BROWN
Alpert Medical School

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GOOD TIMES, BAD TIMES

Vaxxed and somewhat relaxed, the MD Class of 2021 graduated May 1 in a ceremony on Ruth J. Simmons Quad. While it lacked the traditional pomp and circumstance of a Brown commencement and family and friends had to watch via livestream, the ceremony held special significance for the class whose medical educations were most disrupted by the pandemic. Plans are underway to hold a commencement ceremony in May 2022 for the MD Class of 2020.

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MEDICINE@BROWN

p20

WHO'S GOT TEDDY'S BACK?

A team of doctors, lawyers, and community health workers unite for social justice.

MADE IN CUBA
BY ROCÍO OLIVA MD'23, MS
CUARTELES, HAVANA, CUBA, 2018
This is a street where artists actively create for their own fulfillment and to sell to international tourists who visit the island. The title "Made in Cuba" represents a phrase that is ubiquitously found on the items crafted here. It also serves as a statement of who I am. The San Isidro movement involved poets, musicians, writers, and painters from Havana who bound together and finally spoke up about a regime that was suffocating its people. Looking at this image today, during a time of unprecedented political bravery in Cuba, I am reminded of how the change that the people of Cuba are craving started with artists like those working on this street.

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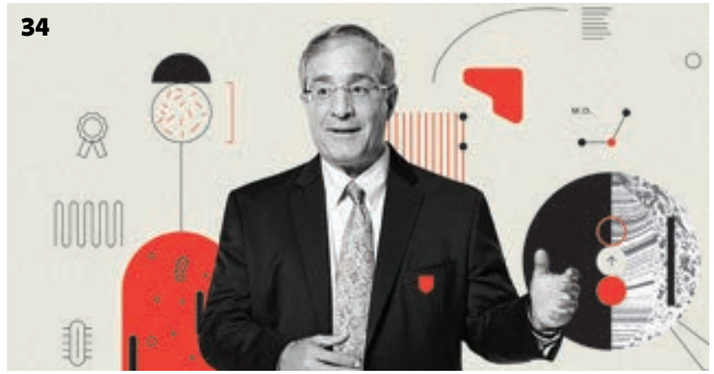

IN EVERY ISSUE

ON THE COVER:
Theodore Wright, a Transitions Clinic patient.

PHOTOGRAPH BY ALEX GAGNE

IN THE KNOW

Playing the Long Game

We kicked off a new academic year by welcoming the most diverse class of medical students ever. Of the 144 students in the MD Class of 2025, one-third are from backgrounds underrepresented in medicine. You'll read more about them in this issue of *Medicine@Brown*.

By now, the COVID-19 pandemic feels like an ultramarathon and not the sprint we once thought it would be. I am incredibly proud of the way our community has continued our mission of teaching and research while simultaneously caring for the people of our state. The past nearly two years have been a test of our organization, yet we have persevered and even thrived, despite the difficulties we have faced both personally and professionally.

That is evidenced by the fact that we are nearing a 186-percent increase in external grant funding since 2013. The Advance-Clinical and Translational Research program was renewed in August with a $19.9 million grant from the NIH. The program funds clinical and translational research and provides education and professional resources to early-career investigators across Rhode Island. Advance-CTR has done incredible work to build the research infrastructure not only for Brown but for the affiliated hospitals and the University of Rhode Island.

We have perservered and even thrived, despite the difficulties we have faced.

During the past year, we also have made progress in our efforts to address diversity, equity, and inclusion (DEI). You'll hear more in the coming year about some of the exciting initiatives we've developed. For example, new "pipeline" programs help encourage and support undergraduate students at Rhode Island colleges to enter careers in medicine. We also have adopted new guidelines for faculty promotion to reward and recognize faculty for their DEI work and to encourage others to become involved.

As you know, efforts are underway to recruit the next dean of medicine and biological sciences; soon, I will be transitioning to a new role at the University and a new phase of my career. In the meantime, I look forward to continuing our work together and wish you all great success in the coming year.

—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

Make Livers Great Again

Thousands of livers donated for transplantation are discarded or rejected every year due to concerns about organ quality and function. But new research could greatly increase the number of livers that are transplantable, and save more lives.

After a liver is removed from a donor's body it undergoes perfusion, which flows blood or a blood replacement through its blood vessels to keep them open and active before transplantation surgery.

"Our new findings will allow us to design therapies that could be used during external perfusion to improve the quality of organs so that these livers can be transplanted instead of being discarded," says Jennifer Sanders PhD'05, associate professor of pediatrics and of pathology and laboratory medicine (research). "This could potentially increase the number of transplantable livers by hundreds to thousands per year."

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For the study, which Sanders presented at the Experimental Biology 2021 meeting, the researchers perfused 12 human livers with oxygen, blood, and nutrients using an external perfusion device that mimics the human body's circulation. They then compared livers from donors with fatty liver disease to those without.

"When we examined the differences in gene expression during perfusion, we found that both types of livers had similar responses," Sanders says. They also found that being perfused outside the body introduced injury in the livers that activated self-repair mechanisms that allowed the liver to heal and continue functioning.

The researchers are testing an experimental drug to see if it can be used during external perfusion to improve the function and quality of livers originally turned down for transplant. If the therapy is successful, they plan to begin a clinical trial to test the efficacy of the drug in a transplant setting. **—PHOEBE HALL**

Ade Osinubi, filmmaker

The Crisis No One Talks About

A student film shines a light on Black women's maternity struggles.

For Adeiyewunmi "Ade" Osinubi '18 MD'22, filming, editing, and producing her own films isn't anything new.

"I started filmmaking in high school, when I coproduced two documentaries about a birth condition called obstetric fistula," says Osinubi, who began teaching herself the craft at age 16.

This experience in 2012 marked the beginning of her interest in women's health, filmmaking, and photography. As an undergraduate in the PLME, Osinubi took these interests further, working as a women's peer counselor and a photographer for various campus groups, including the Brown Center for Students of Color. For her leadership and contributions to student life, she received the Alfred H. Joslin Award from the Division of Campus Life in 2018.

"Being at Brown definitely fostered these multidisciplinary interests in me. I don't know what it would've been like if I went to another school," she says.

In her first year of medical school, Osinubi embarked on her most challenging filmmaking endeavor yet: a documentary series titled *Black Motherhood through the Lens*. It follows four Black women as they navigate the reproductive and maternal health care system, from conception to postpartum.

Despite the challenges they face—which include miscarriage, lack of access to infertility care, and postpartum depression—each woman pursues her dream of becoming a mother.

"There has been a lot of media attention on Black maternal mortality," Osinubi says. "I wanted to address that, and I also wanted to diversify media representation of people going through infertility and postpartum mood disorders. The little media attention on these topics has been primarily through the voices of white women."

Osinubi taught herself every aspect of the filmmaking process: "I was the producer, I was the director, I was the cinematographer, I was the sound person," she says.

Though it wasn't easy to balance her studies with the project, which took more than two years, she says she would not have changed anything about it. Working solo allowed her to build strong relationships with her subjects, imbuing the film with intimacy and authenticity.

Black Motherhood through the Lens was picked up by the International Black & Diversity Film Festival, the Rhode Island Black Film Festival, and the American Public Health Association film festival, among other events. During Black Maternal Health Week in April, the Medical School's Office of Diversity and Multicultural Affairs screened the documentary and hosted a panel discussion with Osinubi and two women from the film, Shaylene and Shannon.

Osinubi says storytelling will be an integral part of her medical career. In addition to filmmaking, she has written for publications like *Glamour*, and spoken at events hosted by the National Birth Equity Collaborative, Blue Cross Blue Shield of Rhode Island, and other medical schools.

"I want to use media in my practice of medicine," she says, "whether that be raising awareness about important issues or communicating health topics to the public." **—ISHAANI KHATRI '21 MD'25**

www.blackmotherhoodfilm.com
Twitter: @Ade_Osinubi

BY THE NUMBERS

Meet the Class of MD'25

144 total students

♂**68** | ♀**76**

23 average age (range 21-32)

STUDENTS HAIL FROM

62 colleges and universities

34 US states and territories

19 countries (birth or citizenship)

ROUTES OF ADMISSION

AMCAS	**84**
Program in Liberal Medical Education	**53**
Postbaccalaureate	**4**
Early Identification	**3**

10,259 TOTAL APPLICATIONS, INCLUDING

16 admitted

396 applications to Primary Care-Population Medicine combined MD-ScM program

3 matriculated

123 applications to the MD/PhD program

48 from groups underrepresented in medicine (**33%**)

PHOTOGRAPH: DAVID DELPOIO

Power Pipeline

A 10-year effort to increase diversity in Brown's STEM doctoral programs successfully recruited more students and graduated more PhDs from historically underrepresented groups, according to a study in the *Journal for STEM Education Research*.

The Initiative to Maximize Student Development, launched in the Division of Biology and Medicine in 2008, matches students with mentors and provides research training, career and skills development, and financial support. The initiative expanded to include physical sciences in 2017.

In July, IMSD leaders reported that overall STEM graduate student diversity increased from 19 percent to 26 percent over the program's first decade, while the proportion of underrepresented students who earned PhDs rose from 4 percent to 14 percent. The national average is 8 percent. Furthermore, all IMSD alumni are working in fields that use their degrees.

"Inequities are what lead to underrepresentation in STEM," says IMSD codirector Andrew Campbell, PhD, dean of Brown's Graduate School. "When inequities are eliminated … the success of underrepresented students becomes indistinguishable from the success of their peers."

— CORRIE PIKUL

ILLUSTRATION: LARA TOMLIN; PHOTOGRAPH: ALEX GAGNE (RIGHT)

ASK THE EXPERT

How does sleep impact children's mental health?

Mary Carskadon, PhD, has devoted her career to the study of sleep. A professor of psychiatry and human behavior at Brown and director of chronobiology and sleep research at Bradley Hospital, her findings on adolescent circadian rhythms and the importance of sleep for learning and memory have prompted schools across the US to delay start times. Earlier this year, the NIH recognized the significant potential of her research to improve kids' well-being with a $10.1 million grant to establish the Center for Sleep and Circadian Rhythms in Child and Adolescent Mental Health at Bradley. As director of the center, Carskadon—a leader in the field for more than four decades—and her leadership team will support junior researchers to continue and expand her work.

Our internal clock is set to tell us the optimal times to sleep and to be awake, and that's integrated with tons of other biological functions controlled by circadian rhythms. A master clock in the brain sets the tempo like an orchestra conductor for the molecular clocks in other organs' cells. When you have jet lag, the "instruments" aren't playing their tunes in synchrony.

This also illustrates the challenges of "social jet lag," which we think is exacerbated in youth who have early school start times and thus are forced on a schedule that doesn't fit their internal rhythms. For example, a Rhode Island student whose school starts at 7:30, but whose internal clock runs on California time, is jet lagged during the school week.

Sleep is a core piece of the puzzle for almost every single mental health issue in young people. Loss of sleep results in losses in psychological development, cognitive function, learning, behavioral and emotion regulation, socialization, even loss of life. Epidemiological data show that kids who sleep too little are more likely to engage in risky behaviors; depression and suicidality have the highest increased odds ratios in youth with insufficient sleep.

Many US school systems allow for too little sleep for those who cannot adjust their biological timing. Not every kid has delayed sleep cycles—but many are really disadvantaged by this pattern. Expert recommendations call for the school bells of middle and high schools to ring no earlier than 8:30 a.m. in order to let children sleep.

IN VIVO

ANOTHER DIMENSION IN SURGERY

Craniofacial surgeons like Albert Woo '95 MD'99 RES'05 indulge their inner artists as they sculpt new noses, jaw bones, and eyebrow ridges for victims of gunshots and car crashes and cancer. But they don't want to get too creative; they want a prosthetic nose, say, to fit their patient's face. In the old days, Woo would have referenced CT scans and X-rays and then drawn on his two decades of experience to "figure it out in the operating room." No more. As director of the Lifespan 3D Printing Lab, the associate professor of surgery, of pediatrics, and of neurosurgery can eliminate the questions by creating a life-size model of the nose in a matter of hours and plan the surgery in advance. "I don't have to guess or make things up on the fly. I know exactly what I need to do," he says. A new surgeon would, too: "It levels the playing field." The potential goes beyond plastic surgery: 3D prints from his lab help physicians plan spinal, heart, and fetal surgeries, even in emergencies. Hand models allow trainees to practice sewing tendons before encountering the real thing. Casts for burn masks require a patient to just sit for a photo, no plaster needed. "Honestly, we're just skimming the surface now," Woo says. **—PHOEBE HALL**

STRIKE A POSE
An elaborate 3D camera array captures patient photos; an algorithm then merges them to make the models. "Someday it will get replaced by an iPhone," says lab coordinator Joe Crozier.

PACKAGE DEAL
Woo helped develop the 3D printing lab at Washington University in St. Louis before Brown recruited him back in 2016—with the promise he could start a new lab here.

SUPER MODEL
Even seasoned surgeons have more to learn; Crozier says a 3D spine model "literally changed what the chief of neurosurgery was going to do … just by being able to see it and hold it."

NO MORE MAIL ORDER
3D models aren't new to medicine, but few hospitals have their own lab; most order them commercially, which can take a week or more and costs 10 times as much, Woo says.

CHILD'S PLAY
Woo got a 3D printer for his son and daughter to learn engineering and design. Now every holiday, "my kids don't make cards," he says, "they design cool stuff on the 3D printer."

Tanisha Verneus, left, and Stana Nickolich want to connect first-gen med students.

When First Isn't Best

Students without doctors in their families band together for support.

Medical school can be a daunting, ceaseless flow of information for new students—something anyone with physicians in the family may already know. But the understanding and guidance of those family members often helps ease the shock and burden of the experience.

For physicians-in-training who are the first in their families to don the white coat, however, no one at home truly gets what they're going through, and may be unable to offer relevant advice in the face of overwhelming challenges. This can leave students feeling alone and adrift.

Stana Nickolich MD'23 and Tanisha Verneus '18 MD'22 wanted to help fellow first-generation med students avoid the isolation they'd experienced. So last year they founded First-Gen @ AMS to cultivate a community of peers and offer catered support and mentorship.

While the need for mentorship escalates throughout one's path to medicine, the programming designed to help first-generation students fades, explains Associate Dean for Student Affairs Roxanne Vrees '98 MD'03 RES'07, faculty adviser for the group and herself a first-generation med student.

Nickolich and Verneus say their group helps first-generation college and medical students find each other, as it can otherwise be challenging to learn each other's background.

"[I] really wanted to create that space where I could find people who are like me, who are having these struggles similar to mine, who I could connect with and speak to about those experiences without feeling so isolated," Verneus says.

Since the group formed, "I've felt a sense of belonging," Nickolich adds.

They also hoped to create an opportunity for students to access mentors, research, and education beyond the classroom that's unique to their experiences. As a first-generation medical student, "you don't know what you don't know," Nickolich says.

First-Gen @ AMS had to start up virtually amid COVID-19, but, making the most of it, they arranged Zoom socials and launched a mentorship program between students and first-generation physicians, Verneus says. They hope to organize more in-person activities this year. The leaders also intend to ramp up recruitment and reach out to affinity groups at the Medical School and similar organizations at the college.

The leaders also want to understand the challenges that first-generation medical students encounter, "to really hone into what these struggles are and how we can get rid of those barriers," Verneus says, and enhance their education.

They hope their group draws in prospective students searching for this support. "We want first-gen students to come find us … we want physicians in the Brown community to also come find us … and we can connect them with each other because the first-gen experience does not stop when you become an MD," Verneus says. "We've learned that the challenges continue at every step along the path."

For first-generation medical students, "our experiences are different," she adds, "but we're working to change that."

—EMILIJA SAGAITYTE '22 MD'26

PHOTOGRAPH: PHILIP KEITH

A Living Lab

Birth cohort study addresses child health problems from nutrition to COVID.

In Rhode Island, when pregnant women are ready to deliver their babies, 80 percent of them check in at Women & Infants Hospital. If kids need urgent care, parents can rush them to Hasbro Children's Hospital, which handles 90 percent of pediatric hospitalizations in the state. Nearby, Bradley Hospital is devoted to child and adolescent mental health.

To build on the opportunity offered by that continuity of care, the Hassenfeld Child Health Innovation Institute at Brown commenced in 2017 an eponymous study of pregnant women and their babies over time. The Hassenfeld Study's prenatal cohort gathers data from women in their first or second trimester and follows them until after delivery; the postnatal cohort focuses on women after delivery. Participants agree to share demographic information, provide saliva and blood samples, and complete regular surveys about their health.

More than 1,000 women have enrolled so far, and they're yielding a treasure trove of data that enable researchers to look for patterns and make predictions about maternal and child health.

For example: what factors that affect pregnant women with asthma (such as stress, diet, sleep, and genetics) may predict the development of asthma in their children? What newborn behaviors may be related to developmental delays? Are babies born in a certain ZIP code more likely to experience a specific health issue?

"The Hassenfeld Study is a rich source of data that can be used to answer important questions as well as seed additional studies on pressing child health issues," says Patrick Vivier MD'89 RES'92, PhD, a professor of health services, policy, and practice and of pediatrics who directs the institute. In 2019 alone, affiliated scholars won nearly $15 million in NIH grants for such studies.

Jillian Hobbins, here with her husband, Adam, and their fraternal triplet boys are enrolled in the Hassenfeld Study.

The data also have enabled the institute to help local partners solve a range of real-world problems. When the Rhode Island Community Food Bank wanted to learn more about the people they served (a quarter of whom are children), institute researchers designed a survey, trained volunteers to administer it, and analyzed results. They learned that 45 percent of respondents had significant health-related issues.

"The 2019 hunger survey provided a much more detailed portrait of the families for whom our programs are structured," says Andrew Schiff, CEO of the food bank. "It changed in a profound way our sense of responsibility for making sure we were providing the healthiest possible food to our patrons and also that we continue to collaborate with health care providers."

In a survey last year, 70 percent of mothers enrolled in the Hassenfeld Study reported higher stress levels compared to before the pandemic, while 19 percent of children had missed in-person doctor's appointments. Based on these findings, the institute offered webinars on topics like wellness routines for kids during COVID.

The study data shouldn't only be useful to research partners, Vivier says: "We try to make this information available as soon as possible to advise, reassure, and guide families across the state—and beyond." **—CP**

OVERHEARD

"We have to double down on questioning patients on alcohol use. If you don't ask, you don't know."

— WAIHONG CHUNG MD'15 PHD'15 F'21, A GASTROENTEROLOGY RESEARCH FELLOW, WHO FOUND THAT INPATIENT CONSULTS FOR ALCOHOL-RELATED GI AND LIVER DISEASES SURGED AFTER THE PANDEMIC BEGAN, IN *JAMA*, JUNE 30, 2021.

PHOTOGRAPH: COURTESY HOBBINS FAMILY

Ramu Kharel, second from left, and other volunteers assemble home isolation kits for COVID patients in Nepal.

‘Drowning in the Pandemic’

COVID surge follows emergency medicine fellow from Rhode Island to Nepal.

Almost as soon as Ramu Kharel F’22, MD, arrived in Nepal in April as part of his Brown global emergency medicine fellowship, he found himself in the middle of a national crisis. A second wave of the COVID-19 pandemic was crashing over the Himalayan nation, causing its already-weak health care infrastructure to collapse.

“While the focus was on India, this country of nearly 30 million people was drowning in the pandemic,” Kharel says.

Just a few months before, Kharel—an affiliated fellow with Brown’s Center for Human Rights and Humanitarian Studies—had been treating COVID-19 patients in a Providence field hospital. But Rhode Island’s surge paled in comparison to Nepal’s, where some districts saw per capita cases as high as 90 percent, he says. “There was a major lack of oxygen supply, testing was inadequate, very few people had received the vaccine, and ICU beds were rapidly filling up,” he says.

Before coming to Nepal, Kharel had participated in training sessions, organized by Brown and Project HOPE, on the principles of treating COVID-19. Once on the ground, he teamed with health care workers, government officials, and NGOs to provide relief strategies.

“We do not have enough to equip health care workers working on the frontlines to fight this pandemic, and one of the gaps is basic clinical management knowledge,” he says. Kharel led trainings for health care providers, advised local government leaders on COVID management protocol, and consulted with health centers on treatment and resource management.

“One four-hour video training was attended by 300 doctors, nurses, health workers around the country, which was the maximum number allowed on my Zoom,” he says. “With my NGO, HAPSA Nepal, we also conducted a two-hour training with a focus on isolation/surge center staff.” They then posted the videos online to reach a larger audience.

Kharel’s NGO raised $51,000 to build and distribute isolation kits to more than 2,000 families across the country. It was “the best way to keep infected people safe and comfortable at home,” he explains.

“Nepal only has about 2,000 ICU beds and less than 700 ventilators,” Kharel says. “Also, much of the population lives in rural areas without easy access to medical care.”

Each kit included acetaminophen, cough syrup, rehydration fluid, surgical masks, sanitizer, soap, a thermometer, and a pulse oximeter. While the latter device made the kits more expensive, Kharel says, “it’s such a key item to help people either feel reassured that they can stay at home or that they need professional help.” After the pandemic, municipalities will collect the pulse oximeters and distribute them to local health centers that need them, he adds.

Kharel’s fellowship brought him to Nepal to study its emergency medicine programs. “The field is in its infancy,” he says. He was able to resume the research as the crisis subsided and returned to Providence in July.

“I was only supposed to be in Nepal for two months, but the Brown global division was super supportive in terms of flexibility,” Kharel says. **—CP**

www.hapsaglobe.org

PHOTOGRAPH: COURTESY RAMU KHAREL

Curriculum Changes with the Climate

Med students want to learn how the planet’s health impacts their patients’.

As humans destroy habitats and come into closer contact with animals, infectious diseases emerge. HIV is an infamous example; SARS-CoV-2 may have zoonotic origins too.

Closer to home, the destruction of forests and resultant patchwork of urban and natural landscapes enable blacklegged ticks to proliferate. Simultaneously, physicians see climbing cases of Lyme disease, says Senior Associate Dean of Biology for Curricular Affairs Katherine Smith, PhD.

Recognizing this critical overlap of environmental degradation and human health, medical students formed a Brown chapter of the Planetary Health Report Card, a student-driven initiative across numerous med schools in multiple countries. The report card assesses planetary health—the intersection between health and interactions with the environment—within the curriculum, research, community outreach and advocacy, student initiatives, and sustainability.

The students are also part of the Planetary Health Task Force, which includes physicians and faculty. That group formed in 2020 to improve the Medical School’s commitment to planetary health after release of the inaugural report card.

“For too long, clinicians and physicians have been left out of the conversation about environmental change and impacts,” and focused on diagnostics and treatment instead of preventive care, says Smith, an assistant professor of medical science who is working with the task force. “The field of planetary health brings them into the toolshed more fully.”

“We are not just protecting what we think of as the environment, but we are also protecting other aspects of our day-to-day life,” Blaire Byg MD’24 says. She adds that physicians can use their “privilege” to “advocate for our patients and our patients’ health.”

On this year’s report card, Brown received a B-, ranking seventh out of the 26 participating med schools in North America, according to Allison Navarrete-Welton MD’24.

One of the School’s weakest scoring areas was the curriculum, Byg adds. Although planetary health is part of some preclinical lectures and workshops, there’s a noticeable absence of these topics in clinical education, Kanika Malani MD’24 says.

The task force wants to work with the administration to address this shortcoming, Byg says. This year they’re offering a new preclinical elective, Planetary Health: Global Environmental Change and Emerging Infectious Disease.

Differences in environments between communities can exacerbate health disparities, says Interim Associate Dean for Medical Education Sarita Warrier RES’08, MD, a member of the task force. “Being able to call out and make those connections when we talk about disparities, health equity, social justice, and environmental justice … is also a priority for the curriculum,” she says.

Another idea under discussion is teaching students in Doctoring how to ask patients about their exposure to environmental factors that may impact health, in order to provide more appropriate medical advice, Jane Chen ’20 MD’24 says. The team has considered creating a scholarly concentration on planetary health, adds Jamie Thorndike MD’24.

The students also hope to get funding for planetary health research, Malani says. Strengthened ties between the Medical School, the Institute at Brown for Environment and Society, and the School of Public Health is another goal, according to Chen.

Finally, alongside curricular development, the Planetary Health Task Force plans to boost community engagement by connecting with local organizations, Byg says.

The task force, Smith says, has been one “of the most purposefully driven student groups I’ve had the pleasure of working with.”

“Our students are, I think, the best advocates for their patients and their communities,” Warrier adds. “I think building [planetary health] into the curriculum will give them a stronger foundation to be even better advocates around this particular area.”

Chen says it’s critical the Medical School actively helps implement the changes the students want. The work “can’t stay with the students, even though it started there,” she says. **—ES**

PHOTOGRAPH: ISTOCK

ESSAY

Separated by a Pandemic, United by a Cause

Faculty and students mobilize in the US to support the COVID response in Rohingya refugee camps.

BY JENNA MULLEN '22.5 AND RUHUL ABID, MD, PHD

Since COVID-19 started to shut down the world in March 2020, our team at HAEFA (Health and Education for All) has been working tirelessly to serve the Rohingya refugees and the local community and protect our health care workers in Bangladesh. Thanks to countless volunteers globally, numerous partnerships, extensive crowdfunding, and our dedicated medical team members, we were able to launch a comprehensive emergency response to COVID-19 in the world's largest refugee settlement in Cox's Bazar, home to 1.1 million forcibly displaced Rohingya from Myanmar.

The Rohingya are refugees in Bangladesh following genocidal persecution, mass-killing, and rape by Myanmar's military since the 1970s. In August 2017, the military initiated their largest persecution campaign yet, forcing a mass exodus of over 700,000 more Rohingya to Cox's Bazar (see *Brown Medicine*, Winter 2018).

In early 2020, the Rohingya refugee camps had only 47 functional hospital beds and zero ventilators. Overcrowding, insufficient sanitation, and poor nutrition were likely to make refugees more vulnerable to COVID-19 infection and mortality. At a density four times that of New York City's, community transmission would be so rapid within the camps that within a year, some studies estimated, up to 98 percent of the population could be infected.

HAEFA's solar-powered electronic medical record system, NIROG, provided an even more troubling picture. According to records from more than 100,000 patients treated since 2017, nearly 22.8 percent of Rohingya refugees belonged to the WHO's "high-risk" groups due to chronic illnesses such as diabetes and hypertension. We also didn't know how significant childhood malnutrition among the Rohingya would affect the generally benign COVID-19 outcomes observed in children worldwide. It appeared that the Rohingya, one of the world's most persecuted minorities, were at risk of yet another ravaging decimation of their community.

Students, volunteers, and researchers mobilized to supply HAEFA with the funds, training, and programs to tackle the virus in the camps. In spring 2020, two Brown students spearheaded the Students for HAEFA fundraising campaign.

Rohingya refugees wait to get the COVID vaccine in Cox's Bazar, Bangladesh, in August. HAEFA operates two free clinics in refugee camps there.

PHOTOGRAPH: ASSOCIATED PRESS

Crowdfunding, donations from private companies and organizations, and grants supported our initial COVID-19 response in the camps. We worked hard to source PPE, essential medications, and other supplies, and to reduce the costs by producing gowns and non-surgical face masks in a converted local garment factory. We also distributed more than 500 hygiene packets including bar soaps, reusable cloth face masks, and bleach to families with high-risk members just in time; the first case of COVID-19 in the camps was confirmed May 14, 2020.

HAEFA went on to partner with Project HOPE and Brown's Center for Human Rights and Humanitarian Studies, which provided a COVID-19 Competency Training of Trainer course to more than 3,000 health care workers and policymakers in Bangladesh including 35 tertiary, district, and sub-district hospitals, 70 health care workers in the Rohingya camps, and the entire HAEFA team in Bangladesh. The training equipped health care workers with the most recent evidence-based knowledge of COVID-19 patient management and infection control. During the first wave, Bangladesh suffered the highest physician mortality rate in the world. We are immensely grateful to have been able to offer this training to help protect Bangladesh's frontline workers and improve patient management.

Even after all these efforts, we had yet to confront the most complex challenge: addressing the social and cultural barriers to saving lives. From March to May 2020, our consultation rates dropped by 44 percent, largely due to widespread rumors that those infected with SARS-CoV-2 would be taken away from their families, isolated in treatment centers, and maybe even killed to prevent transmission. Decades of persecution by Myanmar's government had left the Rohingya community with little confidence in any governments or NGOs. We rapidly launched our COVID-19 Infection Prevention, Symptom Monitoring, and Contact Tracing Program in collaboration with the Center for Peace and Justice from BRAC University and the Richardson Center for Global Engagement. This initiative harnessed the power of trained Rohingya community volunteers to improve trust and ameliorate care for patients with COVID-19 symptoms. We were limited by a lack of laboratory testing, but when a symptomatic diagnosis of COVID-19 was made at a HAEFA clinic and the patient was referred for home quarantine, a trained volunteer would monitor symptoms for 14 days while encouraging proper hygiene, debunking common myths, and building trust. As a result, patients were providing an accurate representation of their symptoms and prognosis, which the volunteers relayed to the HAEFA clinicians to determine whether clinical follow-up or hospitalization was necessary.

Consultation rates have been extraordinarily difficult to increase, but we are confident that the impressive work of the volunteers and clinicians prevented a further fall in rates and saved countless Rohingya whose symptoms worsened after initial diagnosis. We know that community engagement in the camps holds the key to long-term community health. We hope to continue to harness this experience in all future work, throughout the pandemic and beyond.

As of August 29, 2021, according to official figures, it may seem like the Rohingya community has largely been spared the jarring devastation predicted. There have been 2,883 confirmed cases of COVID-19 in the camps and 30 deaths. The true extent of the outbreak is plausibly larger than official numbers, but still lower than the direst predictions. Insufficient testing facilities and widespread stigma associated with testing contribute to this trend. Despite reasons for optimism, in just one week in August, 120 patients tested positive for COVID-19, with a positivity rate of 12 percent—an exponential increase in confirmed cases and a worrisome indication of another wave.

It is likely that the pandemic will continue to trigger other emergencies in the overcrowded camps and may cause additional mortality. Heavy rains and monsoons caused flash flooding and deadly landslides throughout the steep hilly refugee camp this summer. Furthermore, the focus on COVID-19 and the decline in Rohingya trust in formalized health care are negatively impacting malnutrition screening, increasing high-risk home birth deliveries, and allowing chronic diseases to go unmanaged. Before the pandemic, 7.1 percent of our patients were hypertensive and 4.9 percent diabetic. They received weekly follow-ups and medicines at HAEFA clinics. While NIROG records enabled us to provide continuity of care for patients with chronic illnesses in the camps, COVID-19 has caused many of our patients to stop coming for check-ups and medication.

In order to prevent the spread of the virus in the camps, most services deemed non-essential have been suspended, including education centers and safe places for women experiencing gender-based violence. Not only is COVID-19 likely to be associated with increased morbidity and mortality among the Rohingya, but it may also have long-term effects on the mental health of a minority that has already experienced unimaginable trauma. It's more important than ever that Rohingya refugees receive vaccinations in order to resume other activities in the camps, which are vital to long-term health, wellness, and peace in the camps and the neighboring host communities.

After months of delays, vaccinations began August 10 for Rohingya over 55. In two weeks, 86 percent of that target group got their first dose. But major shortages delayed this effort. International resources must be mobilized to ensure that this population—with no political representation of its own—continues to receive vaccines, with a corresponding awareness and education campaign to encourage vaccination.

At HAEFA, we continue to do everything we can to serve the Rohingya to the best of our ability. We are investigating home delivery of medicines for chronic conditions and working with Rohingya community leaders to navigate the complex social and cultural landscape. We hold on to optimism, but we cannot ignore the tremendous stakes still at play for this community. As our lives begin to look more normal from where we sit and work remotely, we must remember that for many around the world it may be years before their lives return to their pre-pandemic "normal." We must continue to advocate for communities that cannot advocate for themselves in the inequitable global race for vaccines. The current silence for the plight of the Rohingya is deafening.

RUHUL ABID is an associate professor of surgery and the founding president of HAEFA, www.haefa.org.

JENNA MULLEN is HAEFA's COVID-19 emergency response coordinator and cofounder of Students for HAEFA with Phoebe Kennan '21.

Have We Lost Our Way?

We won't treat people who inject drugs for hepatitis C—but we'll take their organs when they die.

BY LYNN E. TAYLOR RES'00 F'05, MD

Prior to the COVID-19 pandemic, hepatitis C virus infection (HCV) was the leading infectious disease killer in the US. On May 19, 2021, National Hepatitis Testing Day, President Biden issued a proclamation calling on all Americans at risk for viral hepatitis to get tested; for all health care providers to educate their patients about these prevalent and often serious diseases; and to work to combat the associated stigma, discrimination, health disparities, and health inequities. He tasks us with eliminating viral hepatitis by 2030.

Also in May, the CDC reported that during the 12-month period ending in September 2020, drug overdose deaths in the US rose 29 percent compared with the previous annual period. The 87,980 reported overdose deaths surpass the number from any year since the start of the opioid crisis in the 1990s.

As a viral hepatitis physician caring for people who inject drugs at Rhode Island's only nonprofit methadone program, I wake each morning wondering whether any of my patients overdosed overnight and will be the organ donor for another of my patients today. The juxtaposition of President Biden's words with the CDC report transported me to Nobel Laureate Kazuo Ishiguro's 2005 novel, *Never Let Me Go*.

Never Let Me Go (spoiler alert) takes place in a dystopian rendering of England. Kathy, the narrator, is a "carer," tending to people who are "donors" in pain following surgery. Slowly we realize that there is a class within the larger society consisting of people cultivated to serve as organ donors for the rest, the "normals." Donor children exist to grow kidneys, livers, and other useful organs, dying as young adults after too much has been serially harvested. Reared apart from the outside world in special boarding schools, donors remain unaware of the brutal reality ahead until their late teens when they begin donating vital organs. Carers postpone their first donation by supporting a caseload of donors through successive procedures.

Kathy spends her childhood with friends Ruth and Tommy at Hailsham, an enlightened school educating donors as though they are fully human. Hailsham ultimately closes, becoming the last place to contemplate the ethical implications of this caste system. Kathy comforts her friends as Ruth dies after her second donation and Tommy after his fourth, knowing that she too will soon donate too many necessary organs and die young.

From where do the donors originate? They are clones, made in a laboratory to serve as a resource for those who are superior—people who really matter. It is implied that donors are cloned from less worthy, drug-involved individuals. Ruth explains: "We're modeled from trash. Junkies, prostitutes, winos, tramps. Convicts, maybe, just so long as they're not psychos." Given the benefits to their segment of society, the normals are indifferent to the suffering and killing of donors, whom they do not consider truly human.

Need we take heed of Ishiguro's allegory? Could such a system develop? In a way, it has. In the US, a rising number and proportion of HCV-infected organs from young overdose victims are being utilized for transplantation. Both overdose deaths and HCV incidence have skyrocketed with our opioid crisis, making the virus increasingly common among organ donors. With the 2013 advent of all-oral curative HCV pills (direct-acting antiviral agents, or DAAs) coinciding with these public health tragedies, harvesting grafts from people with HCV who overdose has become a means to expand the donor pool. The organ quality is superior because those dying en masse are young adults, with fewer years of wear on the body. We even have a new acronym to describe this phenomenon—ODDs, for overdose-death donors. People who inject drugs are our fastest-growing donor category.

Suddenly, HCV-infected organs are being transplanted not only into HCV-infected recipients, but into HCV-uninfected recipients. The recipients acquire the donors' HCV. They are then treated with DAAs post-transplantation. This may be the first time in medical history that physicians are deliberately infecting our patients with a non-weakened virus that can cause considerable illness and death. Data thus far from liver, kidney, heart, and lung transplant recipients demonstrate that DAAs safely cure HCV post-transplantation.

Overdose deaths and HCV incidence have skyrocketed, making the virus increasingly common among organ donors.

I appreciate the gains. The growing pool of HCV-infected organs reduces time spent on a transplant waiting list, improves survival and quality of life, and saves lives of many who could otherwise die. With the heartbreak of an overdose death, the grief of family members is assuaged by donating their loved ones' organs. However, I am concerned that insufficient attention, care, and resources are channeled into preventing these overdose deaths.

As a physician caring for patients with liver cancer and liver failure, I aggressively pursue liver transplantation for my patients in accordance with medical guidelines. I collaborate closely with multidisciplinary transplant teams. The strong foundation of my medical training was provided by the University of Pittsburgh School of Medicine, birthplace of liver transplantation. Yet, while the transplant community has readily adopted the strategy of accepting HCV-infected organs, we must ensure that more is done to prevent and treat addiction, and address contributory social and economic forces. We need expanded methadone and syringe services access, along with medicalization and decriminalization of substance use disorder. There are roadmaps to follow.

In life, people becoming overdose-death donors typically face barriers to addiction and HCV care. For example, most patients under my care are Medicaid recipients. Until 2018, when Rhode Island Medicaid lifted "sobriety" restrictions limiting DAA access for its recipients, my patients who use drugs, eligible to donate organs after overdose death, could not access DAAs. I question whether it is justifiable that a person denied DAAs due to state Medicaid sobriety or other restrictions and who then overdoses be used as a donor, with the recipient then getting DAAs. State DAA restrictions are being lifted slowly, one state and sometimes one category (fibrosis stage, substance use, clinician type) at a time, but numerous difficulties remain for people who inject drugs.

In Ishiguro's world, nobody fights the power. There is no rebellion by donors, thus the arrangement continues. Generally, the people I care for are too disempowered to speak up or organize. Their immediate concerns include polysubstance addiction, opioid use disorder,

ILLUSTRATION: KEITH NEGLEY

HCV, other infectious consequences of injection drug use, unstable housing, food insecurity, stigma, and substance- and poverty-related interaction with the criminal justice system. Responding to the CDC overdose data, Nora Volkow, MD, director of the National Institute on Drug Abuse, highlighted that unlike the early years of the opioid crisis, when deaths occurred most among white Americans in rural and suburban regions, the highest increase in mortality from opioids (driven by illicitly manufactured fentanyl) is now among Black Americans, and the risk of dying from methamphetamine overdose is 12-fold higher among American Indians and Alaskan Natives than other groups.

I read the March 2021 *New York Times*' review of Ishiguro's newest novel, *Klara and the Sun*. The book about the limits of our humanity now sits on my nightstand, waiting for a break in the overdose crisis and HCV epidemic so that I may crack it open. I fear the book will remain untouched for the foreseeable future.

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IN COURTS AND IN CLINICS, DOCTORS AND LAWYERS COMBINE THEIR POWER TO KEEP PEOPLE ON THE RIGHT SIDE OF HEALTH.

Meet Them Where They Are

BY SARAH C. BALDWIN | PHOTOGRAPHS BY ALEX GAGNE

Community health worker Anthony Thigpen, left, helps formerly incarcerated clients like Teddy Wright stay healthy.

On an early summer morning

in Lower South Providence, community health worker Anthony Thigpen stands in the parking lot of the Lifespan Center for Primary Care while a stocky, agitated man with tattoos and a muscle T strides back and forth in front of him.

"What's goin' on, Teddy?" Thigpen says in a warm, low voice. "Talk to me."

Theodore "Teddy" Wright, one week into probation, says that he was explaining to his girlfriend Paula's landlord that he had tried to fix the broken windows in her apartment—where, by the way, the shower doesn't work, either—but they had a misunderstanding and the landlord hung up on him, and that just doesn't sit right.

Paula, a petite woman in leggings, paces nearby, occasionally adding details, such as the fact some windows are nailed shut but the one in her granddaughter's room is actually missing and they've been dealing with rain and bugs for four days.

She wants to break the lease. He wants a showdown with the landlord. For Thigpen, keeping Paula housed and Wright out of trouble are paramount.

"Here's how we're going to move forward peacefully," he says quietly.

Over the next 10 minutes tempers cool, fists are bumped, a plan is put in place. Thigpen heads for his SUV, ready to go on his next call.

"Hey, Anthony!" Wright calls out across the parked cars. "Much love and respect."

"Love you too, brother," Thigpen says.

RETURN ON INVESTMENT

The Center for Primary Care serves as the outpatient site of The Warren Alpert Medical School's internal medicine residency program. On Wednesdays, it's also home to the Transitions Clinic, where people leaving prison, most of whom are Medicaid recipients, can receive comprehensive support that starts with, but extends well beyond, primary care.

Established in 2018, the clinic is a partnership of the Lifespan Community Health Institute, the Center for Health and Justice Transformation (part of The Miriam Hospital), and the Center for Primary Care. Its three community health workers stand ready to help clients secure necessities like food, clothing, and even shelter; connect them with social services; facilitate their relationships with family members; provide transportation; and visit and advocate for them if they become hospitalized. Like his fellow CHWs, Thigpen, 42, knows all about the challenges of reentry. In his 20s, he served eight years in federal prison.

The holistic approach to health care that the CHWs make possible is at the heart of the clinic's mission. Over the past two decades, physicians and public health experts have come to understand the importance of the social determinants of health—the conditions under which we live, learn, work, play, and age—as well as the structural ones—the often racist economic and social policies that perpetuate inequity. Indeed, research shows that 60 percent of our health is affected by these determinants, including income, housing, food security, family stability, neighborhood, legal status, and literacy.

This is starkly underscored by the fact that health outcomes in the US, which spends more on health care than on social services, are significantly worse than in the majority of industrialized countries, which spend more on social services than on health care. Many justice-involved individuals are doubly affected by these facts: not only is engagement with the criminal legal system often a result of social determinants of health, it is also a cause of poorer health outcomes. A study the CPC conducted recently found that 40 percent of their patients have a history of incarceration, and 46 percent have a family member with a history of incarceration.

Sarah Martino, deputy director of the Center for Health and Justice Transformation, had long been aware of the Transitions Clinic model (there is a national network of them) and had been trying to start one in Rhode Island. Working with Dino Messina, MD, associate professor of medicine and medical director of the CPC; Carrie Bridges Feliz, MPH, director of the Lifespan Community Health Institute; and other colleagues, Martino

Rahul Vanjani got his start in carceral medicine at Rikers Island.

One year in prison has been shown to shrink life expectancy by two years. But *leaving* prison can come at a cost, too.

obtained a seed grant to plan the clinic in 2016. Eventually, through a combination of foundation, state, and federal funding, including a contract with the Rhode Island Department of Corrections, they were able to cover the salaries of a medical discharge planner and community health workers. Lifespan gave them a home in the CPC, and the Division of General Internal Medicine granted the physicians' time.

Then, Martino says, "the world just gifted me Rahul."

THE MOMENT OF RELEASE

Rahul Vanjani, MD, an assistant professor of medicine, joined the Medical School faculty after doing his residency at Columbia University Medical Center, where he spent time at the Rikers Island jail complex, and working at San Quentin State Prison in California. He was a natural fit as the clinic's medical director: to him, the carceral system has been the "missing piece" in the biomedical community's growing interest in addressing social determinants of health. In a 2017 essay in the *New England Journal of Medicine*, he wrote that "incarceration itself is harmful to health" not only because of poor or negligent medical care, but because of "the material conditions of confinement ..., loss of social support, and a profound lack of control."

Put plainly, being behind bars can make you sick—or worse. Prisoners suffer from chronic and communicable diseases, mental illness, and substance use disorders at higher rates than those not in prison, and one year in prison has been shown to shrink life expectancy by two years. (Think about what that would mean for an individual serving a 10-, 20-, or 30-year sentence.)

But *leaving* prison can come at a cost, too: an individual is 12 times more likely to die—from homicide, suicide, overdose, or disease—within the first two weeks of release. What's more, once you're involved with the criminal legal system, it's hard to regain your footing. The burden of court costs, the taxing surveillance of parole or probation, the fear of being sent back, the interruption of drug or alcohol treatment, the damaged personal relationships, the discrimination that comes from having a criminal record: such stressors often lead to repeated incarcerations, which in turn makes it more challenging to secure safe housing and stable employment, let alone get healthy.

The Transitions Clinic team seeks to address all these issues by intervening at this moment of extreme precarity. Before leaving prison, an individual who has been identified by a medical discharge planner at the Department of Corrections is assigned to a community health worker. Within two weeks of release, they are seen by one of two physicians, Assistant Professor of Medicine Catherine Trimbur '03 MD, MPH, or Vanjani (who are married). At weekly panel management meetings, staff—including the clinic's physicians, CHWs, the medical discharge planner, medical students in the Social Medicine elective, a postdoctoral research associate, Bridges Feliz, and Martino—gather around a conference table to talk through each patient's needs. They discuss how best to treat someone's diabetes, high blood pressure, or kidney disease

and how to help them gain access to disability benefits, food stamps, and housing. They identify who needs a cell phone, who needs a shower chair, and who just needs some company. They strategize about next steps, everyone adding their own distinct perspective.

Sarah Kler MD'21 ScM'21, a graduate of the Primary Care-Population Medicine Program, spent her third year of medical school at the clinic as part of her longitudinal integrated clerkship. Working there opened her eyes to the extent that the legal system is an inherent part of how many people experience health and well-being, she says. She describes the panel management meetings as "a really creative space where they're constantly trying new things and working with community partners to maximize" the care they provide.

Kler first met Vanjani when she was doing outreach with housing advocate Megan Smith '10. Smith had asked Vanjani to come to the Burger King on Broad Street to meet with a woman who was experiencing homelessness—and who was also a patient in his clinic. Vanjani soon arrived, accompanied by two CHWs. Kler recalls thinking: "That is how I want to do medicine. I want to be working with organizations who know their people and what they need, and with community health workers who have experienced what their patients have experienced and are working with them as peers." Kler is now a resident in primary care at Massachusetts General Hospital, where many of her patients face challenges similar to those at the Transitions Clinic.

MUTUAL AID

It was at a panel management meeting almost three years ago that the team learned that one of their first patients was facing reincarceration. According to Vanjani, the group decided to draft a "strengths-based letter" detailing what the patient had accomplished since getting out of prison—and the ways his physical and mental health would suffer from going back.

"The community health worker took that letter to court and the public defender presented it to the judge," Vanjani says. "We later learned that the judge largely based his decision to not reincarcerate our patient on the medical context we had provided in the letter."

More successful letters followed, as did positive feedback from the judiciary. Eventually Vanjani, Martino, and others sat down with an attorney from the Office of the Rhode Island Public Defender and James Lawless, the office's social services casework supervisor, to brainstorm ways to formalize their collaboration.

A letter from a physician explaining how incarceration could be harmful to the defendant's health may carry more weight than the same information would coming from the public defender.

The first step was to include the public defender office on the clinic's information-release form. That way, if a patient is facing charges (or has a legal issue in the future), the two entities are authorized to give each other information about their shared client. The team went on to create two customizable form letters explaining the harmful effects reincarceration and court fees could have on their patients. (They also created a website, docsforhealth.org, in partnership with the Roger Williams University School of Law's Pro Bono Collaborative, which makes available at no charge a library of fillable forms and templates—tools any provider can use to advocate for patients on a wide range of matters, such as missed court appearances, preventing utilities shut-off, deportation, access to shelter, and non-emergency medical transportation.)

According to Lawless, a judge has only what's readily available—a police report, a criminal record, the body of the person appearing before them—on which to base a decision. A letter from a physician explaining how incarceration could be harmful to the defendant's health may carry more weight than the same information would coming from the public defender. After all, Lawless explains, "it's our *job* to zealously advocate for our client." Such a letter enables an attorney to provide "credible information that for the court paints a much clearer picture of the person in front of them. It's powerful," he says.

The Transitions Clinic-Rhode Island Public Defender partnership is proof positive that two professions with a traditionally contentious relationship—think malpractice suits—can be mutually helpful: lawyers learn to focus on health outcomes for their clients, and physicians learn how to play a role in legal outcomes for their patients. It also demonstrates the need for diverse skills on a team: just as Thigpen gives the doctors valuable intel about a patient's life at home or on the street, Lawless can find out the date and location of a patient's court appearance, which the

Liz Tobin-Tyler literally wrote the book on medical-legal partnerships.

patient doesn't always know. As interest in this new paradigm has grown, Vanjani and Lawless have begun presenting it to groups across the country, including a National Legal Aid and Defender Association conference in June.

WITH JUSTICE COMES HEALTH

While to his knowledge the partnership is the only one of its kind, Vanjani is quick to point out that medical-legal partnerships are part of a long tradition. The original MLP was established in 1993 at Boston Medical Center, the largest safety net hospital in New England. Frustrated by their ability to treat kids' illnesses but not the conditions that were causing them, pediatricians brought lawyers into their clinic to help them more effectively fight the legal and administrative battles that would change their patients' health for the better.

In 2001, first-year medical student Jyothi Marbin '96 MD'06 approached Elizabeth Tobin-Tyler, JD, and Patricia Flanagan, MD, now a professor of pediatrics at the Medical School and chief of clinical affairs at Hasbro Children's Hospital, to talk about doing something similar at Brown. Flanagan had helped start the Teen Moms (now Teens with Tots) program, whose staff included a social worker, a psychologist, a nurse, and a nurse practitioner.

"We realized that in order to help these young mothers and their children be healthy, we needed to be thinking about poverty, housing, food security, and helping them get to and from the doctors," Flanagan says. "Working with this population I was struck by the fact that their opportunity for health was well outside the walls of a medical clinic, and that the circumstances in which they were raising their children had everything to do with how healthy their kids were."

For her part, Tobin-Tyler's interest in the intersection of race, poverty, and gender had inspired her to go to law school at 30; while there, she worked as a full-time legal intern at the Boston Medical Center legal clinic. When Marbin reached out, Tobin-Tyler had just finished a project investigating legal barriers related to lead poisoning among low-income children in Rhode Island. At Hasbro Children's Hospital, the three of them, along with former Associate Dean for Diversity Alicia Monroe '73, MD, created the third MLP in the nation, which they called the Rhode Island Family Advocacy Program.

Funding eventually ran out, but the pediatrics-based program was rekindled in 2011 as the Rhode Island Medical-Legal Partnership, with then-newly minted attorney Jeannine Casselman, JD, as its legal support. Casselman says, "One person cannot meet the needs of thousands of families who are followed at a single practice."

To achieve maximum impact, she and Tobin-Tyler, RIMLP's board chair, contacted MLPB (as the Boston model came to be called) to explore a merger. In 2017 Casselman joined MLPB, which provides capacity-building support to care teams in Massachusetts, Rhode Island, and beyond. Now, as MLPB's law and policy director, she leads more upstream efforts, providing training and technical assistance on social drivers of health across the Ocean State. In its past work with the Transitions Clinic, MLPB was embedded in its interdisciplinary care team meetings.

To ensure their medical-legal partnership's success over time, Tobin-Tyler says, they knew they had to train the next generation to work "interprofessionally." So she, Flanagan, Monroe, and Professor of Emergency Medicine Jay Baruch, MD, designed a joint course for Roger Williams University law students and Brown medical students called Poverty, Health, and Law, which they taught for 10 years.

Meanwhile, as the MLP model gained traction nationally, Tobin-Tyler, now an associate professor of family medicine, was receiving more and more requests for syllabi. In response to that demand, in 2011 she co-edited the seminal textbook *Poverty, Health and Law: Readings and Cases for Medical-Legal Partnership*. She began to consult on the development of MLPs nationally and internationally, and in 2019 she published *Essentials of Health Justice*, which focuses on the structural and legal determinants of health injustice.

Writing extensively on the positive health impacts of MLPs, which now number nearly 450 in the US, Tobin-Tyler has noted reduced stress, improved health care compliance, higher immunization rates, lower ER visits, and better outcomes for children with asthma and sickle cell disease (all of which can also translate to lower health care costs). She also points to a study that shows MLPs are good for docs, too: while most physicians who serve a low-income population say addressing their patients' social and legal needs is as important as their medical treatment, most also say they lack the confidence to do so. Having a legal partner gives them that confidence.

Early on, though, doctors resisted the idea of adding a lawyer to their team, Tobin-Tyler says: "We had to change the cultural understanding of what lawyers do. If our shared goals are social justice, public health, and good health for patients, what can each professional do to support them?" After all, like Vanjani and Trimbur, public defenders are committed to helping the most vulnerable individuals. And just as the Transitions Clinic team takes a social determinants approach to health, Rhode Island public defenders practice "holistic representation," where lawyers look outside the courtroom to address underlying issues.

At the Medical School, Tobin-Tyler teaches medical and graduate students about the social and structural determinants of health, health policies affecting patient and population health, and physician advocacy. She helped design two new courses: one for all medical students, on how to write legislative testimony; the other for the Primary Care-Population Medicine Program. Students of the latter learn to write policy briefs on health-related legislation to persuade policymakers of the need for change, she says: "How do you structure an argument? How do you use medical evidence to support your arguments?" The students also are encouraged to testify at the Rhode Island State House.

"When I first came to Brown, in 2013, there was some hesitation among students," Tobin-Tyler says. "They'd say, 'If I'm going into surgery or cardiology, why do I need to know this?' Our response to that is, 'Just because you're only seeing patients when they need surgery doesn't mean they don't have contextual issues that are affecting their health, and you should know about those issues and facilitate support.'"

"This is the basic premise of the Social Medicine elective, a month-long clinical experience that our group offers to medical students," Vanjani adds. "At the end of a month accompanying patients on their journeys outside of the clinic's walls, students usually feel a bit traumatized by the structural violence they've witnessed their patients face, but also invigorated by their newfound knowledge of social systems and their bureaucracies and empowered to address systems failures moving forward."

Left to right, Catherine Trimbur, Rahul Vanjani, Anthony Thigpen, and Teddy Wright (seated) at The Miriam Hospital's Transitions Clinic.

'I GOT YOU'

After talking with Teddy Wright, Thigpen heads out to meet Mr. M, who was released from a Florida prison on medical parole two years earlier because of cirrhosis of the liver and kidney disease. Along the way he fields a call from a court-appointed attorney who's trying to find a bed for another of his patients—he's about to get out of prison, and homelessness will likely jeopardize his drug treatment.

When Thigpen parks in front of the vinyl-sided triple-decker, a tall, frail-looking man with long skinny arms is just unfolding himself from the back seat of a taxi. (The clinic pays for his transportation to and from the dialysis center, a town away.) Together they climb the three flights of stairs, pausing often so Mr. M can catch his breath. Once in the apartment, Thigpen sets about connecting an outdated computer to a printer and helps Mr. M call Trimbur, his physician, so she can check on his medication supply.

As Thigpen leaves to go assist the next patient, Mr. M calls down the stairs after him: "I love you, bro."

"Peace, brother," Thigpen calls back. "I got you." **M@B**

SARAH C. BALDWIN is a freelance writer and host of the podcast *Trending Globally*.

WE SAID WE WOULD NEVER FORGET.

BUT WHAT DID WE LEARN?

20 YEARS AFTER THE TWIN TOWERS FELL, WE'RE STILL NOT PREPARED FOR DISASTERS.

BY PHOEBE HALL | ILLUSTRATION BY JOEY VU

"THEY COULDN'T ALL BE DEAD."

Dan Avstreih '98 MD'02 will always remember standing on the observation deck of the World Trade Center in the middle of a lightning storm, when he was a teenager.

"It's like standing up in fireworks. It was just the most incredibly beautiful thing, and that will remain one of the top memories of my whole life," says Avstreih, who grew up in New York. "And literally the next time I was standing there, it was in the rubble of it."

On September 11, 2001, Avstreih was a fourth-year medical student on an emergency medicine rotation at the University of Pittsburgh. He was in a medevac helicopter hangar when he saw breaking news footage of a gaping, fiery hole near the top of the North Tower. The longtime medic and member of the Rhode Island Disaster Medical Assistance Team watched helplessly as a passenger plane plowed into its twin, a few dozen floors below where he'd stood during that storm.

"And then came the report of the United 93 crash, 90 minutes south of the hangar," Avstreih says. Finally he could do *something*. "I was like, well, I'll go down to Shanksville." His car already packed with emergency gear, the 24-year-old sped off.

As soon as family physician Kerry Kelly MD'77 learned about the first plane, she hightailed it from a Staten Island hospital to the Battery. As the chief medical officer of the New York City Fire Department, she knew her firehouse brothers and sisters, working to rescue hundreds of people from the infernos, would get hurt and need her help.

In Rhode Island, the RIDMAT leader's quiet morning at home quickly went sideways. "My son was 6 months old and I was actually feeding him when I saw on the news the plane hit," emergency physician Selim Suner '86 MS'87 MD'92 RES'96 F'04 recalls. "I ran to the hospital, and at 10 a.m. I got the phone call saying, 'You guys are on alert.'" He began pulling together his team and their gear.

Kelly was already treating firefighters on the scene when the first tower began to fall. A captain grabbed her and pulled her to safety; they immediately returned to triaging fallen comrades. Then the second tower came down. Again, a firefighter saved her life. "It was all black and dark," Kelly says. "We went back up there and we just kept working."

As she searched for survivors among chunks of concrete and twisted steel and shards of glass and flames and body parts, Kelly couldn't quite wrap her head around the scale of the apocalypse.

"We had real hopes that people were going to be caught underneath," she says, "that we could go rescue them and that they couldn't all be dead."

"IT'S BIZARRE HOW MUCH DUST THERE IS."

In Shanksville, Avstreih helped "build a city in a field": creating infrastructure for the teams of responders like first-aid stations, bathrooms, phones. "I spent the entire day and night doing medical logistics in support of what was pretty quickly deemed to be a recovery operation," he says. All the while, he was keeping tabs on the RIDMAT. As soon as they mobilized, Avstreih was back in his car, en route to New York.

He rendezvoused with the team north of the city. Meanwhile Suner and the Massachusetts team leader headed to ground zero to scout sites for their medical tents and equipment. "It was dark. It was disastrous," says Suner, who has family in the city. "9/11 was just a big ball of emotion."

"Once you got on the ground and saw the magnitude of the collapsed structure … you realized that the ability to save individuals as a result of that collapse is minimal," David Marcozzi RES'02, MD, says. He was Brown's chief emergency medicine resident that year, and the CMO of the RIDMAT. "It doesn't mean you don't hold out hope. It also doesn't mean, importantly, you're not there to assist those that survived or the other responders."

The RIDMAT set up its coordinating center in a community college and four satellite medical stations—including one in a deli—and began treating rescuers and bystanders. Locals trapped inside the cordoned-off tip of Manhattan were "wandering the streets," Suner says, "totally in shock with severe psychological trauma." His team treated burns and lacerations, bruises and broken bones. They even helped a few rescue dogs, thanks to Brown's chief veterinarian, the late James Harper, VMD, another member of the team.

And then there were the airborne hazards. Fires burned for months; ash and particulate lodged in people's eyes and throats and lungs. They inhaled jet fuel fumes and asbestos. Dust from pulverized concrete coated everything, and hung in the air. In her nearby FDNY triage clinic, Kelly was treating asthma, GERD, sinus problems, racking coughs. Avstreih remembers how surreal it was. "Everything is covered in dust," he says. "I mean, it's bizarre how much dust there is."

Up to 10,000 people each day were digging through the smoking pile, searching for survivors. At the peak, Suner says, the DMATs were treating 500 rescuers a day. "They were taking risks" trying to save people, he says; once their cuts were bandaged and their ankles wrapped, they headed back to the scene.

On October 9, efforts switched from rescue to recovery. "Once that psychological pressure was off, and someone of authority said, 'Guys, the rescue is over, no one else is going to survive this,' then people are more careful," Suner says.

Fewer than 20 survivors were pulled from the wreckage—none after September 12.

"I WILL CARRY IT WITH ME UNTIL MY LAST BREATH."

The psychological toll was enormous. Suner says that of the thousands of patients seen by DMATs in the first six weeks, more than half presented with mental health concerns. Every team had mental health workers, who treated the rescuers even as they tried to look out for each other.

"It's really a family more than a team of people who take care of each other," Suner says. "You get to know people and know their behaviors. And during a disaster if someone's acting out of sorts, you figure out that something's going on and get them help."

But, Marcozzi warns, there's a flip side to that familiarity: if someone's decline is gradual, "you might not see it because you're with them every day."

Firefighters, medics, doctors—this wasn't a group that was used to confronting their feelings. 9/11 left even the helpers feeling helpless. "There was nowhere to hold this degree of tragedy," Avstreih says. "Sometimes you don't want to even scratch the surface because people are barely holding it together. And if you touch the glass and it breaks, you don't know what to do with this."

"All of us who were exposed to the mental health effects of that day carry it with them," Marcozzi adds. "I will carry it with me until my last breath."

The FDNY lost 343 members on 9/11. Some of them Kelly had just patched up after the devastating Father's Day fire that killed three firefighters in Astoria that June. "So many of the people who I just put back to work after injuries had died, so each of these events takes a lot out of you," she says. "It's traumatic."

Two weeks after the attacks, Kelly gave searing testimony before the Senate Health Committee about the horrors she and her colleagues had witnessed and how much they had lost, and pressed the legislators to fund psychological care for firefighters and their families. That support enabled the department to hire more mental health workers.

But Kelly still found herself in that role. As she treated firefighters' asthma and cuts and burns in the months after 9/11, she listened to their stories. "The emotional support in family medicine—I think this is probably one of the most important parts of being a doctor," she says. "And because I had been there … they didn't feel that separation. … They would say to me, 'I don't want to talk to a counselor who doesn't know anything about what happened. I'll talk to you.'"

"It just was probably cathartic that they could talk about it," Kelly adds. "But also it was a way of understanding what was going on, and we just kept seeing different medical problems arise."

"WE KNEW THEY WERE HEALTHY."

Just as it was immediately clear that New York's recovery would be long and hard—it took nearly 100 days to put out all the fires at ground zero—and that most people's trauma would linger for a lifetime, rescuers and medical workers knew the physical toll would be a lasting one.

Kelly likes to say they established the World Trade Center Health Program on September 12, 2001—though it would take nearly 10 years to get it funded. That was the day she started seeing some of the tens of thousands of first responders, steelworkers, residents, cleanup workers, and volunteers sickened by the toxic dust and fumes enveloping the disaster zone. "The air that day was just filled with black soot and smoke," she says. "There were so many different chemicals that we were being exposed to."

Few wore masks at all times. As Avstreih says, even though masks were standard-issue PPE, "Standard and how standardly used are two separate things." It was difficult to communicate while wearing masks, Suner says, and amongst the heat and the flames, they impeded hydration.

"EVERYONE KNEW THAT IN THEORY, DUST WAS BAD."

"I mean, everyone knew that in theory, dust was bad," Avstreih says. He notes the irony—18 months into the COVID pandemic—when he adds, "Wearing a respirator for that period of time is really difficult."

Today everyone who worked and volunteered at ground zero is regularly monitored for chronic conditions from lung diseases to cancers to mental health disorders. But the WTC Health Program wasn't a given. "It really was quite an undertaking to get the program up and running," Kelly says with characteristic understatement.

For years, her office operated on a patchwork of public and private grants to treat survivors while amassing the data they needed to fight for long-term funding. Fortunately, they were starting from a solid foundation.

"Pre-9/11, because we had done regular medicals on our members, we really knew that they were a healthy population," Kelly says. "We knew their breathing tests, we knew their bloodwork, we really knew a lot about their general health." Because carcinogen exposures were already a concern for firefighters, they had pre-existing cancer data too.

The medical office got federal funding to do 10,000 physicals on FDNY members from October 2001 to the following February. Right away, Kelly and her colleagues detected a pattern of illness. They noted when a firefighter arrived at ground zero—before or after the collapse, or a few days later—and how much time they spent there. "There was definitely, definitely a correlation," she says. "That really was very helpful in helping the scientific community and the political community see the consequences of that exposure."

Yet it took years to secure the billions of federal dollars needed to monitor and treat the thousands of WTC survivors. It ultimately took the relentless dedication of a beloved comedian—as well as Kelly's own patients—to get Congress to pay attention.

"Jon Stewart was amazing at his support, and just the faces and the stories of our affected patients really played a large role too," she says. "It's very hard to look into the eyes of some of the people who were fighting cancer for so many years, many rounds of chemo, and just the loss of their physical well-being due to their exposure."

In 2011, President Obama signed into law the act establishing the WTC Health Program, which covers all first responders and survivors. More than 17,000 firefighters are enrolled in it today. Since September 11, 2001, 254 have died from related illnesses.

"IT GIVES ME FUEL TO KEEP PUSHING."

A year before the terrorist attacks, Marcozzi was sworn in as a captain in the US Army Reserve. "Raising my hand, electing to serve and put on the uniform was a step that I felt obligated to do to give back to my country," he says. He was mobilized as a medical officer during Hurricane Katrina, twice to Iraq, and once to Afghanistan.

"It was palpable to me, 9/11, being on the ground there," Marcozzi says. "Obviously a direct attack against the United States, both in New York City and Washington, DC, had relevance to me standing on the ground in Afghanistan and Iraq."

"THE TAIL OF DISASTERS IS ALWAYS LONGER THAN PEOPLE PERCEIVE."

After Katrina, Marcozzi brought his expertise in emergency preparedness and health delivery to the Senate's Bioterrorism and Public Health Preparedness Subcommittee, where he helped draft the 2006 Pandemic and All-Hazards Preparedness Act. From there he took senior positions at the US Department of Health and Human Services and then the White House, serving under Presidents Bush and Obama.

Now Marcozzi is a professor of emergency medicine at the University of Maryland and chief clinical officer of its medical center. Since the start of the pandemic, he's served as senior medical adviser to Governor Larry Hogan. He's diplomatic in his critique of the federal response to COVID, but doesn't hide his dismay that some key measures called for in that 2006 bill—like the appointment of a central figure to coordinate disaster response and funding for hospitals' emergency preparedness, the CDC, and the public health infrastructure—didn't materialize.

"Preparedness … is mainly funded through grants and then, when we realize we aren't prepared, funding after the fact is provided in supplementals—the Ebola supplemental, Sandy supplemental," Marcozzi says. "At its core, disaster preparedness is a quality measure. Just like hospital-acquired infections or medication errors, preparedness should have greater attention so that we measure, appropriately resource, and improve our hospitals' readiness."

For Marcozzi, 9/11 is an annual reminder that we can improve health care preparedness for any disaster. "Reflecting on the lives lost that day gives me fuel to keep pushing," he says, "to make sure that we are better today than we were yesterday."

"YOU SHOULDN'T TRY TO FIX THE EMOTIONS."

After residency at the University of Michigan, Avstreih, who's dual boarded in emergency medicine and EMS, moved to Virginia. He's an attending at Inova Fairfax Hospital and an EMS physician for the Fairfax County Fire and Rescue Department—"one of the primary responders to the Pentagon site," he notes.

9/11 prepared him in unexpected ways for the pandemic. "The tail of disasters is always longer than people perceive," Avstreih says. "In December of 2001, they were still going through rubble at this pile. It wasn't in the news. There are daily COVID fatalities now. But it's been probably a solid year since ordinary people were dropping off boxes of coffee or their couple extra N95s because they wanted to make a difference. And that's one of the emotional challenges of these events. You can do anything on adrenaline for a day or two or even three. You can't do it for months. You certainly can't do it for years."

Now that he's a leader, Avstreih says he tries to "model being OK with the idea that things aren't OK." "Humans like to fix things. … Most of us in emergency services particularly like to fix things," he says. "One of the things that [9/11] has taught us in a positive way is, you shouldn't try to fix the emotions associated with this. You just remember them and pay respect to them."

Even as he cherishes more positive memories from the 9/11 response—of the nation coming together, of celebrated chefs serving gourmet meals to rescuers alongside regular folks making peanut butter sandwiches, of everybody stepping up to help each other—Avstreih laments how much has changed.

"If humanity was taking care of each other as much as they were on September 12th, we would be in some really amazing places," he says.

"YOU'RE GRATEFUL TO BE ALIVE."

Kelly retired from her post as CMO three years ago, but she's still working for the WTC Health Program at the FDNY, overseeing members' cancer care. "It gives you a sense of purpose that you survived a horrible day, you're grateful to be alive, and you have a reason to keep moving forward," she says. Kelly helped establish a longitudinal program to keep retirees coming back. "They're very committed to the program," she says.

Every year on 9/11, she attends a ceremony at the Firemen's Memorial on the Upper West Side, and another for all those who've died of illnesses since that day. Their names are inscribed on a wall at headquarters—many of them people she knew personally. The list grows every year.

"It's always been a privilege to work with them," Kelly says. "Even now, when we have people who have cancers, almost to the person they will say, 'I had 15 more years than the people who died that day,' 'I had 20 more years than the people who died that year.' They are very grateful for the fact that they did survive, and that they did have those years to either see their children grow or see grandchildren or just have a life."

"YOU DON'T GET MONEY TO PREPARE."

After 9/11, Suner says, "it was clear that disaster medicine was my chosen field." Now a professor of emergency medicine, of surgery, and of engineering at his alma mater, he coauthored a widely used textbook and has written countless papers on the subject. He established a disaster medicine fellowship program at Brown to educate emergency physicians from around the world. Plus he chairs the Rhode Island Hospital Emergency Preparedness Committee.

The growing demands of that role eventually forced him to leave the RIDMAT a few years ago. "Every time there's a disaster, there's an increased awareness," he says. They get an infusion of funds. But memories fade. "And then the money runs out. Five years without a disaster, you don't get money to prepare."

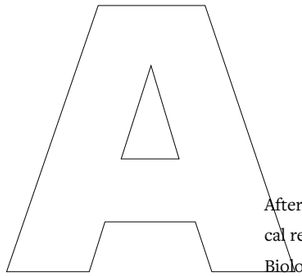
Money is critical, of course, but it's not everything; Suner's lessons in teamwork from the DMAT were critical during the pandemic. As soon as members of the hospital's emergency preparedness team started hearing about a novel coronavirus in China last winter, they broke out their pandemic protocols and started stockpiling PPE. When it came time to stand up a field hospital, "the culture of getting things done, no excuses," made it possible.

Suner goes to New York all the time to see his family, but he's never returned to ground zero. "I don't know why. I'm probably repressing some feelings," he says. He only remembers it's 9/11 each year when Marcozzi texts him a photo of the two of them amid the ruins; he knew this was the 20th anniversary only because his son is 20 years old.

But at home, in his office, Suner keeps the hard hat he wore, and his mask and his boots still covered in gray dust. "I never cleaned them," he says. **M@B**

THE SCHOOL THAT JACK BUILT

RESEARCH DOLLARS, NEW PROGRAMS, TOP RECRUITS. ALL MEASURES OF SUCCESS, BUT NOT WHAT MATTERS MOST TO THE OUTGOING DEAN.



After helping to transform medical education and biomedical research in his eight years at Brown, Dean of Medicine and Biological Science Jack A. Elias, MD, will soon become the senior adviser for health affairs at the University. He'll have a key role aligning Lifespan and Care New England health system operations with Brown's expertise in research and medical education.

During his tenure, Elias reshaped the Division of Biology and Medicine around his vision for translational science, focused on understanding and treating human disease. He fueled exceptional growth in research funding, which is nearing a 200 percent increase over the past eight years. He's shepherded the creation or expansion of a number of academic programs. In doing so, he's helped boost the national profile of The Warren Alpert Medical School, making it a rising powerhouse in academic medicine.

Medicine@Brown sat down with the outgoing dean to reflect on his tenure and to see what's next on the horizon.

BY KRIS CAMBRA | ILLUSTRATION BY ISRAEL VARGAS

Your track record at Brown is one of exceptional success. What are you most proud of?

I'm proud of all the things we've accomplished. When I got here, the Medical School was sort of at a crossroads. We had to decide what kind of school of medicine we wanted to be. I felt very strongly that it needed to be an academically rigorous place that asks and answers questions and improves knowledge and improves care. So I'm really very excited about all the things that we've done to increase the level of academics, the level of research, the level of student participation in research at the undergraduate Program in Biology, the Medical School, and at the Graduate School. This is a different school than it was in 2013.

What did you enjoy the most?

I enjoyed anything that improved the experience for even a single student. I'll give you an example: the idea that we would not have an MD/PhD program. That we would have students come to Brown through the PLME, where they're locked into going to Medical School, but they don't have the ability to be in an MD/PhD program if they want to be and are qualified to be was just wrong. Anything that we could do to improve the experience, whether it's forming the MD/PhD program with support from The Warren Alpert Foundation or improving the grants and the quality of the grants that we have so that people could have better research experiences. Anything we can do that improves the opportunities for the students to have world-class experiences on the scientific side, on the clinical side, on the community outreach side—all of those things are very exciting.

One of the most interesting questions I was asked when I first got here—and maybe it was even you who asked me—was, what do you want to accomplish? What it came down to, I realized, is that each student had to find their passion. But once you go there, once you say each student has to find their passion, you then very quickly go to, then we have to be world class in all these different areas.

Is there something that you haven't quite finished or you wish was further along?

There's still a lot to do. We still have a lot to do in community outreach. We just got another grant from The Warren Alpert Foundation to start community clinics. I would love to be able to watch that and see where it goes. There is still a tremendous amount to do with this place if the right vision is carried out. This could be a top-10, top-20 medical school in the United States.

What would your advice be to the new dean?

I would hope that the new dean will carry on the policy of striving for excellence in all areas. I would hope that the new dean would understand the need to be excellent so that the students can have the kind of experiences that they want to have. I would be sad if we retrenched in academics or in research. On the flip side, the new dean has to follow his or her vision and his or her passion and it may or may not dovetail with mine.

What are you looking forward to in your roles after you leave the deanship, in the senior health adviser role or in your own research?

In the senior health adviser area I want to help Brown, Lifespan, and Care New England come together in an integrated way. It's a very important undertaking, and if that doesn't happen for whatever the reason, the ability of Brown to get to that next level is going to be diminished. It would be a shame. If that does happen, it will also have an impact on Rhode Island and Providence.

I've always said that I look forward to being able to look out the window from the dean's office and see a whole mess of biotech startups in the region. I will have to be invited to the dean's office in the future, but we have the opportunity to have the Jewelry District in Providence be part of the biotech revolution that's happening in Boston and Cambridge. That would be just wonderful for the city, for the state, for everybody. But it will require the force of Lifespan, Care New England, and Brown all moving in the same direction.

What about your own research on pulmonary disease?

Our research is going very well despite the fact that I have very little time for it. I've worked with some of the people that are in my lab now for 25 years. We've made tremendous progress in therapeutics and cancer and in therapeutics and pulmonary fibrosis. We also have a new collaboration with researchers at Weill Cornell.

We formed two companies this past year and we have a company now going through an initial public offering. It's taken us about a year and a half to get it to this point. So I'm planning to do whatever helps Brown and whatever helps the Medical School, to work in my research lab, and to work hard on these new companies, which could have tremendous implications in terms of new therapeutics for lung cancer and glioblastoma multiforme, and a new vaccine for malaria. We have a third asset from a lab at Stanford that treats inflammation in the body.

Most of the time when you hear about someone making a new company, it's usually a drug and one target and one disease or a drug and related drugs against one disease and similar diseases. We did our company differently. We have different kinds of assets and we are getting investments in an earlier stage, moving them along, letting them go out as new companies, and then taking in new assets at the other side. So we're changing the paradigm for how one takes something from academics and moves it into the entrepreneurial space and if we're successful, it's going to change all of biotech.

Do you have anything non-work-related that you're looking forward to doing?

I'm looking forward to being able to go hiking when I want. My wife, Sandy, and I every summer like to go to Maine to Acadia National Park. We have our favorite trails and our favorite spots and I'm looking forward to having a little more time to do the things that we enjoy. **M@B**

RECORD OF ACHIEVEMENT

2015
- The Primary Care-Population Medicine MD-ScM Program is established to increase the number of primary care physicians and create thought leaders in the emerging field of population medicine who will drive change in their communities.
- Brown Institute for Translational Science is established as part of a major restructuring of research areas in the Medical School. These now include the Brown Center for Biomedical Informatics; Center on the Biology of Aging; program in Vaccine Biology and Global Health; Cancer Center at Brown University; the Brown-Lifespan Center for Digital Health; and the Center for Translational Neuroscience.
- The Hassenfeld Child Health Innovation Institute, a joint program with the School of Public Health and the affiliated hospitals, is established.

2016
- Gateways to Medicine, Health Care, and Research is launched to prepare academically promising, motivated students for careers in research or health care with a master's degree in medical science.

2017
- The Warren Alpert Physician-Scientist MD/PhD and Advanced Training Program is relaunched on the strength of an endowed gift that provides tuition support for all four years of medical school.
- Six of the faculty practice foundations affiliated with the Medical School come together to form the physician-led Brown Physicians, Inc., uniting more than 500 faculty members.

2018
- Brown Biomedical Innovations to Impact is created. BBII is a proof-of-concept commercialization and entrepreneurial fund designed to bridge the gap between federal funding for research and private investment in a product, drug, or biologic.
- Anesthesiology moves from divisional to departmental status and establishes a highly successful residency program. Gildasio De Oliveira Jr., MD, is named the inaugural chair and chief of anesthesiology at Lifespan and Brown.

2019
- The Warren Alpert Medical School becomes the first in the country whose graduates all have the training required to prescribe medications to treat opioid use disorder in any US state.
- The Center for Translational Neuroscience is established.

2020
- The Cancer Center at Brown University is established.
- The Brown-Lifespan Center for Digital Health is established.
- Numerous COVID-19 research programs launch, including a vaccine clinical trial arm; 48 medical students graduate early to join the frontline health care workforce.

2021
- External research grant funding nears $100 million, a 186-percent increase since 2013.
- Medical Physics Graduate Program enrolls its first class.

CHECK-UP

"My hope is for our medical community to collaborate to provide better trauma-informed care as a team. Our patients deserve that." **—JIM LYNCH MD'03, P'19**

'Medicine Is a Team Sport'

In his 31 years in the Army, Jim Lynch MD'03, P'19, completed multiple combat deployments and served alongside many fellow soldiers who were suffering invisible injuries from trauma and struggling to find effective treatment.

The National Center for PTSD says 8 million adults have post-traumatic stress disorder in a given year. This includes survivors of sexual assault and abuse, natural disasters, accidents, and other life-threatening situations, as well as combat veterans.

Lynch's familiarity with PTSD's powerful damage prompted the family physician to find solutions. "Many of my friends, colleagues, and patients were suffering the effects of trauma and did not respond well to standard treatment," he says.

After leaving the military, Lynch had a new mission: to supplement traditional PTSD treatments centered on psychotherapy and medications. "There is complexity in terminology and complexity in how PTSD is diagnosed," he says. "There are 636,000 combinations of symptoms that will get you to the diagnosis of PTSD."

Reluctance of some PTSD sufferers to seek out psychiatric care or take long-term medication led Lynch and his peers to study supplementing traditional treatments with stellate ganglion block, which has long been used to treat chronic pain. For PTSD, Lynch says, a clinician injects a local anesthetic in a patient's neck to enable the sympathetic nervous system ("fight or flight" response) to return to a non-anxiety state.

"A large percentage of people who come to me for stellate ganglion block are reluctant to take a medication every day," says Lynch, whose study of SGB was published in *JAMA Psychiatry* in 2019. Last year the VA in Long Beach, CA, announced its plans to expand SGB's use after demonstrating its efficacy in conjunction with psychotherapy.

There's value in multiple clinicians working together and offering multiple therapies, Lynch says: "The answer to PTSD is not one thing, one person, or one specialty. Medicine is a team sport."

A decade ago, Lynch embraced that love of teamwork when, after completing a fellowship in sports medicine, he became a USA Swimming and a US Olympic & Paralympic Committee physician. "It was

continued on p40 →

PHOTOGRAPH: SHAWN HUBBARD

← continued from p39

a dream come true as a sports medicine physician," he says.

As part of USA Swimming's Sports Medicine & Science network, Lynch addresses everything from concussion awareness to infectious diseases to asthma. "The work we do has a huge ripple effect across USA Swimming to local programs," he says. "It's a rewarding way to do what I'm trained to do."

The volunteer effort sent Lynch to Rio in 2016 and Tokyo this year. The Tokyo Olympics workload included a training camp prior to the US delegation landing in Japan. The training camp, Olympic travel, and competition stage require roughly a six-week commitment.

In addition, Lynch sees patients at a private sports medicine practice in Annapolis, MD, where he also offers stellate ganglion block treatment to people suffering from PTSD. Earlier this year, he and a colleague cofounded The Stellate Institute at the practice.

"A huge proportion of those Americans with PTSD are from sexual assault, rape, or childhood trauma," Lynch says. "Raising awareness within the military and veteran community of a useful, innovative treatment for PTSD has been my passion for over 10 years. But now I'm committed to expanding access to all trauma survivors."

Coordinating the efforts of military groups and civilian organizations in providing education and trauma treatment is his next mission. "My hope is for our medical community to collaborate to provide better trauma-informed care as a team," he says. "Our patients deserve that."

—BRIAN HUDGINS

A Vaccination Message That Sticks

WITH PATIENCE, SCIENCE, AND THE BLACK CHURCH, AN ID DOC OVERCOMES HESITANCY.

Katrina Byrd F'22, MD, has spent much of her four-year adult and pediatric infectious diseases fellowship caring for hospitalized COVID-19 patients, a disproportionate number of whom have identified as Black or Latinx. Vaccine hesitancy then amplified this disparity.

Byrd listened as people of color expressed distrust in the health care system and the government. They told her their concerns about the rapidity of the vaccine's development and doubts about its necessity and safety.

"It's OK to be hesitant about the vaccine. … We have to allow people the time and the space to come around," Byrd says. "When people say, 'I don't want to take the vaccine. I'm nervous about it,' especially Black, African American people, I 100 percent get it—I was them."

But after Byrd learned the science underlying the vaccines, she began to share that information. "My message has always been, I don't want you to feel coerced or pressured to get the vaccine. At the end of the day, it's your choice. But … I want you to make that choice from an informed place," she says.

Byrd posted videos on Instagram, spoke on radio shows, and answered questions on social media and Zoom. She partnered with organizations in and beyond Rhode Island, including Black churches, to hold virtual information sessions.

"The Black church is a really good way to get information out to Black people," she says. "It's so deeply entrenched in our culture and how we communicate."

She also helped coordinate the state Department of Health's vaccine clinics for people of color. "Dr. Byrd really soared with that," says Rev. Howard M. Jenkins Jr., pastor of Bethel African Methodist Episcopal Church in Providence and president of the Rhode Island Ministers Alliance. "She was able to really bring together doctors and medical students to vaccinate and also to be clinicians in regards to explaining the vaccination."

Byrd is pleased with what she's achieved so far. "Almost everybody who told me they weren't getting the vaccine is vaccinated," she says.

—EMILIJA SAGAITYTE '22 MD'26

PHOTOGRAPH: COURTESY BYRD

SHOULDERS OF GIANTS

Last May, the Brown Medical Alumni Association presented the inaugural Junior Alumni Award for Excellence in Diversity, Equity, and Inclusion to Marshala Lee MD'11, MPH. Lee, a family medicine physician and director of the Harrington Value Institute Community Partnership Fund at Christiana Care Health System in Newark, DE, developed an outreach program with barbershops in the community to educate Black men about high blood pressure.

"I was taken aback when I learned I had received this award, because I know that I have an awesome set of peers," Lee says. "We're all out there being changemakers in our communities."

Galen Henderson MD'93 received the Senior Alumni Award for Excellence in Diversity, Equity, and Inclusion for his work to increase the number of women and physicians from underrepresented backgrounds in academic medicine.

"I feel that I stand on the shoulders of many people who have graduated from Brown," Henderson says. "I've tried to prepare my shoulders to be stood upon by people who will take the baton and move it further along its course."

—KRIS CAMBRA

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

CLASS NOTES

ALUMNI

1970s

Arthur Horwich '72 MD'75 was elected to the American Academy of Arts & Sciences. He is the Sterling Professor of Genetics and Professor of Pediatrics at the Yale School of Medicine.

Pardon Kenney '72 MMSc'75 MD'75 RES'80, P'03, retired as the chief of surgery at the Brigham and Women's Faulkner Hospital in January 2020, after almost 31 years in the position. He will continue to operate, teach, and see new patients for the near future.

Peter LeWitt '72 MMSc'75 MD'75 is the Sastry Foundation Endowed Chair and a professor of neurology at Wayne State University School of Medicine, where he's also the director of the Movement Disorder Fellowship Program. He serves on the review committee for the Michael J. Fox Foundation for Parkinson's Research.

Andrew Salner '73 MD'76 was selected as a 2021 Fellow by the American Society for Radiation Oncology in recognition of his significant contributions to the field of radiation oncology. He is the medical director of Hartford HealthCare Cancer Institute.

Alan Muney '75 MD'78, P'04, a senior health care adviser to several private investment funds, joined the board of directors of Cano Health, operators of primary care centers.

Philip Kantoff '76 MD'79, a medical oncologist, became the CEO of the clinical stage pharmaceutical company Convergent Therapeutics, which he cofounded. He also was appointed to the new research advisory board of biopharmaceutical company Candel Therapeutics. Previously he was the chairman of the Department of Medicine at Memorial Sloan Kettering Cancer Center.

Griffin Rodgers '76 MMSc'79 MD'79 received the 2021 National President's Award from the American Association of Kidney Patients in recognition of his "relentless dedication to the kidney patient community, public service, and America's historic role as a leader in advanced research, medical innovation, and kidney care treatments." Griffin is the director for the National Institute of Diabetes, Digestive, and Kidney Diseases.

1980s

Seth Berkley '78 MD'81 was named to *Fortune* magazine's 2021 list of the World's 50 Greatest Leaders. He is the CEO of the GAVI Alliance, a global health partnership focused on increasing access to immunizations in developing countries.

Jay Loeffler MD'82, chair of the department of radiation oncology at Massachusetts General Hospital, was appointed cochair of the medical/technical advisory board at Mevion Medical Systems, a provider of compact proton therapy systems for cancer care.

David Sand '79 MD'82, an otolaryngologist-head and neck surgeon, became chief medical officer of ZeOmega Inc., a provider of technology-enabled population health solutions. Previously he was CMO of Care N' Care, a provider-owned Medicare Advantage plan in Texas.

Dominick Tammaro '81 MD'84 received the Dema Daley Founders Award from the Association of Program Directors in Internal Medicine for his contributions to the field of graduate medical education. He is a professor of medicine at The Warren Alpert Medical School and has been the director of the Brown Internal Medicine Residency Program since 1991.

Peter Thompson '80 MD'84, P'15, joined the board of Janux Therapeutics, a biopharmaceutical company that develops immunotherapies for cancer. He is a partner at OrbiMed, which is investing in Janux.

Yul Ejnes '82 MD'85 RES'89 was appointed chair of the American Board of Internal Medicine's board of directors. A clinical associate professor of medicine at The Warren Alpert Medical School and cofounder of Coastal Medical in Cranston,

he has served on ABIM's board since 2016. As chair of the board he also joins the ABIM Foundation board of trustees.

Patricia Ryan Recupero MD'85 RES'89, JD, was appointed to the National Advisory Mental Health Council of the NIH. She is a clinical professor of medical science and of psychiatry at The Warren Alpert Medical School and senior vice president of education and training at Butler Hospital.

Brian Ribeiro MD'85 practices in the TBI Clinic at Martin Army Community Hospital in Fort Benning, GA. An internist, he has worked at the hospital since 1991. His wife, **Marie Trenga** '81 MD'85, is an associate director of the Family Medicine Residency Program at Piedmont Columbus Regional in Columbus, GA.

James Arrighi '84 MD'87 is president and CEO of the Accreditation Council for Graduate Medical Education International. He joined ACGME-I in September after 16 years at Lifespan and The Warren Alpert Medical School, where he was a professor of medicine, of medical science, and of diagnostic imaging and the director of graduate medical education for Lifespan.

Peter Calabresi MD'88 was appointed to the scientific advisory board of Avidea Technologies, a biotechnology company developing precision immunotherapies for cancer and autoimmunity, in June. He is a professor of neurology, neuroscience, and ophthalmology at the Johns Hopkins School of Medicine; director of the Johns Hopkins Multiple Sclerosis Center; and director of the Richard T. Johnson Division of Neuroimmunology and Neurological Infections.

Romeo Mateo '85 MD'88 RES'96 is a vascular surgeon at Atrium Laser Vein Center in New Windsor, NY, and the director of the Endovascular Center at Westchester Medical Center in Valhalla. He is also an assistant professor of surgery at New York Medical College.

David Lyden MD'89, PhD, was elected to the Association of American Physicians. He is a pediatric hematologist-oncologist at Weill Cornell Medicine, the Stavros S. Niarchos Professor in Pediatric Cardiology, and a professor of pediatrics and of cell and developmental biology at Cornell.

1990s

Julie Krop '90 MD'93 was named chief medical officer of PureTech Health, a biotherapeutics company. Previously she was the CMO of Freeline Therapeutics.

Abeel Mangi '93 MD'97 was named chief of cardiac surgery for MedStar Heart and Vascular Institute in Washington, DC. Abeel previously worked at the Yale-New Haven Heart and Vascular Center, where he was the surgical director of the structural heart and cardiac valve program and managing director of the cardiac surgery network.

Myechia Minter-Jordan '94 MD'98, MBA, launched CareQuest Institute for Oral Health, a nonprofit aiming to overhaul the oral health care system. Myechia will serve as president and CEO of the organization, which expands the programming and broadens the impact of past organizations, including DentaQuest Partnership for Oral Health Advancement. In September she received the second annual Extraordinary Women Advancing Healthcare Award from the Commonwealth Institute.

Patricia Poitevien '94 MD'98, MSc, the director of Brown's Pediatrics Residency Program, is president-elect of the Association of Pediatric Program Directors and will become president in 2022. She is an assistant professor of pediatrics, clinician educator, and an assistant dean for the Office of Diversity and Multicultural Affairs at The Warren Alpert Medical School, and an attending in the Division of Pediatric Hospitalist Medicine at Hasbro Children's Hospital.

Erica Schwartz '94 MD'98 was elected to the board of directors of Aveanna Healthcare Holdings Inc. Previously she was the deputy surgeon general for the US Department of Health and Human Services, where she led the country's public health deployment in response to the COVID-19 pandemic.

Eowyn Rieke '91 MD'99 is the outpatient medical director at De Paul Treatment Centers in Portland and Hillsboro, OR. Previously she served on the community faculty for Oregon Health & Science University's addiction medicine fellowship.

2000s

Jamie Dwyer '96 MD'00 was appointed to the scientific advisory board of Biorasi, a full-service contract research organization. He is professor of medicine and director of the Nephrology Clinical Trials Center at Vanderbilt University Medical Center.

Sanjay Naik '96 MD'00 is a cardiologist with ColumbiaDoctors Medical Group in Mount Vernon, NY, and an assistant professor of medicine at the Columbia University Medical Center.

Steven Spencer '98 MD'03, MPH, is the first chief medical officer of Onslow Memorial Hospital in Jacksonville, NC. An internal medicine physician, he previously served as the director of Population Management for Abington-Jefferson Health in Pennsylvania and associate medical director for Delaware Valley Accountable Care Organization. Steven completed his MPH with a focus on health care management at Harvard and his internal medicine residency at Temple. He is completing an MBA in health care management at Johns Hopkins.

Julie Roth '99 MD'04 RES'05 F'09 was appointed PLME assistant dean of medicine for advising at The Warren Alpert Medical School. She will provide mentorship and coordinate longitudinal integration of PLMEs. Julie is a neurologist and the director of the Women's Neurology Program at Brown Neurology and an associate professor of neurology and of medical science.

Brownsyne Tucker Edmonds '00 MD'05 is the first vice president and chief health equity officer at Indiana University Health. She is an associate professor of obstetrics and gynecology at Indiana's School of Medicine, where she also has been assistant dean for faculty affairs.

Gita Suneja MD'08, MS, an associate professor of radiation oncology at the University of Utah School of Medicine, received a cancer research fellowship from 5 For The Fight for her work to improve health equity within cancer treatment. She earned her master's in health policy research from the University of Pennsylvania.

Neel Shah '04 MD'09 became the chief medical officer of Maven, a virtual clinic for women's and family health. Previously a member of Maven's scientific advisory board, he joined the company from Harvard Medical School, where he spent the past decade as an obstetrician-gynecologist at Beth Israel Deaconess Medical Center.

2010s

Rajiv Kumar '05 MD'11 is CEO and director of Blueprint Health Merger, a blank check company founded this year in Providence that targets digital health care businesses. He was also named to a Rhode Island Foundation steering committee that is developing recommendations for spending stimulus funds from the American Rescue Plan Act.

Wilfredo Giordano-Perez '08 MD'13, a clinical assistant professor of family medicine at The Warren Alpert Medical School, was named to *Providence Business News*' annual 40 Under Forty list. He is the medical director of Tri-County Community Action Agency in Johnston, RI.

Shankar Ramaswamy MD'15 is cofounder and CEO of Kriya Therapeutics, a next-generation gene therapy company. Last summer they closed on $100 million in Series B financing.

Abdul Wasey MD'17 received the Alumni of Distinction Award from the Springfield (OH) City School District. He is an attending emergency physician at St. Luke's University Health Network in Pennsylvania.

2020s

Denise Marte MD'20 was elected by the Brown Corporation to a two-year term as new alumni trustee. She is a resident in emergency medicine at NewYork-Presbyterian Hospital.

Fiona Chen MD'21 received the Emergency Medicine Residents Association's Dr. Alexandra Greene Medical Student of the Year Award, which recognizes a fourth-year student "who displays a significant dedication to emergency medicine." Fiona is an emergency medicine resident at the University of California, San Francisco.

RESIDENTS

1960s

Betty Vohr RES'68 F'70, P'92, MD, gave the Butterfield Lecture for the Neonatal-Perinatal Section, American Academy of Pediatrics. She completed her pediatrics residency at Rhode Island Hospital, serving as chief resident, and a fellowship in neonatology at what is now Women & Infants Hospital. She is a professor of pediatrics at The Warren Alpert Medical School.

1980s

William Kassler RES'88, MS, MD, MPH, joined Palantir Technologies as its first US government chief medical officer. Previously he was IBM Watson Health's deputy chief health officer and CMO for government Health and Human Services, leading their population health efforts. He was a primary care internal medicine resident at Brown.

1990s

Tracey Guthrie RES'99, MD, was named program chair-elect of the American Association of Directors of Psychiatric Residency Training. She is the director of the General Psychiatry Residency Program at Brown and a clinical associate professor of psychiatry and human behavior and of medical science. She also serves as an assistant dean for diversity at the Office of Diversity and Multicultural Affairs at The Warren Alpert Medical School.

2000s

David Marcozzi RES'02, MD, was appointed senior vice president and chief clinical officer for the University of Maryland Medical Center. An emergency medicine physician, he is the UMMC-University of Maryland, Baltimore unified incident commander for the COVID-19 response. He completed his residency in emergency medicine at Brown, where he served as chief resident.

Huan Ngo RES'04, MD, is the chief medical officer of Signature Healthcare, a Boston-area health system, as well as vice president of medical staff and a clinical instructor of emergency medicine at Tufts and Harvard. He was previously chief of emergency medicine at Brockton Hospital, where he was an emergency physician since 2004. A Dover, MA, resident, he completed his EM residency at Brown.

Beth Ryder '95 RES'04 F'05, MD, became the director of the Center for Bariatric Surgery at The Miriam and Rhode Island hospitals in April. She is an associate professor of surgery and of medical science, clinician educator, at The Warren Alpert Medical School. She completed her residency in general surgery and fellowship in minimally invasive surgery at Rhode Island Hospital.

Corey Ventetuolo RES'07, MD, MS, was elected to the American Thoracic Society Pulmonary Circulation Assembly as program chair. She completed her residency in internal medicine

at Brown, where she served as chief resident.

Megan Ranney RES'08 MPH'10 F'10, MD, is a steering committee member of a Rhode Island Foundation initiative to develop recommendations for spending up to $1 billion that the state will receive from the federal American Rescue Plan Act. At Brown, she is the Warren Alpert Foundation Professor of Emergency Medicine; professor of health services, policy, and practice; assistant dean for Digital Health Innovation; and director of the Brown-Lifespan Center for Digital Health. She completed Brown's emergency medicine residency and injury prevention research fellowship.

2010s

Laurie Hoffman RES'12 F'15, MD, is the pediatric residency site director at Women & Infants Hospital, where she is a neonatologist and associate medical director of the NICU. She is also an assistant professor of pediatrics, clinician educator, at Brown, where she completed her residency in pediatrics and fellowship in neonatal-perinatal care.

Sean Fine RES'14 F'17, MD, MS, an assistant professor of medicine, clinician educator, at The Warren Alpert Medical School, was named to *Providence Business News*' annual 40 Under Forty list. A gastroenterologist, he is the director of the Inflammatory Bowel Disease Center in East Providence and oversees clinical trials of potential IBD treatments. He completed his residency in internal medicine and fellowship in gastroenterology at Brown.

Helena Kuhn RES'17, MD, an assistant professor of dermatology, clinician educator, at The Warren Alpert Medical School, was named to *Providence Business News*' annual 40 Under Forty list. She specializes in general and cosmetic dermatology with Brown Dermatology in Warwick and Cranston. She completed her residency in dermatology at Brown.

Jennifer Villavicencio RES'17, MD, MPP, joined the American College of Obstetricians and Gynecologists as lead for equity transformation. In that role she will collaborate with departments, programs, leaders, and individuals across ACOG as well as external stakeholders to bring equity and inclusion to the forefront of all aspects of the organization.

2020s

Taif Jeelani Mukhdomi RES'21, MD, MBS, MHA, was named the American Society of Regional Anesthesia and Pain Medicine 2021 Resident/Fellow of the Year. After a year as chief resident in anesthesiology at Rhode Island Hospital, he began the Tri-Institutional Pain Fellowship at the NewYork Presbyterian/Weill Cornell Medical Center, Memorial Sloan Kettering Cancer Center, and Hospital for Special Surgery.

IN MEMORIAM

Carolyn Frazer Bridgemohan MD'89, 58, died on August 16, 2019. She was one of Boston Children's Hospital's first full-time faculty in developmental-behavioral pediatrics.

After earning her medical degree at Brown, Dr. Bridgemohan completed her pediatric residency at Children's Hospital of Philadelphia and fellowship at Boston Children's. She was a founding co-director of the hospital's Autism Spectrum Center and the director of its Developmental-Behavioral Pediatrics Fellowship, teaching and mentoring Harvard Medical School students.

As an expert on autism Dr. Bridgemohan served on many boards, authored and reviewed numerous medical publications, and lectured globally. She was a member of the American Academy of Pediatrics Section on Developmental and Behavioral Pediatrics Executive Committee and served as the section's educational program chair, liaison to the Autism Subcommittee, and past liaison to the AAP Council on Children with Disabilities.

Dr. Bridgemohan was also a talented dancer and continued to take dance classes through adulthood, although she refused to partner with anyone but her husband, Narine.

She is remembered as a guiding presence for all who knew her. Dr. Bridgemohan is survived by her husband, two daughters, her mother, and two sisters. Her classmates have established the Carolyn F. Bridgemohan MD'89 Memorial Medical Scholarship. Gifts to the scholarship fund can be made at brown.edu/go/bridgemohanscholarship.

Desmond A. Jordan MD'79, P'09, 67, died November 2, 2020. Born in New York City, Dr. Jordan earned his bachelor's degree at Cornell. After medical school he went on to residency at Harlem Hospital and served in the US Public Health Service Commissioned Corps.

Dr. Jordan trained in anesthesiology, critical care medicine, and research at Johns Hopkins Hospital. In 1987 he joined the Columbia University Irving Medical Center Department of Anesthesiology, where he was the first director of the cardiothoracic intensive care unit. In 2004 he was named both Teacher of the Year for the department of anesthesia and NewYork-Presbyterian's Doctor of the Year.

He donated his time to Doctors Without Borders, Mentoring In Medicine Inc., and to anyone who ever asked for help. He served everyone from the children of Ghana to politicians to celebrities to the families of his medical colleagues with kindness and respect. He was a beloved educator, an author, a pioneer in bioinformatics and health care technology, and a humorous physician with an excellent bedside manner.

Dr. Jordan was beloved by a large circle of family, colleagues, students, and friends. He is survived by his two daughters, including Kristin Jordan '09, and his extended family.

Howard Sturim, MD, 87, died March 12. He was a clinical associate professor of surgery at Brown and chief of plastic surgery at Roger Williams Hospital, The Miriam Hospital, and, for a time, the Providence VA.

Dr. Sturim graduated from Syracuse University at age 19 and the University of Rochester School of Medicine at age 23. He trained in general surgery at Barnes Hospital in St. Louis, where he was chief resident. After serving two years as a US Navy surgeon on aircraft carriers—including the supercarrier flagship *Independence* at the Bay of Pigs Invasion—he completed his training in plastic surgery at the University of Pittsburgh.

Brown's Program in Medicine had just been established at the time Dr. Sturim came to Rhode Island. The training program in plastic surgery was entering its second year and was the only such program in New England at that time. He loved teaching and was a clinical associate professor of surgery at Boston University as well as Brown.

Dr. Sturim was married to Jeanne Sturim for 56 years. He is survived by three sons, their wives, and seven grandchildren. Contributions in his memory can be made to the Rhode Island Philharmonic.

Leonard Triedman '49, P'81, '82MD'85, '86, GP'11, '21, MD, 91, died March 19. A head and neck surgeon, he was a clinical associate professor of surgery at Brown.

Born in Pawtucket, Dr. Triedman graduated from Moses Brown School and then from Brown University at age 19. After earning his medical degree from Harvard, he joined the US Air Force and delivered babies at Otis Air Force Base in Hyannis, MA, to the wives of enlisted men—earning him the affectionate nickname "The Flying Obstetrician." After his service, he moved to Boston and married Cynthia Knapp, the love of his life.

Following residency at the Peter Bent Brigham Hospital and a fellowship at Memorial Sloan Kettering Cancer Center, Dr. Triedman returned home to establish his surgical practice. Over four decades he cared for generations of Rhode Islanders, serving on the surgical staff of many Rhode Island hospitals, including The Miriam and Women & Infants. In the 1960s and '70s he also was the team physician for the Rhode Island Reds and the Pawtucket Red Sox.

After raising their children on Providence's East Side, he and Cynthia lived for 33 years in Narragansett. A driven athlete, Dr. Triedman was a ski patrolman, the state men's tennis champion, and an avid runner who finished the Boston Marathon numerous times. In his later years he traveled to the British Isles, Ireland, and the Caribbean to play golf with family and friends.

Dr. Triedman leaves his wife of 63 years; five children and their spouses, including Scott Triedman '82 MD'85, P'21; 15 grandchildren; and six great-grandchildren. In his memory, donations can be made to the Lifespan Cancer Institute at The Miriam Hospital Foundation via their website, giving.lifespan.org/LCI.

FELLOWS

1990s

Ralph Corsetti F'98, MD, is a surgical oncologist at Northshore Breast Center in Covington, LA, where he specializes in breast, endocrine, and melanoma surgery. He's also a professor of surgery at Tulane School of Medicine and has a clinical practice at Tulane's Lakeview Regional Medical Center in Covington. He completed his fellowship in surgical oncology at Brown.

2000s

Richard Moore F'02, MD, is the director of the Gynecologic Oncology Division at the University of Rochester Medical Center's Wilmot Cancer Institute. He completed his fellowship in gynecologic oncology and breast surgery at Women & Infants Hospital, where he was the associate director of the Program in Women's Oncology since 2009 and the director of the Center for Biomarkers and Emerging Technology and the Molecular Therapeutics laboratory.

Beatrice Lechner F'05, MD, a neonatologist, was inducted into the AOA Medical Honor Society. An associate professor of pediatrics at The Warren Alpert Medical School, she completed her fellowship in neonatal-perinatal medicine at Women & Infants Hospital.

Nicole Alexander-Scott F'09 MPH'11, MD, director of the Rhode Island Department of Health, received an honorary degree from Roger Williams University for providing "critical COVID testing support to institutions across Rhode Island and guid[ing] university reopening efforts, meeting regularly with all higher education leaders and partners to navigate health and safety for campus and surrounding communities during a constantly shifting situation." She also received the Brown School of Public Health's inaugural Alumni Impact Award for making "Rhode Island a national leader in per-capita testing for the virus and a leader in the equitable distribution of the vaccine." She completed her fellowship in adult and pediatric infectious diseases at Brown.

2010s

Sevdenur Cizginer F'14 MPH'17, MD, became a fellow of the American Geriatrics Society. She is an assistant professor of medicine, clinician educator, and a clinical assistant professor of health services, policy, and practice at Brown and the medical director of geriatric surgery at The Miriam Hospital. She also received the hospital's 2020 Charles C.J. Carpenter, MD, Outstanding Physician of the Year Award. She completed her geriatrics fellowship at Brown.

Peter Barth F'18, MD, is a hematologist/oncologist at the Lifespan Cancer Institute and assistant professor of medicine, clinician educator, at The Warren Alpert Medical School.

MOMENTUM

BROWN TOGETHER

SUPPORTING STUDENTS

Helping Students Go Global

Faculty at The Warren Alpert Medical School like to boast about the superlative caliber of the student body. Their commitment to supporting these students is equal to their enthusiasm for working with them, which is why most faculty cite student research funding on their departmental wish lists. The desire to go beyond the standard curriculum is widespread among medical students. Research is a must for those enrolled in the Scholarly Concentration Program, but scientific exploration is something many want to pursue at Brown, nationwide, and around the world.

Raising student research funds has been an important component of the *BrownTogether* campaign, and the Brown medical community has stepped up. Our most recent gift, the Rana Family Medical Student Research Fund, was given by Meenakshi M. Rana '00 MD'04 and Vishaal V. Rana. When available, this fund will support international exchange programs for students in the Program in Liberal Medical Education and medical students to pursue global health research, course work, and clinical electives that require travel. "Working in global public health education as an undergraduate at Brown inspired me to not only go on and have a medical career in infectious disease," says Meenakshi Rana, "it allowed for shared experiences, provided me with some of my closest friends and cherished memories, and reminded me of the importance of community. By giving back to Brown through the Rana Global Health Research Travel Fund, we hope to inspire future leaders in public health and medicine."

Progress to Goal *(as of September 1, 2021)*

SUPPORTING RESEARCH

Accelerating Promise

Brown Biomedical Innovations to Impact (BBII) is an accelerator fund that supports academic biomedical technologies at the University. Now in its third round of competitive awards, BBII is hitting its stride.

Originally funded with $8 million in philanthropic gifts to the *BrownTogether* campaign, BBII awards are intended to develop and add value to biomedical technologies in order to increase the probability for licensing and commercialization.

"The goal is to support and advance biomedical technologies that show great promise to dramatically improve medical care," says Karen Bulock, PhD, managing director of BBII. "We look for technology that has commercial potential and a proposal that is focused on 'moving the needle' on the commercialization path."

The four projects detailed below have been awarded up to $100,000 each to advance the translation of their scientific discoveries.

+ With their second round of BBII funding, researchers Jeffrey Morgan, PhD [the Donna Weiss '89 and Jason Weiss Director of Predictive Biology]; Blanche Ip, PhD [assistant professor (research) of medical science]; and Frank Sellke, MD [the Karl E. Karlson, MD, and Gloria A. Karlson Professor of Cardiothoracic Surgery], are advancing their method of producing lab-grown, human-derived tissue to fabricate biomaterials for less invasive cardiac repair after a heart attack.
+ Francois Luks, MD, professor of surgery, is improving the videography system used with minimally invasive surgery. He is developing driver-assisted videoscopic surgery (DAVID), which uses input from a single endoscopic camera and splices it into multiple, independently manipulated images.
+ Eric Morrow, MD, PhD, the Mencoff Family Associate Professor of Biology and director of the Center for Translational Neuroscience, will use the award to identify and test potential treatment strategies and prevent disease progression in GPT-2 disease, a rare genetic disorder that causes intellectual and developmental disability.
+ Nikos Tapinos, MD, PhD, the Sidney A. Fox and Dorothea Doctors Fox Associate Professor of Ophthalmology, Visual Science, and Neuroscience, hopes to discover and develop drugs to stop the growth of glioma stem cells and change the treatment course for glioblastoma, the most prevalent and aggressive type of brain tumor.

BBII inspired a handful of donors early in the campaign, and it remains a priority for Brown's Division of Biology and Medicine so that promising discoveries can reach their full potential.

What You Don't Know

The first-gen experience is hard to imagine for those who haven't lived it.

When medical student Tanisha Verneous wrote to me last year to ask if I'd be interested in writing about the new support group for first-generation students at the Medical School, I was shocked to learn that such a group didn't already exist.

First-generation college students are those whose parents or guardians did not attend a four-year college or university; at Brown, that definition is broadened to include parents who attended college but outside the traditional US system. According to the national Center for First-Generation Student Success, only 20 percent of first-gen students attain a bachelor's degree six years after entering postsecondary education, compared to 49 percent of students with at least one parent having a bachelor's degree. The center's data bear out exactly what you'd expect: when you don't come from a family that understands and knows how to navigate higher education, the odds of success in college are stacked against you.

If the term "first-gen student" was in use in the mid-'90s, I never heard it, even though that's what I was. I was proud to be the first to go to college not just in my immediate family, but in a large network of cousins. I thought getting in meant I had made it. That image fractured as soon as I moved to campus. From the beginning I felt like I was on the back foot, trying to keep up with everyone who seemed to know exactly what they were supposed to do to succeed in college.

Imagine trying to get through medical training, where success can be predicated upon stellar standardized test scores, social networks, and connections with the right faculty, when you're always one step behind your peers who come from families full of doctors and professionals. I'm honestly amazed by our students and alumni who have done it. And I wonder about those who didn't make it.

I hope that First-Gen @ AMS helps fill in the gaps in knowledge and provide the community these students need. I bet many faculty and staff who were first-gen students themselves are willing to step up as mentors and advisers. I know I am.

—KRIS CAMBRA, Editor

Guess They Like Us

Medicine@Brown has received a number of national awards in 2021: Silver Award of Excellence from the Association of American Medical Colleges' Group on Institutional Advancement; an Excellence Award from the Council for the Advancement and Support of Education District 1 for Phoebe Hall's article "Upstarts" in the Spring 2020 issue; and from the University and College Designers Association, an Excellence Award for the "Rapid Responders" spread in the Fall 2020 issue, Honorable Mention for "The Body Keeps the Score" spread in the Winter 2021 issue, and Honorable Mention for the complete Winter 2021 issue.

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.