VOLUME 2 | NUMBER 2 | SPRING 2020

MEDICINE@BROWN

p16

FINDING THEIR WAY

Alumni test a new path to ALS treatment.


EXPOSURE

***VORTEX*, BY RAYMOND RUSSELL, MD, PHD**
SOUTHEAST SULAWESI, INDONESIA, 2018
This image was taken in Wakatobi National Park, where my wife and I went to celebrate our 30th anniversary. The waters there are famous for unlimited visibility, an abundance of beautiful fish, invertebrates, and hard and soft corals that fill the imagination with amazing shapes and colors. Upon entering the water, we were immediately greeted by this procession of great barracuda. Despite the vortex of movement caused by this school, the experience was mesmerizing and calming.

Raymond Russell is an associate professor of medicine at The Warren Alpert Medical School and program director of the cardiology fellowship. He is also the director of Nuclear Cardiology at Rhode Island Hospital and of the Cardio-Oncology Program.

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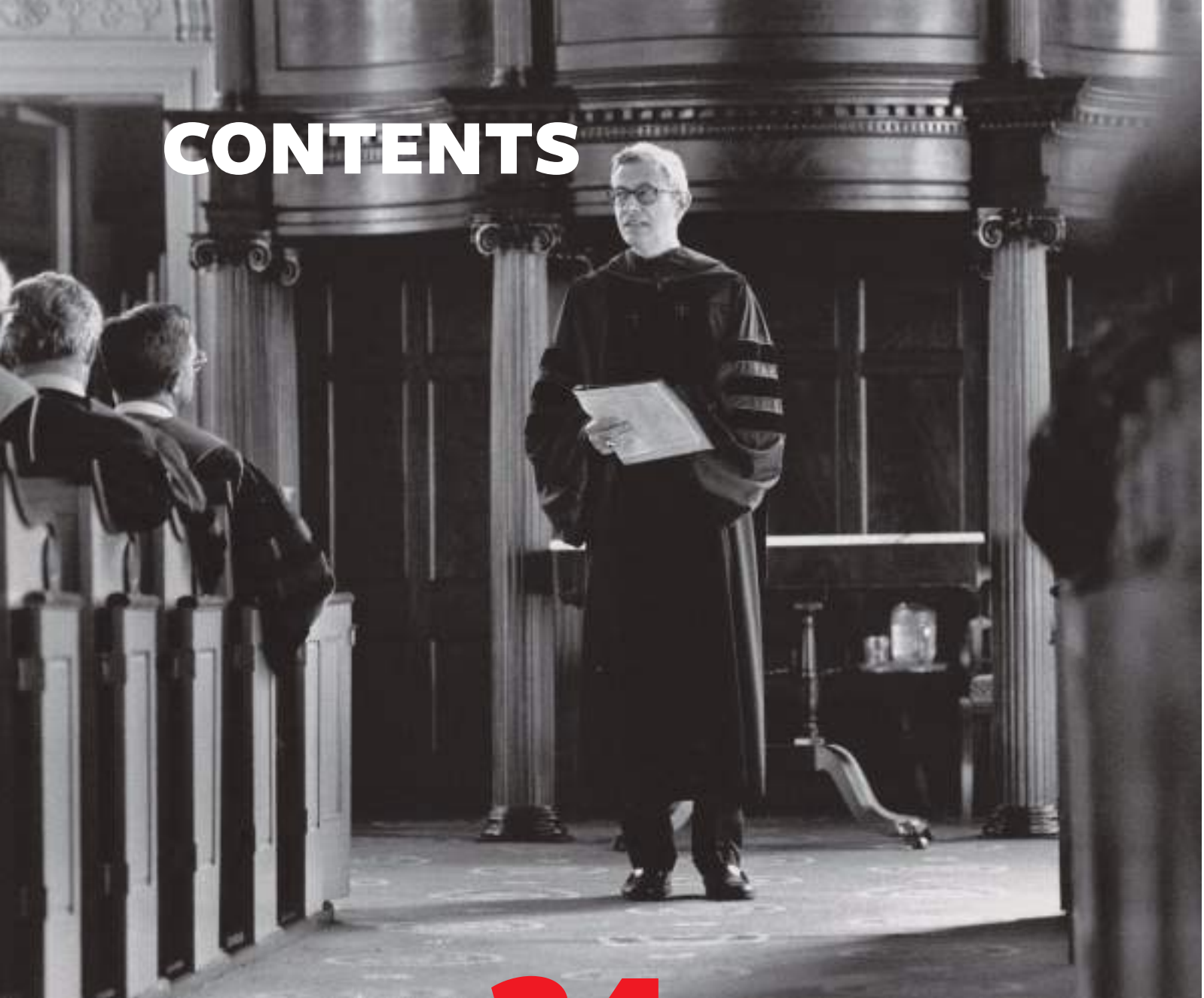

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ILLUSTRATION BY MORGAN JORDAN / 2COMMUNIQUÉ

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Unprecedented

This issue of *Medicine@Brown* will reach you at a time when you might normally be preparing to return to campus for Commencement-Reunion Weekend. While we cannot be together right now, I hope the stories contained in this edition will serve to connect you to Brown and to our community.

In Rhode Island, our faculty, students, and staff jumped in to help as soon as we began seeing cases of COVID-19. As you know, many of our faculty form the state's first line of defense. They have been instrumental in defining the protocols and guidelines for testing, triage, and critical care, as well as providing all levels of care. We salute the truly heroic work they have been doing.

We use the word "unprecedented" so often in describing these times. I could never have imagined that we would have to suspend in-person didactic teaching, pause clinical rotations for the third- and fourth-year medical students, or hold a virtual Match Day event, but we did in March. Despite COVID-19 our students did wonderfully matching at the premier programs in the county. Undaunted, our medical students began volunteering with the Rhode Island Department of Health, assisting with contact tracing, gathering supplies, working on COVID-19-related research projects, and even offering childcare to health care providers when daycares closed. We soon witnessed another "first": the early graduation of about a third of the fourth-year class in mid-April. Most of these students began working in the Lifespan and Care New England hospital systems, while some went on to the residency programs where they had matched.

For our research faculty, ramping down their laboratories and ceasing the work they've pursued for years was understandably difficult. They, too, quickly found ways to help. Many pivoted to focus their expertise on COVID-19-related research projects. Others gathered personal protective equipment (PPE) to donate to the hospitals, produced hand sanitizer from their lab stock, and created the viral transport medium needed to do COVID-19 testing.

Many of you have also provided help to us, from Corporation members and parents organizing donations of PPE for health care workers to supporting the Medical Student Emergency Response Fund and COVID-19-related research. You have once again demonstrated your commitment to Brown and to The Warren Alpert Medical School. Speaking for everyone at the Medical School, we deeply appreciate your support!

I know many alumni are on the front lines of the pandemic in their own communities. We are proud of the work you are doing, all around the world, and we thank you from the bottom of our hearts.

Be well and stay healthy!

—JACK A. ELIAS, MD
Senior Vice President for Health Affairs
Dean of Medicine and Biological Sciences

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VITALS

What's new in the classrooms, on the wards, and in the labs

Delayed Diagnosis

Two of the most effective treatment strategies for autism are early diagnosis and intensive services. But a new study analyzing the first 1,000 participants in the Rhode Island Consortium for Autism Research and Treatment (RI- CART) had some concerning findings: girls with autism receive a diagnosis, on average, nearly 1.5 y ears later than boys.

This is likely because parents and clinicians tend to notice language delays as the first sign of autism, and girls in the study exhibited more advanced language abilities compared to boys, say study authors Stephen Sheinkopf, PhD, and Eric Morrow, MD, PhD. The study was published in *Autism Research* in January.

Autism is far more common in boys; this study found more than four times as many boys as girls with autism. That girls are diagnosed later is clinically important, says Morrow, the Mencoff Family Associate Professor of Biology. "If we're identifying girls later, that may delay their treatments," he says.

Sheinkopf, an associate professor of psychiatry and human behavior and of pediatrics, stresses the importance of early diagnosis.

"We need to think about how we can improve recognition of autism in individuals—including many of these girls—who don't have the same level of primary language delay but may have other difficulties in social communication, social play, and adapting to the social world," he says.

continued on p06 J

ILLUSTRATION: BRIAN STAUFFER

L c ontinued from p05

RI-CART represents a partnership between researchers at Brown, Bradley Hospital, and Women & Infants Hospital that also involves nearly every site of service for families affected by autism in Rhode Island. The study enrolled more than 20 percent of pediatric-age individuals with autism in Rhode Island.

The other major finding of the study was that people with autism frequently exhibit other psychiatric and medical conditions, such as an intellectual disability or epilepsy.

"These co-occurring conditions need also to be a focus of treatment for patients," Morrow says.

Sheinkopf and Morrow, who lead the Autism Initiative at the Hassenfeld Child Health Innovation Institute at Brown, say they hope the RI-CART registry will lead to more studies that will improve the lives of people with autism and their families, particularly because the cohort involves participants up to age 64.

"The field really needs to focus on longitudinal studies," Morrow says. "I think we're going to learn even more when we follow children from a very young age as they develop, including into adulthood." **—KERRY BENSON**

Under One Roof

The studies of human rights and humanitarianism come together in a new academic center.

Human rights violations and humanitarian emergencies tend to go hand in hand. Sometimes the violations prompt the crisis, like an ethnic cleansing campaign; other times bad actors target the vulnerable after a disaster, as when a corrupt government diverts aid from earthquake survivors.

Understanding and addressing such multifactorial emergencies requires experts in medicine, public health, law, international relations, political science, and more. Yet they rarely work together.

Now they can at Brown. Last fall, the Center for Human Rights and Humanitarian Studies (CHRHS) opened at the Watson Institute for International and Public Affairs. Its director is Adam Levine, MD, MPH, an associate professor of emergency medicine who has responded to humanitarian crises around the globe.

"Humanitarianism and human rights are, by their very nature, interdisciplinary fields," says Levine, who's also the director of the Division of Global Emergency Medicine at The Warren Alpert Medical School. By bringing experts in the two areas together, CHRHS aims to develop a "rights-based approach to humanitarian assistance," which views aid not as charity, but as "fulfilling

PHOTOGRAPHY: DAVID DELPOIO

Adam Levine addresses attendees at the Hack for Humanity hackathon in February.

a basic human right and legal obligations under international law," he says.

"If it's charity, then the goal is to provide what we think is best," Levine adds. "But if it's based on rights … now we need to take into account the needs and priorities of the affected communities." By asking people what they need, he says, "we learn all sorts of new things that we wouldn't have known otherwise."

CHRHS replaces the Humanitarian Innovation Initiative (HI²), which Levine launched at Watson in 2016 to devise evidence-based approaches to disaster relief (see *Brown Medicine*, Winter 2017). The center broadens that mission to ensure basic human rights in emergency and non-emergency contexts—including the rights to food, clean water, shelter, security, and health.

The new center has a permanence that HI² lacked, so they can form long-lasting partnerships with human rights and humanitarian organizations and apply for longer-term grants, Levine says. Philanthropic gifts will allow them to hire a professor of human rights to complement his humanitarian expertise. They're offering more courses, a certificate program for undergraduates, and paid summer internships.

Leah Jones '17 ScM'23 MD'23 secured a World Health Organization internship, jointly funded by CHRHS and the Medical School. A public health concentrator now in the Primary Care-Population Medicine Program, she says working at the WHO is "a dream."

The internship, which was postponed due to COVID-19, will not only teach Jones "the hard skills of epidemiology and prevention," she says, but also offer an opportunity to think "critically about my place as a white woman in global health."

"In global health, everyone has the best intentions," Jones says, "but how can we do this in a way that's not recapitulating colonialism?" She adds, "One thing that's important is trusting the life experiences of the people that you're quote-unquote trying to help." **—PHOEBE HALL**

OVERHEARD

"There has probably been more NBA players tested on a single team than all of [the incarcerated] individuals. One thing we should do immediately is get people out as soon as possible."

—JOSIAH RICH, professor of medicine, on the lack of COVID-19 t esting in US prisons, *New York Times*, March 20, 2020

Do the Waive

The Medical School's curriculum prepares graduates to prescribe medication-assisted treatment for opioid use disorder.

Graduates in the MD Class of 2020 will be the first in the nation to leave medical school with training that allows them to prescribe medications to treat opioid use disorder in any US state.

The Drug Abuse Treatment Act of 2000 (DATA 2000) requires physicians to obtain a waiver to prescribe FDA-approved medications including buprenorphine and naloxone, commonly used in medication-assisted treatment (MAT). With the training they receive at The Warren Alpert Medical School, students will be able to apply for the waiver once they graduate, earn a full medical license, and complete US Drug Enforcement Administration registration.

While the curriculum has been in place since 2017, the ability to obtain a waiver had applied only to graduates practicing in Rhode Island. After being certified by the Substance Abuse and Mental Health Services Administration (SAMHSA) in late 2019, the training now applies to those practicing anywhere in the country.

"We're the first school to do this," says Sarita Warrier, MD, assistant dean of medical education. "We feel like we're really pushing the opioid use disorder curriculum forward—not just here at Brown, but it's moving the national view of such curriculums as well."

Thanks to federal legislation passed in 2018—the SUPPORT for Patients and Communities Act, based in part on research from the Medical School—any medical school curriculum certified by SAMHSA can count for DATA 2000 waiver training.

SAMHSA's backing is what helped turn the school's extensive opioid use disorder curriculum into the first waiver program of its kind in the US, Warrier says.

"This is definitely a stamp of approval," she says. "SAMHSA is all about helping physicians provide better care to patients, and this certification is their way of saying we're doing just that."

Last year, every graduate qualified to receive the waiver to prescribe MAT in Rhode Island. For the MD Class of 2020, every graduate will complete the same requirements, and roughly 40 will complete the training necessary to prescribe nationwide, which was made optional this year. By 2021, every graduate will be qualified to prescribe MAT in all 50 states.

While not every graduate will find themselves needing to prescribe medications like Suboxone, many will—especially in fields like family medicine, internal medicine, psychiatry, and emergency medicine.

"It's so important that we increase the pool of physicians who will be able to reach out to their patients," Warrier says. "It's such a crucial way of increasing access."

"We're hopefully making an impact on the number of deaths from overdose," adds Paul George '01 MD'05 RES'08, associate dean of medical education. "We may not see it for a few years until our graduates start going out into the world and treating their own patients, but that's ultimately the result we'd like to see."

—MAGGIE SPEAR

ILLUSTRATION: GETTY IMAGES

WORK VS. LIFE
Moreira has a busy practice and serves on several hospital and academic committees—plus she's a wife and mom to two toddlers. "I'm still trying to find that balance," she says.

CREATIVE PROBLEM-SOLVING
Most of Moreira's work is disease management and preventive care. But she loves being in the OR, where as a surgeon "you're always strategizing, you always work on trying to improve."

THE MORE YOU KNOW
At events like this one for local Cape Verdean women, Moreira tells them how they can "go back to their primary care physician and their local health centers and [build] better trust."

BETTER FOR EVERYONE
Moreira is working to diversify the health workforce, which studies show can minimize health disparities and improve patient care "across the board," she says.

ROLE MODEL
Moreira—a working-class immigrant who went to public school—regularly reminds students with similar backgrounds who want to be doctors, "If I can do it, you can do it."

IN VIVO

PARTNERS IN HEALTH

When Carla Moreira MD'08 RES'10 was 10, her family emigrated from Santiago, Cape Verde, to Pawtucket, RI, which has the fourth-largest Cape Verdean population in the US. "Growing up in Cape Verde, it felt like a big village raising you," says Moreira, an assistant professor of surgery. "Coming here and maintaining that sense of community, it felt like home." The health care system wasn't as welcoming. At age 14, Moreira, an aspiring doctor, helped her grandfather, who didn't speak English, navigate his medical care. Though "most of the experiences we had were great," she was "keenly aware" of how language barriers affected his care. "I couldn't imagine how it much worse it would have been if I didn't speak English," recalls Moreira, who also speaks Cape Verdean Creole, Portuguese, and Spanish. "There's a lot of things we do in medicine that we can do a lot better," she adds. Moreira, a vascular surgeon at Brown Surgical Associates, attends health fairs and other events to educate people about the health care system, and helps other providers connect with the diverse communities they serve. "If a patient feels [their doctor] is really invested in their health, understands their living situation and how their disease impacts their lives and vice versa, then that relationship becomes stronger, and you can really work as partners," she says. **—PH**

PHOTOGRAPHY: ADAM DETOUR

Found in Translation

Med students formalize their training as bilingual providers.

At 14 years old, Yokarla Veras MD'20 ScM'20 was responsible for interpreting whenever her mother went to a doctor's appointment. Growing up as a bilingual Spanish speaker, she translated difficult medical terms and personal clinical encounters for her family.

Pranav Aurora MD'20 ScM'20 witnessed a similar challenge when his grandmother was hospitalized after a stroke and his father had to interpret everything the physician said. "It struck me that my grandmother could never fully express herself to her doctors," Aurora says. "Her questions and worries were always relayed to the medical team through my dad."

Language barriers can lead to more anxiety for patients and a lower standard of care, according to a study by Associate Dean for Diversity and Multicultural Affairs Joseph Diaz MD'96 RES'99 F'01 MPH'09. He found that patients in Rhode Island with limited English proficiency often lacked access to interpreters, feared disclosing limited English skills, and had providers who overestimated their understanding of English.

Training medical students to be multilingual health care providers is one way to facilitate better, more comprehensive physician-patient interactions and ultimately build a more just health care system. But without the right training, they can struggle to meet the needs of patients with limited English proficiency.

"Students who have had only a few years of language learning are being asked to jump into [patient] encounters and relay patients' stories to the other providers on their medical team," Michael Broder MD'20 ScM'20 says.

But even someone with conversational fluency may find their ability to convey health-related information challenging.

Veras, Aurora, and Broder, who are all fluent in Spanish, came together in a Primary Care-Population Medicine Program leadership course to create a solution: a formalized certification process for medical students to be trained and recognized as bilingual providers.

To achieve certification, all students identified as advanced Spanish speakers must meet with a faculty adviser who evaluates their language skills and determines their preparedness to take a nationally recognized certification test accepted by the Lifespan health system. Once certified, Lifespan gives them a special badge identifying them as a "Bilingual Medical Student."

So far, 14 students have passed the certification exam and, thanks to a generous gift from Pedro Escobar-Rodriguez EMHL'18, MD, a second cohort will be taking the test.

Veras, Aurora, and Broder, with support from Associate Dean for Medical Education Paul George '01 MD'05 RES'08 and Clinical Assistant Professor of Medicine Martha Sanchez, MD, are already seeking to grow the program. "Eventually, we envision expanding this program to include students with knowledge of different languages, so that a large chunk of Brown medical grads will be prepared to enter a workforce that has a need for multilingual providers," Broder says.

"We have an opportunity to use our skills as clinicians in new, creative ways for patients of all backgrounds," Aurora says. **—ANEEQAH NAEEM '19.5 MD'24**

ILLUSTRATION: GETTY IMAGES

Step Up

A new program spreads the responsibility—and the love—of mentorship.

In medicine, as in many fields, mentorship is often critical to success. Finding someone with both similar interests and a similar identity, however, can be difficult for people who identify as underrepresented in medicine (UIM).

Compared to the numbers of medical residents and students, "there are very few faculty members who are underrepresented in medicine," says Patricia Poitevien '94 MD'98, MSc, director of Brown's Pediatric Residency Program. For those faculty, trying to support all of the trainees and students seeking mentors "can be very, very overwhelming," she says.

Poitevien joined the Medical School in 2018 as an assistant dean for diversity, and with her colleagues in the Office of Diversity and Multicultural Affairs—Associate Dean Joseph Diaz MD'96 RES'99 F'01 MPH'09 and Assistant Dean Tracey Guthrie RES'99, MD—worked to find a way to support UIM mentors at Brown so they in turn could better support mentees.

Their solution, which debuted in the fall, is MEDSTEP (Mentoring and Educating Diverse Students and Trainees to Excel as Physicians), a tiered mentorship program. "The idea is to leverage what is often seen as a disadvantage in academic medicine," Poitevien says, by spreading the responsibility of mentorship among residents and fellows as well as faculty, thus creating a structure for both peer mentorship and vertical mentorship.

More than 150 people who identify as UIM have joined MEDSTEP. They're grouped into "families," loosely based on specialty, with up to 15 members, including two or three faculty "parents." They meet informally, over dinner, twice each semester. Students say that family structure makes the faculty seem more approachable.

Tracey Guthrie, Pat Poitevien, and Angela Chang MD'21 at January's family reunion.

"I see Pat as a mentor and a doctor and someone who can give me advice about life in general," Douglas Villalta '18 MD'22 says of Poitevien, his family parent. He's interested in pediatrics, but knowing the commitment MEDSTEP parents have made to the program, he says, "if I want to learn about another specialty I'd feel comfortable reaching out to" other families' parents.

All MEDSTEP members gather each semester for "family reunions." These are slightly more formal, with a speaker, dinner, and a social hour. Simply reviewing the physician roster for January's reunion, which included many Hispanic last names, inspired Villalta. "It's nice to see other people who are similar to your background who made it ... through these exams and college and medical school," he says.

Skenda Jean-Charles '18 MD'22 anticipates her MEDSTEP connections will be especially helpful during third-year clerkships. "It's such a pivotal year," she says. "Having people to guide you through that and beyond ... is very invaluable." Getting the chance to know residents is similarly helpful, she adds, "because they recently went through med school, they understand what we're dealing with now, they can give a clear picture of what residency is like."

MEDSTEP isn't just for students' benefit. "It also provides meaningful connection for the faculty members," who enjoy meeting their peers in other departments, Poitevien says. She adds that it's "gratifying" to mentor residents and fellows to become mentors themselves. Some students and trainees think "this kind of work is a burden to the faculty members," she says. "I want [them] to know that this is actually a huge privilege for us." **—PH**

If you're interested in joining MEDSTEP, email rosedelma_seraphin@brown.edu.

PHOTOGRAPHY: DAVID DELPOIO

ASK THE EXPERT: DALE BOND

How can people start—and stick to—exercising regularly?

We know that for a host of reasons people should be getting the CDC's recommended 150 minutes of moderate physical activity every week. Yet only about 23 percent of Americans get that amount. We asked Dale Bond, PhD, a professor of psychiatry and human behavior who studies physical activity, how we can motivate ourselves, or our patients, to get more active.

Exercise is a complex behavior, and it's difficult to change and even more so maintain changes. There are several decision points: where to exercise, how to exercise, when to exercise, with whom to exercise. It's not surprising to me that when people who either have never exercised before and are trying to adopt a new habit, or have "fallen off the wagon" and are trying to make another go of it aren't successful. Another thing to consider is that exercise should be enjoyable, and for people who are trying to adopt or restart an exercise habit, exercise might not feel pleasant initially.

To make exercise more enjoyable, one of the first things is finding an activity that you like. Going to the gym might not be everybody's favorite activity or favorite setting to exercise. We also want to try to boost the enjoyment of the activity that they're performing. There are several different ways to do that, such as pairing exercise with an enjoyable activity such as listening to music or a podcast, exercising with a friend, or exercising at an intensity that is not too vigorous to start. Our research is also looking at how we can leverage the time of day to make it easier to form an exercise habit. For example, we hypothesize that exercising in the morning might be more advantageous in this regard because waking up and seeing your exercise clothes gives you a strong cue to exercise. You also get it done before life gets in the way.

When you're first trying to change a behavior, you want to reward yourself for achieving those initial goals. Eventually we want to go from external motivation to internal motivation. This means, for example, not exercising because a doctor told you to, but because you want to do it for yourself.

BY THE NUMBERS

MATCH POINTS

The MD Class of 2020 celebrated a very different kind of Match Day, after concerns about COVID-19 shut down the annual party. But celebrate they did, with many students getting their first-choice residency programs. Here's a look some of the Match results for Brown's largest-ever class.

See the full Match list at brown.edu/go/match20.

134 medical students matched

35% are entering primary care (medicine, family medicine, or pediatrics)

2 are entering military service residencies

16 students matched in pediatrics, the specialty with the second-highest number, behind internal medicine

14% matched at Brown-affiliated programs

30% matched with programs affiliated with top-10 medical schools

ILLUSTRATION: LARA TOMLIN

REFLECTION

Make the Most of It

Match Day celebrates the joys and the sorrows of medical school.

BY ANEEQAH NAEEM '19.5 MD'24

I watched my first Match Day with shaky hands as I held up my phone to record the event on Facebook Live. There was a sheer, pulsing energy to the room. I could almost taste the jittery excitement of the fourth-year medical students as they lined up to receive the red envelopes that held their futures: where and how they would spend their residency years.

As I focused my phone on their faces, I couldn't help but share their fear, their anxiety, their slivers of hope. For me, a first-year undergraduate, Match Day was eight years in the distance. But in that moment, I felt like we were all living the same experience.

I had the privilege of attending Match Day for three years as an editorial intern for *Medicine@Brown*. As a PLME student who will start medical school this fall, every year I couldn't help but imagine my own future celebration. (This year Brown, like most medical schools, canceled the annual party due to COVID-19.)

But with each year I also came to realize that, while Match Day celebrates a major milestone in each medical student's education, it also represents the culmination of a long and difficult path. Few of us think to celebrate our gritty 2 a.m. SciLi study sessions, or the success of getting out of bed at an ungodly time to complete another rotation, or the time we called home to cry our eyes out during finals. But it's that day-to-day grind through those moments when everything feels impossible that makes Match Day so much sweeter.

These yearly celebrations are a reminder to me to slow down and appreciate the beauty in the long journey to that moment. My path to Brown, and The Warren Alpert Medical School, started with a passion for medicine that developed early in high school. Even as a freshman in AP Biology, I knew I wanted to have an impact on people. As recent events have shown us, physicians are in the incredible position of being able to ease suffering and be able to help someone at their most vulnerable time.

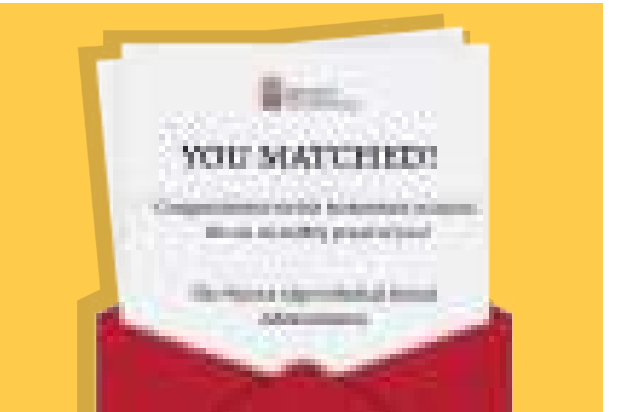
It's that day-to-day grind that makes Match Day so much sweeter.

College has brought me some of my most cherished memories along with the struggles. Learning to acknowledge and accept the long path ahead has been one of my most important lessons so far, one that I hope will help me both academically and emotionally. Already I've learned that the road to becoming a physician can feel like a slog. But recognizing that each step gets me closer to a goal I've held for so long, and to instead embrace the difficulties, has made me more mindful of where I am in the process.

It's hard to articulate just how life-changing Brown has been for me. Four years ago, when I opened my browser and read the word "Congratulations," the moment felt like a dream I didn't dare to have. When I see the joy and shock on the medical students' faces as they read the Match Day letters that reveal their fates, I'm reminded of that moment staring at my computer when I was accepted to Brown—so deeply unexpected after the grueling college application process. Even with all the challenges, these past four years have been a privilege. And I want to hold onto that gratitude as I tackle the next four.

One day, if I'm lucky, it will be me with that red envelope. One day the clock will strike 12 and I'll suddenly know where I'm spending the next several years of my life. I hope the day is beautiful and festive, that I'll be surrounded by joy and the love of my friends and family. But until that day, I hope that when I'm knee deep in my PowerPoints and endless to-do lists and studying, I take time then to celebrate too.

ANEEQAH NAEEM was a student in the PLME who graduated in December with degrees in public policy and biology. She will begin medical school this fall as part of the MD Class of 2024.



ESSAY

The Art(s) of Medicine

Exploring the legacy of Vesalius, the 'physician-artist.'

BY AMELIA B. WARSHAW MD'21

In college, I took a course titled Bodies of Knowledge: Renaissance Art and Anatomy, which might easily have been called The Art of Medicine. Among others, we studied the works of Michelangelo, Da Vinci, and Vesalius, the 16th-century Flemish physician who created the definitive anatomy textbook of its time, *De humani corporis fabrica* ("On the fabric of the human body"). Vesalius was the quintessential "physician-artist"—an individual whose work as an artist and a physician was completely intertwined.

The "art of medicine" was also a theme in an afternoon class I took as a first-year med student during which François Luks—a medical illustrator and pediatric surgeon—showed us how he creates the images that accompany his publications. I've seen the phrase employed as the title for exhibitions of either art produced by doctors or photography involving medical subject matter, like microscopic images of neuronal connections, or an exhibit about the development of stains used by pathologists.

Most of these examples are literal in their perspective. With the exception of Vesalius, many of them portray art as part of a left-brain, right-brain dichotomy between physicians' creative sides and their scientific sides, a yin and yang relationship, with the omnipresent idea that doctors must—perhaps for their own sanity—preserve creative outlets.

More and more, these two inner lives are depicted as being in conflict. This conflict may come from the concept—in medicine and outside of it—that being a physician is not simply a vocation, but rather a calling. This view, while ennobled, has been restrictive, leading doctors to feel they have to fight to experience the more creative aspects of their selves: their identities as poets, writers, actors, painters, or craftsmen. And this is increasingly so in a time when algorithms are dominating decisions, and work and lives are edging from the qualitative to the quantitative.

The origin of the phrase can likely be traced back to one of the most famous ancient physicians, Galen, who wrote *Ars Medica* ("Art of Medicine") in 100 or 200 CE. In his treatise, Galen describes mental properties and argues his hypotheses based on animal dissections. Galen was more likely referring to the technical skills and the craft that physicians employ to make discoveries and treat patients.

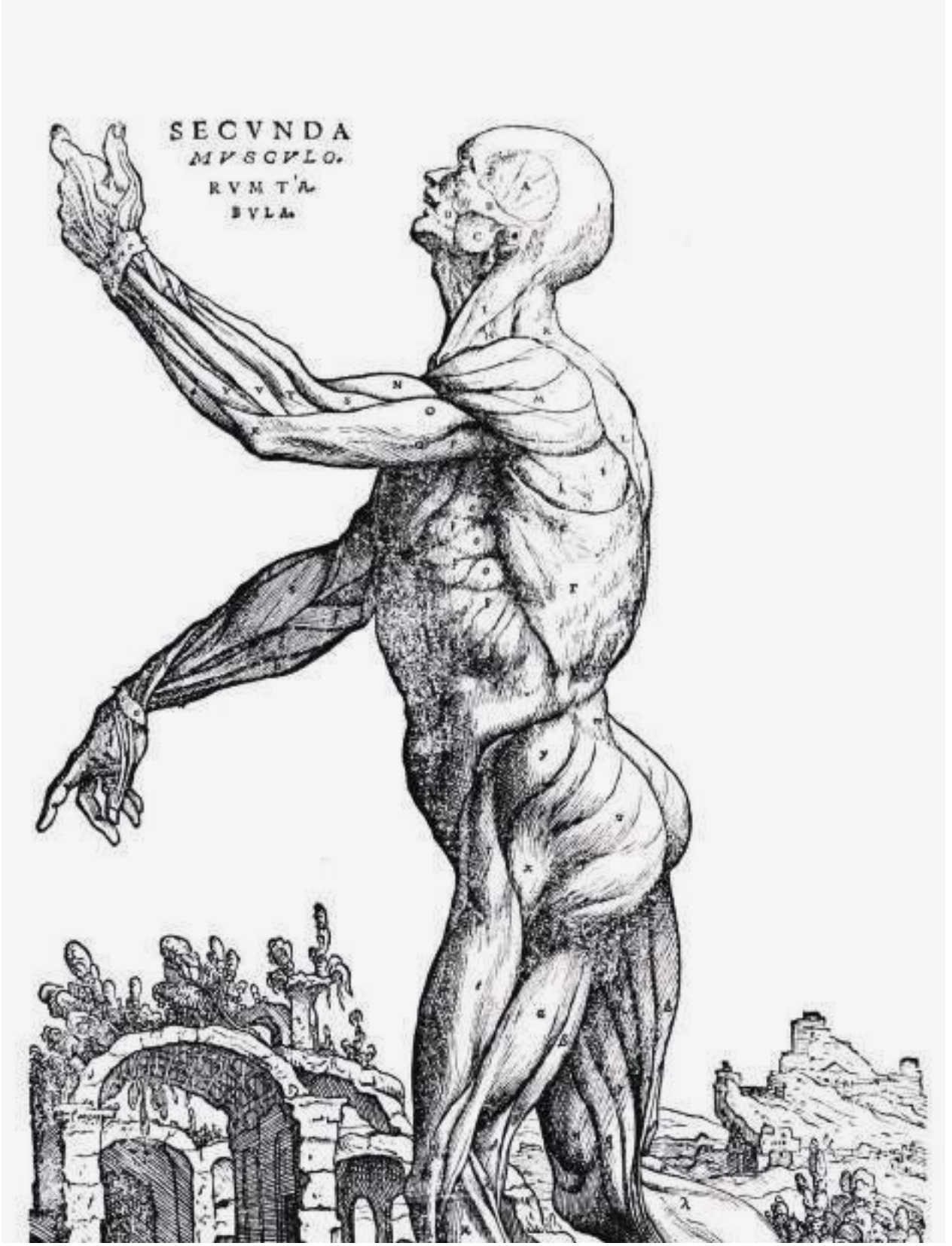
In the modern lexicon, the phrase "the art of medicine" has come to define the so-called soft skills involved in treating patients—abilities that we learn in our Doctoring course at Brown. Doctoring focuses on both physical exam and interviewing skills as well as building rapport with patients. This is how I've often heard the phrase employed, especially while talking about the talent required to be an effective and trustworthy physician. These soft skills, such as empathy, listening, and attentiveness, foster the doctor-patient partnership, an alliance highly touted by medical schools, and especially at Brown.

The phrase "soft skills" itself connotes a dichotomy, between the soft and less quantifiable skills of communication, empathy, and compassion, versus the hard and more quantifiable skills of lab interpretation and analysis of CT scans or X-rays. The term "soft" can also evoke either a sense of comfort and familiarity, or an idea that these skills are less important or less difficult.

I don't feel the polarity between hard skills and soft skills or the humanism of doctoring conflicting with the science of medicine. I fervently believe that there is an art to medicine, in the sense that being a great physician involves a critical combination of book learning and hands-on experience, skills that are learned inside the classroom and outside, and a combination of instinct and intuition, backed by evidence-based medicine.

There are many parallels between my training as a doctor and my education as a writer. Both require skills that I find come naturally to me, as well as ones that are more challenging. For me, both involve forging connections and telling stories, both require repetition and practice. As a student-doctor, I rely on the perspective of more experienced physicians to help determine next steps, organization, and understand key themes, while as a writer I rely on my editors and readers for those same three things.

While my career will focus on clinical practice, I am also passionate about health communication, health literacy, and science journalism. For me, there is no dichotomy or contradiction to wrestle with: science journalism is not separate from my passion

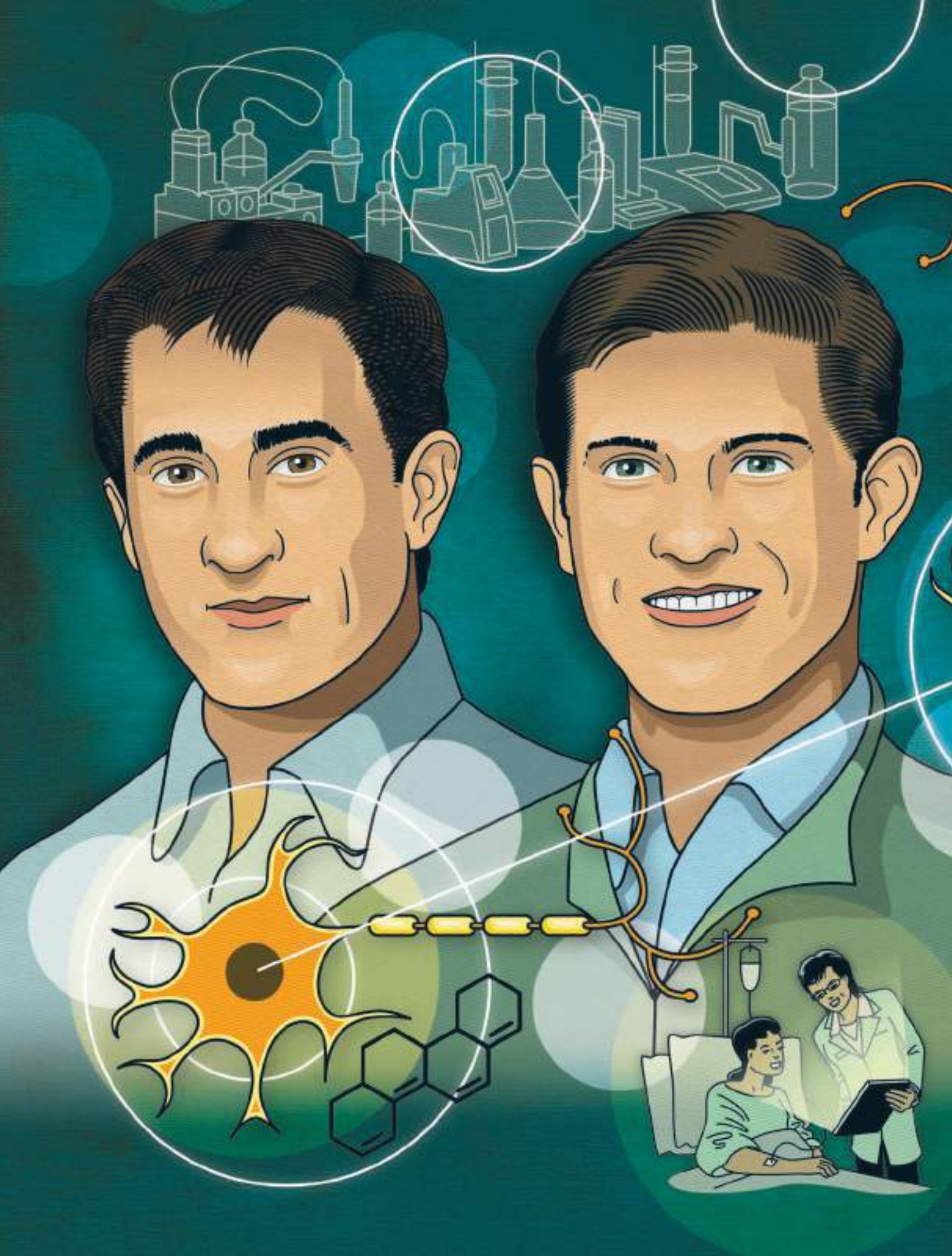


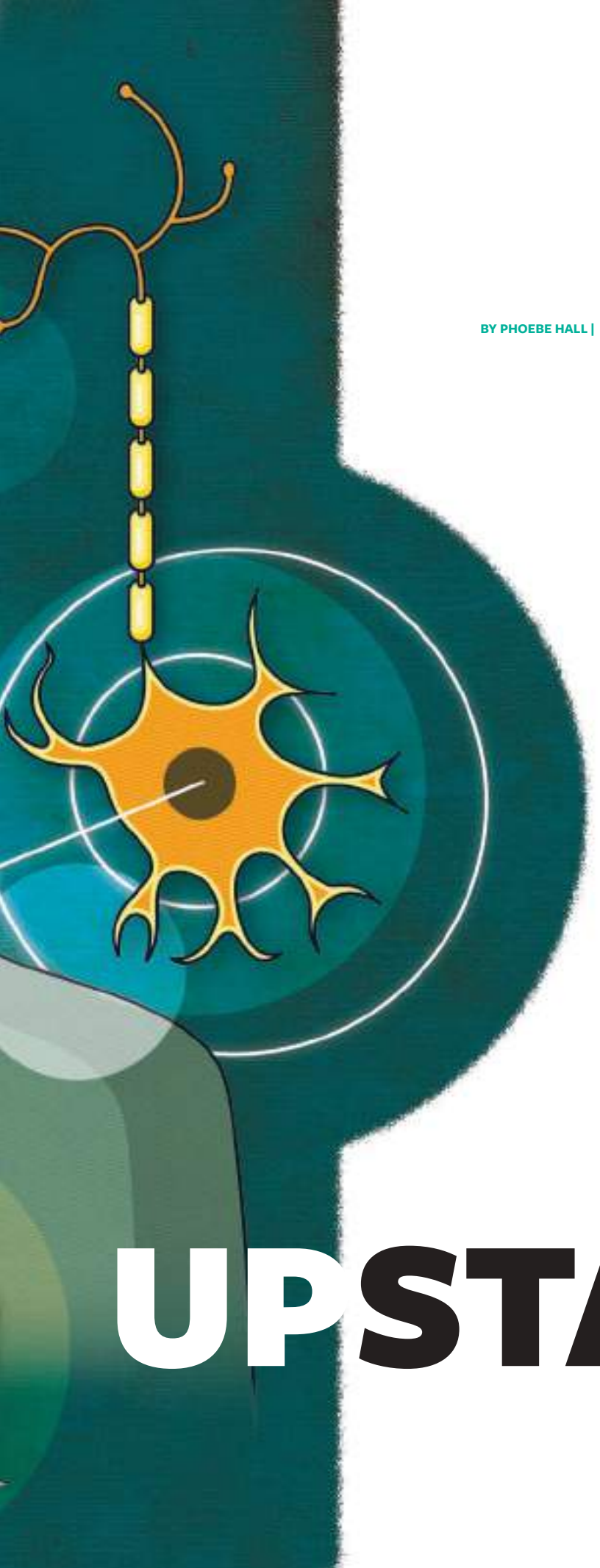
for primary care, but rather an extension, a means of expressing my advocacy for patient empowerment and engaging the broader community in discussions about health care and the integration of science and other medical disciplines into everyday life.

That's why I came to Brown for my medical training, because it is a place where I could learn and practice *Ars Medica*, where I could embrace both the ancient and the modern definitions of the art of medicine, and combine creativity with science. It is a place that embraces both denotations of the art of medicine.

AMELIA B. WARSHAW has previously worked at *The Daily Beast*, NYU Langone's *Doctor Radio*, and the Pulitzer Center on Crisis Reporting.

ILLUSTRATION: ANDREAS VESALIUS, COURTESY OF GETTY IMAGES





BY PHOEBE HALL | ILLUSTRATION BY PETER AND MARIA HOEY

Deadly diseases don't wait. Neither should good ideas. So when two undergraduates thought they'd found a way to stop neurodegeneration, they took action.

UPSTARTS

A

After Phyl Gerber was diagnosed with amyotrophic lateral sclerosis in 2017, she went through stages of grief: anger, sadness, denial. Then her innate optimism kicked in.

"There was exciting research being done," she recalls telling herself. "It all sounded so hopeful for the immediate future—I would be cured!"

ALS is a rare neurodegenerative disease that progressively robs patients of their ability to move, speak, eat, and breathe. Few people live longer than five years after diagnosis. When Gerber, 66, an athletic outdoorswoman all of her life—and a potter, gardener, wife, mother, and grandmother—learned of a six-month study for a new ALS drug, she "jumped on the opportunity to be a part of it."

Gerber, of Amherst, MA, began taking the drug, AMX0035, in August 2017, and says that while her symptoms continued to progress, that progression slowed during the phase two, double-blind, placebo-controlled trial.

Thus when she learned, in December, that the study achieved its primary outcome—a statistically significant slowing of disease progression—she was "pleased but not surprised." To the ALS world, though, the news was a revelation; the FDA has approved just two treatments for the disease, and there is no cure. Though the manufacturer, Cambridge, MA-based Amylyx Pharmaceuticals, wasn't yet sharing data, any good news was cause to celebrate.

Perhaps even more surprising than an apparent success in this notoriously difficult field were the two people behind the new drug. Not yet 30 years old, they conceived of AMX0035 and founded Amylyx in 2013, when they were still undergraduates at Brown.

LIKE SO MANY TECH ORIGIN STORIES, the story of Amylyx begins in a dorm room. Justin Klee '13 was just a few months shy of graduating with a neuroscience degree when he ran into his fraternity brother Josh Cohen '14 late one night. Seven years later, Klee recalls that moment as they sit at the table in their spare, bright conference room in an East Cambridge office building: "Josh looked like he hadn't slept in awhile."

"I hadn't." Cohen chuckles. "That's why."

Cohen, 28, and Klee, 29, both have short dark hair, and are outgoing and affable. At Brown they played club tennis, and they worked in the lab of Christopher Moore, PhD, professor of neuroscience, learning to generate ideas, design experiments, analyze data, and question their results. Cohen, who was concentrating in biomedical engineering, had independently started reading journal articles on neurodegenerative diseases, "just following my curiosity," when he hit upon an inspiration that robbed him of sleep: that two drugs, targeting two possible contributors to neuronal death, could be combined into one to slow the progression of neurodegenerative diseases like Alzheimer's, Parkinson's, and ALS.

The primary reason neurons die is one of the fundamental mysteries of these incredibly complex conditions. Some cases are genetic, but for many people, the cause of their disease is unknown. Cohen looked at what was going wrong after the process was triggered, focusing on two cellular organelles, the mitochondria and endoplasmic reticulum. Mitochondria produce energy and regulate cell death, or apoptosis; while the ER makes, folds, and transports proteins, and destroys proteins that are misfolded.

Cohen dug up small studies on two separate compounds that, in mouse models, seemed to protect against neurodegeneration and improve behavior and performance. Sodium phenylbutyrate (PB) stops neuronal death brought on by protein misfolding and accumulation. Tauroursodeoxycholic acid (TUDCA) inhibits mitochondrial stress and thus cell death.

Protein misfolding and accumulation have long been implicated in neurodegenerative diseases, though "it's actually very hard for us to tell what goes wrong first," says Anne Hart, PhD, professor of neuroscience at Brown. Hart, who isn't affiliated with Amylyx, uses invertebrates to understand the mechanisms that cause neurodegeneration. "We know that toxic proteins are accumulating in patients," she says. Targeting malfunctions in the mitochondria and ER is "a good strategy," she adds, and combination therapy—which is used to treat many complex diseases, from cancer to HIV/AIDS to malaria—"makes sense because it gives you more than one way to help neurons deal with the disease."

“I didn’t necessarily want to found a company. I just got hooked on an idea and didn’t want to let it go.”

When the sleepless Cohen saw Klee that winter night seven years ago, he explained his theory: if PB and TUDCA were combined into one drug, together they might do an even better job of blocking the pathways in the mitochondria and ER that were killing neurons. “I thought what he was talking about sounded fascinating, and I started reading a lot about it,” Klee says. “The next day or something like that, we talked about it more, and decided to start a company.

“We smile looking back on that. What did that mean, starting a company?” he adds. “We really in retrospect knew absolutely nothing but—in a very Brown way—decided to just go and figure it out.”

Chris Moore, associate director of the Carney Institute for Brain Science, says that was “exactly the right impulse” to solve an urgent problem. “For some people it takes a lifetime to learn that that’s the secret sauce, the thing they need to do to change the field, to innovate, to change how we think about things: you need to do it,” he says. “They had a really good idea, and they were smart enough to know they should act on it.”

Neither of the founders had aspirations of entrepreneurship when they came to Brown. Klee, who grew up in Waterford, CT, says he was “vaguely premed” and studied neuroscience because “it had a lot of creativity. There’s so little we know about the brain.” Cohen, a Canton, MA, native, wanted to work in pharmaceuticals. “I was interested and fascinated by new drugs, new therapies,” he says. “I didn’t necessarily want to found a company. … I just got hooked on an idea and didn’t want to let it go.”

By mid-March of 2013 they’d filed a provisional patent and incorporated Amylyx. It seemed like the fastest way to get their drug to patients. “When we first started, anybody who would listen, we would tell them that we were going to be in a clinical trial in three months, and no one could tell us otherwise, and we had answers for everything,” Klee says.

Reality stepped in quickly. Klee, the president of Amylyx, graduated and moved to Cambridge; Cohen, the CEO, spent as much time as he could at their shared workspace there while finishing his degree. They didn’t draw a salary for two years and took odd jobs, including clinical trial guinea pig, to get by. “We were pretty broke,” Cohen says. “No other way to say it.”

Some of their earliest cheerleaders were at Brown, including Angus Kingon, PhD, the Barrett Hazeltine University Professor of Entrepreneurship and Organizational Studies and a professor of engineering; and Cohen’s senior-year roommate, Kent Leslie ’14 ScM’15. That year Leslie, a biology concentrator from Toronto who also wanted to work in pharmaceuticals, and Cohen talked about how to run Amylyx with just two people, “how you could work with toxicology consultants that aren’t on your payroll directly, but [have] 30, 40 years’ experience. You can outsource all your experiments,” Leslie says.

Amylyx contracted with a lab in Finland to run their first experiment of the combination drug, AMX0035, in November 2013. Klee and Cohen funded it with their own savings, some money from their parents, and a grant that another early supporter, Alan Harlam, the founding director of the Social Innovation Initiative at Brown’s Swearer Center, helped them secure.

The in vitro study exposed rat neurons to hydrogen peroxide, which, Cohen says, has been shown to kill cells through the mitochondrial and ER pathways. “We found that either drug alone [PB or TUDCA] would rescue about 10 percent of the cells, but the combination would rescue about 100 percent of the cells,” he says. “That experiment was in essence the foundation of the company because it said that there’s something to hitting these two pathways simultaneously.”

Even as Klee and Cohen struggled to get investors, they found mentors among scientists and physicians. The initial target for AMX0035 was Alzheimer’s disease, and they landed meetings with a renowned Alzheimer’s researcher at Harvard, Rudolph Tanzi, PhD, and the former head of research at Pfizer, George

Milne, PhD—two men who still play key roles as advisers. Klee says they had learned to turn their inexperience into an advantage: "What's really nice when you're young is that we could walk into a room and be dumb, and no one was surprised," he says.

But Klee and Cohen got into the room because their idea was smart and their science was sound, their mentors say. Melanie Leitner '93, PhD, a neuroscientist who advises organizations and investors who want to support research in the field, says their personalities further endeared the two founders. "Because they're humble and willing to learn and willing to take input from anyone who would be willing to give them input … the network has really opened to them," she says.

Kent Leslie, who was Amylyx's first hire, as chief scientific officer, after he finished his master's in biotechnology, adds: "Because we're so young, we really didn't have any preconceived notions of how to do any of these things. It's allowed us to be very open to different advice."

Amylyx followed the 2013 in vitro study with a successful trial in Alzheimer's mouse models. But investors weren't interested. At that time, Cohen says, there had been around "100 consecutive drug failures in Alzheimer's. So coupling Alzheimer's with two young founders is basically an investment people sprint away from."

And so, like many startups, they pivoted. In 2015, they were visiting Tanzi at Massachusetts General Hospital when they had a chance meeting with Merit Cudkowicz, MD, MSc, P'20. "Merit is just a force of nature," Klee says. The chief of neurology at Mass General and director of the Sean M. Healey & AMG Center for ALS, she had coincidentally led a small ALS trial of sodium phenylbutyrate six years earlier.

"They told me what they were doing," Cudkowicz recalls, and she told them, "No, no, no, you've got to also work in ALS." Her PB study had been stopped when they couldn't get support for costly FDA-required animal toxicology studies. "So it's super exciting to see it come back," she says. "I was eager to help."

Kent Leslie, Justin Klee, and Josh Cohen, left to right, were the entire Amylyx team for several years.

With Cudkowicz on board, investors and ALS foundations were willing to back Amylyx. The unfortunate fact that the disease progresses so quickly also made their drug a sound investment. "The pitch we could ultimately make in ALS was that we could run a relatively short study with relatively few people for relatively low cost, and demonstrate a clinical effect," Klee says, "whereas in Alzheimer's, that was very difficult."

"We really didn't have any preconceived notions. It's allowed us to be open to different advice."

In ALS, the motor neurons, which run from the brain to the spinal cord and from there to the voluntary muscles, progressively degenerate and die. The brain loses control of voluntary movement, and the muscles atrophy. Because early symptoms of muscle weakness and stiffness may be similar to those of other diseases, an ALS diagnosis can take months and even years.

Phyl Gerber first knew something was wrong in the fall of 2015, when she began struggling to run up hills, and her bike rides got shorter and shorter. Many exams and tests and a year and half later, on the Ides of March, she got the diagnosis of ALS. Though she's tried to remain positive, "the overall direction of the disease has been a slow, steady loss of physical abilities," she says in an email that her husband of 46 years, John Gerber, PhD, typed for her.

Today Gerber must use a power wheelchair. She has limited use of just her right hand, and can no longer write or type. She has a feeding tube to take medications and get supplemental nutrition, and a noninvasive ventilator called a BiPAP to breathe more comfortably. The mask prevents her from speaking, heightening her sense of isolation. Though she uses a tablet and an "awkwardly" gripped stylus to convert typed words into an artificial voice, "It is unnatural and difficult to maintain a conversation," she says. "But I'm glad to have it."

The Gerbers believe things would be worse, though, without AMX0035. John, a professor of sustainable food and farming at the University of Massachusetts, charted his wife's muscle strength measurements during and after the six-month trial, finding that her strength declined slowly during the study, then fell more quickly when it ended and she stopped taking the drug. Seven weeks later Gerber began taking it again when she enrolled in the open-label extension study, which Amylyx offered to all participants who completed the trial, including those on placebo. Again her symptoms abated; she's still taking it twice a day. "We are convinced that my relatively slow progression has been largely due to my participation in this study," she says.

"The goal [of the study] was to evaluate the safety, tolerability, biological activity, and clinical efficacy of the drug," says Sabrina Paganoni, MD, PhD, the principal investigator and an assistant professor of physical medicine and rehabilitation at Harvard Medical School. The study used the best available functional rating scale for ALS to measure disease progression, and tracked muscle strength and respiratory function. "Because it was only six months in duration, we did not expect to see differences in survival," Paganoni adds; the open-label extension study, which is ongoing, may provide that data.

Running a clinical trial was yet another area where the Amylyx team discovered, as Cohen says, "we knew nothing." Paganoni, Cudkowicz, and other experts helped design the study, which enrolled 137 participants at 25 ALS centers across the country. The trial also measured biomarkers of neuronal degeneration and included a new way of assessing muscle strength.

"Justin and Josh really wanted to contribute to the field," Cudkowicz says. She says they also improved recruitment using social media—an innovation she's employing in another ALS trial that the Healey Center launched last fall—and solicited input from ALS patients and caregivers when they designed the trial, so that clinic visits wouldn't be too exhausting for patients, and the endpoints would fit with clinicians' standard practice. "That's a nice thing about having new people in the field and new ideas," Cudkowicz says. "They were very patient-centric, which is phenomenal."

PHOTOGRAPHY: KCK PHOTOGRAPHY, BOSTON

“I was shaking. It comes down to one phone call.”

When the trial launched in June 2017, Cohen and Klee discovered a whole new level of responsibility. They’d get calls from site PIs about what to do when participants had to go to the hospital, or to decide whether to include people who didn’t really qualify. Though their chief medical officer, Patrick Yeramian, MD, MBA, and other, more experienced researchers helped answer those questions, it was “agonizing,” Cohen says. “You’re making calls that affect people’s lives.”

They also were troubled by the ethics of having a placebo group: they needed those volunteers to run the trial, but what if AMX0035 worked? “It’s a very hard issue in a disease like ALS that’s so rapid and progressive and fatal,” Klee says. The open-label extension allows participants to take the drug as long as they wish; about 90 percent enrolled. “It’s really humbling,” Leslie says. “They’ve decided, ‘this is a drug that we want to keep taking.’”

By the time they launched the trial, the young Amylyx team was thoroughly invested in the ALS community. “Once you spend time with ... the doctors and nurses and therapists, the patients, the families, you feel so compelled to want to help,” Klee says. “It’s a really tough diagnosis. The people who care for them are just saints.”

In the day-to-day work of a pharmaceutical company—responding to emails, working through study protocols—“you can certainly get a little bit detached from what the underlying goal is,” Leslie says. But when he meets patients, “the thing that is amazing to me is they’re so thankful for the work that you’re doing ... that these companies and these researchers are taking their time to work to treat a condition that they have.” He adds, “It really does motivate you to try and figure out what your contribution can be.”

Cudkowicz has seen countless people die and dozens of trials fail since the 1990s. But she always picks herself back up. “I keep a little folder next to my computer of notes I’ve gotten,” she says. “My patients and the amazing people who participate in clinical trials would write to me and say, ‘don’t give up.’ If they can keep up good spirits and not give up hope, I’ll give myself an hour or a day to feel awful, and then jump right back in it.”

Amylyx contracted with a biostatistics firm in Utah that specializes in neurodegenerative diseases to crunch the data from the 25 study sites. They expected the firm to unveil the results in early November 2019, but by the Monday before Thanksgiving they were still waiting. “We were getting a little bit impatient,” Leslie says. “It’s tough to do work and keep yourself busy when there’s something like that looming.”

Finally, as Leslie watched TV late that night, he got a call from Klee: the biostats group was ready to unveil the data in a webinar. Cohen was already asleep; he walked to the office, three blocks from his apartment, in his pajamas. There he says he joined Klee and Leslie around their conference table, with bottles of champagne ready to “celebrate the work that had gone into the trial,” no matter what the results.

As they set up a projector to watch the presentation on the wall, “I was shaking,” Cohen says. “You put all this time into it, and it comes down to this one phone call.” They knew right away the news was good. “You could hear the whole stats firm screaming,” he says. “In drug development most things fail, and they basically never see something actually work.”

Positive results are so rare in the world of neurodegenerative diseases in general and ALS specifically that even though Amylyx could at first only reveal that they’d met their primary endpoint, the slowing of disease progression, to a “statistically significant” degree, it was huge news. “It’s a hard endpoint to meet,” says Melanie Leitner, whose clients include the ALS Investment Fund and ALS Finding a Cure, both of which have supported Amylyx. She hasn’t seen the data, and says, “We’re super cautiously optimistic.”

“Any time a drug shows positive efficacy, it is time to be excited,” says Kuldip Dave, PhD, vice president for research at the ALS Association, which with ALS Finding a Cure helped fund the trial. He also hasn’t seen the data, and notes “ifs and buts” about the effect size and for which patients the drug worked. “I don’t want to reduce our enthusiasm,” he adds. “It’s a good group. ... It’s exciting to see them get to this stage.”

Cudkowicz, who says she was “sitting down” when she got the results the next morning, says, “I’m beside myself.” It’s primarily good news for patients, she says, “but it also tells all the rest of the companies and academics working in the field that this is feasible. It draws in more companies, more funding, more options.” She continues, “I think this is just the beginning. This is going to be one drug, and then we’re going to see a cascade of drugs coming out.”

Anne Hart, of Brown, who wasn’t involved with the study, says “it looks encouraging,” even if it’s just one trial with a small

number of participants. “I’m much more optimistic than when I entered the field about finding a cure,” she adds. “I’m pretty sure in the next 10 to 15 years we’re going to have something that will make a dramatic difference in patients’ lives.”

A few weeks after the unblinding, Cudkowicz threw a small party, where clinicians from the Healey Center told the Amylyx team “this was a positive day,” Klee says. “They got to tell their patients, ‘there’s something that might benefit, and we helped develop it.’ It was just really special to be a part of that.”

“One nurse told us that every day for the last two weeks, they’ve had somebody die,” Cohen adds. But that day, “it was a happy day, it was a hopeful day. She was like, ‘I don’t get those.’ We did what we did in developing the drug, but really the people taking care of these patients every day are heroes.”

AMX0035 is now in the FDA’s hands. Amylyx has been working with the agency to set up a review meeting and find out what to do next. “Their feedback could guide us towards running a future trial, could guide us towards approval, guide us in some other way—I don’t know,” Cohen says. Klee points out that the FDA fast-tracked one of the only two drugs to treat ALS, edaravone, in 2017 based on a six-month trial in Japan that also, coincidentally, enrolled 137 people. “So we think there’s at least precedent,” Klee says.

Even as they await the FDA’s word, they’re scaling up. Cohen and Klee didn’t hire their second employee, after Leslie, until last year; now they’re filling about 100 positions, many in sales, but also in research and development, financial, analytics, human resources, and leadership roles. And they’re ramping up drug manufacturing, so they’ll be ready to go if AMX0035 is approved. “Every day lost trying to scale those things up potentially could mean a day patients don’t have the drug,” Cohen says. “We feel it’s critical to invest in those things, being fully aware of the risk we’re taking.”

“We want to work around the clock to advance any potential therapeutic,” says Paganoni, who, as a researcher and physician at the Healey Center and Spaulding Rehabilitation Hospital, has been PI or co-PI on several ALS clinical trials. “People living with ALS, their families, and their caregivers—they have no time to wait. … It’s our responsibility to try to move as quickly as possible.”

Leitner says that regardless of FDA approval, “I feel like they’ve already been successful. They’ve already run a really well-designed trial. They’ve already pioneered a number of new outcome measures and biomarkers, and provided a lot of resources to the ALS community in terms of samples and data.” She adds, “We will build upon it no matter what.”

In addition to building upon its work in ALS, Amylyx wants to expand its focus to other neurodegenerative diseases. Leslie is working with academic researchers to understand how their drug might be used to treat Parkinson’s or multiple sclerosis and to plan preclinical trials. And, finally, Cohen and Klee get to test the theory that launched Amylyx in a dorm room seven years ago: that combining PB and TUDCA could slow the progression of Alzheimer’s disease.

“We had put it on the back burner,” Cohen says, when they learned about a request for proposals for combination therapies that don’t target beta-amyloid or tau, two proteins whose misfolding and accumulation are implicated in Alzheimer’s. After winning nearly $2 million in joint funding from the Alzheimer’s Association and the Alzheimer’s Drug Discovery Foundation, in 2017, and additional support from the Cure Alzheimer’s Fund, Amylyx kicked off a 100-patient, phase two trial that finished recruiting earlier this year.

But ALS remains their priority. Klee says that while most companies at their stage would partner or sell, “We’re planning on doing this ourselves. This is a community that we’re fortunate that we’ve been a part of.” He adds, “We can really focus on patients with ALS, and thinking about how we can best serve them.”

Leslie says they want to do that not just by slowing ALS, but reversing it. “Let’s go back to the drawing board. What do we do next?” he says. “Sabrina and Merit are incredibly good at keeping you on task and reminding you of the reality that they see in the clinic every day.”

On his blog, *Changing the Story*, John Gerber writes eloquently about that reality, for himself as a caregiver and most of all for his wife, Phyl. “Watching her lose abilities has been a roller coaster,” he says in an email. But shock and sadness have given way to acceptance, he says, “based on a strong sense of the divine working in our lives.”

“We were very fortunate that just a few months after she was diagnosed, she was able to start the Amylyx trial,” Gerber adds. “Most of the people who developed symptoms at the same time as Phyl have passed. We are still going thanks to my wife’s stubborn will to live and Amylyx Pharmaceuticals.” **M@B**

MAKING OF A MEDICAL SCHOOL

ILLUSTRATION BY ISRAEL VARGAS

EDITED BY KRIS CAMBRA
TIMELINE TEXT BY ANN B. DALTON MFA'95, PAM'94 PHD'06

This year, the first graduating class of Brown's modern medical school will mark its 45th anniversary. In honor of this milestone, we take a look back at how it came to be.

1962 Brown's Board of Fellows approves the creation of a program in medical education. In the face of resistance by many faculty members to establishing any professional school that would detract from Brown's undergraduate teaching mission, and in the absence of the critical mass of public and foundation funding a four-year medical school would require, the University is empowered by the board to begin a two-year medical program.

1963 Brown President Barnaby Keeney announces at the Rhode Island Hospital Centennial Convocation Banquet that the University will inaugurate a Special Program in the Basic Medical Sciences offering the first two years of graduate basic science education. "Our society," he says, "has two great medical needs. One is for more people to apply the new medical science and the other for more and better people to discover the basic knowledge and find ways of applying it. Our program will help a little in the first, but it is directed primarily toward the second need for medical scientists, teachers, and clinicians who will use the research that they themselves have conducted." The new program, initiated with funding from the Kellogg Foundation, is a six-year continuum—four years of undergraduate liberal arts education, in humanities as well as sciences, followed by two years of academic medicine, leading to a Master of Medical Science degree. Graduates are expected to pursue careers in science or go on to four-year medical schools to complete the clinical portion of their training. All the students who receive MMSc degrees during the duration of the program, between 1969 and 1972, choose to continue their studies at medical schools.

"At this point in time," explained Stanley Aronson, who would become the first dean of the medical school at Brown, "industry in the state wanted a medical school. The critically ill had to be sent out of state. Because there were no tertiary care facilities in Rhode Island, it was difficult to recruit specialists and research physicians. The absence of a medical school affiliation meant fewer research dollars, and insurance payments collected in the state were migrating to Connecticut or Boston, which was very costly to Rhode Island government and business." He went on to say that although in the 1960s and early '70s, there was no great stream of federal research funding coming into the state, it was understood early on that research dollars would have downstream effects on the Rhode Island economy. "While businesses were not offering to support big building projects for the medical school just then, they did see the potential and got behind it," Aronson said.

1964 The Biomedical Research Laboratory, a four-story structure linking Arnold Lab (1915) and the Metcalf Research Lab (1938), is built to accommodate research by faculty and students involved in the new six-year Program in the Medical Sciences.

1965 Brown's Division of Medical Science is replaced by the newly formed Division of Biological and Medical Sciences, administered by an Executive Council led by Professor Paul F. Fenton, a cancer researcher whose work included investigating the role of obesity as a factor in disease. Professor Mac V. Edds is tapped to lead the medical component of the new entity; he is appointed director of medicine, and Professor Herman B. Chace is named director of biology.

Glenn Mitchell '67 ScM'69 MD'75 RES'77, MPH

How do I feel about the way the Medical School has evolved over the past nearly 50 years? It would be difficult to maintain the sense of adventure that we had as the first class: the basement rooms of the then-new BioMed Center; the endless lectures and reading; and the early exposure to real patients that was a new approach back then. The hospitals and adjunct staffs were associated with the school mostly by the talents and skills of giants such as Stan Aronson, Pierre Galletti, and Levi Adams. And Stan became a second father to most of us during those heady times.

Today, we return to see a beautiful renovation of a building in what we knew as the Jewelry District across the river. It looks like a real medical school! When we talk with current students, they sound like medical students everywhere, except they seem so much smarter and even more dedicated than we were. The classes are more than twice the size of our original group, but they appear to be at least as cohesive as we were. It is a great

"We had to begin cautiously and quietly because the idea of the school was opposed by most of the faculty; many thought of it as a trade school that would diminish the academic merit of the University."

1966 Brown President-elect Ray Lorenzo Heffner wholeheartedly endorses the University's new medical program in his address to students and faculty at convocation. Heffner will make good on his promises to support medical education, involve students in decision-making, and keep his door open to all members of the University community, but his tenure was short; he resigned after three years as president.

1968 Pierre Galletti, who joined the Brown faculty as professor of medical science in 1967, is appointed chair of the newly formed Division of Biology and Medicine. Author of the first comprehensive book on the principles and techniques of heart-lung bypass, the standard work in the field, Galletti was internationally reknowned. During his career at Brown, he will not only assist at the birth of the medical school and shepherd it through its first two decades, but he will continue to break new ground in research in physiology and biophysics and help establish Brown as a center for biomedical engineering and translational research.

1969 The first cohort of students to complete the six-year Special Program in Basic Medical Sciences graduates from Brown. They are awarded Master of Medical Science degrees; all will continue their studies at medical schools, with many going on to Harvard.

On May 20, Brown and five partner hospitals—Rhode Island Hospital, Roger Williams General Hospital, The Miriam Hospital, Providence Lying-In Hospital, and Memorial Hospital—sign an agreement of affiliation, laying the groundwork for an unprecedented collaboration in medical education in the state. Two years later, Butler Hospital will sign on to the agreement, followed in a few years by the Veterans Administration Hospital.

In October, Brown dedicates its new Biomedical Building with a celebration that includes an address by the biochemist and prolific author of science fiction and popular science books Isaac Asimov. The new building incorporates a four-story tower of labs for research in biology and medicine, two underground levels of teaching and lab spaces, and an extensive animal-care facility.

At the invitation of the Brown administration, Stanley Aronson joins the faculty as professor of medical science and joins the staff of The Miriam Hospital as pathologist-in-chief and director of laboratories. He will collaborate with Brown Provost Merton Stoltz to lay the groundwork for a prospective four-year medical school. Aronson will later say of his work with Stoltz, "We had to begin cautiously and quietly because the idea of the school was opposed by most of the faculty; many thought of it as a trade school that would diminish the academic merit of the University."

personal joy to experience the continuity that being at the school these days demonstrates and validates. The "new" White Coat Ceremony seems like we should have thought of it. And the dean brings tears to my eyes when I see today's students love him like we did Stan.

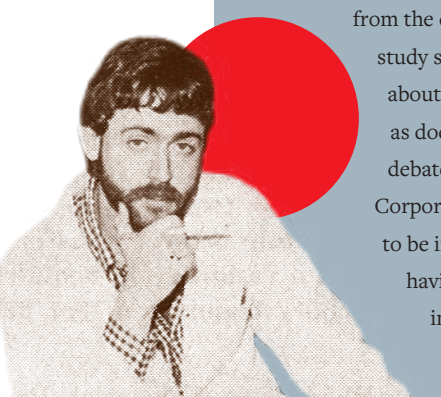
As we in the first graduating class come to the close of our professional practices, our original oath remains meaningful and relevant. Each year's graduates continue to hold themselves to the highest standards of our profession. As I look back at the 45 years since my graduation, I am happy to have had a place in the long line from Hippocrates to the current First Years. The living entity of the Medical School makes me feel incredibly proud, and I want to see it thrive forever. My spouse and I decided that the best way to do that was to endow a medical student scholarship in our estate plan so the best and brightest students can continue to come to Brown and benefit from its uniqueness and its culture. It is not nearly enough to fully pay back the debt owed to the many dedicated people who educated me, but it is important to me to tangibly express my deep gratitude.

Ever True.

Mark Blumenkranz ’72 MD’75 MMSc’76, P’05, P’08

As best as I can tell, through the alphabetical advantage of my last name, I am the third person in the world, at least after the middle of the 19th century, to have been granted a Brown medical degree, right after Aram Arabian and Charles Bareham. As an old timer of sorts, and more recently as a member of the Corporation and chair of the Medical School Committee, I have had the opportunity to witness firsthand the beginnings of things, which were occasionally chaotic and uncertain, but always exciting.

When I arrived in 1968 I entered the Med Sci program with approximately 45 other freshmen. At that time it was a research-intensive program designed to prepare but not complete medical training. So we all entered the Brown program on a wing and a prayer, hoping and trusting, but not entirely sure that Brown would prepare us, in part, for a career in medicine. During the tumultuous late ’60s and early ’70s, we were all glad to have the extra two-year deferment from the draft and Vietnam to stay at Brown and study science, but we still worried a great deal about our future and where we would end up as doctors, if at all. There was considerable debate both within the University and at the Corporation level about whether Brown ought to be in the professional education business of having a full-fledged medical school, including what effect that would have on the quality of the undergraduate education and experience.



And in that cauldron of debate and concern, along came Stan Aronson ... one of the foremost neuropathologists of his generation. While it all seems inevitable now with the bias of retrospect, it was no certainty that Brown would progress from a master degree-granting program to a medical school. And I think it would be fair to say that it may not have happened without Stan Aronson being there. His thoughtful and reassuring leadership, his patient advocacy, and ultimately his moral authority carried the day. I think if I had to try to distill the way Stan both changed and then ultimately defined medicine at Brown into a single bullet point, it would be that he put a distinctly human face on medicine.

1970 Former Professor of Chemistry Donald F. Hornig returns to Brown to take on the presidency of the University; the establishment of the four-year MD-granting medical program will be accomplished during his administration. He had been among the scientists who developed the atomic bomb at Los Alamos and would go on to serve four presidents as a science adviser. On his inauguration as president of Brown, he says, presciently: “If the private university is to continue as an important social and intellectual force, it must remain firmly in the storm center. It may mean controversy and conflict, and it may mean discomfort and dissent. Frontiers are dangerous places. The front edge of change is dangerously sharp. But it is where a great university belongs.”

1972 The Brown Corporation authorizes the establishment of a full four-year Doctor of Medicine degree program in the Division of Biology and Medicine, and the University begins planning for a full-scale medical curriculum. Pierre Galletti is appointed vice president and chief operating officer for the division, a position he will hold until 1991. P rominent among his many contributions as head of the division will be his work as a prime mover in the founding of the medical school, in the genesis of its affiliations with partner hospitals, in the development of the eight-year Program in Liberal Medical Education (in 1985), and in the expansion of biomedical research at Brown and its affiliated hospitals.

The University announces a campaign to raise $20 million for the medical program by 1980, $6 million of which will be sought from government sources. To win faculty acceptance of the four-year program in 1969, its proponents, among them Professor of Surgery Henry T. Randall, had to agree to an annual allocation of $300,000 in University funds. “That was all,” Randall said. “Beyond that, the school was on its own. [But] we never used a cent of the $300,000. Senator Claiborne Pell put in the Pell Amendment to give a capitation of $1,500 a year for medical students; with that and research grants we managed to put the school together and banked the $300,000 a year” to build up an endowment.

Jonathan Gell ’72 MMSc’75 MD’75, PPhD’12

Many of us started in the Med Sci program in 1968. The clinical years started about 50 years ago. What possible remembrance of use could remain after 50 years of technological advances?

Magnetic resonance was a few maybe interpretable spikes in organic chemistry. In our rotations we treated atrial fibrillation with oubain. An MI was kept for three weeks rest as an inpatient. Beta blockers were contraindicated in heart failure. For rheumatoid arthritis the best drug was injectable gold. Trilafon was widely used at Butler for thought disorder.

What forlorn hope did our faculty cling to as they sent us on our career voyages? What heuristic value endures from those years?

Marty Felder, Milton Hamolsky, Stan Aronson, Phyllis Brown, Sungman Cha, Leallyn Clapp ... those who were there can compete my ellipsis; I need to refresh my memories when I see my classmates again. What endures is they cared. Both about their work and about us. They cared about us as a class and more importantly as individuals.

What endures from Brown? Ruth Sauber was the focal point of our faculties’ hope for Menschlichkiet/Caritas. She cared for us, we were worthy.

Not immune from burnout, discouragement, or despair, but we had blessings that perhaps other institutions did not bestow.

Boats in motion leave a wake. So looking back at the wake of my career voyage, I see two wings reaching to the mist or horizon. One wing out is my remembrance. The other wing is their blessing back to me.

1972 continued: In the spring, a 12-member committee is charged with developing a curriculum for medical education at Brown, specifically, composing “a preliminary model of curricular plans which could be used during the pre-accreditation visit of the Association of American Medical Colleges/American Medical Association’s Liaison Committee on Medical Education,” expected in August. Chaired by Stan Aronson, the committee included senior faculty and four students, all of whom would become physicians and go on to careers in academic medicine: Jonathan Berek ’70 MMSc’73; Peter LeWitt ’72 MMSc’75 MD’75; Steven Rasmussen ’74 MMSc’77 MD’77, P’13MD’17; an d Paul vonOeyen ’71 MMSc’75 MD’75, P’05. Aronson later wrote: “The Committee, aware of a deadline looming within nine weeks, worked diligently, meeting as often as four times a week. These gatherings, in retrospect, were a congenial mixture of earnestness, innocence, resolve, and dedication. The members, from their earliest meetings, recognized that they were constrained neither by local nor national curricular traditions.” They also recognized that they were charged with assembling an innovative yet realistic plan, compliant with Rhode Island’s finite resources and congruent with the University’s charge that this new curriculum “must meet the urgent needs of the broader medical education which doctors must have if they are to prepare themselves for a humanistic approach to medicine by studies providing an understanding of, and sensitivity to, the broadest aspects of human experience in its personal and social dimensions.” The curricular plan the committee produces will be approved first by the Division of Biology and Medicine, then by the Liaison Committee on Medical Education, and finally by the University faculty.

In August, representatives from the Liaison Committee on Medical Education visit Brown to evaluate plans for the program in medicine. “We had by then assembled a faculty—39 campus-based faculty, mostly biologists, and 11 or so clini cal faculty in the hospitals,” Aronson said. “We had great people who had the emotional and academic strengths to help establish the school. So, we said, ‘Send us your accreditors,’ and the accreditors said, ‘Go ahead.’ They gave us provisional permission to train physicians.”

In October, the Brown faculty passes a resolution approving the Program in Medicine. “It was not passed unanimously, but we did have a majority,” Aronson said. “It authorized a program, not a separate school, and we were careful to use the euphemism ‘program.’ But we could now build on the two-year program begun by Pierre Galletti and his colleagues, which had been delivering an excellent preparation in the basic sciences; we could award the MD degree; and we could increase our class size from 10 or so to 60 a year.”

Rhode Island Governor Frank R. Licht, a proponent of Brown’s medical program, pushes a $240,000 appropriation through the state General Assembly to help initiate the expansion.

“It was not passed unanimously. The faculty authorized a program, not a separate school, and we were careful to use the euphemism ‘program.’”

1973 Stanley Aronson is appointed to the primary leadership position in the administration of the expanded medical education program, with the designation Dean of Medical Affairs, and so becomes Brown’s founding dean of medicine.

In January, with provisional accreditation in place, Brown inaugurates the clinical component of its medical education program with clerkships in surgery at the Miriam and Rhode Island hospitals. Clerkships in medicine follow a few months later. Twelve students in the Master of Medical Science program agree to participate in the newly created and still-evolving clinical clerkship training program. Known as the Charter Twelve, and having earned a reputation as “highly individualistic and socially conscious students,” the pioneers begin their training in the Rhode Island community, alongside local physicians and staff members in Brown’s partner hospitals. The Charter Twelve were Aram A. Arabian Jr., Stuart L. Boe, Edward W. Collins, Brent L. Davis, Dean F. Effler, John A. Horneff, Thomas L. Logan, James M. Lynch, Robert J. Meyer, Michael L. Shafer, Daniel Small, and Paul T. vonOeyen.

Daniel Small ’71 MMSc’73 MD’75

I was a member of the “Charter 12.” Originally our program was to culminate in a MMSc degree and we would transfer to another medical school for our clinical work and our MD degree. (Most people finished at Harvard.) We were introduced to our first patients in our freshman year in college and we had a seminar program through our six years led by Fred Barnes, MD, where we had monthly evening lectures from professors at Brown who told us about their interests in life. Our psychiatry training was enhanced by Dr. George Vaillant from Harvard coming down and viewing with us plays performed by the Trinity Repertory Company in a dorm lounge. Dr. Valliant, the actors, and our class discussed the psychological mechanisms in the play. We were so impressed with the interest in us that was shown by the medical school faculty that we asked to stay on at Brown and be the guinea pigs for the clerkship programs.

The administration embraced our request and asked many of us to serve on committees for the new MD program. I served on the admissions committee and I found that my recommendations on prospective candidates were given strong consideration.

I completed my coursework in 1974 and found a little-known law in Rhode Island that you could practice medicine if you were affiliated with a hospital and had three and a half years of medical school training but did not have an MD degree. This law allowed Italian physicians fleeing fascism in the 1930s to come to Rhode Island and practice medicine for the Italian community. I approached Paul Calabresi, MD, about doing my internship at Roger Williams General Hospital before my MD and he approved. John Horneff ’71 MD’75, Brent Davis ’71 MD’75, and I were the first Brown University-trained house staff in the Brown system.

As part of our internship we rotated through the Providence VA Hospital. It had been set up as a clinic with an overnight hotel. Within one week of being there we transformed it into an actual hospital with lab and X-ray services available 24 hours and we were able to wrestle the beepers away from the housekeeping staff and distributed them to the house staff.

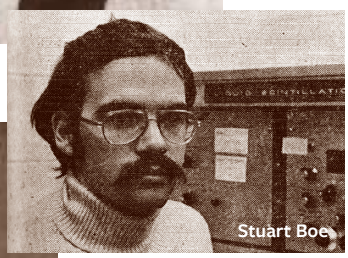
After my internship and residency year in medicine I did my rheumatology fellowship in a combined program at Scripps Clinic and Research Foundation and University of California San Diego (never had to go through the Match). I entered practice in 1978. I have been in a number of practice settings and have had a career-long interest in Sjogren’s syndrome. In 2015 the Sjogren’s Syndrome Foundation awarded me their national Healthcare Leadership Award. I am currently working in the Mayo Clinic Healthcare System, where I am chair of the Department of Rheumatology at Franciscan Mayo.

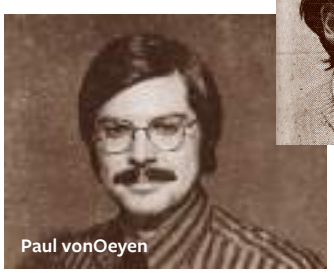
Patricia L. Myskowski ’72 ScM’74 MD’75 (with Alexander J. Swistel MD’75)

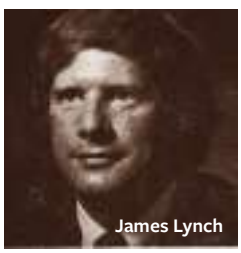
My memories of Brown—and in particular being a “Med Sci”—begin in the spring of 1968, when a gaggle of awkward yet oddly confident teenagers gathered on the Green for a campus tour. My prospective classmates and I were invited up to campus for a pre-admission weekend, and it was supposed to be a recruitment weekend of sorts. My interview with a gastroenterology professor was interesting—from “Do you have a boyfriend?” (“Yes”) and “What about your children?” (“Sir, I am 17 years old and I don’t have any children”) to his conclusion that I was committed enough and that he would see me again in his course in five years (which he did). My fondest memory of the weekend was meeting Valerie Parisi ’72 MD’75, in a bright yellow dress, whom I recognized as a force of nature and faithful friend from the moment we met.

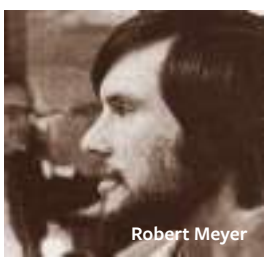
Our time as undergraduates in the Med Sci program cannot be separated from the turbulent times at Brown: Pembroke’s merger, Ira Magaziner’s New Curriculum, the campus strike. Still, we remained a somewhat cohesive group-within-a-group, us Med Sci’s. Then came the preclinical years: tough (Dr. Erickson’s anatomy course), but with a growing sense that our class was special. Our faculty was supportive in a way not known to most medical students. Our class was never told that there was anything we couldn’t do—and so, in our professional lives, many of us have achieved far more than we would have ever predicted (e.g., medical school deanships, a Lasker award).

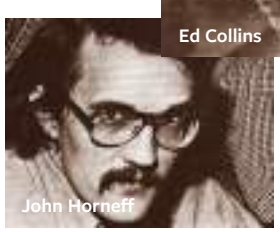
My personal life took its most important turn when I signed up to give a tour to the incoming third-year medical transfer students and met Alex Swistel. We married after internship and have spent nearly 44 years in New York City with children and now grandchildren. We are still working: me with almost 40 years at Memorial Sloan-Kettering, and Alex at NewYork-Presbyterian. Weill Cornell Medicine has become our academic home: professor of dermatology for me, and endowed professorship in breast cancer surgery for Alex. Neither one of us was a “star” in the class and we could never have predicted where we would be today. But our Brown Medical School experience, as the first class, was unique and empowering in a way we could only later appreciate. My hope for future classes is the same legacy.

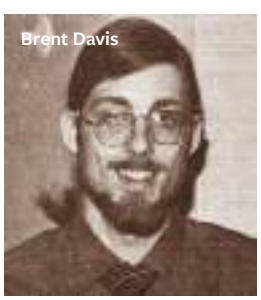












“You are the medical school. You are the recipients but you are also the teachers.”

1974 In its first full year of existence, the clinical clerkship training program engages the Charter Twelve and 48 additional medical students in hands-on experience of the practice of medicine. The program is a landmark effort, built upon collaborations of unprecedented depth and scale between Brown and its partner physicians and hospitals. “The members of the original class, all of whom came from Brown at that point, should be counted among the founders of the medical school,” Aronson said. “It was such a crucial chemistry; we were building the school together. We had labs and a few conference rooms in the Biomedical Building, but no classrooms. So we used a room in the sub-basement for our classes. Room B-12. The students decorated it, put rugs on the walls as well as the floor, hung empty window frames and pasted seasonal pictures behind them. They were wondrous people who did great things. We told them, ‘You are the medical school. You are the recipients but you are also the teachers.’ We tried to inculcate in them a sense of responsibility for themselves, a social sense of attachment to the Rhode Island community. And they absorbed that; they took initiative, taking life drawing classes to understand the body not just as a medical problem but as a living entity; requesting courses in medical Portuguese and Spanish so they could speak to their patients directly; insisting that they, and we, meet our obligations to the community.

Christopher J. Morin MD’75, MBA

Where has the time gone? We have gained the age of wisdom and the ability to reflect on the passage of time and events. Brown and the Program in Medical Education in the early 1970s was committed to the education of the complete physician. A physician with a strong basic science foundation. An introspective and compassionate physician. A humanist and a scientist. How to achieve this goal? The journey was a mutual journey of the dean, the faculty, and the students. Who were the students of the graduating Class of 1975? We came from two MMSc classes, students who had graduated from other undergraduate colleges, and transfer students who had completed the first two years of medical school elsewhere. We were one in who we became. We were Medicine at Brown.

The faculty strove with great dedication and often with no reimbursement to provide as comprehensive an education as possible. Dr. Fred Barnes was an inspiration to me as much as Dr. Tom Randall, chief of surgery, or Milt Hamolsky, chief of medicine at Rhode Island Hospital. Dr. Martin Felder at The Miriam Hospital with Dr. Bob Hopkins. George Vaillant came down from Harvard and provided a series of medical encounters with actors to help us learn how to interact with patients, from the patient’s perspective. Whether the professor was a full-time faculty member, chief of service, or a voluntary clinical faculty, the commitment to us was exceptional. The faculty took great pride in the maturation of their students as we became physicians.

What does it mean to be a Brown-educated physician? What would it mean 50 years from now? Those were questions that we asked ourselves. How did we answer them? By becoming highly skilled, compassionate clinicians and researchers. Did Brown succeed? Did we succeed? Yes, we did!

Graduating from Brown with the MD Class of 1975, I journeyed to Massachusetts General Hospital and Harvard Medical School for my surgical training. How did I get there? By not only the education I had received but by the support of the faculty at all levels. By alumni who looked to foster Brown’s development. How did my education at Brown compare to the preparation of the graduates of Harvard Medical School? We were at least as well prepared if not better.

During the 1980s and ’90s I had the honor of being on the clinical faculty of Brown, and serving in the leadership of the Brown Medical Alumni Association as its first president who had graduated from the Medical School. The commitments of the students and faculty remained the same to educate humanistic scientists who put service to humanity first. Brown succeeded and continues to succeed in this goal.

1974 continued: "Their uncompromising standards and questioning led to some important developments," Aronson added, "their study of how the body is viewed in different cultural and religious traditions opened the way for development of a department of community medicine; their insistence that we examine how we treat the dying led to a course co-taught by [RIH orthopedic surgeon] Mike Scala and Brown Chaplain Charlie Baldwin in compassionate end-of-life care, which in turn planted the seeds for the first hospice program in Rhode Island. Their program of study included a more rigorous set of requirements in basic sciences than that at any other school in the country, but they were being trained in a humanistic environment in which ethical, moral, and social issues had real importance."

1975 The Liaison Committee on Medical Education visits the Brown medical program and awards it full accreditation, contingent upon the graduation of its first medical class.

On June 2, a sunny Sunday, Brown University awards Doctor of Medicine degrees to 58 students, 45 men and 13 women—including the Charter Twelve—the first medical class since the 1820s to pursue and complete academic medical studies and clinical training within Rhode Island's borders. The oath they take is a contemporary revision of the Hippocratic Oath, drafted by a committee of the class.

Aronson said of the inaugural class: "Their academic performance was very good; all 58 scored in the upper 25 percent on their national boards, and all got good internships. They were very bright, very dedicated to patient needs, very dedicated to Brown, and very supportive of each other. They were not competitive with one another; we didn't encourage them to be. We had no interest in training disciples; we wanted to train equals. Neither we nor our students recognized hard borders between disciplines, and we brought in lots of social scientists—anthropologists, demographers, sociologists—and members of the spiritual, arts, and business communities, to elucidate the context in which medicine is practiced, and the ethical issues it raises. We wanted to demonstrate that medicine is more than sophisticated technologies. We encouraged our students to be open, to be skeptical, to challenge us, and they did." **M@B**

"The members of the original class, all of whom came from Brown at that point, should be counted among the founders of the medical school. It was such a crucial chemistry; we were building the school together."

Non

PETER D. KRAMER, MD PMD'16
ILLUSTRATION COURTESY OF PEANUTS

sense!

LUCY VAN PELT FIRST PLAYED PSYCHOTHERAPIST on March 27, 1959. In the seminal strip, she sits behind a box labeled, "Psychiatric Help 5¢." Charlie Brown takes a seat on the low chair provided for clients. "I have deep feelings of depression..." he says, and then, "What can I do about this?" Lucy puts a finger to her chin. Then she leans on folded arms and delivers her interpretation, "Snap out of it! Five cents, please." It is a perfect joke.

Perfect jokes are meant to be built on. Charles Schulz will fiddle with this one endlessly. The consultation box will grow a signboard and a second tagline, "The Doctor is In." Snoopy will compete with Lucy from behind a board that advertises, "Friendly advice, 2¢," or "Hug a warm puppy, 2¢." Lucy will use the booth for a travel agency. She will dispense valentines from the booth, and a dish called goop, also five cents. These versions are funny, when they are, because they play off the original, where Lucy offers dismissal in the guise of treatment.

Most of the series will involve psychiatric care. Lucy will tell Charlie Brown to stop his silly worrying. When he asks how, she'll say, "That's your worry! Five cents, please!" Charlie Brown will complain that people talk over him and go on and on. In response, Lucy will do just that. Charlie Brown will achieve the long view: "I've been coming to you for some time now, but I don't really feel that I'm getting any better." Is he any worse? No? Five cents!

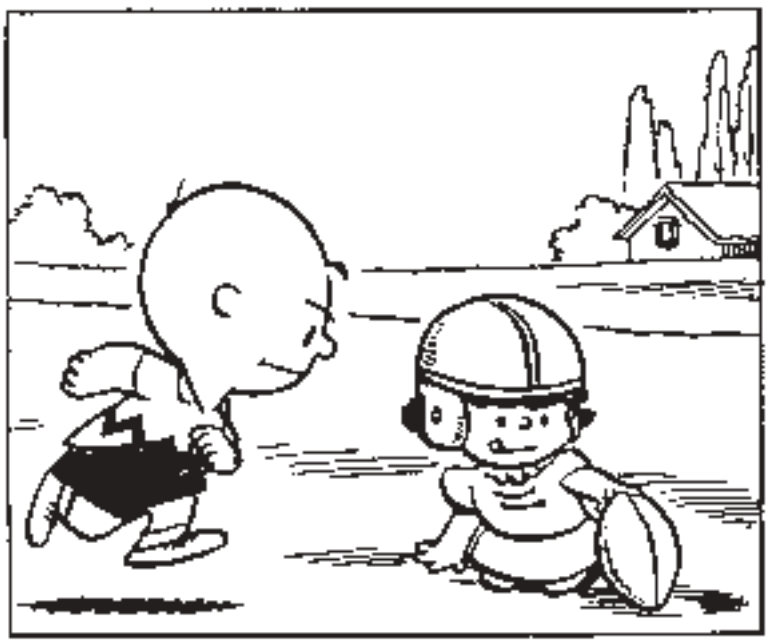
The jokes gain from their constant elements. Charlie Brown feels unease. Lucy fails to provide what he's come for. The billing is relentless. Finally, the assemblage, the theme and variations, become the work of art, a grand commentary on the impossible relationship among need, trust, help, and character.

In this way, the doctor-is-in collection parallels Schulz's most famous running gag, the one with the football. Here, the script is more uniform. Lucy places the ball. Charlie runs toward it. While he's in the act of kicking, she pulls it away. He should have learned his lesson, but he hasn't. Each time, he's wary. Each time, Lucy convinces him to rely on her despite all. The result is another pratfall.

The first football-gag cartoon involving Lucy appeared in 1952, in a Sunday strip with ten frames, enough space for her to fool Charlie Brown twice. The doubling is necessary, because the poignancy is in reiteration. The joke is about ignoring experience. The joke is about who each one is. Charlie Brown is trusting to a fault—or a virtue. He prefers to trust, however often his faith is betrayed. Giving fellow humans the benefit of the doubt is a fine if painful way to live. "Don't! Don't!" we cry to Charlie Brown, and then we're glad he does.

We, too, take pratfalls. We, too, may be the better for taking them. There's solace in that observation, and food for thought, too, about what's right for us. If betrayal is the way of the world, how should a person live?

At first glance, the doctor gag runs on the same principle. Repeatedly, Charlie Brown exposes himself to ridicule by baring his soul. Repeatedly, Lucy brings him up short. But after that, the two jokes differ.



To understand the football joke, you don't need to know much about football. The joke is not about football. It's about human nature. The doctor-is-in gag is less classic, less essential, because it's more specific. It comments on character, to be sure. But it's also about psychotherapy. Say, "The doctor is in," and everyone gets the reference. It's about not just any doctor but this kind, the sort who listens attentively—or not.

For a joke to work, we need to know and expect something and then to have that expectation upset or else fulfilled in an all-too-characteristic way. To understand what's wrong with what Charlie Brown gets, we need to know what he should get, that is, to have a prior concept of psychotherapy, how it is done. The doctor-is-in jokes comment on the relationship between psychiatrist and patient.

Schulz was inclined to throw this perspective into question. When a biographer, Rheta Grimsley Johnson, asked him about his critique of psychiatry, or (as another biographer has written) child psychology, Schulz said that he was just playing with a standard cartoon set-up, the kid with the lemonade stand.

The answer is partly plausible. Before we get to the dialogue, what's funny about the psychiatric care booth is that its product is so different from what kids ordinarily sell for a nickel. But that is also to say that Lucy and Charlie Brown—dispensing and consuming psychotherapy—are unusual kids, wise and tuned in beyond their years, kids speaking like grown-ups. In interviews, Schulz liked to appear uncomplicated and uncalculating, but he was neither. There is something disingenuous in his ducking the conclusion that when a character offering psychiatric care hosts a character complaining about deep depressive symptoms, psychiatry is at issue. Although the presentation is compact, diverse aspects of the profession seem to be in play: therapists, therapy, and the business of psychiatry.

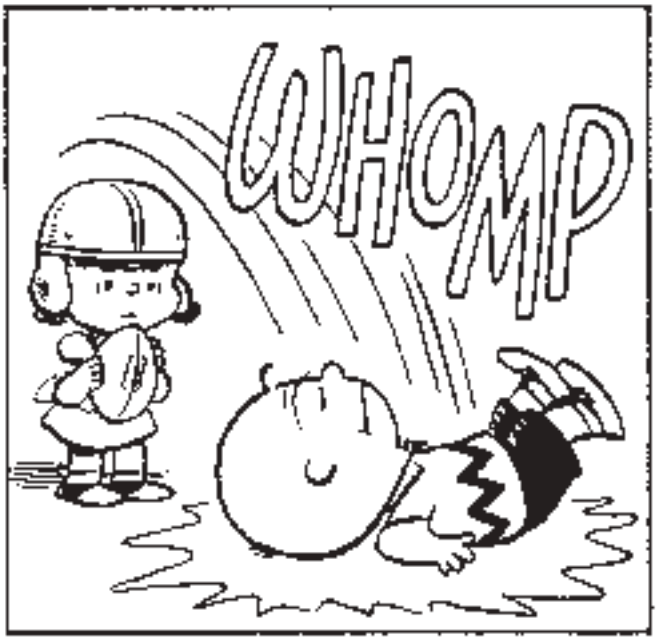
We have an impression of therapists. They will be empathetic, thoughtful, subtle, intuitive, slow to judge, and slow to speak—intent on throwing the questioner back on himself. That's the setup for Lucy's punchlines. She's chosen the profession she's least suited to. She has the wrong temperament.

She's also drawing from the wrong repertory. Psychiatrists make interpretations, or they did at midcentury. "Snap out of it!" is not an interpretation. It's like the Ring Lardner line from forty years earlier: "'Shut up,' he explained." The retort is no explanation, but it is how we might, honestly and impulsively, want to answer a child (that's the setup in the Lardner novel) who asks an embarrassing question—just as "Snap out of it!" is what we sometimes feel like saying when people entrust us with an intimate complaint.

Charlie Brown has made himself vulnerable, and he's not getting what he has a right to expect, not getting an interpretation. All the same, he has to pay. "Five cents, please" is the second joke, about how intent psychiatrists are on billing.

In one strip, Lucy admits, shamelessly, "I'll treat any patient who has a problem and a nickel." In another, when Charlie Brown asks whether he will ever become mature and well-adjusted, Lucy demands payment in advance, since he won't like the answer. Working with Snoopy, Lucy spends less time treating his anxiety—fewer cartoon frames, anyway—than collecting her fee.

This theme—cash before all—is also a hoary one. George Gershwin relied on it in his song "Freud and Jung and Adler" for the 1933 musical *Pardon My English*. In a repeated refrain, the doctors sing that they practice psychoanalysis because it "pays twice as well" as specialties that deal with bodily ailments. Therapists are inherently comical *Luftmenschen*, impractical, except on this one front. They like their fees. Lucy's perky insistence about billing gives the five-cents-please strips their final kick.



Snap out of it! works, then, because of general expectations about what constitutes help when we're down and specific ones about how therapists are: empathetic and delicate. *Five cents, please!* works because of a contrasting account of therapists, as ineffectual and venal. But I wonder whether other issues are not active as well, issues even more particular to the time, the late 1950s.

For instance, what does it mean for Charlie Brown to say that he has deep feelings of depression? That last word will sound discordant to anyone familiar with a discussion, about the proper use of antidepressants, that has been current in psychiatry in recent years. It starts with the claim that depression has changed meaning, that it used to refer to very grave conditions—mostly to the depressive phase of bipolar disorder—while lesser conditions, now lumped with depression, went under the heading of neurosis. Charlie Brown's line suggests otherwise. In daily speech, depression, anxiety, and neurosis were all in the same territory, and almost everyone suffered from them.

A second misconception is that today we're at a high point for psychiatric diagnosis. By this account, we have pathologized normality. Who doesn't have anxiety, depression, or an attention deficit? But *Peanuts* became popular at what was arguably the true high-water mark for psychiatric diagnosis. The leading mental health survey of the 1950s was the Midtown Manhattan Study. It judged 80 percent of respondents to have a condition that might merit treatment. *A New York Times Magazine* piece reported that "only 18.5 per cent of those investigated were 'free enough of emotional symptoms to be considered well.'"

Today, the snap-out-of-it joke might be hard to tell.

That same article reviewed a study from the University of Minnesota based on exhaustive personality testing of especially healthy young men. The research produced a characterization of the "normal man." He turned out to be a rare bird and perhaps a colorless one—"a bit dull" with "limited drives and horizons."

The fifties was, in other words, a time of obsession with and deep ambivalence about normality. In the wake of the Second World War and then the Korean War, people longed for normality and for the chance to be normal. But the condition seemed out of reach and perhaps not fully admirable. *The Man in the Gray Flannel Suit* was a defining work, as a book and then a movie. Was normality possible for those who had endured war? Was normality conformity? Consumerism? Blandness?

When Charlie Brown reveals his feelings of depression—and, on other occasions, anxiety—he is saying that he is like everyone else, like most of Schulz's readers. "My anxieties have anxieties" is a Charlie Brown line, one that became a book title for Schulz. Nor is it clear that Charlie Brown's self-doubt is less admirable or perceptive than Lucy's certainty. We root for Charlie Brown, we want him to have successes, but we may not wish him to be other than as he is, ill at ease.

We understand this much about Charlie Brown's depressive symptoms automatically. They serve as a premise for humor because what he has is what we all have.

It's in our time that depression has a darker meaning. Today, the snap-out-of-it joke might be hard to tell. We'd need to distinguish Charlie Brown's near-universal depression from a serious disorder, one where commanding a sufferer to bootstrap it might not be funny at all.

Psychiatry was in a particular phase in the 1950s as well. The first modern psychotherapeutic medications had just been developed, but they were not in widespread use. Within the profession, orthodox psychoanalysis had spawned alternatives, but they remained outside the mainstream. Freudianism had taken the country by storm in prior decades, clinically and intellectually. Psychiatry was mostly psychotherapy, and psychotherapy was mostly psychoanalysis.

It may be hard to recall how rigid orthodoxy was. Patients came for treatment many times a week, lay on the couch, associated freely, and received in response intervals of silence interrupted by interpretations laced with references to non-intuitive concepts like transference and projection, castration anxiety and penis envy. Implicitly, this complex armature made psychotherapy an apt comic foil.

At the same time, Freudian psychology had become the standard way of viewing mental functioning. Fluency in its tropes was a requirement for making art and literature and sophisticated conversation.

When she says, "Snap out of it," Lucy is rejecting that whole apparatus. Lucy sees the emperor in his nakedness. That's what Schulz later said about her. "She has a way of cutting right down to the truth."

Lucy's way is an American way—pragmatic. I have mentioned alternative schools of therapy. America had adopted or given rise to them, treatments that were less mystical and more directive than the standard version. Alfred Adler, Franz Alexander, Karen Horney, and Harry Stack Sullivan all had their adherents, doctors more attentive to social phenomena and more willing to comment on patients' behavior.

Sullivan in particular had something of Lucy in him, or perhaps it's the other way around. When, in therapy, a young man tried to deny that a love affair had mattered to him, Sullivan interrupted: "Nonsense, you were happy with her." The young man had enjoyed successes in the relationship, and Sullivan did not want them lost. And Sullivan could be directive. On one occasion, Sullivan reported, he interrupted a patient to exclaim, "Merciful God! Let us consider what will follow that!" Engaging in "clumsy dramatics," Sullivan confessed, was part of his method.

Perhaps it's just me, but I hear echoes of Sullivan in certain Lucy vignettes. For instance: Sullivan practiced with his dogs, two cocker spaniels, in the consulting room. The story goes that once a patient, a fellow psychiatrist, protested, "I wonder what would happen if you had to choose between those dogs and me!" Sullivan said, "I could arrange a referral." I mention the legend because of the strip where Lucy asks her beloved Schroeder, "What if I told you that you had to choose between your piano and me?" Schroeder says, "That wouldn't be difficult."

(Here roles are reversed, with Lucy being brought to attention. Schulz made this move regularly. On one occasion, he had Lucy allow as how, in treating Charlie Brown, she has learned about herself. Charlie delivers the punchline, "Five cents, please!" The actors change but the pattern remains: sensitivity comes at a cost.)

Again, Sullivan made a grand statement that gained some currency: "There are few things that I think are so harrowing as the occasional psychiatrist who knows a great deal about right and wrong." *Peanuts* features a theme along these lines when Charlie Brown tells Lucy that he bought Linus a new blanket: "I thought I was doing the right thing." After putting finger to chin, Lucy proclaims: "In all of mankind's history, there has never been more damage done than by people who 'thought they were doing the right thing.'"

Sullivan's therapeutic posture came to be called counterprojective. The patient arrived with expectations about how authority figures act. Sullivan would behave differently. Franz Alexander's variant of psychoanalysis operated along similar lines.

By the 1950s, alternative, more vigorous approaches to patients were very much in the air. Perhaps Schulz was making fun of them, too, so that Lucy's sharpness—her counterprojective technique—cuts both ways, as a critique both of Freudianism and its critics.

His denials notwithstanding, Schulz seems to have been conversant with the psychotherapies of his day. Famously, he coined the phrase "security blanket," as the demotic equivalent of the British psychoanalyst Donald Winnicott's "transitional object." Schulz played contract bridge regularly with a neighbor, Fritz Van Pelt, whose family name, with the *v* made lowercase, had become Lucy's. The story goes that Van Pelt had taken a psychology course that covered Winnicott. When Schulz teased Van Pelt's daughter by hiding her special bunny, the father warned Schulz off, explaining how an object halfway between toy and parent afforded a child a sense of security. Next, Linus got his blanket.

Internal evidence, in the cartoons, reveals facility with psychotherapy. When Lucy treats Snoopy for a phobia—he has become fearful of sleeping outdoors at night—she suggests that guilt (over his inadequacies as a watchdog) may be at the root. Exploring the problem, she asks Snoopy whether he was happy at home and whether he liked his mother and father. On another occasion, she tells Linus, "The fact that you realize you need help, indicates that you are not too far gone." There's no way that these routines are not *about* psychotherapy, about psychotherapy as something funny and not a little suspect.

In practice, it was impossible to be attuned to cultural trends at midcentury without being aware of psychoanalysis, pro and con. I can say a word about my own exposure. In 1959, I was in grade school. I don't recall reading the *Peanuts* strip, although it appeared in our local paper. I mostly came to Schulz later, in the *Happiness Is a Warm Puppy* era. (It was Lucy, in a soft moment, who spoke that line.) I was likelier to be conversant with Sullivan and Alexander. My mother had read them during World War II, when she trained as an occupational therapist. Their texts featured prominently on the family's bookshelves.

I had been exposed to the methods. Joan Doniger, a family friend who had trained with my mother in occupational therapy, was a babysitter in my early childhood. Donny, as Joan was mostly called, went on, in 1958, to found Woodley House, one of the first psychiatric halfway houses, serving people with serious mental illness. The residents were required to be in psychoanalysis, but Donny was a counterweight. She had a good deal of Lucy in her. Donny would tell residents, "I understand that you're hallucinating, but you need to get along with your roommate—and sweep out your room."

Perhaps it is not coincidence that, in medical school, I sought out Leston Havens as a mentor. Les was a Sullivan scholar known for his ability to surprise patients and catapult them into new levels of honesty and openness.

Here's a Havens moment I recall from my first psychiatry rotation. A patient enters the room, charms the trainees with offhand chatter, and begins to reminisce about his pleasant childhood. Havens reaches into his pocket, whips out a bill, and says, "Five bucks says your old man was a son-of-a-bitch." The patient, a sociopath, gets down to business.

Later, I would study schools of family therapy that were similarly confrontational.

After training, I dropped those methods. I did not often bring a patient up short, at least not intentionally. I was concerned about patients' fragility. Perhaps I was in rebellion as well, against the dramatic techniques that had achieved prominence by the late 1970s. My, and my generation's, version of *Snap out of it!* was prescribing. We used medicines to free a patient from circular thinking so that the work of self-examination could proceed.

Considering talk therapy alone: were my patients the worse for my reticence? Perhaps. We are free to imagine that Charlie Brown gains something from Lucy's brusque response. He is being thrown back on his own resources, with the message that they may be more substantial than he believes. Lucy as therapist, I am suggesting, does not go entirely against the grain.

We feel blue, we expose our feelings, we get a bracing dismissal, and we pay for the privilege. Life's like that. Good grief!

That's the genius of a perfect joke, isn't it, to encapsulate every aspect of a complex ambivalence? "Snap out of it! Five cents, please" captures and exposes contradictory feelings, of awe and contempt, toward psychoanalysis and its alternatives.

That said, it would be wrong to reduce the doctor-is-in routine to its premises. The genius of Schulz is in coaxing transcendent results from everyday material. The subject is the human condition. The humor in that perfect strip—"Snap out of it!"—is bittersweet: we feel blue, we expose our feelings, we get a bracing dismissal, and we pay for the privilege. Life's like that. Good grief!

Even this scope is too narrow. As his fellow cartoonist, Jules Feiffer, was known to insist, Schulz was intensely modern, aware of the absurdity of our existence and the self-referential nature of art.

Late in the *Peanuts* canon, Schulz contributed a highly *meta* strip that suggests that he was continuing to puzzle out this matter of the psychiatry stand, what it was or had been about, and how seriously its content should be taken. The cartoon's dialogue would not be out of place as a coda to a Woody Allen movie, like that routine at the end of *Annie Hall* about needing the eggs.

Franklin, a new character—new in the strips and new in town—asks Lucy how the lemonade business is going. Lucy corrects him: "This is a psychiatric booth." Puzzled, Franklin asks Lucy whether she's a real doctor. Lucy answers the question with a question: "Was the lemonade ever any good?" **M@B**

PETER KRAMER is the author of seven books, including *Ordinarily Well*, *Against Depression*, and *Listening to Prozac*. He hosted the nationally syndicated public radio program *The Infinite Mind*, and his essays, op-eds, and book reviews have appeared in *The New York Times*, *The Wall Street Journal*, *Slate*, and elsewhere. He is a clinical professor emeritus of psychiatry and human behavior at The Warren Alpert Medical School. He is at work on a novel built around a psychotherapist's encounter with an erratic, egotistical political leader.

This essay originally appeared in *The Peanuts Papers: Writers and Cartoonists on Charlie Brown, Snoopy & the Gang, and the Meaning of Life*, edited by Andrew Blauner '87.

CHECK-UP

What's new with Brown Medical Alumni

Prescription for Change

We may not think of CVS as a health care company when we're shopping for snacks and shampoo while filling a prescription, but in fact it's the largest such company in the US. It encompasses insurance (Aetna), a pharmacy benefit manager (Caremark), and local care providers (HealthHUBs).

Internal medicine physician Sreekanth Chaguturu '99 MD'04 joined Woonsocket, RI-based CVS in September as chief medical officer. His new role is a variation on a theme that's emerged over his career: addressing shortcomings in the delivery of care to increase access and quality.

It began at Brown, when Chaguturu spent a year in South India at an HIV referral center as part of an NIH-sponsored study on the role of antiretroviral medications in resource-limited settings. "I became interested not only in questions of science, but in the policy question: how do you even design a health care system to deliver these medications?" he says.

After four years at McKinsey & Company working with international health ministries and other clients around optimizing health systems, he joined Boston-based Partners HealthCare, which had recently been selected to become a pioneer accountable care organization (ACO).

"In 2012, we only had the conceptual papers on what an ACO was," he recalls. "The question was how to implement that." Chaguturu delved into negotiations with payers around risk contracts, and was responsible for building clinical programs around certain populations—specifically, the 5 percent of patients who accounted for one-fifth of medical costs, among other targets.

Through implementation of a new care plan, "we were able to reduce hospital admissions by 20 percent, ER visits by 20 percent, and save $2.65 for every dollar invested," he says.

But most importantly, mortality decreased by 4 percent. "We were most proud of that," says Chaguturu, who has practiced internal medicine at Massachusetts General Hospital for 12 years.

Over the years at Partners, Chaguturu says he had the opportunity to improve quality and reduce costs in almost every area of health—except for pharmaceutical spending. "It's one area that health systems aren't well positioned to address," he says. "It's a different set of actors."

Now he has that chance. Even as he strives to achieve work-life balance—Chaguturu and his wife, Megan Hardin, MD, a clinical research director in the pharmaceutical industry, live with their children, Rohan, 4, and Mira, 3, in the Boston suburbs—his new challenges are some of the most pressing of our time: "ensuring that we have an understanding of the pipeline of medications, getting them into the hands of patients who need them, and making sure we have the quality improvement and cost-containment initiatives for where the industry is headed."

For example, Chaguturu says, "We are increasingly going to see more gene therapies." These may be important treatments for many diseases for which there currently is none. He hopes that Zolgensma, a new gene therapy for spinal muscular dystrophy manufactured by Novartis that costs $2.1 million for a single infusion, is an outlier. But Chaguturu's team's research suggests that gene therapies in development will be expensive, so they're studying how to create the right payment models to make them accessible to patients.

His team is also reviewing digital therapeutics—apps and hardware with clinically validated efficacy for anxiety or diabetes, for example—to figure out how to pay for them. There are hundreds of these apps and it takes a great deal of due diligence to distinguish the signal from the noise, Chaguturu says. "Some of these therapeutics actually do work," he adds.

"Here and now, there are new technologies and new players—big box stores, retail pharmacies, tech companies like Facebook, Google, and Amazon—that have not traditionally been in health care," Chaguturu says. "Physicians play a critical role in connecting the dots and making sense of this Byzantine world of health care so that it makes sense to patients."

—MARY STUART

PHOTOGRAPHY: SCOTT NOBLES

Graham Gardner

The Network

DOCTOR BECOMES MATCHMAKER FOR PHYSICIANS AND PATIENTS.

Nothing is more frustrating than getting a referral from your physician—only to find that the specialist isn't taking new patients or doesn't actually specialize in your ailment. In 2010, Graham Gardner '95 MD'99, MBA, cofounded Kyruus, a company providing digital solutions that mitigate that experience by helping health systems schedule the right provider at the right time. The goal, he says, is to make health care delivery better.

Ten years later, Kyruus serves one in five US health care providers. In 2019, the company raised $42 million in a Series D round, bringing its total funding to more than $125 million. The new funds will allow Kyruus to augment its routing and schedule optimization support, while building partnerships with insurance companies and large employers. Its human capital is growing, too: to support this growth, the company plans to hire 100 new employees in 2020.

Kyruus is taking some innovative steps to help connect people with care, such as partnering with Uber Health. Call center agents that use Kyruus's technology to match patients with providers can help arrange Uber rides. It's one way of addressing a lack of reliable transportation, a social determinant of health that impacts access to care.

After receiving his MD, Gardner (see *Brown Medicine*, Winter 2013) completed his internal medicine residency and cardiology fellowship at Beth Israel Deaconess Medical Center in Boston. He went on to earn an MBA at Harvard Business School.

"Kyruus's momentum reflects the value that health systems are placing on an enterprise-wide platform that enables them to engage and route their patients to the right care within the network," says Gardner, the company's CEO. "We feel fortunate to have developed our solution in partnership with many of the leading health systems over the last decade and are honored to now be in a position to connect more patients to the care they need across the globe." **—KRIS CAMBRA**

A TRUE LEADER

Linda Brown RES'01, MD, MS, an associate professor of emergency medicine and of pediatrics at The Warren Alpert Medical School, became vice chair of pediatric emergency medicine in the Department of Emergency Medicine in February.

A graduate of the Pennsylvania State College of Medicine, Brown completed residency training in pediatrics at Hasbro Children's Hospital, where she was chief resident. She then completed a pediatric emergency medicine fellowship at the Children's Hospital of Philadelphia. After three years at Yale-New Haven Children's Hospital, she joined the faculty of Brown Emergency Medicine in 2007.

Brown is the director of the Lifespan Medical Simulation Center. She has led funded research on medical simulation, and serves as the chair of the International Simulation Data Registry for the Society for Simulation in Healthcare. In 2019 she received the Society for Academic Emergency Medicine Simulation Academy Distinguished Educator Award.

She also has developed expertise in emergency medical services for children. She chairs the EMS for Children Rhode Island Advisory Committee for the state's Department of Health and is the medical director of the RI EMS for Children Program.

Linda Brown

ANYTHING TO SHARE? Career news, weddings, births—your classmates want to know. Send an email to med@brown.edu.

CLASS NOTES

ALUMNI

1970s

Mark Blumenkranz '72 MD'75 MMSc'76, P'05, P'08, is the non-employee director of San Francisco-based 1Life Healthcare, parent company of One Medical, which provides direct primary care through membership-based offices. Mark is also the CEO of Kalion Therapeutics.

Edward W. Martin '76 MD'79 MPH'06 received the Dr. Herbert Rakatansky Award from the Rhode Island Medical Society for his achievements in hospice and palliative care. He is a professor of medicine, clinician educator, and the director of the hospice and palliative medicine fellowship program at The Warren Alpert Medical School, as well as the chief medical officer at HopeHealth Hospice and Palliative Care.

1980s

Yul D. Ejnes '82 MD'85 RES'89, a clinical associate professor of medicine at The Warren Alpert Medical School, received the Irving Addison Beck Laureate Award from the Rhode Island chapter of the American College of Physicians. The award is given to someone who epitomizes the attributes of the award's namesake, Irving Beck '32, MD, in recognition of peer approval, excellence in the specialty of internal medicine, and for distinguished service to the chapter and to the Rhode Island community.

1990s

Atul Butte '91 MMSc'95 MD'95, distinguished professor and director of the Institute for Computational Health Sciences at University of California, San Francisco, will be co-chair of the newly established Committee on Emerging Science, Technology, and Innovation in health and medicine of the National Academy of Medicine.

John Pezzullo MD'95, an associate professor of diagnostic imaging at The Warren Alpert Medical School, was appointed to the board of governors of the Rhode Island Hospital Foundation.

David Miller MD'96 is the founding medical director for pediatrics at the University Hospitals Connor Integrative Health Network in Cleveland, where he will develop an integrative medicine pediatric program within the UH Rainbow Babies and Children's Hospital network. A licensed acupuncturist, he previously was the owner and medical director of East-West Integrated Medicine in Chicago.

Brian Sites MD'96, medical director of Dartmouth-Hitchcock Medical Center's Acute Pain Medicine Service, will be editor-in-chief of *Regional Anesthesia & Pain Medicine*. He plans to expand the journal to adjust to changes in the practice of medicine.

2000s

Amar Desai '97 MD'02 is the president and CEO of Optum California, a health services company where he will be responsible for Optum care delivery organizations and physician networks in California. Previously he was president of California medical group HealthCare Partners.

Adrian Gardner '98 MD'03, MPH, who spent the last seven years in Kenya as part of the Indiana University School of Medicine-led AMPATH program, is now the school's associate dean for global health.

Stacey Gorovoy '02 MD'06, an ophthalmologist, practices with her father, Mark Gorovoy, MD, P'02MD'06, P'06MD'10, at Gorovoy MD Eye Specialists in Fort Myers, FL. She completed her internship in internal medicine at UMass, residency in ophthalmology at Tulane, and fellowships in ocular pathology at the University of Iowa and in cornea and refractive surgery at Tulane. She was previously on the staff of Tulane Medical Center, Interim LSU Public Hospital, Southeast Louisiana Veterans Health Care System, and Alexandria VA Medical Center.

2010s

Mary Beth Sutter MD'10 RES'13 is the director of maternal and child health at Care New England and sees patients in their Pawtucket office. She's also an assistant professor of family medicine at The Warren Alpert Medical School and the maternal and child health director for the Brown Family Medicine Residency Program. She completed her residency at Memorial Hospital and a fellowship in maternal, child, and reproductive health at the University of New Mexico.

RESIDENTS

2010s

Kate Elizabeth Cahill RES'10, MD, was named Woman Physician of the Year by the Rhode Island chapter of the American College of Physicians. This award honors an outstanding woman physician with a distinguished career in areas of exceptional patient care, medical education, and/or research. Kate is an assistant professor of medicine, clinician educator, and of medical science, clinician educator, at The Warren Alpert Medical School.

Allison Gray RES'10, MD, is a neurologist and owner of Colorado Concussion Clinic, treating patients with TBIs and other neurological disorders. She completed her internship in internal medicine at Rhode Island Hospital, residency in neurology at Harvard, and fellowship in sports neurology and concussion at CNS Multispecialty Clinic in Wellesley, MA. She moved to Colorado with her family in 2015.

Mervat Saleh RES'16, MD , joined PeaceHealth St. Joseph Cancer Center in Longview, WA. She completed her residency in internal medicine at Brown and her hematology/oncology fellowship at MedStar Georgetown University Hospital in Washington, DC. Her interests include genitourinary malignancies, melanoma, and breast cancers.

Linda DeMello RES'18, MD , is a radiologist at Rhode Island Medical Imaging. She was a radiology resident at Rhode Island Hospital/Warren Alpert Medical School. An assistant professor of diagnostic imaging, clinician educator, at The Warren Alpert Medical School, she previously worked for the Rhode Island Blood Center and Rhode Island Hospital. She lives in Warwick.

2020S

Sean Sanker RES'20, MD, a resident in the medicine-pediatrics program at Brown, received the Resident/Fellow Recognition Award for Leadership from the American College of Physicians' Rhode Island chapter. The award recognizes a resident with qualities that exemplify the College's mission to "enhance the quality and effectiveness of health care by fostering excellence and professionalism in the practice of medicine."

FELLOW

Tina Rizack F'10, MD , MPH, is a medical oncologist at Saint Anne's Hospital Regional Cancer Center in Fall River, MA. She completed a fellowship in hematology/oncology at The Warren Alpert Medical

IN MEMORIAM

Robert J. Greer '92 MD'96, 49, died October 7. A native of Poughkeepsie, NY, he completed his neurology residency at Washington University and then practiced at St. Luke's Hospital near St. Louis. In 2006 he and his family moved to LaGrange, GA, where he continued to practice until his health would no longer allow him to continue. Dr. Greer considered it an honor to serve the health needs of his community. He is survived by his wife, Liz Greer, son, daughter, mother, and two sisters.

Robert M. Dowben, MD, 92, died November 11. An adjunct professor emeritus of molecular pharmacology, physiology, and biotechnology, he led a distinguished career as a physician, scientist, and academician.

Dr. Dowben earned bachelor's and master's degrees from Haverford College, and an MD from the University of Chicago. He held faculty appointments at the University of Pennsylvania, Northwestern University, a joint professorship between MIT and Harvard Medical School, the University of Bergen Norway, and the University of Texas Southwestern Medical Center Dallas during his career.

He authored more than 150 sc ientific publications and four books on cell and muscle physiology. Dr. Dowben received many accolades for his contributions to medicine and science, including the University of Chicago Alumni Award for Exceptional Service and the National Foundation for Neuromuscular Disease Award. He was named on eight patents and was a prolific writer on topics beyond science and medicine well into his 80s. Following his retirement from Brown, he continued to mentor many graduate students, delighting in their successes and following their careers.

He is survived by his wife, Carla, and their children and grandchildren.

Gifts in his memory may be made to the Rhode Island Community Food Bank, rifoodbank.org, or Crossroads, crossroadsri.org.


Wayne Carver

Reid W. Coleman '72 MD'75, 69, died December 2. He practiced internal medicine for more than 20 years in Providence. From 2001 to 2011 h e was the medical director for information systems at the Lifespan Health System. He then became chief medical information officer for Nuance Communications. Throughout his career he continued to teach residents and students at Brown and received many teaching awards until his retirement in 2017. He is sur - vived by his wife, Katherine; their two children; and two grandchildren.

H. Wayne Carver II '74 MD'77, 67, died December 26. Wayne discovered a passion for science and music at an early age. He received both his undergraduate and medical degrees from Brown, where he was the drum major of the marching band and played in three orchestras. It was at Brown that he met the love of his life and wife of 44 years, Deborah DeHertogh '74 MD'77, in anatomy class. He completed forensic training at the Cook County Medical Examiner's Office in Chicago and served as the chief medical examiner of Connecticut for 24 years. He strove to be impartial to both the prosecution and defense when called

School. Before joining Saint Anne's in the fall, she was director of medical gynecological oncology at Women & Infants Hospital and of medical oncology and hematology at South County Hospital in Wakefield, RI, where she also was director of the breast health program. She's a clinical associate professor of medicine and obstetrics/gynecology at Brown.

The Rhode Island General Assembly honored several faculty as Doctors of Distinction on International Women's Day in March. They included the following alumnae:

- **Carolina Fonseca-Valencia** RES'14, MD , clinical assistant professor of medicine; medical director, Internal Medicine clinic for Kent Hospital
- **Megan Ranney** RES'08 F'10 MPH'10, MD , associate professor of emergency medicine; director and founder, Brown Emergency Digital Health Innovation program
- **Iris Tong** RES'01, MD , associate professor of medicine; director, Women's Primary Care at the Women's Medicine Collaborative
- **Jody Underwood** RES'02, MD, clinical associate professor of psychiatry and human behavior and of medicine; psychiatrist-in-chief, Lifespan Physician Group

to testify, while always showing care and compassion to families in their time of need. His sense of humor, themed Hawaiian shirts, passion for cooking, and oversized personality will always be fondly remembered. He is survived by his wife and two sons. Memorial contributions may be made to Sandy Hook Promise, SandyHookPromise.org.

Arvin S. Glicksman, MD, 95, died January 3. He was a professor emeritus of medical science and former chairman of the Department of Radiation Oncology (formerly Radiation Medicine).

A 1948 graduate of the Chicago Medical School, Dr. Glicksman received an Atomic Energy Commission Post-Doctoral Research Fellowship and worked at Duke and at Brookhaven National Laboratories, contributing to the Manhattan Project. He continued his research at Sloan-Kettering Institute and joined the staff of Memorial Hospital and Sloan-Kettering, where he worked for 15 years. After conducting cancer research at the Institute for Cancer Research, Royal Marsden Hospital, in London, he joined the faculty at the Mount Sinai Medical School and Mount Sinai Hospital in New York as a professor of radiotherapy.

In 1973 he came to Brown as chairman of its new Radiation Medicine program, serving for 17 years. Dr. Glicksman developed and chaired the Quality Assurance Review Center for the National Cancer Institute's Clinical Trials Program. He stepped down after 25 years to become the executive director of the Rhode Island Cancer Council. In his long research career, he published more than 250 papers, and authored numerous textbooks and textbook chapters on cancer treatment. His many honors included Distinguished Alumni Awards from Chicago Medical School and Memorial Sloan-Kettering Cancer Center, the St. George Medal of the American Cancer Society, and the Ben-Gurion Medal from Ben-Gurion University in the Negev, in Israel. Dr. Glicksman maintained a private practice of radiation oncology until the age of 88.

A brilliant academician and caring physician, Dr. Glicksman was known for his marvelous sense of humor and sharp wit. He is survived by his wife of 64 years, Bernice, and their five children and 16 grandchildren.

Donald C. Jackson, PhD, 82, died January 7. He was an adjunct professor and professor emeritus of molecular pharmacology, physiology, and biotechnology at Brown. After graduating from Geneva College in 1959, he earned a PhD in physiology at the University of Pennsylvania in 1963. He came to Brown in 1973, where his research focused on the physiological mechanisms that adapt animals to stresses such as anoxia, acidosis, and variable temperature. Dr. Jackson was elected a fellow of the American Association for the Advancement of Science in 1984. He was still teaching as an adjunct professor at Brown through the fall 2019 semester. He is survived by his wife, Diana, and their sons.

John C. Kelleher III '93 MD'07, 49, died January 26. Born in Dallas, he graduated from Brown with a concentration in art history and East Asian studies, studied abroad in Nagoya, Japan, and was fluent in Japanese. He returned to Brown for medical school and completed his residency in psychiatry at the University of California, Los Angeles.

Dr. Kelleher was completing psychoanalytic training at The New Center for Psychoanalysis in Los Angeles when he was diagnosed with a malignant brain tumor. He was known for his kindness and compassion, and ability to treat difficult patients. His patients called him their friend.

He is survived by his husband, Greg Okin; their daughter; his parents; and three siblings. In lieu of flowers, the family requests that you consider a donation to the LA Gay and Lesbian Center (donate.lalgbtcenter.org), Amarillo Little Theater, Heal the City Free Clinic of Amarillo, or a charity of your choice.

MOMENTUM

The Power of Community

At this time of year, under normal circumstances, many of us would be gathering to celebrate Commencement and Reunion at Brown. As we all know, however, this year has been anything but normal. For many of us, the way we work and communicate with others has been different. Our family lives have been different. Thus, the way we mark milestones is different, too. But with all that has changed, at least one thing has remained ever true: our sense of community.

Brunonians have been unable to come together in our usual ways this year, but that has not stopped us from supporting one another. As you will read in this issue, Match Day happened virtually this year, and the MD Class of 2020 was still able to share their excitement about their residency placements (and a toast!). Virtual mentoring has been happening between current and newly admitted PLME students. Faculty, staff, and administrators have worked diligently to communicate and help medical students navigate remote learning.

To aid Brown in its work related to COVID-19, there have also been generous gifts of time, treasure, and talent. Parents and alumni have come forward with support for medical student needs, research, and donations of PPE (personal protective equipment) for our faculty clinicians working on the front lines. Brown researchers have converted their laboratories from their original purposes to work on testing and vaccine development for the coronavirus. Medical students have volunteered for a range of responsibilities from staffing medical hotlines to triaging patients and even providing childcare and petsitting services for health care workers in Rhode Island.

It is clear that the power of the Brown collective remains strong. We are so grateful to everyone who continues to rally behind The Warren Alpert Medical School, and we are prouder than ever to be Brown medical alumni. Please take care of yourselves and your families, and thank you for your continued service to your patients. It has not been easy, but please know that the Brown medical community stands with you.

We will see you soon.

Preetha Basaviah ’91 MD’95
BMAA president

Patricia A. Buss ’78 MD’81 RES’87
BMAA president-elect

BROWN TOGETHER

SUPPORTING OUR STUDENTS

Lightening the Load

The Halvorsens know the importance of health care. Andrew C. Halvorsen '68, P'99, P'06 is a cancer survivor. He and his wife, Barbara A. Halvorsen P'99, P'06, have two children—both graduates of Brown—who have chronic medical conditions. As a family with a long history of dedication to the University, they have always tried to help in any way they could, and supporting the Medical School seemed like a natural fit.

"I owe a debt to the University," Andrew Halvorsen says. "I was a classic scholarship student and wouldn't have the life and success I have now without that financial help or my education from Brown."

When Halvorsen was an undergraduate, there was only talk of establishing a medical school at Brown (see page 24). He admits to being skeptical about the idea at the time, but now sees that it was an excellent decision. "The Medical School is such an important part of Brown," he says. "It is a strong program, holding its students to the highest rigor and standards. Barbara and I admire the tenacity of the students and are in such awe of their hard work, goals, and accomplishments."

The other thing that fills the Halvorsens with awe is the potential amount of debt medical students face. "We all need to do our part to help relieve some of the debt students leave school with," Halvorsen says. "So many choose valiant but low-earning specialties, so we want to assist in lifting that financial burden off their shoulders."

To that end, with a gift of $250,000 to the Brown Medical Annual Fund, the Halvorsens put forth the largest dollar-for-dollar match in the Medical School's history in honor of Match Day 2020 (see page 12). Their Match Day match not only provides critical scholarship support, but also allows the Medical School to offer valuable educational resources and experiences that will serve as the foundation for the remarkable physicians the students will become.

"When we reviewed the proposal and considered how much our family has benefited from all Brown offers its students, we felt strongly others should be able to have the same opportunity," Halvorsen says.

Thank you to all our generous BMAF donors who, alongside the Halvorsens, helped mark this special occasion in the educational journey of our fourth-year medical students.

Writing History

Our alumni, as always, are changing the world.

Several years ago, the Medical School commissioned a written history of medicine at Brown, all the way back to the initial 19th-century medical program. The compendium lived online in an interactive timeline until the third-party app that housed it folded (the fatal flaw of electronic publishing), but it still serves as an essential printed resource.

It was fun to pull it out again to celebrate the MD Class of 1975 in this issue. To me, it's fascinating that the ideals and values that Dean Aronson, the Charter Twelve, and other luminaries saw as vital for Brown's medical program—the focus on humanity, on seeking out the marginalized and most in need of care, and of tapping into all disciplines to inform the developing physician—hold true today. It's a study in how institutions evolve while staying rooted in their foundational beliefs.

So it was odd that while looking back, I found us amid history in the making as COVID-19 began spreading in the US, having unprecedented impact on society. Obviously, concern hit our medical community first, even before the virus was widespread. Guidelines were put in place to protect medical students in clinical settings. Events were canceled swiftly because the risk of putting Rhode Island's heath care leaders in a room together was a Very Bad Idea.

That meant one of the Medical School's most beloved traditions, Match Day, was also canceled. Our minds told us it had to be done for safety, while our hearts mourned for the graduating students who have looked forward to their time with the band, the balloons, and the champagne. It feels like a cosmic metaphor for the many fun events and moments with friends and family these new physicians will miss because of their chosen profession.

As I write this in May, we are in week eight of our quarantine, and there is still so much uncertainty. It's too soon to write a moving synthesis of what has occurred, because it's still happening. We are now living history.

—KRIS CAMBRA, Editor

WHEN I GROW UP

Thanks for the latest edition, especially about "retirement." I have always wondered what it might be. Would this be what I do when (if) I g row up? I'm not there yet. Maybe it is time to start thinking about it—maybe not. Having practiced family medicine in southeastern Connecticut since finishing my residency at Brown, I'm not sure I know how or when to stop, or if I should. There are relationships that go back 40-plus years. Milestones passed; births, funerals, weddings, and just being part of the community. What will happen to all that? Nice to know that I'm not alone.

PETER J. GATES '68 RES'78, MD
via email

WHAT SAY YOU? Please send letters, which may be edited for length and clarity, to: Medicine@Brown, Box G-P, Providence, RI 02912; med@brown.edu, or via social networks, www.medicineatbrown.org/blog/connect.

TODAY'S STUDENTS / TOMORROW'S PHYSICIANS

"Brown is shaping me into a humanitarian with a strong capacity to listen to others and a physician with the skills necessary to find solutions."

Nicole Bencie '19 MD'23

INSPIRING THE PHYSICIANS OF TOMORROW

BROWN TOGETHER

The Brown Medical Annual Fund provides students with the resources they need to lead and serve.

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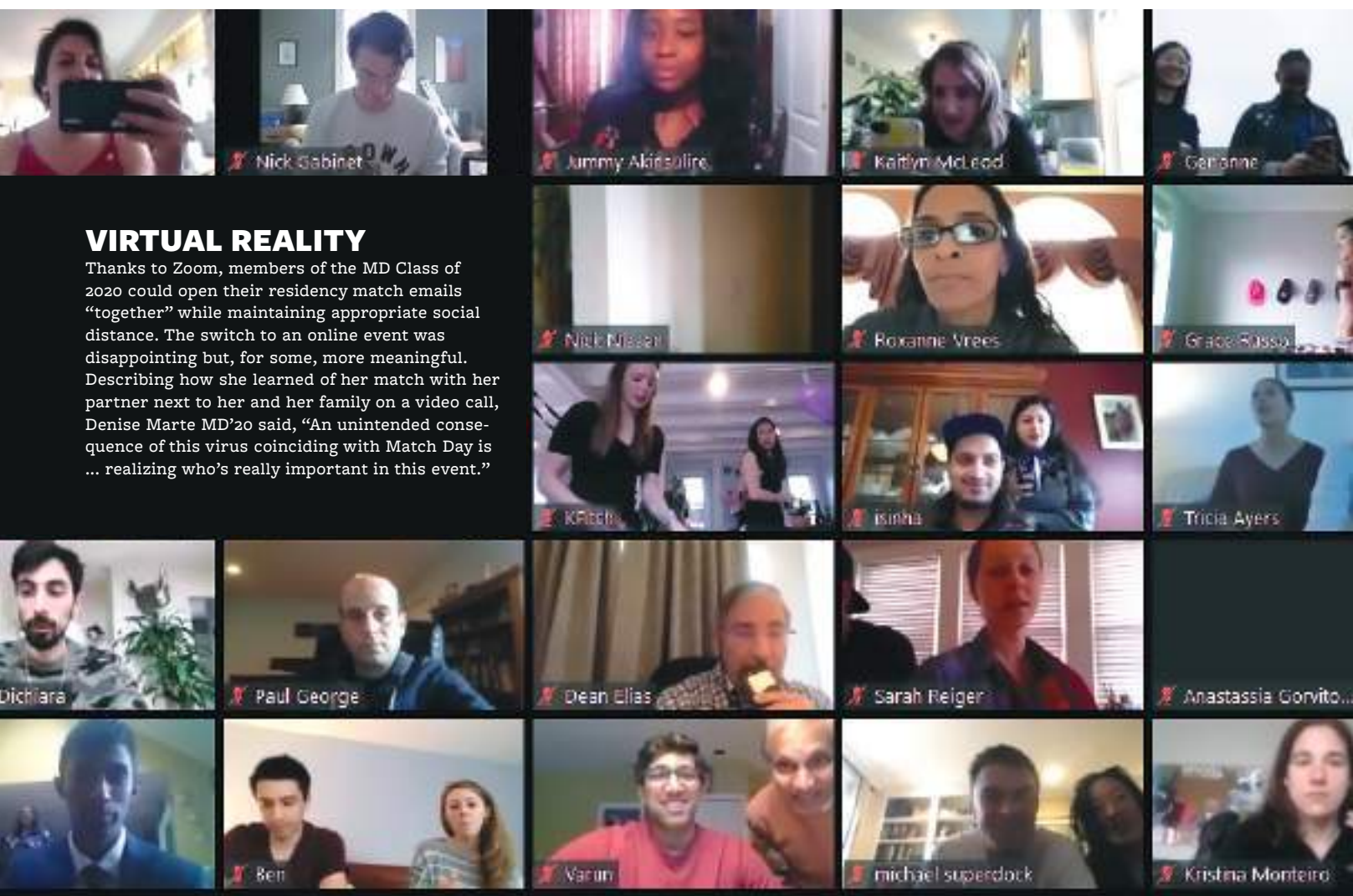

VIRTUAL REALITY

Thanks to Zoom, members of the MD Class of 2020 could open their residency match emails "together" while maintaining appropriate social distance. The switch to an online event was disappointing but, for some, more meaningful. Describing how she learned of her match with her partner next to her and her family on a video call, Denise Marte MD'20 said, "An unintended consequence of this virus coinciding with Match Day is ... realizing who's really important in this event."