IN TOO DEEP

Trauma and adversity take a lifelong hold on the body. p24

p18
One-Stop Shop for Kids’ Care

p32
Bringing Back the House Call
Whenever I’ve read about food deserts or health disparities, the tone often feels distant, as if these neighborhoods are abstract patches of land in the shadow of America’s neglect. People on this side of town must travel to another neighborhood for fresh produce because there is none available in their own. And this circumstance is not due to coincidence; it is a reality by past intention and present inattention. At times, health disparities can seem confined to the margins of journal articles; the words become just words and the numbers become just numbers. But disparities are not theoretical. They are here, in plain sight—for those who choose to see.

This image is from John Johnson’s exhibit I Can’t Remember What I Yelled Back, on view at The Warren Alpert Medical School and online at www.amsarts.council.com.
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An ED doc helps patients cast ballots from their hospital beds.
FROM THE DEAN

Better Times Ahead

I hope your 2021 is off to a good start. There is an air of hopefulness as we watch vaccinations against COVID-19 roll out. We were fortunate to be able to offer the vaccine to our medical students so that they can continue their education with full protection. Their presence and “helping hands” have been a great help to our hospital partners at this time.

One of the silver linings of the pandemic may turn out to be a renewed effort to form a joint academic health center composed of the Lifespan and Care New England health systems and Brown. These systems are already our close partners and uniting all of us would have tremendous impact on education, research, and health care in southeastern New England. We will continue to keep you apprised of developments in this arena.

Throughout this past year, we’ve often been asked to be resilient during these turbulent times. However, that is more difficult for people who have a history of trauma and stress. In this issue of Medicine@Brown, you will read about the Initiative on Stress, Trauma and Resilience in the Department of Psychiatry and Human Behavior. Researchers there are studying the lifelong impacts of trauma and adversity (page 24). Their goal is to develop better ways to help people overcome adverse events and live fuller, healthier lives.

I hope that all of you are finding ways to cope. I am confident that there are better days ahead. In the meantime, BioMed and The Warren Alpert Medical School wish you and yours a happy, healthy, and fulfilling year!

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

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Two Studies Test Alzheimer’s Prevention

The fear of developing Alzheimer’s disease is so great among seniors that in medical literature it has its own acronym: FDAD. “It’s the disease that most concerns older people, even more so than cancer,” says Stephen Salloway, MD, director of the Memory and Aging Program at Butler Hospital.

That’s one reason he’s excited about two new Alzheimer’s prevention trials underway at Brown. “Like with other major diseases in medicine, the goal is to detect and intervene early to try to prevent problems down the road,” Salloway says.

The first, AHEAD, is testing whether a new drug can reduce the amount of a protein called amyloid that builds up in the brain, which is associated with memory loss. The drug breaks up the amyloid plaques and helps remove them. People who enroll in the trial first undergo a positron emission tomography (PET) scan of their brain.

continued on p06
LISTEN TO THIS

The Challenges of Being Black in Med School

Students tell their stories—and offer solutions.

As Tino Delamerced ’18 MD’22 and Stephen Bozier ’17 MD’23 chatted over coffee in the summer of 2019, they realized that of the six Black men in their class, only three were moving on to the second year. Two of the others had to repeat their second semester, and one was asked not to return.

Delamerced and Bozier say this statistic demonstrated a larger trend across US medical schools. “It was clear after just a few conversations that the burden of remediation [repeating coursework] was falling disproportionately on students of color, particularly students underrepresented in medicine and BIPOC students,” Bozier says.

They wanted to go beyond the numbers for an episode of Firsts, Delamerced’s podcast about students’ first-time medical experiences, “to contextualize those statistics,” says Bozier, the president of Brown’s Student National Medical Association chapter. “We needed to offer a duality of data and narratives, since the two together are that much more powerful.”

They interviewed four Black classmates about the specific challenges that disproportionately affect students underrepresented in medicine (UrM), such as financial constraints, family-related stress, and the intersection of perceived professionalism and race.

“I do know that I’m going to finish and get the job, but ... I always feel like I have to prove myself,” Ahmed says on the podcast. Another student, Danielle, tells how, after talking to a...
Stephen Bozier, left, and Tino Delamerced call themselves “caretakers” of their classmates’ stories.

patient about their favorite food spots in an area of New York City, her preceptor told her she was too informal. “What I regarded as rapport, she regarded as unprofessional,” Danielle says. “We want people who are underrepresented in medicine—however, we also want to conform to what we say is professional and acceptable.”

Delamerced and Bozier say the interviews required honesty, vulnerability, and courage. “It was really important to me that, if we were going to ask these students [about their experiences], we were very intentional about how we were going to use these stories,” Bozier says. “We wanted there to be some healing and validation in this process.”

After months of work, the episode, “First Reckoning,” dropped last August. “We were so nervous about what people would think,” Delamerced says—Medical School leadership in particular. But faculty welcomed it with enthusiasm, sharing it with colleagues and tweeting the podcast link.

“We now know that we have very strong and very genuine allies for students of color among faculty at AMS … and people who are ardently looking to rectify things at our institution and beyond,” Delamerced says. They especially appreciated the response of Roxanne Vrees ’98 MD’03 RES’07, associate dean for student affairs, who actively pushed her colleagues to listen. “That still leaves me speechless, that all these people in important positions at AMS were listening to our podcast,” Delamerced says.

After the killing of George Floyd and widespread protests against police brutality last summer, “First Reckoning” contributed to a wider awareness of the challenges URiM students face at Brown, and to making change. In response to student demands, the Office of Medical Education committed to numerous changes across the curriculum, including an investigation of disparities in remediation (see Medicine@Brown, Fall 2020).

Bozier says there was some “divine energy” around the timing of the podcast episode. “COVID and its disproportionate impact on people of color … the nationwide refocus around anti-Black violence and white supremacy, and the historic student activism happening at Brown … added even greater context for the themes we were discussing in this podcast to then be discussed and received,” he says. —ISHAANI KHATRI ’21 MD’25

www.firsts.site/first-reckoning
**VITALS**

**Nursing Home Residents Left in Harm’s Way**

Government officials vastly undercounted the deaths of Florida nursing home residents after Hurricane Irma in 2017, researchers at Brown found. David Dosa, MD, MPH, an associate professor of medicine and of health services, policy, and practice, compared deaths at nursing homes across Florida in the 30 days after the Category 4 storm to those reported over the same period in 2015, when no hurricanes occurred in the state. In JAMA Network Open, he reported that the actual death toll was more than double what the CDC reported.

“Our results suggest that this wasn’t an isolated phenomenon at one or two nursing homes,” says Dosa, who studies disaster management in the long-term care industry. “This occurred across the state.” The study’s findings expose the cracks in the elder care system—which intensified when nursing homes were generally left out during the distribution of personal protective equipment in the early days of the COVID-19 pandemic, Dosa says. Data show that nearly one-quarter of COVID-related deaths in the US have occurred in long-term care settings.

“We need to prioritize nursing homes,” he says. “I hope that this work adds to the idea that nursing homes need to be front and center in disaster management.”

—JANINE WEISMAN

**BOOKSHELF**

**PANDEMIC WORSENS DEPRESSION, ANXIETY IN TEENS**

*Photo of book* 

**Mood Prep 101: A Parent’s Guide to Preventing Depression and Anxiety in College-Bound Teens**

By Carol Landau, PhD

Oxford University Press, 2020

Long before COVID-19, the US was dealing with an unaddressed public health crisis: an epidemic of adolescent psychiatric problems. A clinical psychologist who has been treating high school and college students for more than 30 years, Carol Landau ’70, P’09, PhD, began thinking about ways families could head off the depression and anxiety she saw so often in her practice. The result is her recent book, *Mood Prep 101*.

Landau, a clinical professor of psychiatry and human behavior and of medicine, says while there’s no “formula” to preventing depression and anxiety——“it’s not like adding fluoride to the water”——families can do secondary prevention. “That’s basically early identification,” she says in an interview. “I also hope that parents will learn more about adolescent development and the needs of teens who feel ‘different,’ including those who are LGBTQIA or from other minority groups.”

The book provides the tools parents need to better communicate with teenagers and establish a strong foundation for the family. Landau covers the common stressors in teens’ lives, including social media, perfectionism, and the college application process. The goal is for adults to learn and then teach the kids in their lives the problem-solving and self-efficacy skills they will need in college while also learning to identify when expert help might be needed.

“If a child is more irritable than normal, hasn’t been sleeping, is tearful for more than two weeks,” Landau says, “get an assessment. Call your primary care physician. Early intervention is never a bad thing.”

While Landau wrote *Mood Prep 101* before the COVID-19 pandemic, her lessons are even more relevant now. She says with something like 40 percent of youth experiencing a major clinical depression or anxiety or both, we should have been addressing this as a significant public health issue. The pandemic triggered even more mental health issues in young people.

“We never had good uncertainty tolerance because most of us are rushing in to fix ‘it’ for our kids,” Landau says. “And now you add the most uncertain situation—who’s going to live or die? Is school open or closed? And then you add college on top of that. Now there’s panic about how this admission process is going to work.”

*Mood Prep 101*’s take-home message is that parents need to provide ongoing support and ease up on the pressure they put on kids to get into good schools and be successful, and Landau is hoping the pandemic might actually change things for the better.

“I’ve been against this ultracompetitive approach to high school and college that places teens under so much pressure,” she says. “I’m hoping this situation leads to more flexibility because that’s probably the key for both parents and kids.”

—KC
GUN SENSE

For the first time in 24 years, the CDC has funded research to understand and prevent firearm violence. Megan Ranney RES’08 F’10 MPH’10, MD, was one of 16 investigators to receive a grant last September. Ranney, The Warren Alpert Foundation Associate Professor of Emergency Medicine, will use the three-year, $1.95 million award to study the effectiveness of a bystander intervention in changing firearm injury prevention norms, attitudes, intentions, and behaviors among a sample of 50 4-H Shooting Sports Club communities.

“The history of public health tells us that change is created by listening to, and including, communities at risk. Unfortunately, firearm injury prevention work has rarely centered on those who own and use guns,” Ranney says. “I’m so excited to work with 4-H, a national organization with a tremendous track record of positive youth development, to create culturally appropriate programming around firearm injury risk for their Shooting Sports Clubs. Working with youth during their formative years has the potential to have huge positive ripple effects, both for their communities and for the country.” —KC

BY THE NUMBERS

Health Care Costs Skyrocket After Shootings

Blue Cross Blue Shield members in 5 states who suffered nonfatal gunshot wounds, 2015-2017

<table>
<thead>
<tr>
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<th>DISCHARGED FROM ED</th>
<th>REQUIRING HOSPITALIZATION</th>
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<td>TOTAL INITIAL COSTS</td>
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<td>BEFORE-AND-AFTER</td>
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<td>6 months before</td>
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<td>to $17,806 in</td>
<td>to $92,151 in</td>
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<tr>
<td></td>
<td>6 months after</td>
<td>6 months after</td>
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<tr>
<td>OUT-OF-POCKET</td>
<td>133%</td>
<td>644%</td>
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<tr>
<td>COSTS WENT UP</td>
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<tr>
<td>CLAIMS WENT UP</td>
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<td>$41,255,916</td>
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</tbody>
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“…You want to prevent firearm injury because of the emotional aftermath. You want to prevent firearm injury because it’s wrong to let people get hurt. But for some people, they may want to prevent firearm injury because it’s expensive.”

—MEGAN RANNEY RES’08 F’10 MPH’10, MD, Warren Alpert Foundation Associate Professor of Emergency Medicine
Family Medicine’s New Frontier

A combined residency program and major telehealth grant better prepare doctors for the future.

After six years of courtship, Brown’s family medicine residency programs in Pawtucket and Warwick, RI, officially tied the knot last year.

“It’s been a marriage made in heaven,” Chair of Family Medicine Jeffrey Borkan, MD, PhD, says of the unified program. The 48 family medicine residents train at safety-net clinics, academic centers, and community hospitals across the state, caring for vulnerable populations.

The programs first collaborated in 2014, when Borkan and residency directors facilitated a “matchmaking” between Kent Hospital, which sponsored the Warwick residency, and the new Thundermist Health Center for outpatient training. Things got serious four years later when Memorial Hospital in Pawtucket shut its doors and Kent became the sponsoring institution for both residency programs.

Fadya El Rayess F’07, MD, MPH, director of the Pawtucket residency, now leads the combined program. “We actually had a lot in common,” she says. “Both residencies were geared toward providing residents with the broad clinical and procedural skillset needed to provide excellent care for underserved communities.”

Both sites offer “cradle-to-grave” care, El Rayess says, including medication-assisted treatment (MAT) and transgender care. Angela Jacavone RES’21, DO, chief resident in Warwick, says they learn reproductive health, dermatologic, and orthopedic procedures, as well as osteopathic manipulative treatment at her...
site. “That ability to really hone in on what you're interested in and [program leaders] being so open to what you want to do is really valuable,” she says.

Pawtucket chief resident Katrina Roi MD’18 RES’21 says her site’s interns now rotate at Kent, in addition to The Miriam, Hasbro Children’s, and Women & Infants hospitals. “We are getting training that will help us succeed in a broad range of settings after graduation, wherever we end up,” she says.

The pandemic jump-started another longtime department goal. Last year it received a $2.4 million award from the Health Resources and Services Administration to develop telemedicine to address the opioid crisis using MAT and expand care for underserved communities (see page 32). “We anticipated rolling it out really slowly,” Borkan says. “Then the COVID pandemic hit and we learned how to do telemedicine on the fly.”

“All of our second- and third-year residents became quite adept at providing [telemedicine] to patients,” adds El Rayess, who is leading the five-year project. “We had a huge impact on the community we serve in terms of providing outreach and keeping people safe at home.”

For the project’s rural component, Brown is collaborating with Mount Desert Island Hospital in Maine, which uses telemedicine to reach the large geographic area it serves. El Rayess says the Maine team already provides virtual MAT for their patients and will help train Brown residents in rural medicine.

“This is one of the top family medicine residencies in the country, and the HRSA grant is designed to encourage innovation,” Borkan says. “It will help us transform and adapt to meet current and future challenges together.” —PHOEBE HALL

**BIG, BAD, AND TOUGH TO BEAT**

**Study discovers potential target for treating aggressive cancer cells.**

Polyploidal giant cancer cells present several challenges for researchers: they're aggressive, they're resistant to treatment, and they're hard to study because they don't undergo mitosis, which is typically required for cell division. Instead, PGCCs divide via amitotic budding—and their cell structure enables them to spread rapidly.

Last fall researchers at Brown reported new discoveries about this process, as well as a potential treatment target.

According to the study, in *Proceedings of the National Academy of Sciences*, PGCCs rely on cell filaments called vimentin in order to migrate. Vimentin is found in cells throughout the body, but PGCCs were found to have more vimentin compared to non-PGCC control cells, and their vimentin was much more evenly distributed throughout the cell.

“These cells appear to play an active role in invasion and metastasis, so targeting their migratory persistence could limit their effects on cancer progression,” says senior author Michelle Dawson, PhD, an assistant professor of molecular pharmacology, physiology, and biotechnology.

She and her colleagues hope to next find a biomarker for PGCCs so that they can study these cells in human tumors.

“This study shows vimentin is overexpressed in PGCCs and is likely responsible for several of their abnormal behaviors,” Dawson says. “Vimentin is a ubiquitous protein, so targeting vimentin directly may not be an answer, but drugs that target vimentin interactions may be effective in limiting the effects of these cells.” —KERRY BENSON

—KERRY BENSON
ASK THE EXPERT: ELIZABETH SAMUELS

Why are overdose deaths surging, and what can we do about it?

COVID-19 wasn’t the only mass killer last year. Deaths from opioid overdoses increased across the country, including Rhode Island, says Elizabeth Samuels RES’12, MD, MPH, MHS, an assistant professor of emergency medicine at Brown and consulting assistant medical director for the Rhode Island Department of Health’s Drug Overdose Prevention Program. Early in the pandemic, she helped set up a hotline so Rhode Islanders with opioid use disorder could access buprenorphine treatment via telehealth.

Overdose deaths started rising in late 2019. During COVID-19, we were all concerned deaths would increase, and they have. It’s like a train that you can see coming at you and you’re doing everything you can to move everyone out of the way. Some of it is people being home alone. Overdose deaths are entirely preventable with prompt administration of naloxone, but there needs to be someone around to give the naloxone. There are also increasingly potent analogs of fentanyl in the drug supply and increasing concurrent stimulant use. People have lost their jobs, resulting in increased economic strain. People are at times scared to call 911 in part due to concern about getting exposed to COVID, but also some people have had negative experiences with police.

If we’re going to truly change the overdose epidemic in the US, we need to fundamentally change the social conditions that have produced this crisis. We still largely use a criminal justice approach to drug use, not a public health approach that treats addiction as a disease and addresses racial and economic inequities. Rhode Island has done a good job to promote and expand harm reduction and treatment access, but we continue to criminalize drugs, including possession of buprenorphine. We need to decriminalize that. That’s low-hanging fruit.

If we don’t change the economic opportunities, address social inequities, or prevent and help people heal from experiences of trauma, we’re not going to be able to truly alter the overdose crisis. In the nearer term, we can expand street outreach and harm reduction services, expand access to low-barrier treatment options, expand housing assistance, and pursue other evidence-based harm reduction strategies, such as overdose prevention sites.

COOL TOOL

MINUTES MATTER IN STROKE DIAGNOSIS. CAN AI HELP?

Deep learning can rapidly detect stroke-causing blockages and potentially speed the onset of lifesaving treatment, according to a study in Radiology.

Large vessel occlusions, which block arteries to the brain, account for many ischemic strokes. Prompt diagnosis is critical to begin opening the blocked artery through endovascular therapy. Matthew Stib RES’21, MD, a diagnostic radiology resident and lead author, used deep learning to help spot large vessel occlusions on CT angiography (CTA) and reduce time to treatment. When the researchers tested the model in 62 patients, it detected all 31 large vessel occlusions. The model could be a useful asset to medical centers that don’t have the expertise for reading large vessel occlusion CTA images.

“This algorithm is not replacing the ability of radiologists to do their job,” Stib says. “It’s trying to speed up the time to diagnosis.”
ANATOMY OF A PALEONTOLOGIST

What does an anatomy instructor do for fun? Amy Chew, PhD, MSc, digs for fossils. “It’s actually not that uncommon,” says Chew, a lecturer in ecology and evolutionary biology who wanted to be a paleontologist but studied functional anatomy so she could land a teaching position. “There are not enough paleontological jobs,” she explains, but “if you happen to have a mammal focus, then teaching in a medical school is a legitimate option.” Every summer Chew pursues her passion in Wyoming’s Bighorn Basin, hunting for prehistoric mammals to understand how they responded to global warming events, called hyperthermals, up to 60 million years ago. “We can make predictions about what you expect to see in the face of rapid global warming,” she says. But funding has steadily declined, and the pandemic nearly canceled fieldwork last year. It also upended anatomy instruction. Due to social distancing protocols, she’s spending more time than ever with cadavers. “We’re doing all of the prosections in advance,” says Chew, who teaches anatomy for the Gateways Program too. “We’re also in the lab for seven hours while the medical students file through.” She laughs. “I really did not know that one could spend that much time in the anatomy lab and not go completely bonkers.”

IN VIVO

HER MOMENT OF ZEN
In the field, hunting for fossils, “there’s nothing except you,” Chew says. “I just feel the tension melting away.”

SKELETON STORIES
Chew studies fossils of Bunophorus (pictured here), a small hoofed mammal, for changes triggered by global warming, like diet or body size. “There’s so many things we don’t know,” she says.

LIFELONG ADVENTURE
Chew’s first dig in the Bighorn Basin, when she was an undergraduate in 1995, “was life changing.” Now she’s the project leader.

FULL HOUSE
At home in Providence, the mammals keeping Chew busy are her husband, a RISD history professor; their 11-yr old, Claire; and two cats and a guinea pig.

GULP
Chew knows anatomy isn’t for everyone: “I have met many medical doctors who find out what I do and look like they swallowed a goldfish and say, ‘I never learned anything in that course.’”
Back in the Classroom
Teaching during COVID times is both foreign and familiar.

BY JON ELION ’72 MD’75

I remember my first time scrubbing in for a surgical procedure as if it were yesterday. As a member of Brown’s first MD class in the modern era, I was discovering that having medical students in the operating room was a new phenomenon.

I reported to the nursing supervisor in the surgical suite as instructed. Many of the ORs were already buzzing with activity. She rattled off a litany of procedures that I was to follow, all beginning with the words “You will ....” She was just winding down when Dr. Stewart, my hosting surgeon, arrived on the scene. He winked and motioned with his head that I should join him at the scrub sink. I mimicked his every move, trying to assume a posture that told anyone who was watching that I knew what I was doing. The nursing supervisor knew better.

As Dr. Stewart finished his scrubbing ritual, I figured that I must have missed a critical step, as the faucet on his side of the sink had shut off, but as I stepped away, mine was still running. I chose to follow after my host, arms held upright like I had seen on TV and hoping that the faucet would magically shut off on its own.

As I passed through the doorway, I stepped into a strange new world. The patient, the tables, the staff, everything seemed to be draped in blue. The circulating nurse barked out, “What size gloves do you wear?” I had no idea. By way of an answer, I held my hands up for her inspection. She whipped out a pair of size 7½ latex gloves (my first and, as it turned out, my last time to wear latex gloves). The rest is a blur. I remember feeling that I was somewhere between being on an alien spaceship and having stepped onto a moving sidewalk that had been cranked up to full speed. But it only took a few visits to get the hang of it all, and before long the scrub procedure, twirling around to get my gown ties around my waist, and announcing ahead of time that I needed latex-free gloves all became ingrained in my morning ritual.

BRAVE NEW WORLD

Fast forward 48 years. I was crossing Richmond Street to the medical education building of The Warren Alpert Medical School—my first time there since the pandemic struck. Students, faculty, and staff converged on the entrance at the same time, all boarding the spaceship. Once again, I noticed many swatches of blue in the scrub suits, masks, and (in my case) dress shirts. What was I getting myself in for? Was it still proper to hold the door open for someone else? Would everyone have a proper mask, and would they wear it correctly? Was it possible to get sick from using too much hand sanitizer? How does one correctly socially distance in the bathroom? Where was that wink from Dr. Stewart when I needed it?

My Cardiology Small Group was assigned to the open space in the Blue Academy (of course, blue!). I chose a place to sit and wiped down the table and chair with a disinfectant wipe (twice) with a healthy dose of hand sanitizer for me. As the students sauntered in, they spread out at a proper social distance, without prompting. All wore proper masks with tight fits that fully covered their noses and mouths. Phew! If they were annoyed with my instructions to wipe down their spaces at the beginning and the end of our session, they didn’t show it.

The case we discussed was a long and difficult one. The students must have felt that they had stepped onto a moving sidewalk that had been cranked up to full speed. In fact, it was. We quickly moved beyond the awkward mechanics of our new COVID-era surroundings and procedures and dove into the case. Of course, there were a few stumbles. How could I play recordings of heart sounds so that everyone could hear? How could I draw on the white board when the dry markers had actually run dry? Why were so many other students wandering through our space?

The journey continued a few days later as I met with my small group for the second year of the Doctoring course. This time we had some new challenges to solve: finding positions in the lecture hall that kept us socially distanced from each other while being acoustically distanced from the other group sharing the room. Remembering to remove the protective film from the face shield (I wondered why everything looked so foggy!). Explaining how to safely remove disposable gloves.

Things quickly settled into a routine. The students were enthusiastic, engaged, and flexible in accepting the evolving changes. The staff assisting the two courses in which I was
participating were outstanding (while I expected nothing less, they far exceeded my high expectations). Course leaders seemed to be everywhere at once, acting as counselors, organizers, and cheerleaders. I could tell that even under her mask, Tiany, the security guard at the building’s front desk, grinned broadly as she waved at and welcomed people.

At the end of the week, as I descended the succinctly labeled “Stairs Down,” I stopped on the landing and paused to survey the bustling activity. Students filled the entrance atrium while still managing to stay safely distanced. Animated discussions were underway all around. Laughter, teasing, and smiles were the order of the day. It all seemed so normal. Much like adjusting to the rituals of the operating room, the new rituals brought on by the pandemic were rapidly incorporated into daily life at the Medical School. A new normal, perhaps, but normal. As I left the building, I got another smile and wave from the security guard.

I hope I didn’t leave the faucet running.

JON ELION is a cardiologist and clinical associate professor of medicine at The Warren Alpert Medical School.
The Black Maternal Mortality Crisis

Hospitals need a change in culture to save Black women and their babies.

BY CHARISSA CHOU '22

At a time when our country is reexamining its racist history, we must realize that structural racism pervades our health care system as well. The same system that allows police brutality to steal Black lives is failing Black mothers. And the price of failure is death.

In the United States, Black women are three to four times more likely to die in childbirth than white women, regardless of socioeconomic status, according to the CDC. The rate of infant mortality among Black mothers is also significantly higher than white women. But pregnancy outcomes are not limited to survival. Prematurity has far-reaching implications for the baby and puts the mother at higher risk for postnatal health problems—and again, the preterm birth rate is higher for Black women.

The science behind this inequity is under debate. Medical risk factors for premature birth include family history, high blood pressure, and diabetes. Environmental risk factors, such as low socioeconomic status, increased levels of stress, and exposure to air pollution, lead, and chemicals, also come into play. Black people are much more likely to live in conditions that contribute to these risk factors. Importantly, some researchers believe the accumulation of oxidative stress from constant racist encounters...
may contribute to higher rates of preterm labor in Black women. As people protest police brutality and fight for their unalienable right to life as stated in the Declaration of Independence, I would argue that the right to fair health care, given at the same standard to people regardless of their race, is a critical element of the right to life. But to make equitable health care the standard of care for everyone, we need structural, system-wide changes.

Under the mentorship of pediatrician Sivan Hines ’84 MD’87, I sought to not only investigate the reasons for poor pregnancy outcomes for Black women, but to speak with changemakers in the community about their visions of equitable health care.

‘IT HAPPENS ALL THE TIME’

Carroll Medeiros ’89 MD’93 is a clinical assistant professor of obstetrics and gynecology who practices at Women & Infants Hospital and identifies as Black Hispanic. Even after 22 years in practice, with training from one of the best programs in America, “as a physician of color, being, most of the time, the most educated person in the room, still people will treat me like I’m less than they are,” Dr. Medeiros says. “It happens all the time.” She’s lost count of the medical students, usually white men, who introduced themselves to everyone in the room except for her—the attending physician.

The unconscious bias and microaggressions against providers of color highlight a key problem in patient care: if Black attending physicians are seen as “less than,” how are Black patients perceived? When Black patients are seen as less than, the quality of care they receive is directly related to poor outcomes like prematurity and maternal death. Culture change must extend into the realm of medical education, where students can see people of all races in the different roles of providers—an important step in reducing unconscious bias and microaggressions.

COMMUNITY-BASED SOLUTIONS

Most babies born in Rhode Island are delivered at Women & Infants. The demographic that the hospital serves is much more diverse than its majority-white staff. Because many people of color, especially Black people, distrust the health care system, some may seem a little abrasive—and some providers react by asking, “What is wrong with her?” rather than wondering, “What is it about me or any prior experiences that may make this person a little harder to reach, based on what I’m doing right now?”

Dr. Medeiros believes providers must develop more culturally sensitive approaches to patient care to improve maternal health outcomes. This means adapting to the myriad ways individuals from different cultures deal with health, disease, and the natural process of childbirth. She says team trainings, in which providers act out a script based on how they would experience a scenario like childbirth, facilitate this process of understanding. This is an important step in fighting stereotypes that underlie poor maternal and fetal outcomes. The limiting factor, however, is the lack of providers of color to participate and offer their perspectives. One possible solution—hiring people of color from the local community to be model patients and providers—can help gauge whether the experience of care is improving in response to these trainings.

As we fight for Black lives, the realm of health care must not be left untouched. By working for change at every level—federal and state legislation, individual provider care, and hospital systems—we fight for the lives of all members of society, including Black women and their unborn babies.

CHARISSA CHOU is a biology concentrator and the founder of Healing and Faith, a faith exploration group at SSTARBirth, a substance abuse treatment home for mothers in Rhode Island. She has a strong interest in community-based practices to fight racial injustice in health care.
For Many New Yorkers, Primary Care Is Broken. She’s Fixing It

Alumna Suzette Brown is embedding doctors’ offices in community organizations to ease access to health care and social services.

BY KRIS CAMBRA | PHOTOGRAPH BY JAMES CHOROROS
After fellowship, I landed at Maimonides in Brooklyn, NY, and did a combination of clinical care and research. It was really there that I realized how broken and limited primary care was for a lot of families. I was caring for families who were contending with a lot of adversity and toxic stress ... homelessness, domestic violence, substance abuse, parental mental illness, parental incarceration, lots of kids with behavioral health needs, in addition to kids who had chronic health conditions and comorbid mental health issues.

Trying to figure out how to help families navigate all of these issues was challenging. And the health system just wasn’t supporting them in a holistic way to help them address their many needs. What I ended up doing was forging partnerships with community organizations that had expertise addressing certain social needs. I had also gotten some funding to integrate mental health services into primary care. The goal was always to try to create this wraparound system of social services and mental health services that patients could access within primary care. But I was faced with so many roadblocks along the way.

Like what?
The health systems just weren’t interested in creating that. It was just like, “OK, you need to meet certain numbers, see a certain number of patients.” And that’s the priority. They essentially said, “Yeah, integrating mental health is great, but you don’t need to really push it much farther than that.”

After a while, I just got frustrated with those limitations. And my twin sister, Nicole, who is also a Brown alum and a pediatrician—she and I graduated from Brown undergrad in 2000—

Wait, you have a twin?
Yes, she went off to Stanford for med school and I stayed at Brown. She was working at Montefiore in the Bronx as a pediatrician at the same time I was in Brooklyn at Maimonides. We were comparing notes and ranting about the same challenges and limitations. We had a third colleague, Dr. Omolara Uwemedimo, who was a pediatrician at Northwell, who we’ve known for a number of years, and she was dealing with the same limitations and frustrations but had successfully forged incredible community partnerships as well.

And a great idea was born?
We all just felt, what if we joined forces and created this dream practice that leveraged the services and expertise of
community-based organizations so that our patients could easily access those services, while also being able to access comprehensive primary care? It just made sense.

I had forged partnerships with certain community-based organizations. Nicole had forged partnerships. Omolara had forged partnerships. We ended up approaching those organizations with this idea of bringing primary care to them and basically integrating a primary care practice into their organizations so that patients could get their health needs met while also having access to all of the great behavioral health and social services that the organization offered. It would be like a one-stop shop, and really help to break down the silos and the fragmentation in care that a lot of patients and families experience.

The organizations were on board. Two of them in particular—the Child Center of New York, which is a large multiservice organization in Queens, and JCCA, which is a large organization that serves kids in foster care and kids involved in the child welfare system in Brooklyn—were really excited about the idea of bringing primary care in.

We called this model of care “reverse integration” because we thought of flipping traditional integrated care on its head. We're bringing primary care into community-based organizations rather than trying to do it the other way around, which is when services come into primary care and there are so many barriers there.

This was all in 2019-2020, right?

Right. We launched our first primary care hub location at the Child Center of New York in Queens that opened up in early August. We’ve been serving clients from the surrounding community as well as Child Center of New York clients in a very collaborative way. We really collaborate with the community partner to make sure that families are engaging in services and that they’re getting their needs met. We have meetings at least twice a month with our community partner to identify any issues and talk through how we can all best help support that family.

So you make sure no one’s falling through the cracks along the way?

Exactly. I think that kind of bidirectional communication and collaborative care between health care providers and community entities is missing a lot of times and doesn’t really happen in the robust way that it should. We’ve been working to refine a clear way of conducting collaborative care that’s really impactful for families. We’ve actually done a pretty good job doing that. It’s one thing we hope to scale and teach others how to do in the near future.

Are you physically located at the community organization?

Yes, we’re embedded in there. We have a couple of examination rooms. We share a waiting area. We’re right in the center of that organization’s site. Families can literally walk down the hall to get mental health services, walk a little bit further down the hall to get public benefits assistance, walk down another hall for GED classes and help with employment. Literally everything is on site. It mitigates the back and forth and having to navigate multiple systems to get help.

Making those connections and doing that follow-up work—do people underestimate how difficult that is for families who are facing challenges?

Absolutely. A lot of times, the family is headed by a single mom who has to work and has to figure out how to feed her kids and keep them clothed and housed and deal with their kids’ school—they have so many competing demands. Telling them, “Go call this organization to make an appointment to get help with your SNAP benefits, to get food from this food pantry,” it becomes overwhelming when you’re already dealing with so much. As clinicians, we are trying to help by giving them information on community resources, but if the burden is placed solely on them to follow up, we often end up unknowingly adding more stress. Families end up not engaging in the services that they’re referred to because they often just don’t have the time and the wherewithal to engage. Meeting them literally where they are, which is in your office, and having the ability to help them easily access what they may need within the same office setting, is critical.
How will The David Prize money help you do this?
We recently hired a family navigator. That individual helps to ensure that families connect to services, that they actually engage in services, and that they’re benefiting from the services. They’re kind of like a point person for the family and help troubleshoot, help make appointments, help get them transportation, and just really help them navigate all of the barriers that often prevent them from accessing care and other sources of help. The navigator also helps to facilitate bidirectional communication between providers in our practice and our current community partners that we’re working with, as well as any external partners that we end up working with. That person came on board in November.

One of the things that I think is also a little bit unique with our practice is that we try to leverage technology to improve access to care and engagement in care. We use a HIPAA-compliant text messaging platform to communicate with patients prior to and in between visits. We also use a patient registration and screening platform that allows patients to register for their appointment as well as complete social determinants of health screening and mental health screening on their mobile device, so we can do that prior to the appointment.

Our technology also allows parents to complete developmental screening on their mobile device for their young kids. By doing that, we’re able to get all of this information before the visit and create a little bit of a picture of who this family is, what their needs may be, and be able to prepare for that visit in a more effective way. Technology is really important to what we’re doing and The David Prize is going to help augment that and help us build out some of these technology platforms.

Would you say that this technology makes it possible to accomplish so much more in one visit?
Absolutely, that was our goal. Prior to doing this, we were limited to usually 15 to 20 minutes max [per visit] and didn’t have the time to delve deep and get a full understanding of the issues that the family and the child were facing. There was a lot of “come back, come back, come back next time” because you have no time. And, unfortunately, the family can’t always come back.

What else do you hope to get from The David Prize exposure?
In addition to the funding, The David Prize definitely tries to work with finalists and winners to connect them to folks that they think could help amplify and advance their work. We are really trying to get something called a value-based payment, or VBP, with health plans that would allow us to build out our team and provide the kind of truly comprehensive and collaborative, holistic care that we want for medically and psychosocially complex families. A VBP contract would … help to move us away from focusing on volume and help us focus on just providing quality care that is impactful for families and improves outcomes. The prize is really intentional about helping us think through that and helping us connect with the key players and stakeholders that we need to move us closer to achieving that.

We envision that this will scale beyond New York and that it has the potential to scale nationally. We can shift the paradigm when it comes to pediatric care and how you deliver services to families through this kind of reverse integration model.

What’s next for Strong Children Wellness?
I’m always looking for opportunities to partner with other community organizations and other folks doing great work on behalf of kids and families. I spend a lot of time outreaching to potential community partners. It’s been keeping us pretty busy. I’ve had the opportunity to talk to a few Brown alums since launching this. A lot of folks doing great work on behalf of kids and families and marginalized communities, especially in and around New York City, happened to go to Brown.

Our goal is to join forces with visionaries focused on empowering families and collectively being this incredible force for change. We shouldn’t continue to work in silos—we should strive to work collaboratively to have a real impact on families’ well-being and to help kids truly thrive.
IMAGINE YOU’RE DRIVING DOWN THE STREET in Providence when you suddenly see a new pothole in your path. (OK, not so hard to imagine.) You brace for impact, but you roll over it with only a small thump, and you relax. Your car has great suspension, and you keep up with maintenance. Within moments you’ve forgotten the minor jostling.

Now imagine you hit that pothole in the old beater you drove around during school. Your teeth rattle in your skull. A grocery bag falls over in the back, spilling eggs onto the floor. A hubcap spins off into the gutter. As you return to the store to buy more eggs, your steering wheel pulls more to the left than ever—you really need new shocks now. You think about your maxed-out credit card. You’ll be cursing that busted bit of pavement for months.

Nicole Nugent, PhD, says people, like cars, have shock absorbers. But their effectiveness depends on the lives we’ve lived. The lucky ones who experience little misfortune or loss are usually able to handle life’s bumps, while those who’ve suffered traumatic or stressful events—especially at a young age—may have a harder time coping with, and recovering from, even small mishaps.

“Early trauma ... can break your shock absorber,” says Nugent, an associate professor of psychiatry and human behavior and of emergency medicine at Brown. “You hit that bump. You feel it more. You bounce more frequently. And it’s harder to return to baseline.”

That’s because early-life stress may change us at the molecular level. Studies associate childhood trauma and adversity with cellular aging, elevated stress hormones and inflammation, a weakened immune response, and disrupted brain development. The impacts of those biological changes can be far reaching, from an inability to form relationships or pay attention in school, to risky behaviors like drug use and unprotected sex, to social problems like crime and poverty, to diabetes and cardiovascular disease, psychiatric disorders, and early death.

And the consequences of trauma can live on in the next generation, adds Audrey Tyrka RES’03, MD, PhD, a professor of psychiatry and human behavior, as a mother’s stress may affect not only fetal development but her ability to raise her child.

“Oftentimes, the modeling that people have received is poor,” she said in a lecture at the Karolinska Institutet in 2019. Yet society relies on parents to model good parenting: “that’s how we learn to become good parents ourselves.” It’s a heartbreaking cycle.

But not an unbreakable one. Two years ago Tyrka, Nugent, and their colleagues Laura Stroud, PhD, and Stephanie Parade, PhD, formed the Initiative on Stress, Trauma, and Resilience (STAR) within Brown’s Department of Psychiatry and Human Behavior to understand the mechanisms of adversity across the lifespan—looking for biomarkers that may forecast risk and disease—as well as how people cope and adapt. If they can pinpoint, for example, a molecular change in a fetus triggered by a mom’s stressed environment, that may suggest a way to protect the child, says Stroud, a professor of psychiatry and human behavior.

“That’s the more hopeful pathway,” Stroud says. “The thing that’s always surprising to me is how resilient humans are. ... Parenting interventions have been extremely successful.”

Getting out of the lab and into the real world is critical to STAR’s mission. The four leaders partner with community organizations and state agencies to design and implement programs that address a range of adverse life events, from violence and neglect to substance use and suicide, from pregnancy to birth to adulthood. Furthermore, Parade says, many programs “meet families where they’re at”—in their homes.

“It’s been nice having that additional interdisciplinary approach where [researchers and external agencies] bring our pieces together to tackle questions in a rigorous way,” says Parade, an associate professor of psychiatry and human behavior. Plus home-based programs improve access: “If families don’t have a car, how can we expect them to get to an appointment regularly? Or if they need to prioritize money for food versus gas for the car, again, what’s going to be the priority?” she says.

Challenging disparities is the final, key component of the initiative’s work. Because STAR studies marginalized groups, like underrepresented minorities, people living in poverty, and

“You can’t just pick yourself up by your bootstraps and move on if this has been baked into your biology.”
refugees, the researchers see firsthand how society leaves behind those whose traumatic experiences have literally changed their biology—and then blames them for their situations.

During presentations, Tyrka sometimes shows a cartoon of Uncle Sam chiding us to “Pull yourself up by your bootstraps!” “You can’t just pick yourself up by your bootstraps and move on if this has been baked into these biological and cognitive processes,” Tyrka says. “There’s a lot of work that needs to be done. It’s what we really need to do as a society, because social disparities and inadequate support for families have created this risk.”

ENCODING ADVERSITY
From an evolutionary perspective, a stress response is a good thing. If you’re being chased by a tiger, your body releases adrenaline and cortisol to help you flee. Pulse and blood pressure go up. Glucose floods the bloodstream. Energy is temporarily diverted to the muscles and brain, and away from processes like digestion, growth, and reproduction. Once the danger is passed, you return to baseline.

But not if your body is constantly responding to stressful events. This is what happens to some children who are abused or neglected, witness domestic violence, lose a parent, or experience household substance abuse or mental illness. Known as adverse childhood experiences, or ACEs, they may cause toxic stress—a constant revving of the stress response system that wears down the body and brain, setting them up for a host of problems down the road.

Tyrka says the CDC-Kaiser Permanente ACEs Study, which surveyed thousands of American adults in the late 1990s, “went a long way toward first documenting the evidence for the association between those adverse childhood experiences and poor health outcomes.” Almost two-thirds of study participants reported at least one ACE; such experiences are linked to a greater chance of physical and mental health problems, injuries, risky behavior, pregnancy complications, and early death. More trauma appears to compound the risk: four or more ACEs, Tyrka says, cuts short someone’s life an average of 20 years.

STAR researchers are investigating the molecular mechanisms behind these associations. Their studies of telomeres and mitochondrial DNA, for example, reveal patterns that correlate with trauma and adversity. Telomeres are extraneous base pairs at the ends of chromosomes that naturally shorten over time, as cells divide and age. But diseases and certain toxins accelerate that shortening—and a history of adversity may, too. “You can see a clear effect of childhood parental loss and childhood maltreatment,” Tyrka says of their studies of otherwise healthy adults.

They’re also unraveling clues in mitochondrial DNA, or mtDNA. Besides providing energy to our cells, mitochondria play key roles in cell signaling and cell death, immune function, and stress response. If mtDNA is damaged—by stress or disease, for example—it will overcompensate by producing more, triggering inflammation. Sure enough, Tyrka, Parade, and colleagues found that people who’d lost parents or been maltreated as children had more mtDNA copies.

A long-running study of children is further teasing out the relationship between adversity, telomere length, and number of mtDNA copies. When Parade arrived at Brown as a postdoctoral fellow, in 2010, her mentor, Ronald Seifer, PhD (now at the University of North Carolina), invited her to a meeting about the Kids’ Marker Study (KMS), which he and Tyrka had just launched. “I had the opportunity to really be involved from the beginning,” Parade says.

KMS follows children from preschool through early adolescence, all from low-income families, and half of whom have experienced abuse or neglect. When the kids were 3 to 5 years old, researchers visited their homes to observe parent-child
interactions; interviewed parents about the children’s mental and physical health; and collected saliva DNA samples. They met again six months later. “There’s a lot of data we collect from these families, and they’re so generous with their time,” Parade says. (Participants receive compensation.)

The study found that adversity was highly associated with telomere length at the first visit and the six-month follow-up, Tyrka says, and with mtDNA copies at the follow-up. The researchers saw consistent associations between biomarkers and the children’s depressive, anxious, and antisocial behaviors, as reported by parents.

When the study participants are ages 9 to 11, they attend KMS’s free, week-long summer camp in Exeter, RI. Other than the heart rate monitors, biospecimen collection, and questionnaires, it’s a pretty typical camp experience, with nature, sports, and art activities. “The kids love it. The staff love it,” Tyrka says. Though the researchers don’t yet have results, Camp KMS is yielding a treasure trove of data for studies of risk for psychiatric disorders, obesity, and other health and behavioral problems.

Tyrka and Parade hope to next follow campers into adolescence to examine the interplay of brain development and learned behavior in kids’ ability to control their emotional response—also called emotion regulation, a predictor of resilience. From a cognitive or neuropsychological perspective, kids with trauma may have impaired top-down prefrontal cortex control, Tyrka says; from a developmental psychology perspective, there are links with temperament and a lack of parental models or emotional bonds. “If I see the problems from a bonding and learning perspective but don’t recognize cognitive differences and challenges, then I might approach treatment differently,” she says.

Lindsay Huffhines, PhD, is a National Institute of Child Health and Human Development-funded postdoc at the Medical School and researcher at Camp KMS. She’s trying to understand how a child’s history of maltreatment may affect emotion regulation and then inflammation and cardiometabolic function. She and research assistants watch videos of campers and analyze their heart rates while they do different activities and confront challenges.

“Let’s say that a child is playing a game but doesn’t get to go first,” Huffhines says. “We might see them shrug their shoulders or frown, and we might code that as a negative emotional response to that event. But [with] emotion dysregulation, when the child doesn’t get to go first they may start tantruming or screaming or fighting another kid—something out of context for what we might expect in that situation.”

In follow-up visits at the families’ homes, Huffhines watches parents’ and kids’ behavior to assess emotion regulation as they complete a challenging task together, like drawing a picture on an Etch A Sketch. The project grew out of her clinical work with families at Bradley Hospital. “I see how parents’ emotion dysregulation contributes to child emotion dysregulation,” Huffhines says. It seemed that dysregulation was at the root of many of her patients’ mental and physical health problems. She hopes her research not only will connect those dots but yield new ways to help families.

“Knowing that that link exists then provides us with evidence that if we intervene on those pathways, we can actually prevent mental and physical health problems later,” she says.

PASS IT ON

The lifelong effects of stress and trauma can begin before we’re born. Stroud, the director of the Center for Behavioral and Preventive Medicine at The Miriam Hospital, looks at ultrasounds, placental epigenetics, and infant behavior to understand how maternal depression and substance use affect the next generation. By finding new ways to identify who’s at risk, she says, “we can design postnatal interventions that might mitigate some of the effects of prenatal exposures.”

Stroud has been fascinated by the connection between mental and physical illness since she was a kid, when she saw how stress seemed to exacerbate her dad’s lung disease. “Just how does stress get under the skin?” she wondered. During her postdoc at Brown, she started studying links between addiction and stress, and then prenatal stress. “I kept going earlier and earlier in development,” she says. “Adversity really does set a lot of physiologic systems that remain that way for the rest of your life.”

Substance use often goes hand-in-hand with other stressors, like poverty and depression. Stroud’s lab measures the effects of those traumas alongside the impacts of e-cigarettes or marijuana on pregnant mothers and their babies. During pregnancy they use ultrasounds to record and code fetal behavior, like how and how much the baby is moving, to tease out associations with substance use or mood disorders. Though behavior alterations are subtle compared to measurements like amniotic fluid level or birth weight, Stroud says it could become one more tool to help doctors determine “which babies might be more at risk or are being affected more by substance use.”

When a baby in their study is born, Stroud’s lab collects the placenta—what she calls “the maternal-fetal interface”—to
understand the molecular mechanisms through which substance use, stress, and other traumas impact fetal development. Previous research on animals showed that certain enzymes affect whether cortisol crosses the placenta to the fetus; Stroud found that pathway is also altered in humans, and she’s studying other epigenetic changes and correlating them with prenatal stressors as well as postnatal behavior.

Stroud’s lab follows infants up to six months to record stress response, cortisol levels, and other neurobehavioral effects. (She also co-directs a study following infants into childhood and adolescence.) Stroud says they’ve seen diminished stress response in the lab in smoking-exposed babies, “which suggests that they’re not mounting an adequate biological stress response to daily stressors, which may have implications for immune functioning and longer-term behavioral development.” In babies whose moms also used marijuana while pregnant, the stress response is even weaker.

“One of the reasons we’re doing our studies is to provide information about safety and how [substance use] affects offspring,” Stroud says. “There is no other time in anyone’s life that people self quit at rates that they do during pregnancy.” While she and her team offer resources for anyone interested in quitting, they strive to be nonjudgmental. “A lot of moms already feel badly about it,” Stroud says.

Emotional sensitivity in a mother, even if she smokes during pregnancy, may bode well for her child, she adds. “It can buffer the effects,” Stroud says. “There’s a lot of hopeful messages out there about resilience in parenting. … Postnatal environment is extremely important. The unfortunate problem is that sometimes pre- and postnatal environments are highly correlated.” But offering support to parents has the potential to change the story.

FROM THEORY TO PRACTICE

Animal research has shown how parental support can affect brain development in offspring. LG Ward, PhD, a postdoc in Stroud’s lab, looked at a rat model of newborn hypoxic-ischemic brain injury—caused by oxygen deprivation—in which rat pups were raised with or without an enclosed nest box. Moms with nest boxes had lower stress and spent more time taking care of their babies than did moms with no place to hide. “The pups in the open environment at times have really severe brain injury,” Ward says, “but many pups in an enclosed nest environment look close to normal.”

A clinical psychologist in Providence, Ward is seeking to help survivors of sexual trauma feel safe and supported during their pregnancies, and disrupt the “intergenerational transmission of stress.” “Loss of control, loss of privacy, invasive touch, not feeling safe—all of those things are inherent in childbirth,” she says. As she worked with ob/gyn clinicians and patients to adapt procedures to be less triggering, “I realized there wasn’t a whole lot of research on evidence-based ways to do this.” Ward applied for a grant to standardize and pilot a trauma-informed care model, and providers are eager for her to start. “They want this information soon, so they can help their patients,” she says.

Parade, whose research focuses mostly on early childhood, believes supporting pregnant women could prevent child abuse. One of her newest projects will recruit women who have experienced trauma or adversity to a home visiting program that begins before their babies are born. The CDC-funded study builds on earlier work with the Rhode Island Department of Health and the Rhode Island chapter of the American Academy of Pediatrics.

“We developed a screening tool to identify women with a history of stress and trauma in the early postpartum period that we
rolled out in a home visiting program called First Connections,” says Parade, the director of Early Childhood Research at Bradley Hospital. Home visitors assess a family’s needs and refer them to additional services.

“To prevent maltreatment from ever occurring,” Parade wants to reach families even earlier. For her study she’ll investigate whether offering First Connections to women while they’re pregnant translates to safer homes for their kids. The program also provides more training and support for home visitors. “If you can build a strong relationship between a provider, like the home visitor, and the mother,” she hypothesizes, “that will trickle down to have a strong impact on the relationship between the mother and the child.” In yet another study, Parade is working with colleagues at Bradley and a local nonprofit to evaluate whether offering extra support and training to foster parents helps retention and prevents behavior problems in the kids.

Last fall STAR hired Shaquanna Brown, PhD, as one of its first postdoctoral fellows under a T32 training grant from the NICHD. During grad school Brown had worked in a therapeutic preschool helping teachers, parents, and therapists better support children who had experienced abuse and neglect. “It allowed for us to take the research that we were doing on child maltreatment and to bring it outside of the ivory tower,” she says.

Brown says she came to STAR to extend her research on the impact of child maltreatment on prefrontal cortex development, and how those changes influence risk for substance use. But she was equally attracted to the initiative’s commitment to turn research into action. If a teacher or clinician can’t access her journal articles because they’re behind a paywall, “How exactly am I helping that person?” she says.

“How do we give our research legs so that it can walk out into the community and be able to help the people that we really are passionate about helping?” Brown continues. “You have to go out and have these conversations with the people who need this information. ... Everyone [at STAR] talks about it because it is so important to us. And that’s one of the things that we definitely want to highlight, because we know it matters.”

LISTENING TO TEENS

Turning research into action requires meeting people where they’re at. For families, that’s often the home. For teachers, it’s school. For many teenagers, it’s their smartphones. Nugent, the associate director of the Brown-Lifespan Center for Digital Health, is examining ways that technology and social media might help teens during times of stress and transition, and maybe even make things better.

Nugent’s team recruits teens who have been hospitalized for suicidal thoughts and behaviors, when statistically they’re at high risk for readmission for the next several weeks. She deploys digital tools to get an accurate picture of their lives, rather than rely on potentially unreliable self reports. “In the past we've said, ‘how supportive are your family and friends?’ And of course, if kids had just thought about killing themselves, they tell us, ‘not so supportive.’ But we don't really know,” she says.

An app called the EAR, for electronically activated recorder, lets researchers truly hear what’s happening. Participants download it onto their phones to record 30-second “audio snapshots” several times a day (teens don’t know exactly when it’s recording) that Nugent’s team later listens to and codes. Are they arguing, laughing, crying? Are they alone? Are there signs they might be struggling? “For example, we found that if parents are dismissing, if they’re not validating their kid’s experiences, then those kids are more likely to engage in non-suicidal self-injury,” Nugent says.

Her study cross-checks EAR data with an ecological momentary assessment (EMA), where participants record how they’re feeling in the moment. “Just because you sound happy doesn’t mean you feel that way,” Nugent says. And that’s exactly what
they’re finding: kids sound fine on the EAR, but on the EMA “they’re actually reporting feeling really down or wanting to hurt themselves,” she says.

Nugent also looks at teens’ texts and social media for clues: “Are they looking for support? What are the ways that these social networks can be helpful?” she says. If they’re thinking about hurting themselves in the middle of the night, when parents and therapists are asleep, texting a friend might help. Nugent hopes these observations will suggest ways to help other at-risk kids.

She’s collecting similar data for another study of teens who’ve gone to the emergency department at Hasbro Children’s Hospital for a traumatic experience, like an assault or a car crash. The researchers get access to kids’ online interactions before the event—a “historic record,” Nugent says, “which is exciting, especially as a traumatic stress researcher, because most of the time all we have access to is post-trauma.”

The data offer insights into how people cope with a trauma and how it forms their behavior, says Soyeong Kim, PhD, a former postdoc in Nugent’s lab who’s now a staff psychologist at Massachusetts General Hospital and an instructor at Harvard Medical School. But for many kids, Kim says, trauma may not be a one-time thing. “We think it’s this unfortunate event that was unexpected, like a death in the family,” she says. “But for a lot of minors and refugees, it’s a constant experience of their life.”

**THEN 2020 HAPPENED**

One day a week Nugent, a clinical psychologist, takes off her research hat to treat children at Hasbro’s Refugee Health Clinic. She says their “sense of community and hope and family connectedness” help many kids adapt and cope, but some have an “extensive trauma history” that’s compounded by racism or anti-immigrant sentiment in their new homeland.

At first, the challenges of 2020 didn’t touch many of the clinic’s refugee families. “They know how to lock down. They know how to come together, be safe, be a family unit,” Nugent says. “So they actually did quite well. And they were optimistic: ‘Here we are in the United States. Of course, they’re going to handle it beautifully, and this is going to be a temporary problem.’”

But, of course, it wasn’t. Families struggled with remote schooling, “essential” jobs, and lost jobs. Reports of domestic violence and child abuse shot up. And at the end of May, protests against police brutality erupted across Rhode Island and the world. Nugent says many refugees come from countries where the police “aren’t safe.” “In years past, I would say, ‘oh, no, our police are safe.’ And now it doesn’t feel safe,” she says.

As a grad student in the early 2010s, Kim was discussing the case of a Black teen who had been accosted by a cop while he was playing basketball and now feared the police. His therapist labeled it an “irrational belief,” Kim says. “You could easily pathologize this kid’s behavior. You could medicate him or try to change the thought process, saying that police are not dangerous. ... But it wouldn’t have been a just response, because his fear was justified.”

“That definitely shaped my way of looking at trauma,” she adds. “Some people might think that their role as a clinician is in reducing the symptoms, help people to cope better with the circumstances. Coming from a feminist-oriented, social justice-oriented perspective, I see my work can’t just be done in the therapy room. ... This society is creating a problem and they’re perpetuating it.”

All of STAR’s work was challenged by a research shutdown earlier last year and the ongoing need for social distance. Parade interviewed participants over the phone or Zoom. Stroud brought a few moms and babies into her lab “with a lot of PPE.” Kim used Twitter to look at COVID-related racial bias and stress. Everyone caught up on data crunching and some submitted papers for publication.

Tyrka, as the director of research at Butler Hospital, had her hands full shutting down in-person research and then, cautiously, ramping it back up. But she also wanted to know how her own study participants were doing, so she emailed follow-up surveys about their experiences during the pandemic. She’s excited to understand how childhood adversity and the molecular pathways she’s been studying influence their response to the worldwide crisis. However, she adds, “Even people who didn’t have prior existing psychiatric difficulties are really struggling now. ... We are at the breaking point.”

Stroud calls COVID “a worldwide stress test.” She’s seen pros and cons—some kids thrived with distance learning, while others struggled with isolation. Meanwhile, “people who are home with their kids sometimes are super stressed out, so they’re using more coping strategies like substance use. And then some are like, ‘I don’t want to smoke in front of my kid. I have to quit,’” she says.

Though that’s fascinating from a scientific or clinical perspective, the STAR researchers are humans too, who care and worry about their study participants. “It’s a traumatic time to be studying trauma,” Stroud says. But the work they’re doing now may yield new solutions to age-old problems, and smoother roads ahead. M@B
THE DOCTOR IS HERE

DURING THE COVID-19 PANDEMIC, TECHNOLOGY HAS ALLOWED PATIENT VISITS TO CONTINUE SAFELY.

BUT WILL ITS USE LAST?
BEFORE THE PANDEMIC, “telehealth” and “telemedicine” were buzzwords in the medical world. New technology platforms that allowed doctors to see patients via video calls were gaining ground, especially in hospitals that served rural communities where coming into an office could take hours out of someone’s day. But the technology was still mostly talked about as the next big thing with no fixed arrival date.

Then COVID-19 hit. Telemedicine took off. “We had a lot of ideas and were wondering how and where this could be utilized. With COVID, things exploded,” says Gary Bubly, MD, professor of emergency medicine at The Warren Alpert Medical School and senior director of business development for Brown Emergency Medicine. “The timeframe to adopting telemedicine went from ‘very cautious, let’s plod along, wasn’t anybody’s priority’ to an area of pretty high priority.”

According to the Epic Health Research Network, telehealth visits increased 300 fold from March 15 to April 15, 2020, compared to the same time the year before, and telemedicine accounted for 69 percent of doctors’ visits in April.

Providers with the US Department of Veterans Affairs, which usually conducted about 10,000 telehealth appointments a week since launching their VA Video Connect platform in 2019, did 120,000 a week between February and May. Before the pandemic, Medicare beneficiaries typically did 13,000 televisits per week. In the last week of April alone, they did 1.7 million, according to the Centers for Medicare and Medicaid Services.

It hasn’t been all smooth sailing. Technologies adopted quickly during COVID’s first peak didn’t always work well (and weren’t always HIPAA compliant). How to be reimbursed for certain services is still holding back innovative applications. And barriers to care—whether patients without broadband connections or patients who don’t own the required technology at all—are still very much in place.

But even as more doctors are seeing patients in offices again, telehealth is hanging on, and set to stay as another avenue to care. “It’s brought back the house call,” says Yul D. Ejnes ’82 MD’85 RES’89, an associate professor of medicine and founding partner of the primary care practice Coastal Medical. Telemedicine is “going to continue in some ways, so it’s good to keep talking about it and trying to fix things that have been called out by our recent use of it.”

TRIAL AND ERROR

COVID-19 made telemedicine a necessity. Patients didn’t want to risk catching or passing the virus in doctors’ offices, and medical facilities wanted to keep their personnel safe by limiting the number of possible human-to-human interactions.

Coastal Medical went 100-percent remote in late March. Doctors, nurses, medical assistants, call center employees—they all worked virtually. “We were looking ahead and thinking about telemedicine to expand what we offered, but as far as I know, no one in the practice was using it” pre-COVID, Ejnes says. Their IT team got a telemedicine system up and running within days. “It’s the sort of thing where on our own we probably would have fumbled and scrambled before we got where we needed to be.”

The practice started with one platform and now uses three, in part for flexibility but also out of practicality: they don’t always work. “If a connection failed with one, we would try another depending what device we’re using,” Ejnes says.

During the height of the pandemic, he conducted about two-thirds of his telehealth visits through a video platform, and one-third over the phone, either because the technology didn’t work, or the patient didn’t have tools to support a video call.

Of course sometimes patients had to be seen in person. The practice kept one of their locations open for those who, after a phone or video call, needed a physical exam. That helped Coastal Medical conserve PPE and focus cleaning efforts on one building rather than across the practice.

In June they started opening offices back up, and Ejnes says that about 25 percent of his appointments are now telemedicine, which is bearing out nationally. Telehealth made up 21 percent of US doctors’ visits in July, according to the Epic Health Research Network.

EMERGENCY TELEMEDICINE

Before COVID, Brown Emergency Medicine had a peer-to-peer telehealth program for pediatric doctors, where they could conference about patients at outlying hospitals to determine whether or not to transfer them.

But aside from a program for hematology/oncology physicians to see patients who were at home in palliative care, telemedicine between doctors and patients wasn’t really on the table. “A lot of this is driven by regulations and reimbursements being impossible,” Bubly says.

That’s because telemedicine calls typically weren’t reimbursed by private insurance companies, Medicare, or Medicaid. On March 18, Rhode Island Gov. Gina Raimondo issued an executive order...
that mandated reimbursement for telemedicine visits (followed by a federal executive order that made it national policy).

At the start of the crisis, medical providers used telehealth platforms to triage patients before they came through hospital doors. “Early in the pandemic, there was a relaxation of restrictions of acceptable patient-provider communication and providers quickly started using widely available video platforms like Facebook and Zoom for visits,” says Susan Duffy ’81 MD’88 F’95, PMD’20, a professor of emergency medicine and of pediatrics and co-director of telemedicine for the Department of Emergency Medicine. “While these platforms are not officially ‘HIPAA compliant,’ they are familiar, easy to access, and helped bridge the gap from in-person to virtual care.”

Brown Emergency Medicine also partnered with the City of Providence to integrate telemedicine into EMS, so emergency responders could have an emergency department physician do a video visit with the patient in the field. It had surprising results. “At the beginning of the pandemic, the thinking was that there would be a ton of ‘worried well’ calls,” Bubly says, where someone who thought they had COVID-19 called 911 when they weren’t really sick. However, the opposite turned out to be true. “People were avoiding the ER. We found people who were sick as all heck and refusing to be transported to the hospital,” he says. Over video, physicians told people they did need to come.

Both of these applications eventually were “mothballed,” Bubly says, because the need ebbed, and no one figured out how the financial aspects would work. “Reimbursement drives everything. It’s hard paying for an emergency physician’s time if there’s no reimbursement,” he says. But he hopes that will change because it’s a potential boon for emergency response in the future.

In July, Brown Emergency Medicine launched TeleCARE, where pediatric and emergency physicians see patients virtually from noon to midnight, seven days a week, covering times when urgent care clinics are not typically open.

It works for patients because “there’s no facility charge, and you don’t need to leave your couch,” Bubly says. Doctors can see patients over the platform, order lab tests and prescribe medication, and, if necessary, work with patients’ primary care physicians on follow up, or send them to the emergency department after determining they need that level of care.

SAFER CARE FOR SENIORS

As of August, 42 percent of COVID-19 deaths had occurred in nursing homes and assisted living facilities, according to the Foundation for Research on Equal Opportunity. The communal style of living, plus elderly patients’ susceptibility to the virus, meant limiting who came in and out of these facilities. It also meant keeping seniors at home as much as possible, whether they were in assisted care or living independently in their homes.

Telehealth helped bridge the gap. “For the first two months, we didn’t see any patients in the office. We were doing almost 100 percent telemedicine,” says Aman Nanda, MD, associate professor of medicine and a geriatrician at Rhode Island and The Miriam hospitals.

Because the elderly tend not to be internet savvy, clinicians relied on family members to set up appointments for those seniors living in their own homes, even having them take vitals with things like home blood pressure machines if available. If video wasn’t an option, doctors talked to patients over the phone.

“PEOPLE WERE AVOIDING THE ER.
WE FOUND PEOPLE WHO WERE SICK AS ALL HECK AND REFUSING TO BE TRANSPORTED TO THE HOSPITAL.”
In nursing homes, nurses became part of the telemedicine process, especially for consult visits. Instead of a cardiologist or oncologist making rounds to multiple nursing homes, the physician instead does visits virtually, with nurses examining the patients and facilitating calls. While Nanda says they are now doing 90 percent of patient visits in his office in person, virtual consults are “still going on pretty strong.”

He adds that this arrangement also is helpful for practitioners who have to quarantine after a potential exposure to the virus, or if they test positive but are asymptomatic or have a mild case. “You can still do work and see patients,” he says.

For seniors who live independently, Nanda says telehealth has allowed doctors to have a better idea of their living environment, which they wouldn’t get in an office visit. “You really see how the house and kitchen are. Are boxes left open? Is the room not clean?”—signs of cognitive impairment or decline, he says. “You may not find this in an office visit because a patient comes in well dressed and well groomed.”

If a family member is with the patient, they can give a virtual tour so the physician can see if the patient has sufficient walk space, especially if they use a walker, and then ask the family member to rearrange furniture or take up rugs if need be. “It’s not sneaky, but it just helps the doctor understand how they’re living and how we can help them and their families,” he says.

**IT’S ABOUT ACCESS**

Tracey Guthrie RES’99, MD, an associate professor of psychiatry and human behavior and the general psychiatry residency program director at Brown, isn’t surprised that telemedicine has taken off right now. The residency program has been successfully running a telepsych program for Block Island residents for a decade (see Medicine@Brown, Fall 2019). “It’s just an excellent modality to be able to treat patients remotely,” she says.

Block Island doesn’t have a full-time psychiatrist, so to get that kind of care, residents needed to take a ferry, either pay to put their car on it or rent a car after landing, and then drive to their appointment—usually in the Providence area. “It’s a half a day or more,” Guthrie says.

In 2010, a 48-year-old Block Island resident died by suicide, which was a wakeup call that something had to change. The Block Island Mental Health Task Force (now the National Alliance on Mental Illness-Block Island, or NAMI-BI) partnered with Butler Hospital and the Brown psychiatry residency program to provide telehealth psychiatric services from a resident (who changes every year), with patients first using a room at the Harbor Baptist Church and then at the Block Island Medical Center.

“IT HELPS THE DOCTOR UNDERSTAND HOW THEY’RE LIVING AND HOW WE CAN HELP THEM.”
During the height of COVID, they helped patients set up visits in their homes so they didn’t have to go to the medical center. “We’ve had our issues. Sometimes it didn’t work and we had to resort to phone, but I think it’s worth the struggle,” Guthrie says.

Now patients are coming into the medical center again if they so choose, doing everything from a typical visit with the Brown resident to more intensive outpatient care, all with the goal of preventing inpatient hospitalization. The program also added child and adolescent psychiatry services.

“There are already places in the country that are the future of telemedicine,” Guthrie says, like Block Island, but also Western states “where there isn’t an infrastructure of multiple hospitals and medical schools around. They have done incredible things to deal with the access issue.”

She also points to the VA, which started using telemedicine to reach veterans in states that didn’t have VA centers, or where centers were far away. When COVID struck, they hit the ground running.

Guthrie hopes that the sudden popularity of telemedicine will help Rhode Island residents in urban areas who rely on public transportation, or those who live in remote locations where driving to a doctor could take a half-hour or more each way. “Now it’s a two-hour commitment versus a one-hour commitment. That makes a difference,” she says. “It’s about access to care.”

ESTABLISHING STANDARDS OF CARE

Before COVID, the Department of Family Medicine applied for funding from the US Department of Health Resources and Services Administration for a new training initiative in telemedicine. Little did they know that by the time the $2.4 million grant was awarded, in July, the technology, and teaching students on it, would be so crucial (see page 10).

“We had been wanting to do more telemedicine because we serve a patient population with geographic and transportation barriers to accessing care,” says Andrea Arena, MD, a clinical assistant professor of family medicine. “So like everyone else, once the government put in place the ability for us to conduct visits and get reimbursed from health insurance companies, we started doing this.”

The grant allows them to enhance curricular and clinical training to cultivate a workforce of primary care physicians that uses telemedicine to reach underserved populations (in rural communities far from centers of care, as well as urban communities with poor public transportation), with a specific focus on addressing the opioid epidemic.

“We’re teaching medical students from day one about telemedicine,” Arena says. On a telemedicine visit, a med student will connect with a patient over video or phone, identify themselves as a student, and do the initial part of the visit: ask questions, take a history, and so on. The preceptor then joins the call, or the student hangs up and the physician calls directly.

Arena says this experience has shown her the same barriers that a lot of her colleagues are confronting: problems with the platforms, lack of broadband access or technology to make video visits possible. However, she’s also encountered gaps between what a video can show and what happens at an in-person visit.

Of course some conditions can’t be diagnosed without a physical exam, but there are more nebulous things she feels may be lost. For example: a patient schedules an appointment for a stomachache, but “when they come in, it’s quite different. They didn’t want to disclose they were pregnant or suicidal, and I worry a little about those things that we might be missing without being there in person,” she says. Or the case when she was bantering with a patient in person who blurted out that her partner was drinking and she had to lock him out of the room every night.

“Those kinds of things that can come across when you’re having a more intimate connection, one on one, face to face. I haven’t had it happen in a televisit yet,” Arena says.

There are also privacy issues. Where a teenager might have part of a visit with a parent present and part with the parent out of the room, how is that managed if the teenager is calling in from the family home? What about victims of domestic violence whose partner may refuse to leave the room where the patient is calling in from?

Arena adds that in-office visits are chances to address other things, like catching up on immunizations. You can’t suggest a patient get a flu shot right then and there if they’re video chatting from a parked car—where some patients go for privacy and quiet during appointments, she says.

Despite these issues, “telehealth is definitely not going away,” she says. “I think the pandemic has made it more accessible to everyone and prompted us to be more thoughtful in our delivery of it.”

JEN A. MILLER is an award-winning freelance writer and author. She’s a regular contributor to the New York Times and writes their running newsletter.
A Dermatologist Challenges Bias in Her Field

No one enjoys looking at photos of sexually transmitted infections. But they were particularly disturbing to Jenna Lester MD’14 when she was a medical student at Brown.

“I remember distinctly leaving a lecture,” she recalls, and turning to her friends and asking, “Was that just in my head or was that real, that they only showed dark skin with syphilis?”

She wasn’t imagining it. In a review of dermatology educational materials that Lester published in 2019, she found that roughly half of the images of STIs depicted skin of color. The bias was real.

Lester can’t point to any one moment that set her down the path to a career in dermatology, research on disparities in her field, and the establishment of the Skin of Color Program at the University of California, San Francisco, School of Medicine, where she did her residency and is now an assistant professor of dermatology.

“I wanted to be a doctor. I didn’t want to be a specific type of doctor,” says Lester, whose mother is a geriatrician and grandmother was one of the first Black nurse practitioners in New York. Then Lester helped Martin Weinstock, MD, PhD, professor of dermatology at Brown, pilot a teledermatology program at the VA. “I thought it was really cool to see how technology could improve care for people at these community-based outpatient clinics who otherwise would have to drive hours to go to a dermatologist, or just would go without,” she says.

The issue of access motivated Lester, who accepts all types of insurance—a rarity in the field. Dermatology is a “gateway specialty into the medical system,” she says. “You’re drawing them in based on something they can see, and they can’t see their high blood pressure.” That’s an opportunity to refer the patient to primary care. If they have a good experience, they’re more likely to listen.

Many patients of color tell Lester she’s the first dermatologist of color they’ve had. “They felt I implicitly could understand what they were saying and they didn’t have to spend so much time explaining themselves,” she says.

Susan Taylor, MD, a professor at the University of Pennsylvania and the founder of the Skin of Color Society, was Lester’s mentor when she rotated there during her residency. In an email, Taylor emphasizes the importance of “race concordant visits,” which studies show improve health outcomes. “Dr. Lester has an understanding of the skin and hair concerns and practices of people of African descent from her personal experiences. Her warm and caring personality creates a level of extraordinary trust and comfort,” Taylor says.

With patients and colleagues, Lester corrects myths and misconceptions. “Patients with darker skin are less likely to get skin cancer, but the chance is not zero,” she says. Melanomas on Black people tend to appear on the palms of their hands or soles of their feet. If a doctor thinks a patient’s risk of skin cancer is low, “you’re not doing a full skin check,” she says. “Then you might miss it.”

The biggest knowledge gap is in dermatology education itself. In the 2019 study of teaching materials, Lester and Taylor found the images disproportionately depicted white skin. Even written descriptions are biased. “Psoriasis is described in textbooks as it ‘classically’ appears as salmon pink patches with scale,” Lester says. “Are you saying that white skin is ‘classic’ and ... everyone else is different?”

Meanwhile, readers never learn how psoriasis presents on darker skin.

While Lester designed UCSF’s Skin of Color Program to better serve patients and trainees, she hopes someday it won’t be needed. “It really isn’t different dermatology. It’s just that in many settings and certainly in our educational tools, the default is white skin,” she says.

She has her work cut out for her. Last year, Lester published a literature review of dozens of images of rashes associated with COVID-19—a disease that disproportionately sickens and kills people of color. Not one photo depicted Black skin.

—PHOEBE HALL
Ballot to Bedside
AN EMERGENCY PHYSICIAN HELPS HOSPITALIZED PATIENTS VOTE.

As the COVID-19 pandemic raged across the country last year, many states eased requirements for mail-in ballot requests so citizens could vote without fear of the virus.

In most states, though, one group of voters has always been able to cast absentee ballots: people unexpectedly hospitalized before Election Day. But few such patients—or their providers—know about this right.

Kelly Wong RES’21, MD, is working to change that. In the lead-up to the 2018 midterm elections, the emergency medicine resident founded Patient Voting, a nonpartisan organization that explains how to get an emergency absentee ballot in each state and even picks up and delivers the necessary forms for patients stuck in the hospital.

“This all came to my attention during the [2016] presidential election,” says Wong, a native of Custer, SD. While a student at the University of South Dakota’s Sanford School of Medicine, one of her patients left the hospital against medical advice. “They wanted to go vote in the election,” she says. “It didn’t seem right that they had to choose between those two options.”

Neither Wong nor her colleagues were aware the patient didn’t, in fact, have to choose. And no wonder, she says: “Once I started investigating it, I was really shocked by how difficult it was to find this information.”

At Brown, Wong got funding from the Resident Education and Service Award grant to track down information about each state’s emergency absentee voting rules and create a website and fliers. EM colleagues and med students pitched in, and internal medicine residents translated step-by-step materials into Spanish. By last fall Patient Voting had volunteers in about 40 states.

“It’s difficult to measure the impact of the group’s work,” Wong says, because they don’t necessarily deliver ballots to patients. “Just getting the information out there is good enough,” she says. That, and keeping patients in the hospital until they’re well enough to go home. —PH

www.patientvoting.com

LEAD WITH CARE

Adrian Gardner ’98 MD’03, MPH, first traveled to Eldoret, Kenya, in 2001, as a medical student. Now he serves as executive director of the AMPATH Consortium, a group of North American academic medical centers that partner with Moi University, the Kenyan Ministry of Health, and other institutions to provide care, training, and research in the country.

After living in Kenya for seven years, he and his family—wife Jessica and their three children—are now in the Hoosier State, where Gardner has taken on two new roles: director of the Indiana University Center for Global Health and associate dean for global health at Indiana University School of Medicine.

Gardner completed his internal medicine residency and infectious diseases fellowship at Beth Israel Deaconess Medical Center, then returned to Brown for a clinical research fellowship in infectious diseases. While there he worked in the Rhode Island TB clinic and developed the AMPATH tuberculosis program, becoming executive director in 2012.

—KRIS CAMBRA

PHOTOGRAPHY: PETE HEIDEPRIEM (WONG)
CLASS NOTES

ALUMNI

1970s

Mark Blumenkranz ’72, MD’75, MMSc’76, P’05, P’08, chairman of Kedalion Therapeutics and H.J. Smead Professor emeritus in the department of ophthalmology at Stanford, joined the board of directors of IVERIC bio, a biopharmaceutical company specializing in the treatment of retinal diseases.

Daniel Small ’71 MMSc’73 MD’75 RES’76 was elected to the board of the Caledonia (MN) School District in November. A rheumatologist in the Mayo Clinic Healthcare System, he’s had a career-long interest in Sjögren’s syndrome and in 2015 received the Sjögren’s Syndrome Foundation’s Healthcare Leadership Award. He continues to volunteer with Brown’s admissions program, where he began working as a student.

1980s

Joe Amaral MD’81 RES’89 was appointed vice president of medical affairs at Histosonics, a venture-backed medical device company. Prior posts include global vice president of surgical innovation at Ethicon; president and CEO of Rhode Island Hospital and Hasbro Children’s Hospital; chair of the Department of Surgery; chief of surgery at Rhode Island Hospital; and president of University Surgical Associates.

Edward Chu ’80 MMSc’83 MD’83 is the director of the National Cancer Institute-designated Albert Einstein Cancer Center, vice president for cancer medicine at Montefiore Medicine, and professor of medicine and of molecular pharmacology at Einstein. Previously he was deputy director of the University of Pittsburgh Medical Center’s Hillman Cancer Center and chief of the division of hematology-oncology at the University of Pittsburgh.

Peter Thompson ’80 MD’84, P’15, co-founder and board member of Corvus Pharmaceuticals, a clinical-stage biopharmaceutical company, will serve on the board of directors of Angel Pharmaceuticals, a clinical-stage biopharmaceutical company, a collaboration with investors in China to develop and commercialize its product pipeline of investigational medicines in China. He recently joined the board of directors of Decibel Therapeutics, a clinical-stage biotechnology company developing gene therapeutics to treat hearing loss and balance disorders.

Joseph Foss ’80 MD’85 is co-founder and chief medical officer of NeuroTherapia, a clinical-stage drug development company focused on neurodegenerative diseases such as Alzheimer’s. He’s also a staff anesthesiologist, director of clinical research, and vice chair of the IRB at the Cleveland Clinic.

Michael Abrams MD’88, a pediatric ophthalmologist, joined Connecticut Eye Consultants in Danbury, CT. Since graduating from Brown, he served four years as a general medical officer and battalion surgeon in the Army; taught medicine aboard ORBIS International’s “Flying Eye Hospital”; was an associate professor of pediatric ophthalmology and adult strabismus at Case Western; and served on the board of the nonprofit Children’s Eye Foundation.

1990s

Peter Kilmarx MD’90 received the Distinguished Service Medal from the US Public Health Service last year. He had retired from the Public Health Service at the end of 2019 as a rear admiral (as sistant surgeon general) and in 2020 became deputy director of the NIH’s Fogarty International Center (named for RI Congressman John E. Fogarty). The Distinguished Service Medal is the highest award granted to a Corps officer. Peter’s citation reads: “For a distinguished USPHS career responding to HIV/AIDS and other infectious disease threats and building health research capacity worldwide from 1996 to 2019.”

Galen Henderson MD’93, neurologist and director of the division of neurocritical care at Brigham and Women’s Hospital, will serve as the hospital’s interim chief diversity and inclusion officer for faculty, trainees, and students. Galen, who’s also an assistant professor of neurology at Harvard Medical School, has served as a trustee of Brown’s Corporation since 2017 and is active on advisory councils for the Brown-Tougaloo Partnership and the Science Center.

Robert Pierce MD’93 is chief scientific officer of Sensei Biotherapeutics, a clinical-stage biotechnology company specializing in cancer immunotherapies. An anatomic pathologist, he joined Sensei from the faculty of the Fred Hutchinson Cancer Research Center, where he was scientific director of the Immunopathology Lab in the Clinical Research Division. His research focuses on the
CHECK-UP: CLASS NOTES

mechanisms of tumor-induced immune tolerance and the development of biomarkers to predict responses to immuno-oncology treatments.

Leah Adams MD’96 RES’98 has owned Sans Gluten Artisan Bakery in Johnston, RI, since 2016. She began gluten-free baking after her diagnosis of celiac disease 20 years ago and created a proprietary gluten-free flour mix. “I just wanted to eat what everyone else eats,” she told the Providence Journal last fall. Her husband, Tom Rice, manages the shop. Last year Leah closed her internal medicine practice in East Providence after 24 years and now works for an insurance company; she works at her bakery on Saturdays.

Michael Blackman ’87 MD’97, MBA, is chief medical officer of Greenway Health, a health information technology services provider. He previously was the medical director for population health at Allscripts and CMO for McKesson’s Enterprise Information Systems division. He was an early leader in the development of electronic prescribing of controlled substances.

Erica Schwartz ’94 MD’98, a rear admiral in the US Public Health Service and deputy surgeon general, delivered the keynote for Touro University’s sixth annual Social Justice in Public Health Speaker Series. She also was one of the featured speakers at the Women of Color STEM Virtual Conference.

2000s
Anjali Viswanathan ’95 MD’00 is an internist in private practice in Roselle, NJ, and is affiliated with Trinitas Regional Medical Center, Hackensack Meridian Health JFK Medical Center, and Northern Westchester Hospital.

Michael Bradley MMSc’01 MD’01 RES’06 F’07, MBA, is the CEO and president of Ortho Rhode Island in Warwick. He focuses his practice on sports medicine, orthopedic trauma, and knee/shoulder/hip replacements. The chief of orthopedic surgery at South County Hospital, he’s a URI official athletic department physician and is married with four children.

Peter Lee ’94 MD’05 PhD’15, MS, MPH, received the Grand-Cross of Portugal’s Royal Equestrian and Military Order of Saint Michael of the Wing based in recognition of his outstanding contributions to medicine, space, and aviation. Last year Peter moved from The Ohio State University back to New England, where he’s a cardiothoracic surgeon at Southcoast Health in Fall River, MA, and an adjunct assistant professor of pathology and laboratory medicine (research) at Brown. A lieutenant colonel in the Air National Guard, his research has been funded by NASA and the NIH and his experiments have flown on numerous space missions. (See Medicine@Brown, Fall 2019.)

Mark Brady MMSc’09 MD’09, a clinical assistant professor of emergency medicine at The Warren Alpert Medical School, was called up by the Navy reserve to help with pandemic response at Elmhurst hospital in Queens. He also was chief operating officer for a 400-bed COVID-19 field hospital in Memphis. Mark is studying the effectiveness of a simple, inexpensive device to help regulate correct airflow during manual ventilation, which could be helpful anywhere ventilators are unavailable.

2010s
Sheela Krishnan ’10 MD’14 is a non-invasive cardiologist and echocardiographer at Penn Medicine, with professional interests in sports cardiology and nutrition as well as promoting women in medicine and in cardiology. She and her husband, Todd Benjamin Baker ’10, JD, PhD, had their first baby, Kayya, in March 2020. “She is the light of our lives!” Sheela writes.

Zachary Marcus ’10 MD’16, MPhil, was appointed by Illinois Gov. J. B. Pritzker to serve on the state’s Adult Use Cannabis Health Advisory Committee. He is a pediatrician at NorthShore Medical Group in Chicago’s suburbs and a clinician educator at the University of Chicago Pritzker School of Medicine.

Michael DeSimone MD’13 joined Concord (MA) Gastroenterology Associates last summer. He completed his internal medicine residency at Beth Israel Deaconess Medical Center and a fellowship in gastroenterology at UMass Memorial Medical Center. His clinical interests include colorectal cancer prevention, inflammatory bowel disease, and liver disease. He lives in Bolton, MA, and enjoys hiking, biking, skiing, and exploring nature with his wife and two young children.

Jerry Walters II MD’13 is a neurosurgeon at Legacy Brain & Spine and Southern Regional Medical Center in Marietta, GA. He focuses on non-invasive treatments and his research includes the development of a novel technique for improving the biocompatibility and bio-integration of metal implants. A native of Jackson, MS, he loves hiking, giving back to the community, sports, and history.

Shamard Charles MD’17, MPH, is an assistant professor of public health and health
promotion at St. Francis College and sits on the anti-bias review board of Dot Dash’ VeryWell Health. He received his MPH from Harvard. Host of the health podcast Heart Over Hype, he was senior health journalist for NBC News for three years and a global press fellow for the United Nations Foundation. Follow him on Instagram @askdrcharles and Twitter @DrCharles_NBC.

**RESIDENTS**

**1990s**

Jennifer Clarke RES’96 F’98 MPH’04, MD, left her position as medical programs director at the Rhode Island Department of Corrections in December. She joined RIDOC in 1998 as staff physician and implemented its medication assisted treatment program, making Rhode Island a leader in combating the opioid overdose crisis (see Brown Medicine, Winter 2017). She is an associate professor of medicine and of obstetrics and gynecology at The Warren Alpert Medical School.

**2000s**

Eric Bluman RES’03 F’04, MD, PhD, an orthopedic surgeon and the vice chair for safety, quality, and patient experience at Brigham and Women’s Hospital, was named president of the Orthopaedic Foot & Ankle Foundation, the philanthropic arm of the American Orthopaedic Foot & Ankle Society. He’ll prioritize plans that were postponed due to the pandemic, including humanitarian outreach programs in the US and overseas, and funding a new international traveling fellowship.

Christopher McGowan RES’09, MD, a gastroenterologist, opened the endobariatric weight loss center True You Weight Loss in Cary, NC, last year. His new practice, “the nation’s first and only dedicated endobariatric weight loss center,” offers a range of nonsurgical weight loss procedures and support.

**2010s**

Natthapol Songdej RES’12, MD, MPH, an assistant professor in the Division of Hematology and Oncology at the Penn State Cancer Institute, was recognized by the school’s “Exceptional Moments in Teaching” program in August. Before joining Penn State and Hershey Medical Center, he was a hem/onc fellow at the Fox Chase Cancer Center and a hematologist at Temple.

Mohammed Aboelsoud RES’17, MD, joined the gastroenterology team at PeaceHealth in Bellingham, WA. After his internal medicine residency at Brown, he completed fellowships at the Mayo Clinic and Georgetown. His research focuses on fecal microbiota transplant, hepatitis, and colon cancer screenings, and his clinical interests include IBD and GI bleeding. A native of Mansoura, Egypt, he enjoys fishing and cooking.

Danielle Cabral Goldfarb RES’17 F’18, MD, is a neurologist at the Banner Sun Health Research Institute in Sun City, AZ. She completed her neurology residency at Brown and a neurodegenerative disease research fellowship with the Memory & Aging Program at Butler Hospital.

Eren Kuris RES’18 F’19, MD, a spine surgeon, joined University Orthopedics last summer after his spine surgery fellowship at the University of Colorado. He also completed a fellowship in orthopaedic trauma at Brown. An assistant professor of orthopaedic surgery at The Warren Alpert Medical School, he lives in Providence with his fiancé and two dogs.

James Ferguson RES’16 F’20, MD, is a pulmonologist specializing in critical care at Newport Hospital. He completed his residency and fellowship in pulmonary and critical care at The Warren Alpert Medical School. Prior to his fellowship, he spent one year as critical care hospitalist at the University Medicine Foundation in the pulmonary division at Rhode Island and The Miriam hospitals. He has a special interest in lung cancer screening and identifying and improving health disparities.

**FELLOWS**

**2000s**

Gregory Sysyn F’00, MD, is a neonatologist with Neonatology Associates of Atlanta. After his fellowship in neonatal-perinatal medicine at Brown, he was an assistant professor of neonatology at the Medical College of Wisconsin, where he also earned his MD, before moving to Atlanta.

**2010s**

Daniel Callaway MPH’17 F’17, MD, joined Northern Light Pediatric Cancer Care in Brewer, ME. His specialties include aplastic anemia; neutropenia, ITP, and other disorders of white cells and platelets; and sickle cell disease and other hemoglobinopathies. He completed the fellowship in pediatric hematology-oncology at Rhode Island Hospital.

Jesse Casaubon F’19, DO, joined the Department of Surgical Oncology at Baystate Health in the Springfield, MA, area. He completed a fellowship in breast surgical oncology at Women & Infants Hospital. Jesse has been studying COVID-19-related delays on the upgrade rates of atypical ductal hyperplasia.
IN MEMORIAM

Jose Behar, MD, AGAF, died July 20. After earning his bachelor and medical degrees from the Universidad Nacional Mayor de San Marcos in his native Peru, he came to the US to train in internal medicine at the Washington Hospital Center and Henry Ford Hospital. He completed his fellowship in gastroenterology at Boston City Hospital and began his career at Yale. In 1975 he came to Brown and Rhode Island Hospital, where he cofounded the Gastrointestinal Motility Research Laboratory and helped build the gastroenterology fellowship training program. He also directed the Rhode Island Hospital Endoscopy Unit and served as gastroenterology division chief for several years.

Dr. Behar conducted groundbreaking research to understand gallbladder function and dysfunction. He authored more than 200 peer-reviewed publications and was a continuously RO1-funded researcher for 30 years. He also was a dedicated teacher who trained a generation of academic and clinical gastroenterologists and postdoctoral researchers in his laboratory. Dr. Behar is survived by his two children.

Carmine J. Capalbo ’48 RES’58, GP’11, MD, died October 3. Dr. Capalbo graduated from Classical High School and was recruited at 18 years old into the US Army during World War II. Trained as a medical corpsman, he served initially in the European Theater Operation before moving to the Pacific Front until the end of the war.

Dr. Capalbo received his medical degree from Georgetown in 1952 and completed a surgery residency at Rhode Island Hospital, where he remained on the surgical staff for 46 years. He also was a clinical associate professor of surgery at Brown. He thoroughly enjoyed patient care and clinical practice. Upon his retirement from University Surgical Associates, he said his greatest pleasure had been working and learning with the fine young surgical staff members he trained over the years. He is survived by his five children and eight grandchildren.

Ralph P. Miech, MD, PhD, died October 10. An associate professor emeritus of medical science in the Department of Molecular Pharmacology, Physiology, and Biotechnology, he graduated from Marquette University and Marquette School of Medicine and earned a PhD in pharmacology from the University of Wisconsin.

Dr. Miech came to Brown in 1965 to help establish the Medical School, where he taught and conducted research until 2000. An emergency physician at Landmark Hospital for many decades, he served on the Ethics Committee at the former St. Joseph’s Hospital and was past president of the Rhode Island Cancer Pain Institute and the Providence Diocese’s Biomedical Ethics Commission, and was a founding member of the Coalition of Americans for Research Ethics. He received the People of Life Award from the US Conference of Catholic Bishops.

Dr. Miech is survived by his wife of 63 years, Elizabeth Miech; five children; 14 grandchildren; and two great-granddaughters. Contributions in his memory can be made to Mathewson Foundation or Spar Hawk Academy.

Jack H. Ruddell ’17 MD’21 died November 1. As part of the Program in Liberal Medical Education, he earned an AB in economics magna cum laude. A gifted researcher, he was working on a project in the Department of Orthopaedics on the impact of post-operative opioid dosing on long-term opioid use in patients following joint arthroscopy. He was co- or lead author of more than 20 publications. Having met the requirements for graduation from The Warren Alpert Medical School, Jack will be posthumously awarded his Doctorate of Medicine with his graduating class.

He is survived by his parents, his two brothers, and many friends and classmates. Donations can be made in his memory to the The Warren Alpert Medical School Humanities and Ethics fund at brown.edu/go/JackRuddell.

Martin P. Feldman, MD, died November 18. He was an instructor in surgery at The Warren Alpert Medical School and a general surgeon for more than 40 years. He attended Harvard Medical School and completed residency at Beth Israel Hospital in Boston and the VA Hospital in Coral Gables, FL. He then served as a captain in the US Air Force and chief of surgery at the Offutt Air Force Base hospital in Nebraska.

He was on the staff of several Providence hospitals, including Roger Williams Medical Center, where he formed and was president of the Physician Hospital Organization.

Dr. Feldman is survived by his wife of 51 years, Natalie; six children; and four grandchildren. Contributions in his memory may be made to Make-A-Wish Foundation, 20 Hemmingway Drive, Riverside, RI 02915, or the charity of your choice.

David C. Lewis ’57, MD, P’84, P’87, died December 2. A pioneer in the medical field of addiction, he was a professor emeritus of community health and medicine and the Donald G. Millar Distinguished Professor Emeritus of Alcohol and Addiction Studies at Brown. Throughout his career he advocated for compassionate and scientifically appropriate treatment for addiction, and proper training for all physicians.

Born in Hartford, CT, Dr. Lewis earned his MD at Harvard, where he trained in internal medicine and began his career. He came to Brown in 1976, chairing the Department of Community Health and, in 1982, founding the Center for Alcohol and Addiction Studies, which he led for 18 years.

Dr. Lewis founded Physicians and Lawyers for National Drug Policy, a think tank advocating for prevention and treatment over incarceration for substance use disorders, and served on the boards of the Drug Policy Foundation, the Coalition on Physician Education in Substance Use Disorders, and other organizations. He advised political leaders and philanthropists on addiction, and authored more than 400 publications.

A lifelong lover of photography, Dr. Lewis traveled the world extensively with his wife of 57 years, Eleanor, for adventure and photo opportunities. His children and grandchildren were the light of his life. From singing songs to telling stories, he loved nothing more than being with family.

Dr. Lewis is survived by children Deborah Lewis ’84 and Steven Lewis ’87; four grandchildren; and two nephews and their children. Contributions in his memory may be made to the New Israel Fund, PO Box 177, Lewiston, ME 04243.
Centers of Attention

One key way to move research forward is to build on existing strengths. The BrownTogether campaign has been a catalyst for huge leaps forward within the Division of Biology and Medicine. As we cross the $200 million threshold in our fundraising efforts, it seems a fitting time to reflect on how far we have come. Beginning with the Brown Institute for Translational Science in 2015, the Division has been able to launch several new research centers that have inspired individual philanthropy.

+ Brown Center on the Biology of Aging
+ Brown Center for Biomedical Informatics
+ Brown-Lifespan Center for Digital Health
+ Cancer Center at Brown
+ Center for Computational Biology of Human Disease
+ Center for Translational Neuroscience
+ Hassenfeld Child Health Innovation Institute

The establishment of these centers represents the University’s commitment to making a difference in areas that affect the lives of a broad swath of patients and their families around the world. As we continue building on Brown’s distinction, we open more doors that reveal the hope and promise of treatments and cures.

More on these and other achievements can be found in our recently released 2020 Dean’s Report. This publication, An Amazing Reinvention, highlights key activities like the relaunching of the MD/PhD program, the Medical School’s progress on a variety of diversity initiatives including increasing efforts to recruit more underrepresented faculty and students, and the inspiring efforts of our staff, faculty and students in response to the COVID-19 pandemic. The report also details significant investments in research that have led to unprecedented growth, such as an increase of 50 percent in grant awards since 2013.

The report can be viewed online at www.brown.edu/go/DeansReport2020.

Progress to Goal

$215M  Goal: $300M
SUPPORTING INNOVATION

Cry Decoder

Thanks to early support from a few entrepreneurial Brown alumni, Brown Biomedical Innovations to Impact (BBII) was formed to help bridge the funding gap for projects that fall somewhere between conceptualization and realization. Patients may soon reap the rewards from such generosity as certain ideas move closer to fruition.

Researchers Barry Lester, PhD, Stephen Sheinkopf, PhD, and Harry Silverman recently received their second BBII award to continue developing computer software that would help nurses and physicians determine if the acoustical characteristics of an infant’s cry meet criteria for neonatal abstinence syndrome (NAS). According to Lester and his colleagues, the software could improve diagnosis accuracy, making it less subjective. This would, in turn, provide better treatment for infants suffering from opioid withdrawal, reduce hospital stays, and lower costs. It would also avoid treatments for infants who don’t need it.

“It’s often hard for scientists to think about how their work might translate into a medical device that has practical importance,” says Lester. “There aren’t many opportunities to turn an idea into an actual product that impacts public health, or even be encouraged to do so. The BBII funding came at a critical point, and we knew we had to take advantage of this support from Brown so we could improve the outcomes of infants born with NAS.”

In the last two years, the research team has recorded cries from 90 babies with prenatal opioid exposure, some who went on to develop NAS and others who did not. They have also recorded cries of 50 infants with no prenatal drug exposure. They are working to refine the cloud-based algorithm enough so they can build a prototype to test at Women & Infants Hospital and reconfirm their accuracy levels. With the advances in technology, their product will be a hospital-only user interface compatible with devices such as mobile phones that will transfer information directly into a patient’s electronic medical record.

“The BBII award gave Drs. Lester and Sheinkopf the freedom to think about how their product might be developed into something useful that hospitals will purchase,” says Karen Bulock, managing director of BBII. “Feedback from the hospital’s health care team will be critical for knowing how well it works in real-life situations. At the end of the project, we hope this market research and the team’s accuracy data will position their product for the next level of funding needed for commercialization.”
SUPPORTING RESEARCH

Hope for Rare Diseases

It is often said that philanthropy is personal. That was certainly the case for Sandra “Sandi” Nusinoff Lehrman '69 MD'76 and Stephen A. Lehrman '73 when they established the Lehrman Family Research Fund. With two grandchildren, Chase (who passed away in 2014) and Courtney (age 8), afflicted with CLN2 Batten disease (a debilitating neurological disorder), the Lehrmans are on a mission to support translational research to discover new treatments. It is a mission they share with Brown.

“When the children were diagnosed in 2013, there were no therapies available,” says Sandi Lehrman, who retired as global director for scientific affairs for antivirals at Merck Research Labs. Ever since then, she and her husband Steve, an engineer, have been committed to learning about the disease, investing in a variety of researchers, and facilitating approaches to treatments and a cure.

As a member of Brown’s Advisory Council on Biology and Medicine, Sandi recalls hearing Eric Morrow, MD, PhD, Mencoff Family Associate Professor of Biology, present his work on autism. “I was interested in the science and thought it would have applicability to a variety of other neurologic diseases with genetic variations, including rare diseases like Batten,” she says.

Morrow is the founding director of Brown’s recently established Center for Translational Neuroscience, where researchers study the development of brain disease. By supporting Dr. Morrow, the Lehrmans have filled in some important gaps in the small community doing research into rare brain diseases. “Before Dr. Morrow,” says Steve, “we didn’t have people working in gene editing and CRISPR as it relates to Batten disease—and now we do.”

A significant challenge faced by the Batten disease research community is the dearth of funding available. The Lehrmans are committed to providing seed money for researchers like Morrow who have a good idea, want to develop it, publish on it, and eventually go after NIH funding and collaborate with drug companies.

“We are looking for the best researchers in the U.S. and in the world,” says Steve, “and we are trying to be a bridge for people like Dr. Morrow because we want him to stay in this field and bring other Brown researchers into it as well.”

Open science is another important aspect of their gift, and they strongly encourage all of the researchers they support to work together and share their research. For example, they expect Morrow’s work and the stem cell lines he developed to be widely used by the CLN2 Batten disease research community.

“Our philanthropy is very much gauged toward Batten disease and our grandchildren, but lots of people can do the same thing by investing in this kind of work,” Sandi says. “Many patients are waiting for the innovative therapies and potential cures that can be enabled by research [at Brown]. A focus on translational research will hopefully narrow the gap, improve health, and save lives.”
Safe at Home

Let’s hope telehealth sticks around once things return to “normal.”

I can attest, from my personal experiences during the pandemic, that Jen Miller’s article on telehealth is 100-percent accurate (page 32). My iPhone kept my 92-year-old mother from making repeated visits to the doctor’s office while sorting out a high blood pressure problem last fall.

It took a couple of calls for Mom to feel comfortable with the format. The nurse practitioner looked tiny on the screen and was hard for her to understand, even with the speakerphone cranked up all the way. At weekly calls we’d report the blood pressures we took at home using a digital sphygmomanometer. The NP prescribed new medications and followed up every week to check on their efficacy and side effects. When one caused Mom’s legs to swell rapidly, I scanned her ankles with the phone’s camera to show how distended they were.

Video calls did give her provider insight into my mom’s home life. “Look at that big family!” the NP said during one call, seeing the photo of my five siblings and me over Mom’s shoulder. Most calls would end with a discussion between the nurse and me, recapping the changes to dosing and plans for in-home blood draws. She, I’m sure, was reassured that someone would follow through on what Mom may not have understood, heard, or remembered.

We ran into the potential hurdles, too. “What would I do without you?” my mom said at the end of one call. Indeed, what would she have done without someone with a smartphone to facilitate the calls? Weekly visits to a doctor’s office at her age are not only exhausting, but risky. That’s one reason I hope insurers will still cover telehealth post-pandemic.

There came a point when we decided Mom’s problems needed an in-person visit for an echocardiogram and physical exam. When the NP suggested it, she intuited my mom’s fear of visiting the office. “We take every precaution here,” she reassured us. “We will keep you safe.”

And they did. The imaging and hands-on exam by her cardiologist allayed our fears in a way that a phone call just couldn’t do. But, it turns out, the telehealth monitoring had worked—perfect blood pressures, medications at therapeutic levels, heart failure averted. All from Mom’s rocking chair.

—KRIS CAMBRA, Editor
“My time at The Warren Alpert Medical School has been marked by unprecedented change in the world. From the COVID-19 pandemic to a nationwide reckoning on structural racism, I have been inspired by my peers and faculty who continually rise to the occasion—working tirelessly for the benefit of our patients and communities. I am privileged and so grateful to be on my journey to a career in medicine at Brown.”

Olivia Cummings ’19 MD’23

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

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Questions? Email bmaf@brown.edu
Christian Arbelaez, RES’04, MD, associate professor of emergency medicine, made history when he became the first person in Rhode Island to receive the COVID-19 vaccine. A native of Colombia, Arbelaez used the opportunity to urge communities of color, who have been hardest hit by the pandemic, to get vaccinated.