some important work internationally and have a nest egg to fall back on."

living expenses by having six to eight housemates at a time.

Now a dermatologist in private practice who teaches medical students and residents, Iler hopes to finish repaying her own loans in 2010. It's helped that Iler and her husband—a former paramedic who completed his cardiothoracic anesthesiology training in 2006 at the age of forty—benefited from a booming real estate market and invested in rental property when they sold their first home. "One day, that will pay off," says Iler, who calls herself a "fanatic" about moving around the couple's debt to maintain the lowest available interest rates. "We're a few years away from being financially solid, but it's definitely in the future."

Until the couple had children, Iler appeared regularly at financial aid events hosted by Baer to answer questions posed by students contemplating their own career

"[Debt] is not a huge bogeyman in terms of career choice,
it's a huge bogeyman, period."

family on the West Coast to an annual Christmas visit, and go out to just one nice dinner a month. When a friend invited them to her wedding in Hawaii, frequent flyer miles made the travel possible. And this summer, the couple bought a farm share. Over the winter, they feasted on stewed tomatoes, brandied peaches, apple butter, and pesto they had put up during the summer. "I'm very committed to primary care, but I'm contingency planning—including considering a number of subspecialties," he says. "With my business experience, I'm looking at how to do consulting, other ways to supplement my income."

Palazuelos has made quick work of the

Lynn Iler MD'95 went into dermatology before it was one of the hot "lifestyle specialties," popular for more regular hours and better reimbursement, but she's still paying back both the \$165,000 debt she incurred at Amherst and Brown, and the \$60,000 post-baccalaureate training she charged to a credit card before starting her medical education at the age of twenty-seven. "[Financial aid director] Kathy Baer told me mine was the thickest financial aid folder of anyone who ever graduated from Brown," says Iler, who made a habit of applying for scholarships throughout her four years as a med student and who lived in the same house during medical school and residency, reducing her

options. "I think it makes a lot of people completely nauseated to think about," says the forty-two-year-old mother of three, joking that hearing her story probably made incoming students feel better about their own debt loads. "Originally, I thought I might pursue family medicine. I'd still be deeply in debt, or we wouldn't have taken the risks of buying the apartment buildings. We both kind of lucked into the fact that the fields we loved were higher paying."

Director of Medical Student Affairs Alexandra Morang Jackson has been coaching students through the Match process for residency assignments since 1994, and says the approach Groskin, Lakin, and Palazuelos

BY THE NUMBERS



Brown's medical students may end up with less overall debt than their counterparts elsewhere in the nation, but few have the luxury of never giving a second thought to repayment strategies.

Consequently, Director of Financial Aid Kathleen Baer thinks of her job as spanning the life of each loan a student takes on during the course of his or her degree. "We view it as our responsibility to help with any loan questions until those loans are repaid," she says. Each spring, Baer hosts a two-part program with a financial planner and other experts to help fourth-years take a strategic approach to managing their debt. In eighteen years on the job, she's gotten a handle on how to take some of the pain out of the process. Here, her advice:

KNOW THE FACTS.

Each loan has unique repayment options, interest rates, and policies on forbearance and consolidation.

UNDERSTAND YOUR CHOICES.

"Some students get behind simply because they don't know they have an option to defer payment," says Baer.

BE PROACTIVE.

Open your mail. Letting bills pile up only compounds problems. Organize statements by lender, and note the address, website, and phone numbers for each. Make sure lenders have your current address.

CREATE A GAMEPLAN.

Pay off expensive loans first, and take a slower tack with low-interest debt. "Very often," says Baer, "the most expensive debt is not a student loan but credit cards."

PROTECT YOUR CREDIT RATING.

Residents may not earn enough for a home mortgage or

major purchases, but when that time comes, you'll need the good credit you established during training. Make all debt payments on time and review your credit report for accuracy once a year.

COVER YOUR BACK.

"Disability insurance is vital for most physicians," says Baer, who considers it a particularly good investment for most residents. Take care to read the policy before buying in so you know how the company defines eligibility.

BE TAX-SAVVY.

Establish a flexible spending account to set aside pre-tax income for health care expenses. If you're taking loan repayment for working in a high-need area, talk with a tax advisor to determine whether to take a lump-sum payment, which might bump you into a different tax bracket.

RUN THE NUMBERS.

When evaluating job offers, know your repayment options and make sure you can afford to take the job and meet your financial obligations. Have a mentor, financial advisor, or a lawyer review the contract before you sign it.

CONSOLIDATE.

Even if you don't get a break on interest rates as you might refinancing a mortgage, the paperwork will be far easier to manage. Says Baer: "It's easier to stay on top of the loans if there are only one or two."

PAY YOURSELF, FIRST.


Contribute regularly to a retirement fund and a savings account. "No matter how much debt you have, if someone will match your retirement investment, you're throwing money away if you don't take advantage," says Baer, noting the psychological benefits. "You feel good when you're doing something to secure your future."

have taken exemplifies what she's seen over the past fifteen years. "[Debt] is not a huge bogeyman in terms of career choice," she says. "It's a huge bogeyman, period."

Like John Deeley, Lakin expects finding a solution to medical student debt and its relationship to both salary inequities and

physician shortages will take more than cost containment by medical schools. "If you fixed the system right, the glory and fun would be in preventing disease," says Lakin.

"Dollar for dollar, it makes more sense to pay physicians to prevent disease rather than to fix it. If the financial incentives were

aligned with health outcomes, the debt load would be less relevant to students who hoped to pursue primary care." 

Ithaca, NY-based freelance writer Sharon Tregaskis reports on health care, the environment, and higher education.



BY SUSAN HSIA LEW '97

PHOTOGRAPHY BY KAREN PHILIPPI

THE ROAD FROM ELDORET

To help Kenya fight HIV, she had to leave her beloved country and her family.

December 29, 2007. Two days after general elections in Kenya, the nation waits restlessly for the results of the presidential contest, in which many hope the incumbent President Mwai Kibaki will be ousted. Roads are being closed to control the brewing social unrest. Ann Mwangi slinks down in the passenger seat of the car in silent panic as she and her husband drive from Nairobi to their home in Eldoret, about 160 miles to the northwest. Mwangi is of the Kikuyu tribe, as is the unpopular president, and the threat of violence against Kikuyu grows as the atmosphere in Kenya becomes increasingly tense. She has just arrived home for her winter break from Brown.

The thirty-year-old PhD candidate in biostatistics had been looking forward to playing with her nineteen-month-old daughter, Chebet, and talking face-to-face with her husband, Sum, after a semester of phone calls and instant messaging. She had hoped

to visit family and friends, celebrate the holidays, and take a break from the demands of graduate school. But on December 30, President Kibaki claimed victory in the election and the nation erupted in civil unrest, incited by opposition supporters who suspected the

★ Brown



This woman has a
head for numbers.

election results had been manipulated. Kikuyu were not safe in the streets of Eldoret, which is predominantly Kalenjin.

"It was terrible," Mwangi recalls. "[Much of the violence] happened in Eldoret. I saw houses being burned right next to our house. It was scary. So I stayed indoors for a whole three weeks! I couldn't go out. It was depressing." When given the opportunity to extend her time at home due to the crisis, she was encouraged by her family to leave Kenya for the relative safety of Providence as soon as possible. "Of course I didn't want to, but I was more at risk in Eldoret because I was Kikuyu. My husband and daughter, they are from the tribe of that region, so they were okay. My husband was like, 'Just go!' and my dad was really excited when I called him from the airport and told him I was going back [to Providence]. I asked him, 'You're happy that I'm leaving?' And he said, 'Yes!'"

MATH GIRL

Personal sacrifice and trailblazing are not new to Mwangi. Even as a child in the small city of Nyeri, near Mt. Kenya, she bucked tradition in a culture that did not encourage or expect girls to do well in math. "I was always a math girl in school. It has to do with my father...who always liked math." A soil engineer who did not complete college but professed a love for math and physics, her father encouraged her talent despite quiz-zical looks from family and neighbors. In the fifth grade, she scored a 94 percent in math class. "From then on, I never got less than that," she says matter of factly, and somewhat amused by the memory. "In high school, I finished my math exams so quickly that the teacher wouldn't allow me to pass them in right away, saying, 'Ann, you're going to depress the other students!'" The first in her family to go to college, Mwangi attended Jomo Kenyatta University of Agriculture and Technology (JKUAT) in Nairobi and

completed her BS in statistics and computer science. Although those fields were male-dominated, Mwangi excelled. At JKUAT, she was one of only two female students in her department, and together with a female lecturer as a mentor, the three women traveled to all-girls' high schools around Nairobi to encourage the students to pursue professions in math and science.

FINDING A HOME

After college, Mwangi worked at the International Livestock Research Institute (ILRI) in Nairobi, where she found good mentors who encouraged her to get her master's degree. She received a scholarship from the Flemish Interuniversity Council (VLIR) in Belgium to attend Limburgs Universitair Centrum (now University of Hasselt). Within two years, she had completed dual master's degrees in Hasselt's prestigious applied statistics and biostatistics programs, the only woman in her Kenyan cohort. Upon her return to Nairobi, she found that she no longer wanted to work in livestock research. Her biostatistics training had made her more interested in human research, and in particular, the growing HIV epidemic in Kenya. In May 2005, Mwangi answered an advertisement in the newspaper and became the first Kenyan biostatistician hired for the AMPATH (Academic Model for Prevention and Treatment for HIV/AIDS) program at Moi University in Eldoret. It seemed like the right move for both her career and her family. "My husband comes from Eldoret, so it felt like going home," she says with a smile.

There, Mwangi found a professional home as well. Working at AMPATH was a life-changing experience. She had always thought of HIV in terms of the social stigma associated with the virus in Kenyan culture. A diagnosis of HIV in Kenya meant impending death and social ostracism, the latter of which was enough to motivate people to avoid getting tested for the virus or, if HIV

positive, not to seek treatment. But, Mwangi recalls, "on my first day at AMPATH, I was shocked that people were just walking in to receive care, without any fear of stigma. It totally changed my view of HIV."

She even brought her parents to see the AMPATH center. "They couldn't believe it," she recalls. "They were so impressed by the building, the farms, everything." A joint program among the medical schools of Moi, Indiana, and Brown universities, AMPATH is one of the leading HIV/AIDS control systems in sub-Saharan Africa. The focus at AMPATH is not only to provide clinical care for HIV-positive "clients," including anti-retroviral therapy, but also to address social issues, such as stigma and economics, that are crucial factors in the survival of clients and their families. AMPATH has reversed the stigma of HIV in Western Kenya, Mwangi says. "People see that HIV patients go to AMPATH and they get better. That makes others feel like they can seek treatment, too." AMPATH also has programs that provide job training and agricultural training to patients and that offer micro-financing of private micro-enterprise to support patients' self-sufficiency after they leave the program.

During her first year at AMPATH, Mwangi came to two conclusions. First, she knew she wanted to be a part of AMPATH for a long time to come. "You can really see the fruits of your labor—people with HIV are getting better in front of your eyes. AMPATH is like a big family. Of course I would want to be associated with such a group," she says. But she also wanted to be able to contribute at her fullest potential. With her master's, Mwangi was the senior level Kenyan biostatistician at AMPATH and at Moi. "There was a real need for biostatistics capacity. I was assisting MD and MPH students in biostatistics as well as doing the work for AMPATH. So I looked for a PhD program. At first, I looked for a 'sandwich program,' in which you go to school for three months and then

go home for six months to do research, because I didn't want to be away from my daughter for too long. But I couldn't find one because there were no biostatisticians to supervise me in Kenya."

THE STARS ALIGN

Meanwhile, Brown University's Fogarty AIDS International Training and Research Program (AITRP), headed by Kenneth Mayer, professor of medicine and community health, was looking for trainees. Until recently, the program had primarily provided grants for clinicians from Southeast Asian countries to train in HIV research for a few months at a time. Kenya was brought into the fold in 2006, when two Kenyan MDs came to Providence for three months each. Dr. Jane Carter, assistant professor of medicine with many ongoing research projects in HIV and TB in Kenya (see *Brown Medicine*, Spring 2004), was in Eldoret in the spring of 2007, helping to identify potential Fogarty trainees for the following year. "One field researcher told me, 'We are generating enormous amounts of data, but biostatistics is the bottleneck in our research process,'" Carter recalls. The dean of Moi's medical school agreed that AMPATH and the University would benefit greatly from a Kenyan biostatistics PhD. And so Mwangi's search for a doctoral program and Brown's search for its next Kenyan Fogarty trainee made for a serendipitous match.

At first, Mwangi thought about postponing her training because she did not want to leave Chebet. But Sum encouraged her to seize the opportunity. It was important for her, for their family, and for Kenya that she



The post-election violence in Kenya has had an adverse impact on many Kenyans: at least 1,000 people have lost their lives and 300,000 others have been displaced throughout the country. Many members of the staff of AMPATH were directly affected, including thirty whose homes were burned.

Between January 15 and February 15, the Brown community raised \$55,000 for the Kenyan Relief Fund, which is being used to provide food, loans to rebuild homes, and medical care for nearly 2,000 people in Eldoret, including AMPATH staff, patients, and community members.

complete her PhD as soon as possible. In June of 2007, she applied for both the Brown PhD program and the Fogarty Grant for September of that year. Accepted by both, Mwangi nevertheless faced another challenge: she had run out of time to get her student visa before the start of the fall

semester. Dr. Carter personally brought Mwangi's books to Eldoret so that Mwangi could begin her studies on time. She finally arrived in Providence three weeks into the semester, and just in time for her first New England winter.

"My advisor [Joe Hogan, associate professor of biostatistics] told me every day, 'Ann, it's going to get cold, you need to get boots to get down College Hill.'" She giggles as she recalls his kindness and concern. "Every day, 'Ann, where are the boots? Did you get boots?'" About Hogan, she says, "He's made me feel at home. He's a great advisor; I don't even know what words I can use to describe how great. Even for Christmas, he invited me to join his family."

One of the great things about the biostatistics program, Mwangi says, is "learning how to work with doctors, how to understand what they're saying when they want to design studies, which I think is very impressive. That's not an in-class thing. You only get it in real life."

Mwangi hopes that her hard work and personal sacrifice will not only make a significant difference in HIV research in Kenya, but also pave the way for future Kenyan biostatisticians. "What I really want is to become faculty at Moi, to do some teaching as well as research...and when I go back, if a student at Moi wants to do a sandwich program, they can have someone to mentor them!"

Susan Hsia Lew '97 currently resides, reads, and writes in Pawtucket, RI.

MOMENTUM CAMPAIGN FOR ACADEMIC ENRICHMENT

BETTER FOR BABIES

Professorship in perinatal research inaugurated.

In a ceremony at President Ruth Simmons' house last December, James F. Padbury, pediatrician-in-chief at Women & Infants Hospital and professor of pediatrics, was named the inaugural William and Mary Oh-William and Elsa Zopfi Professor of Pediatrics for Perinatal Research. In attendance were the

Boldly | **BROWN** |

professorship's benefactors—William and Mary Oh and Elizabeth '59 PHB'96 and Malcolm (Kim) Chace LHD'04—as well as Elsa Zopfi, Liz Chace's mother. The professorship is held jointly with Women & Infants.

An accomplished investigator in fetal and neonatal physiology and in cardiac and placental developmental biology, Padbury has been continuously funded by the National Institutes of Health since 1984.

cental gene expression and the role of the intrauterine environment on fetal and neonatal neurodevelopmental outcomes, and the genetics of preterm labor.

—Kris Cambra

LEAD BY EXAMPLE

BMAF chair sets the pace for alumni giving.

When Peter Panton '79 MD'82, P'11 became chair of the Brown Medical Annual Fund (BMAF) he promised he would step up his own giving. He did just that, and became a vanguard: he's the first alum to commit \$100,000 to the BMAF using the multi-year pledge as a giving vehicle.

Panton fully understands the importance of an annual fund and the flexibility it provides for the administration. The BMAF is used for just two critical facets of the Medical School's operations: student financial aid and the medical curriculum.

"As chair of the BMAF, I hope to encourage and inspire new levels of alumni participation in giving to the annual fund during my tenure," Panton says. While grateful for the roughly one-quarter of Medical School alumni who do support the BMAF, Panton would like to see participation hit 50 percent. "There is a role for each of us to play," he says, acknowledging that not all alumni have equal giving capacity.

Because every gift to the BMAF counts toward Boldly Brown: Campaign for Academic Enrichment, participation in giving helps make the voice of medical alumni heard. "If giving is one measure of the engagement and dedication of a school's alumni body, our support of the

BMAF sends a powerful message that alumni are invested in the success of Alpert Medical School," Panton points out.

The BMAF offers the opportunity to be counted as leadership donors during the campaign, and a multi-year pledge allows donors the option of spreading payments out over a number of years. The pledge terms can be structured specifically for each individual with large payments being made during Reunion years to help boost class giving totals.

—K.C. 



In the back row, left to right: Mary Padbury and Kim Chace. In the front row, left to right: Liz Chace, President Simmons, Elsa Zopfi, James Padbury, Mary Oh, and Bill Oh.

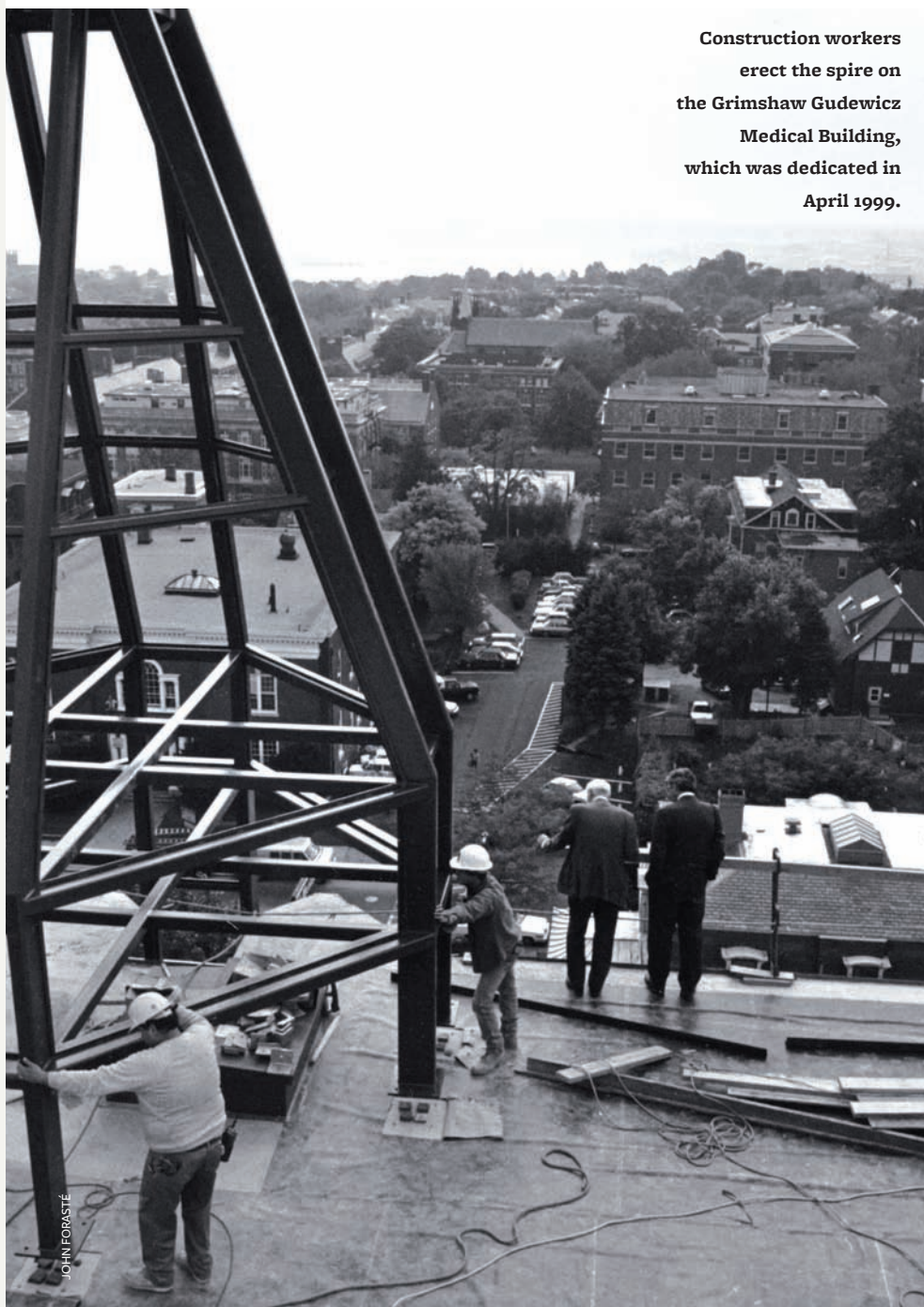
He serves as program director for the Center of Biomedical Research Excellence (COBRE) in Perinatal Biology at Women & Infants. Most recently he chaired the National Institutes of Health Scientific Review Committee for research on pregnancy and neonatology.

In his laboratory, Padbury oversees pre- and postdoctoral graduate students, neonatal fellows, and Brown undergraduate and medical students. The laboratory's current activities span a range of studies including heart and placental development, studies of pla-

ALUMNI ALBUM

CHECKING IN WITH BROWN MEDICAL ALUMNI

Construction workers
erect the spire on
the Grimshaw Gudewicz
Medical Building,
which was dedicated in
April 1999.



JOHN FORASTÉ

CLASSNOTES

1975

Tony Caldamone '72 MMS'75, P'06 recently returned from a medical mission to Khulna, Bangladesh, where he and a group of pediatric surgeons from Parma, Italy, performed surgeries for congenital genitourinary and gastrointestinal anomalies in a hospital built by the Italian Red Cross.

David Snyder '71's son Eric J. Snyder '04 married Cara Zeldis '04 on September 2. The pair met during their sophomore year and dated for six years. More than forty alumni attended the wedding, and David's son Jeffrey Snyder '02 was in the wedding party.

1977

Phyllis Hollenbeck '73 and Richard Sun were married on April 5 at the Princeton University Chapel. Phyllis writes: "It was lovely in every way, including having my two tall, handsome sons walk me down the aisle."

Joel Shalowitz '74 was a Fulbright senior specialist and visiting professor at Keio University Medical School in Tokyo, where he taught both medical and management students and studied the Japanese health care system. Joel is professor and director of the health industry management program at Northwestern's Kellogg School of Management. He is also professor of medicine and preventive medicine at Northwestern's Feinberg School of Medicine and visiting professor of health industry management at York University's Schulich Business School in Toronto. He recently co-authored a book (see Alumni Bookshelf, page 52).

GOT NEWS? SPILL IT!

Take a moment to contact us at med.brown.edu/alumni/ (click on "fill us in") or send your updated contact information, including e-mail address, directly to us at Med_Alum@brown.edu.

The Brown Medical Alumni Association Board of Directors is requesting **alumni nominations**.

THE INAUGURAL

We are looking for **dedicated alumni**, full of good ideas and eager to be involved, to represent their fellow alums on their medical alma mater's alumni board. **Do you know someone who fits the bill?** Do you?

CALL FOR

The Board meets on campus twice annually to advise on medical alumni programming. **The time commitment is minimal**, but truly appreciated. If you're interested or know someone who might be, **please send us names and class years today**. We will follow up with anyone who is nominated to confirm their interest.

NOMINATIONS

Use the online registration form at **<http://med.brown.edu/alumni/board>**, e-mail **Med_Alum@brown.edu**, or contact Bethany Solomon, director of alumni programs, at **Bethany_Solomon@brown.edu** or **401 863-1635**.



BROWN
Alpert Medical School

ALUMNI ALBUM

1978

John Keats '75 is still living in Ventura, CA, and was recently named president and medical director of California Health First Physicians. This is a new multi-specialty medical group affiliated with Catholic Healthcare West. He writes: "In June 2007, along with my wife, **Susan Schilling Keats**, PhD '82, I attended the graduation of my oldest son, Andrew, from the University of Oxford, where he received his master of philosophy in Roman history. Also attending the graduation was my son Alex, who is now a sophomore at the University of Washington. My daughter, Ariele, graduated from Scripps College and is applying to nursing school. My youngest son, Kolya, is a senior in high school."

Contact John at jkeatsmd@gmail.com.

Robert Weinberg '74 is a pediatrician who has been elected chief of staff at Geneva (New York) General Hospital through 2009.

Pediatrician **Robert Weinberg** was elected **chief of staff** at Geneva General Hospital.

He is certified by the American Board of Pediatrics and has served as the president of the Ontario County Medical Society. Bob lives in Geneva with his five children and wife, Barbara, a nurse manager for the intensive care unit at Geneva General.

1980

Judy Owens '77 appeared on NBC's "Today Show" in March during a segment on parenting. Ann Curry interviewed Judy about children's sleep needs during elementary school and the well-documented link between sleep deprivation and obesity.

1982

Diana Accinelli has been appointed managing physician of the U.S. HealthWorks Medical Center located in West Sacramento, CA. U.S. HealthWorks Medical Group is California's largest provider of outpatient occupational health care services.

1985

Michael Ragosta writes: "**Kiyoko Asao Ragosta** MD'85 and I are celebrating twenty years of marriage in April 2008. Our oldest son, Nick, is considering Brown, but prefers Dartmouth. Hopefully one of our three will attend Brown! If ever in Virginia, please look us up."

Contact Michael at mr8b@virginia.edu.

1996

Robert Sokolic '91 (see **Yvonne Mark**, 1997).

1997

Yvonne Mark '92 MMS'97 and **Robert Sokolic** '91 MD'96 are thrilled to announce the birth of their twin boys, Isaac Mark Sokolic and Lancelot Mark Sokolic on Thursday, 11/8/07, 27 Heshvan 5768, 29th day of the 9th month in the year of the Golden Pig 4704, at 2:31 a.m. and 2:32 a.m., respectively, in Columbia, MD. Isaac was born at 4 pounds 8.6 ounces and 18 inches. Lancelot was born at 4 pounds 3.9 ounces and 17 inches. Their favorite color is fluorescent blue, and their favorite reflex is gastrocolic.

Yvonne is the daughter of Dr. **Roger Mark** '70 PhD'76, PE and Dr. **Hon Fong Louie Mark** '69 PhD'74 and sister of **Roger Mark Jr.** '99 MAT'00 and Dr. **Seamus Mark** '02. Yvonne is a clinic physician at the Johns Hopkins University Student Health and Wellness Center. Rob is a staff clinician at the National Human Genome Research Institute at the National Institutes of Health.

1998

Leo Kobayashi '94 and Anna C. Cousins were happily married at the First Unitarian Church in Providence, on the beautiful afternoon of November 17. Present for the celebration were **Kavita Babu** '96 MD'00,

COURTESY NEWHART

EYE ON ALUMNI

FROM BEDSIDE TO BOUTIQUE

How to give "retail therapy" a whole new meaning.

Eve Newhart MD'95 never imagined she would one day open a swishy women's clothing shop. "I didn't know the first thing about fashion or retail—I never even liked shopping," says the owner of Wicati, an upscale Los Angeles boutique named for her three children, William, Caroline, and Timothy.

After her third child was born, Newhart tried to keep up a part-time schedule, working three or four half-days per week as an internist/nephrologist at Cedars-Sinai Medical Center. But her husband paged her every 30 minutes, the new baby had her up most of every night, and when one day she dissolved into exhausted tears in front of all her colleagues, she finally knew things had to change.

As she considered alternatives to medicine, the idea for Wicati grew. "I was looking for something to lessen the intensity of raising three young kids, something that made me feel good. And I discovered that going out with friends and trying on dresses was fun—it was like princess time."

Opened in October 2006, Wicati and its owner are thriving. The shop attracts a loyal customer base, has enjoyed positive media coverage in at least half a dozen women's magazines, and in January of this year, turned a profit just fifteen months after its debut. To build a unique identity, Wicati supports a "salon" style series of lectures, workshops, and book signings on topics of women's health, parenting, and small business, plus makeover days for stressed-out women in need of a boost.

Newhart continues to practice medicine, volunteering one day a month in a nephrology clinic for low-income patients. "I love it," she says. "I never lost my passion for medicine."

Almost as surprising as the original idea for the shop, Newhart is now hatching a new five-year plan: opening a multi-purpose women's health center that combines Wicati-like shops (and perhaps a nail salon) with physical therapists and several doctor's offices in ob/gyn, psychiatry, and internal medicine.

One as yet unresolved item: "I'm not sure how to incorporate hospital work," says Newhart of her plan. "My first love still is being in the hospital, helping really sick people." But she's got five years to figure it out. "Things have a way of evolving with me."

—Lisa Rowley



She puts the
"Ca" in Wicati.

Tira Bunyaviroch '95 MD'99, **Sonia Soo-Jin Chung** '93 MD'98, **Peter Lee** MD'05, and **Karen Hyun Jung Kim** '95 MD'99, with her baby, Andrew. Anna works as a senior writer at RISD, and Leo is an assistant professor of emergency

medicine at Brown, an emergency department physician at Rhode Island Hospital, and co-director of the hospital's Medical Simulation Center. The couple honeymooned in France, then returned to their home in Cranston, RI. They would love to

ALUMNI ALBUM

hear from old friends at leo_kobayashi@hotmail.com.

1999

Melisa Lai '94 married Sean Becker (Cornell '91) on April 28, 2007. The bride and groom were featured in *USA Today* on July 1 for their unique wedding reception site, Fenway Park in Boston. Alumni present

included **Julianne Ip** '75 MD'78, **Sonia Sujin Chung** '93 MD'98, **Nisha Gupta** '94 MD'98, **Christine Huo** '95 MD'99, **Felix Lui** '95 MD'99, **Jack Rozel** '95 MD'99, **Kavita Babu** '96 MD'00, **Sue Saks Walker** MD'99, and **Jimmy Carroll** MD'06.

The couple lives in the Boston area and can be reached at melisa.lai@alumni.brown.edu.

2000

Michael Klein '96 and his wife, Laura Stroud, an assistant professor of psychiatry and human behavior at Brown, are proud to announce the June 25, 2007, birth of son Jacob

Daniel Klein. Michael writes: "His big sister, Abigail, 3, couldn't be happier, although she is convinced he is her own personal doll. As for me, I have been at Brown so long they finally gave in and made me faculty. I work in nearby Pawtucket at Hillside Family Medicine. I would love to hear from old friends at kleinmd3@yahoo.com."

Sanjay Naik '96 writes: "My wife, Nandini, and I announce the July 12, 2007, arrival of our first child, Manu Kishan. He has already filled us with a lifetime of joy and smiles."

Contact Sanjay at sanjaydnaik@yahoo.com.



HER BIG BREAK

Orthoped is skilled with both scalpel and pen.

March 27, 2007 was a bad day for orthopedic trauma surgeon **Erika Mitchell** '95 MD'99. She had recently lost a patient, and was in danger of losing another and having difficulty communicating with his family. She remembers the details, including the date, because she and 500 other women across the country had documented their day for a book project. *Water Cooler Diaries*, published this past February, contains thirty-five of the accounts, including Mitchell's as the lead essay.

Such literary accomplishment was "pretty wild," says Mitchell, who as the self-described black sheep in a family of artists, is familiar with the divergent path.

Born and raised in Queens, NY, and educated in the Northeast, she has adjusted "surprisingly well" to southern life in Nashville, where she is assistant professor of orthopedics and rehabilitation at Vanderbilt University Medical Center. The weather is an obvi-

ous plus (her daffodils were out in early March), and according to a recent patient, she's adopted a bit of a twang.

A former member of Brown's crew team who still rows when she can, Mitchell started out in medicine with an athlete's interest in the mechanics of the body. "I thought I was going to be a sports doc and work for an organization like U.S. Rowing," she says. "But during residency I discovered that sports medicine was not for me. The surgeries were not as involved; there was no inpatient care." She moved to trauma surgery, where she could work with patients with open fractures or multiple injuries.

"I like the variety of working on all parts of the body, not just the ankle or hand or knee. The cases are more complicated, and I get to do more than just fix the bone." She enjoys the post-surgical follow-up and rehab, which in some cases is so lengthy it's "satisfying a year later to see a patient walk again."

Though she opted for medicine, Mitchell credits her mentor at Brown, Associate Professor of Biology Sharon Swartz, with her interest in research and commitment to "understanding not just the medicine but the biology." Mitchell stays in close contact with Swartz, who was one of the first people she told when her \$1.3 million grant proposal won Department of Defense approval

"I get to do **more than just fix the bone.**"

in January. Her research will explore the genetics of heterotopic ossification—a condition whereby patients grow too much new bone after an orthopedic trauma.

While Mitchell envisions research playing a larger role sometime down the road, for now, she says, "I'm just trying to become as good a surgeon as I can. I'm still new and very junior, and it's a long training period." She continues to write a journal, which helps ease the bad days, giving her perspective along the way. "Right now, this is what I want to do."

—**Lisa Rowley**

COURTESY MITCHELL

EYE
ON
ALUMNI

REALITY SHOW

Former classmates re-connect
in South Philly clinic.

Every Thursday night, **Matt O'Brien** '99 MD'04 dusts off his Spanish at Puentes de Salud (Bridges of Health), the South Philadelphia free clinic that he and University of Pennsylvania colleagues opened in November 2006. The clinic aims to bridge the gap between the resource-rich world of the ivory tower and that of the mostly poor, uneducated patients they serve—immigrants, largely from Mexico, whose estimated numbers have quadrupled in the past five years.

In traditional health care settings, O'Brien explains, physicians don't provide much of the education needed to change behaviors, which ultimately improves health outcomes. Nor are doctors necessarily the right people to do so, particularly among recent arrivals unfamiliar with the ways and language of their new land.

Take cervical cancer, for instance, the most common cancer among Hispanic women. O'Brien is betting that local community health workers (self-identified leaders of the immigrant popula-

As patients wait for the doctor, **grad students offer mini-workshops** on legal and other questions.

tion trained by clinic staff) are better suited for educating neighborhood women about the disease, how to screen for it, where and how often to get Pap smears—all of which should help lower its incidence.

Complementing these efforts, professional students in U. Penn's schools of law, dentistry, business, nursing, and social work also volunteer their expertise. As patients wait for the doctor on Thursday nights, the students offer mini-workshops in the waiting room on topics such as tenants' rights, nutrition, job security, and immigration policies.

The arrangement is a win-win, says O'Brien. "Patients receive critical information needed to improve their lives—what researchers are calling the social determinants of health—while our future leaders in business, law, and social work learn to respond appropriately to the community's changing demographics."

Fellow RWJ fellows
Giridhar and Matt



Much of O'Brien's work at the clinic is supported by a fellowship from the Robert Wood Johnson Clinical Scholars program, a leadership training and degree program that combines teaching, coursework, and field research. Joining him is RWJ fellow and former Brown roommate **Giridhar Mallya** '99 MD'03, a family physician who is studying how urban safety-net systems deliver medical care—or don't. Mallya also volunteers at the clinic on Thursday evenings and is a member of its executive committee.

Mallya and O'Brien trace their interest in Hispanic health care (and their Spanish language skills) back to Brown.

Both volunteered in the earliest days of Rhode Island Free Clinic, working with a similar population; both have spent time in Central and South America, Mallya in Bolivia and O'Brien in a teaching hospital in Santiago, Chile, and in remote Guatemalan villages.

O'Brien is pleased with the clinic's deepening reach into the community, as it solidifies partnerships, increases trust among residents, and expands services that now range from pediatrics to end-of-life care. But success, he says, means "we're bumping up against the need for more resources: a full-time nurse, plus larger and better space."

As Mallya says of Philadelphia, the largest city in the country without a public hospital, and where 600,000 residents live in poverty and 150,000 are without health insurance, "The need is great."

—**Lisa Rowley**

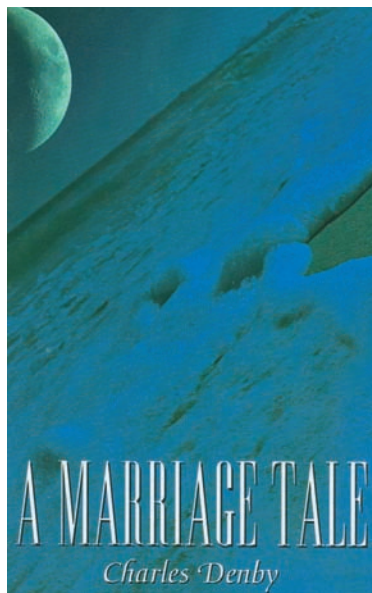
Joel (J.T.) Park '88 PhD'04 is a hospitalist with the Rhode Island Hospital Internal Medicine Inpatient Service and clinical instructor in medicine for the Medical School. He and **Jeannette Downing-Park** '88 announce the birth of Donovan Lylburn Park on January 8, 2008. J.T. says, "For those

of you keeping count, he's number seven. He joins his brothers, Joel and Ben, along with his sisters, Kayla, Stephanie, Jenna, and Mackenzie. In addition, Joel is graduating high school this year and will be attending Brown as a PLME student in the classes of 2012 and MD 2016."

Alysia Turner Townsend '96 became Board certified in general obstetrics and gynecology in 2007. She writes: "I would like to announce the birth of son Isaac on March 25, 2008. He was welcomed by his parents and big sister Ella, age 2. The family resides in the Chicagoland area."

ALUMNI ALBUM

ALUMNI BOOK SHELF

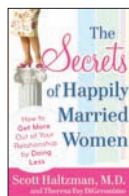


A Marriage Tale

By Charles Denby MD'78 HS'82, P'00, '03

PUBLISH AMERICA, 2007 | \$19.95

The Secrets of Happily Married Women: How to Get More out of Your Relationship by Doing Less



By Scott Haltzman

'82 MD'85 and

Theresa Foy

DiGeronimo

JOSSEY-BASS

INC., 2008 | \$22.95

Strategic Marketing

For Health Care

Organizations:

Building A Customer-

Driven Health

System

By Joel Shalowitz '74 MD'77,

Philip Kotler and Robert J. Stevens

JOSSEY-BASS INC., 2008 | \$85.00



2001

Michelle Ferdinand Liu '96 is now a Lieutenant Commander in the U.S. Navy, moving to Jacksonville, FL, after completing her residency in otolaryngology-head and neck surgery in July. She gives much credit to her dear husband, Moses Liu, and son, Ezra Liu, 3, for "rolling with the punches" while she endured five years of residency training. She writes: "We look forward to catching up with other Brown alums in the northern Florida region!"

2002

Joe Hou '98 married Lisa Femia at the Glen Manor House in Portsmouth, RI, overlooking the Sakonnet River on November 3, in the middle of Hurricane Noel. His older brother, **David Hou** '96 MD'00, was his best man. Among the groomsmen was **Edwin Cadet** MD'03. Other Brown friends in attendance included **David Poch** '98 MD'02, **Dina Koutas-Poch** '98, **Rashmi Licht** MD'02, **Brinda Thimmappa** MD'02, **Sreekanth Chaguturu** '99 MD'04, and

"I've been at Brown so long they finally gave in and made me faculty."

Michael Poch '01 MD'05. Joe writes: "Adding to the excitement was our new title of aunt and uncle, thanks to the recent birth of Emily and Julia Hou to David and his wife, Irene. We live in Manhattan, where I am completing my fellowship in pulmonary critical care medicine at the Mount Sinai Hospital, and Lisa works as a psychologist for New York Presbyterian Hospital. I would love to hear from old friends at josephhou@hotmail.com."

Deepica Ganta Reddy '98 writes: "I had a baby boy on October 9, Nikhil A. Reddy. I would love to hear from old friends at deepica4@yahoo.com."

Geeta Subramaniam '98 can be reached at geeta_sub@hotmail.com.

Rashmi Licht can be reached at 56 Wingate Rd., Providence, RI 02906.

2003

Chris Dodson '99 will graduate from orthopedic surgery residency at Hospital for Special Surgery (HSS) this June and start his fellowship there in shoulder surgery/sports medicine in August. His wife, Cara Dodson, MD, is an attending ob/gyn in private practice based in Soho, New York City. Chris writes: "We are looking forward to the birth of our first child this June."

Chris can be reached at DodsonC@HSS.edu.

2005

Lucy Demerjian and Joseph Daniel Flynn were married in February in Pearl River, NY. Lucy is a third-year psychiatry resident at Harvard Longwood psychiatry residency program in Boston.

2006

Liz Yu writes: "**Allan Hansen** and I were married in La Jolla, CA, on August 18, 2007. We had a wonderful time enhanced by our Brown Med School family! In attendance were **Stanley Pelosi** '02 MD'06, **Peter Vezeridis** '02 MMS'07 MD'07, **Amanda Higginson** '02 MD'06, and **Katja Goldflam** '02 MD'06."

Contact Liz at elyu@ucsd.edu.

2007

Vincent Capaldi II '02 ScM'03 MD'07 married Melinda Toye on March 9, 2007, in Providence. In attendance were **Omar Hyder** '03 MD'07 (groomsman), **Sarah DeNucci** '03 MD'07 (bridesmaid), **Portia Thurmond** '03 MPH'06 MD'11, **Ido Preis** '02 MD'07, **Thomas DeNucci** MD'80, and **Julianne Ip** '75 MD'78.

Vincent and Melinda have relocated to Elkridge, MD, to embark on residency and graduate school.

2008

Stephanie Carter and **Sam Glickman** MD'09 were married in Scarsdale, NY, on March 28, 2008. Stephanie is also an MPH candidate at Brown.



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DAVID BOUSLOUGH, MD, MPH'06 (LEFT)
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HEALTH AND EMERGENCY MEDICINE
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Research. Teaching. Policymaking. That's how Brown's Program in Public Health creates change. Whether it's obesity, tobacco and substance abuse, aging, bioterrorism, HIV/AIDS, or health in developing countries, the Program in Public Health is working to overcome the issues that plague our world.

Now, with a gift to the Brown Public Health Annual Fund, you, too, can be an agent of change. The BPHAF provides current use dollars that are put to work immediately, providing funding for faculty development activities and for faculty research and travel. The Fund will also supply student scholarship funds for students pursuing a master's in public health and graduate students in other master's and doctoral level programs throughout Public Health.

Your gift to the Brown Public Health Annual Fund counts as a gift to the Campaign for Academic Enrichment. So be bold. Consider becoming a member of the Brown Public Health Society with a gift of \$1,000 or more. Your gift – at any level – will help us reach our goal of \$25,000 by June 30. Return the enclosed envelope with your contribution or give online at www.gifts.brown.edu. Questions? Contact Bethany Solomon, Director of the BPHAF, in the Office of Biomedical Advancement at 401 863-1635 or Bethany_Solomon@brown.edu.



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Who says there's nothing new under the sun?

There's a whole new way to look at Alpert Medical School: <http://med.brown.edu>

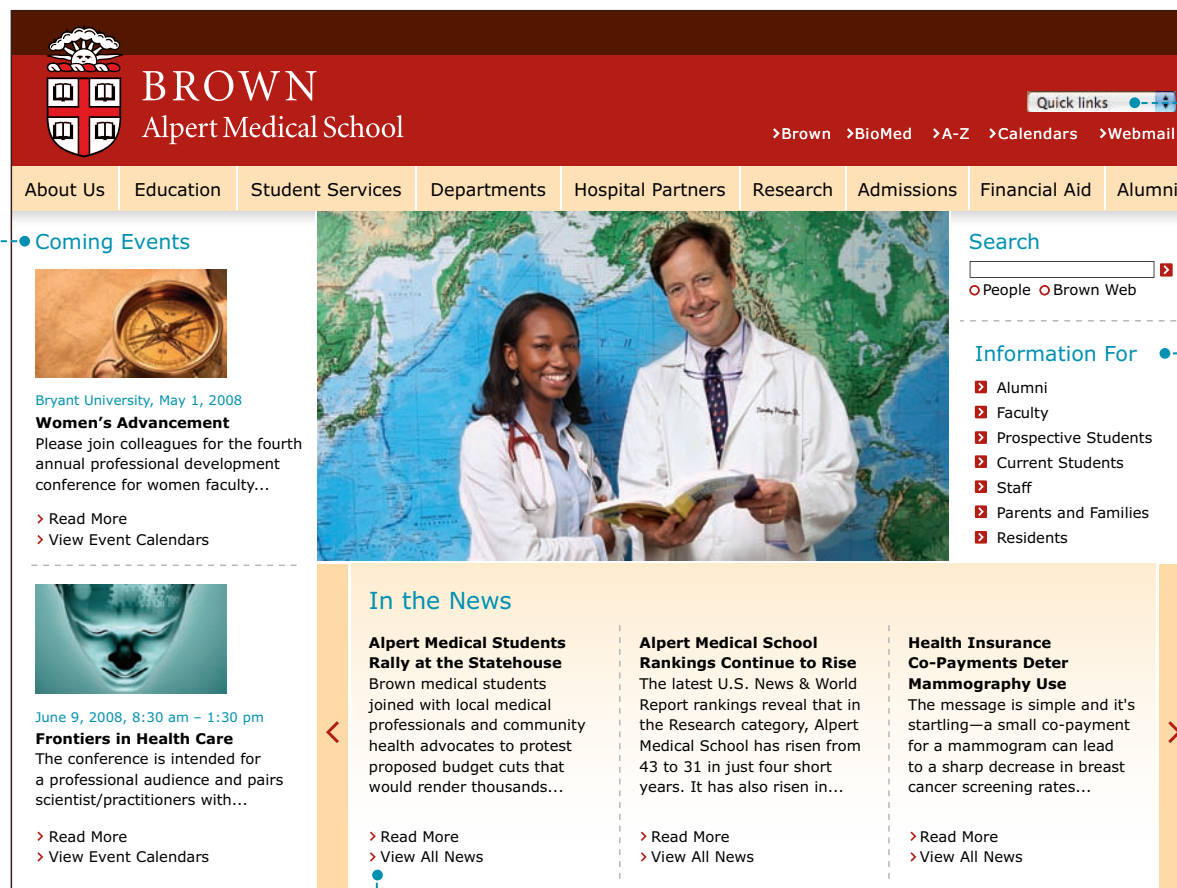
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Don't miss another lecture or presentation because you never knew it was happening. A complete and detailed schedule of events—updated daily—is just a click away.

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Find that name or phone number, catch the shuttle, make that donation right away! All this and more from our new menu of Quick Links.



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We've got the health care and medical beats covered. The same great media coverage, with better access to posted stories—so you'll always know who's making news at Alpert Medical School.

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