



THE KIDS AREN'T ALRIGHT

There is an epidemic of sadness among teenagers, with one-in-10 having seriously contemplated or attempted suicide in 2021. What's going on?



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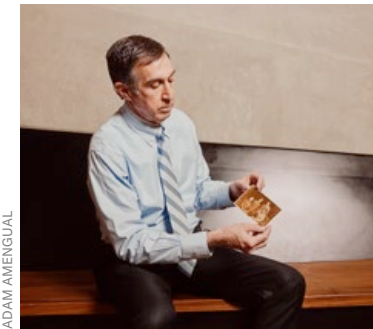
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Building Toward Better Behavioral Health Care

UCLA Health is expanding critically needed capacity by building a world-class, state-of-the-art behavioral health campus.

NEARLY ONE-IN-20 ADULTS IN AMERICA — 13.6 million people — live with a serious mental illness. Yet, in this past year, only 45% of them received mental health services. Perhaps the greatest challenge to receiving help is insufficient access to high-quality behavioral health care. In Los Angeles County, the need is acute. There simply aren't enough beds: 13 psychiatric beds per 100,000 population, which is well below the public health standard of 50 psychiatric beds per 100,000 population.

UCLA Health is one of the few remaining providers of inpatient behavioral health care services in Los Angeles County, and we feel a responsibility to address this urgent need and redefine the future of behavioral health care in our region. That is why we are expanding critically needed capacity by building a world-class, state-of-the-art behavioral health campus in the mid-Wilshire area of Los Angeles.

An anticipated investment of \$452 million will help tackle a long-standing regional need for additional

behavioral health services. The mid-Wilshire campus is being designed to support individuals, their families and the broader community by significantly expanding access to a healing environment with a full continuum of behavioral health services.

The new location will be on the site of the former Olympia Medical Center, which closed in 2021 and the campus acquired by UCLA Health. The UC Board of Regents this past November approved design plans for the 170,000-square-foot facility; construction is planned to begin in 2024, and the project is expected to be completed by spring 2026.

The new hospital will meet the state's highest standards for acute psychiatric hospital buildings and will include comprehensive behavioral health care services for adult, geriatric, child, adolescent and intensive care patients, as well as crisis care. In addition, an adjacent medical office building will be renovated to expand, relocate and optimize outpatient behavioral health programs and



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clinical research and education programs associated with the licensed neuropsychiatric hospital and dedicated psychiatric emergency services.

This expansion comes at a pivotal moment, as we conclude the COVID-19 pandemic and the need for adult and children's mental health services is growing. There are troubling reports that a growing percentage of youths are experiencing anxiety and depression (see "The Kids Aren't Alright," page 26), and access to services is challenging, especially for California's children.

As part of our effort to address these critical issues, we have worked for the past two years with the Los Angeles County Department of Mental Health to expand the age range of Medi-Cal patients we are able to treat as inpatients. Historically, Medi-Cal only covered hospitalization of patients younger than 21; now, as of October 2022, UCLA Health is able to provide inpatient treatment to Medi-Cal patients of all ages. This

is a major milestone in our ongoing quest for greater health equity, diversity and inclusivity.

UCLA Health looks forward to expanding mental health capacity to better serve Los Angeles and the surrounding region. The mid-Wilshire behavioral health campus is an extension of that commitment to our community.

Johnese Spisso, MPA
President, UCLA Health
CEO, UCLA Hospital System
Associate Vice Chancellor, UCLA Health Sciences

RELIEF FOR TURKEY AND SYRIA

By Jocelyn Apodaca Schlossberg



Photo taken April 4, 2023, in Antakya, located in Turkey's southern Hatay province, shows makeshift housing for people who lost their homes in deadly earthquakes in February.

WHEN A 7.8-MAGNITUDE earthquake devastated southern Turkey and western Syria on February 6, killing tens of thousands of people and leaving hundreds of thousands displaced, it hit close to home for members of the UCLA community with friends and family in the region.

Within a day of the horrific quake, a group of students in the David Geffen School of Medicine at UCLA, faculty and staff rallied to put together a relief effort to send supplies to help those in need. Founding members of the student-led Arab Health Organization (AHO) reached out to the group's advisors, Faysal Saab, MD '12 (RES '16), assistant clinical professor of internal medicine and pediatrics, and Neveen S. El-Farra, MD (RES '05), professor of clinical medicine, to spearhead a humanitarian response for the area.

For many of those who participated, the effort was deeply personal.

"Getting messages and calls of distress from those closest to me really woke me up," says Al-Hassan Dajani, a first-year medical student and a founding member of the AHO. Some of Dajani's closest friends are Syrian refugees from the decade-long war that has consumed their homeland.

"We have a lot of members of the Syrian community at UCLA, and they are going through a hard time," Dajani says. "For us, it was important to fulfill our duty to respond, both by initiating action and by being a source of support for those around us."

Fourth-year medical student Zina Jawadi is also a founding member of the AHO. "It was important that our voices be heard," she says, recalling that the

group's advisors, Drs. Saab and El-Farra, and UCLA Health had been involved in donating medical equipment to Beirut, Lebanon, after a massive explosion in the port shattered the city in 2020. "We wanted to know if it was possible for us to do something like that as well. It took off from there," Jawadi says.

Dr. Saab was on a UCLA global-health visit in northern Jordan when the earthquake hit, and he soon started receiving emails from AHO students. "I went straight to leadership at UCLA Health, who were so kind and gracious a few years ago in sending relief after the Beirut blast," he recalls.

His request for help moved up the chain, and once UCLA Health leadership signed off, the effort began in earnest.

Rana Al-Rasheed, BDS, a provider in the UCLA Faculty Dental Practice with ties to some members of the AHO, promptly joined in. "As a mother and health care provider, I knew that we had to act," she says. "Watching the images on the news and hearing the stories of the suffering, I was heartbroken. But I'm not someone who sits and wallows."

Dr. Al-Rasheed sent a group text to AHO students, who were working to launch a relief effort: "We are the helpers. What can we do?"

**"OUR MISSION
IS TO HEAL
HUMANKIND.
THAT ONE PATIENT
WHO NEEDS TO BE
HEALED CAN
BE ANYWHERE."**

The students responded that they wanted to send medical supplies abroad.

In this regard, Dr. Al Rasheed had crucial connections: friends with contacts in the Turkish consulate, where donations were being collected to be flown by Turkish Airlines, and in the Turkish embassy.

Soon plans began to formalize. The health care logistics team in the UCLA Health General Services Department, the UCLA Health Office of Community and



Volunteers sort donations at a UCLA Health warehouse for those displaced by the 7.8-magnitude earthquake that struck Turkey and Syria in February.

the Medical Aid Initiative, a student-run group operating in partnership with UCLA Health to provide resources to global-health organizations, prepared 24 pallets of medical supplies and care items — isolation gowns and carts, breathing circuits, thermal blankets, gloves, diapers, safety goggles, stethoscopes, syringes and hand sanitizer — to send to Turkey and Syria, with a second shipment of gurneys, cots and IV poles to follow.

"This is what health care is about," says Michael Baca, director of health care logistics. "It's about the patients, whether they are here or 7,000 miles away in Turkey and Syria. Our mission is to heal humankind. That one patient who needs to be healed can be anywhere."

Next came Operation Turkish and Syrian Relief: Warmth and Comfort Drive, to collect urgently needed blankets, tents and sleeping bags for the hundreds of thousands of people now without shelter in the freezing cold. Over the course of several days, some 3,300 items were gathered at Ronald Reagan UCLA Medical Center, UCLA Santa Monica Medical Center, Geffen Hall and a distribution facility in the San Fernando Valley.

Ahmed Kassem was among the volunteers who joined the effort. A child of Jordanian and Syrian parents, he says he felt a duty to participate. "I'm trying to understand the struggle that people from the other side of the world are

experiencing," he says. "They may not be physically close to us, but if we can empathize with their stories, we will feel close to them and begin to understand what they are going through."

It is important for UCLA Health to be engaged at times like this, says Mike Burke, chief of UCLA Health Patient Navigation and Business Services. "Supporting high-priority humanitarian efforts is something we've done for many, many years. To mobilize an effort that brings together internal and external teams, undergraduate students, medical students and the many people who represent the global community that is UCLA unifies us. It is priceless."

For fourth-year medical student Ghadi Ghanem, the drive wasn't dissimilar to work he has done with the Student Run Homeless Clinic and Mobile Clinic Project. "This drive is born out of humanitarian need," he says. "UCLA Health has been instrumental in spearheading an effort to deliver medical supplies and basic needs such as blankets and sleeping bags and tents for those who have been left without shelter. It is inspiring to see UCLA take this grand step and present itself on a global scale." ●

Jocelyn Apodaca Schlossberg is a communications specialist in UCLA Health Internal Communications.



U.S. Surgeon General Dr. Vivek H. Murthy spoke in May at UCLA's annual WOW (Wisdom of Wellness) Mental Health Summit.

LONELY NATION

By Vivek H. Murthy, MD, MBA

MENTAL HEALTH IS THE DEFINING PUBLIC HEALTH CRISIS OF OUR TIME, and for many Americans, loneliness is at the heart of that crisis. At any given moment, about one out of every two of our fellow citizens is experiencing measurable levels of loneliness. It is not something we talk about or easily see: Loneliness is a condition that is hidden in the shadows.

More than just a bad feeling, loneliness is a corrosive condition with grave consequences. Social disconnection puts us at increased risk for depression, anxiety and suicide, as well as heightening our risk for stress-related physical ailments like heart disease, stroke and dementia. Its impact on our risk of premature death is on par with smoking 15 cigarettes daily.

Why is this so? It is because we evolved to live in community. As hunter-gatherers, we found safety in togetherness. Being isolated from the group put the individual at elevated risk — from predators, from starvation, from exposure — and that created stress. Our survival depended on being a part of something larger than just ourselves.

As much as our circumstances are very different today than they were in our hunter-gather days, that basic truth remains: We are hardwired to live in community. Connection is the essential glue of our lives. It is what brings us happiness and fulfillment. We need social connection for our survival and collective well-being.

This epidemic of loneliness has been building over many years. The pandemic made it worse, to be sure, but it is a crisis that has been evolving for a half-century or more. During that time, there has been declining participation in communal life. Fewer people belong to churches or synagogues or other religious institutions or are engaged with civic organizations. We, as a society, move around more. We change jobs more frequently. We don't put down roots in the same ways as our parents and grandparents.

Too often, we imagine loneliness as a condition of the elderly living in isolation with no one to support them. While that can be true, loneliness in the United States is not limited to older Americans. There are people in marriages who are lonely, CEOs of major companies who are lonely, seemingly happy people posting pictures of their fabulous vacations on social media who are lonely. And far too many young people who are lonely.

From the outside, everything looks fine. But inside, they are struggling. Addressing this national crisis is a profound challenge. We all want to be seen and understood. Sometimes all we need is acknowledgment of our worth and value. This is something we can do for each other — and for ourselves. Taking just 15 minutes a day to reach out to someone you care about can make a huge difference in how connected we feel.

There is nothing more fundamental to the health and well-being of people in our country than ensuring that we are building a moral and spiritual foundation that guides how we interact with each other. Toward that goal, service is one of the greatest antidotes to loneliness. When we help somebody else, two things happen. One is we forge a connection with them. The second is that we remind ourselves that we have value, and that can help us in times of our own loneliness. The less worthy we feel, the harder it is to reach out to other people.

I know this from my own experience. When my first stint as Surgeon General ended abruptly in 2017, I felt profoundly lonely. During my time as Surgeon General, I threw myself into the job at the expense of my friendships. When the job ended, I was left without those relationships that had sustained me before.

I was lonely, and also ashamed. I believed it was my fault because I had neglected those relationships. It was a choice I had made, and I felt embarrassed to call my friends and say, "Hey, I'm sorry I wasn't there for you for the last two-and-a-half years." It took the urging of my wife, who recognized what was happening to me and that I was withdrawing more and more, to reach out to reconnect.

One of the best definitions of a friend that I ever heard was when I was in college: A friend is somebody who reminds you of who you are when you forget. And we all do forget from time to time. We all go through periods in our life when we feel unworthy or that we fall short. That is when we need our friends to step in. That is why I think that at a time such as we are now experiencing, when as a community we are struggling so much with our mental health, we need these connections in our lives.

Yes, we do need more psychiatrists and better access to psychiatric care to address the mental health crisis that confronts our country. Yes, we do need more psychologists. Yes, we need the technology to bring the care that is needed to people in their homes.

But we also need each other. We need to turn our attention to reinforcing the caring, supportive institutions, communities and relationships that give our lives purpose and meaning. We need to come up with ways to tip the balance toward love and away from fear, to rebuild the public square so that we can once again speak rationally with each other. To address this crisis of loneliness, we need to return to the core values of kindness, generosity and friendship that are so essential to the social fabric of our communities.

Ultimately, it comes down to one thing: Embrace love. It has the extraordinary capacity to heal and is the force we need to reach for each and every day in our lives. Love is our oldest medicine. ●

Dr. Vivek H. Murthy is Surgeon General of the United States. He is currently serving as the 21st Surgeon General under President Joe Biden, and he also served as the 19th Surgeon General under President Barack Obama. This column is adapted from a conversation Dr. Murthy had with Oprah Winfrey at UCLA's Royce Hall in May during the 2023 WOW (Wisdom of Wellness) Mental Health Summit to benefit the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA and the Stewart and Lynda Resnick Neuropsychiatric Hospital at UCLA.

WHAT DOES THE “DEATHS OF DESPAIR” NARRATIVE LEAVE OUT?

By Joseph Friedman, PhD '22;
Helena Hansen, MD, PhD; and Joseph P. Gone



SEBASTIEN THIBAUT

IN 2015, TWO ECONOMISTS INTRODUCED a social theory that would become one of the most famous of the era: deaths of despair. They speculated that rising rates of deaths among white Americans shared a common cause: rising despair and unemployment in areas such as the Rust Belt.

The theory immediately caught on in the public consciousness. It drew from data showing that

premature mortality — deaths among 45-to-54-year-olds — was increasing, but only for white Americans. Data from Hispanic and Black Americans showed declining premature death rates, as did records from other affluent countries.

Adherents to this theory sounded the alarm: White people were dying at unprecedented rates — killing themselves, quickly or slowly — from drugs, alcohol and

suicide, causes of death shown to be spiking for this demographic between 1999 and 2013.

Mass media were captivated by the finding that white midlife mortality increased, treating it as more newsworthy than the routine reality that other groups — most conspicuously Black Americans — were still dying at much higher rates. As the deaths of despair theory gained ground, health-equity scholars raised questions about its framing. The 9% documented increase in premature deaths among white people did not come close to catching up to the mortality rate among Black Americans; we found that to reach parity, the rate would have had to increase by more than 50%.

Now, nearly a decade after the phrase was coined, another flaw in this public-health concept has emerged. That midlife deaths were increasing only among white people — particularly men without college degrees — was the core insight highlighted from the theory. But a new analysis shows that notion was never quite true.

cause for concern. But the narrative that white people were experiencing new, unique levels of suffering and despair obfuscated an inconvenient fact: As our research shows, midlife mortality is still significantly lower for white Americans than for Black and Native Americans.

The problem with focusing on despair in any racial group is that it emphasizes individual sufferers instead of a system that capitalizes on inequities. There are well-known, solvable reasons that the United States is an extreme outlier on the global stage when it comes to premature death.

When compared with some similarly wealthy countries, Americans die prematurely more than twice as often. This is no coincidence. It's baked into the DNA of our country — starting with our violent past that has condemned generations of people to health struggles and economic precarity, and extending today to our profit-driven health care system and threadbare social safety net that help fuel our epidemic of early death.

“WE NEED PROGRESS ON THESE ISSUES TO EXTEND THE LIVES OF ALL AMERICANS, AND POSSIBLY REVERSE OUR UNPRECEDENTED DECLINES IN LIFE EXPECTANCY.”

In a recently published article in *The Lancet*, we provide new data showing that between 1999 and 2013, premature deaths among Native Americans increased by a far greater margin: nearly 30%. These deaths started at a much higher rate to begin with, and unfortunately the inequities have only deepened in recent years. We found that as of 2020, Native Americans had a premature death rate double that of white Americans. A disparity of this magnitude between ethn racial groups should be inconceivable in our society.

The case that white suffering was unique depended on the exclusion of data representing Native Americans. We call this practice “data genocide,” a term used by researchers at the Urban Indian Health Institute and other organizations. This concept recognizes that overlooking — or erasing — information about the disproportionate suffering of Native Americans is a long, commonplace tradition in this country, dating back to the days of ethnic cleansing and genocide against Indigenous people.

Data genocide includes practices such as simply not reporting data for Indigenous peoples, hiding them in an “other” or “multiracial” category, failing to posthumously categorize individuals who identified as Indigenous while alive or having insufficient outreach, trust-building and Native leadership input to ensure accurate data collection.

The increasing mortality rates among white Americans — especially those without a college degree — are troubling, to be sure. That U.S. life expectancy has been declining since 2014, after decades of progress, is

The very structure of our country promotes despair in many of its people. We need progress on these issues to extend the lives of all Americans, and possibly reverse our unprecedented declines in life expectancy.

To combat the uniquely high premature death rates among Indigenous peoples, resources must be invested in a culturally appropriate way, controlled by tribes themselves, to improve access to employment, housing, substance use treatment and health care. These steps would at least bring us closer to racial equity — an imperative for the health of the nation and all its inhabitants. ●

Dr. Joseph Friedman is a third-year medical student in the David Geffen School of Medicine at UCLA and a researcher studying social inequalities and the overdose crisis. **Dr. Helena Hansen** is professor of psychiatry and biobehavioral sciences and associate director of the UCLA Center for Social Medicine. **Joseph P. Gone** is a citizen of the Aaniiih-Gros Ventre Tribal Nation of Montana and professor of anthropology and of global health and social medicine at Harvard University, where he also directs the Harvard University Native American Program. This article originally was published in the opinion section of the Los Angeles Times. It is reprinted with permission.

“Deaths of Despair and Indigenous Data Genocide,” *The Lancet*, January 26, 2023

Participation in a Clinical Trial Gives Patient a New Lease on Life

IN 2019, AFTER the cancer in Lazaro Barajas' colon spread to other organs and he progressed through chemotherapy options, doctors at UCLA Health deemed him a candidate for standard immunotherapy. It seemed to be working until, a few months later, his stage 4 metastatic colorectal cancer developed resistance to the drugs. Three years

later, a clinical trial testing the safety and efficacy of a novel combination immunotherapy has, along with a unique type of precision radiotherapy, given the 43-year-old a new lease on life.

"When he no longer responded to traditional immunotherapy, there was a significant worry that nothing was left for him," says Sidharth R. Anand,

MD (FEL '19), assistant professor of hematology-oncology. Dr. Anand is co-investigator on the trial, which is led by Zev A. Wainberg, MD (FEL '06), co-director of the UCLA GI oncology program.

When some tumor cell proteins bind with T-cell proteins, they act as "brakes" on the immune system and prevent it from recognizing the cancer cells as dangerous threats. Immunotherapy drugs, or checkpoint inhibitors, work by blocking that binding. UCLA Health doctors put Barajas in a clinical trial that would test the experimental drug tiragolumab, a monoclonal antibody, in combination with atezolizumab, which already was approved by the U.S. Food and Drug Administration to treat certain types of cancers. By inhibiting two different "brakes" in the immune system, this pair of drugs work together to turn the body's surveillance system back on.

While the experimental immunotherapy succeeded in controlling Barajas' cancer, the patient faced a setback in 2021 when scans showed cancer progression at some lymph nodes near the left groin and left pelvic region. His oncology team referred Barajas to Michael Xiang, MD, PhD, a radiation oncology specialist and medical director of Santa Clarita Radiation Oncology. As a kind of "spot treatment," Dr. Xiang used stereotactic body radiation therapy (SBRT), which delivers high doses of radiation to a highly targeted area in a few sessions. He and his radiation oncology team were able to offer Barajas adaptive radiation therapy, which gives radiation oncologists a real-time view into the human body to adapt to the patient's changing anatomy with high precision.

After adaptive SBRT treatment, scans showed the tumor areas in Barajas' pelvis had decreased in size, demonstrating a good response to radiation. Also, his tumor marker, called CEA, which had been elevated and rising prior to treatment, returned to the normal range.

Barajas has continued in the clinical trial, which is keeping his overall disease in check.

— Lauren Ingeno



Lazaro Barajas was enrolled in a clinical trial testing the safety and efficacy of a novel combination immunotherapy.

JOSHUA SUDOCK



MIKE ELLIS

Financial Coaching for Parents Improves Children's Health Outcomes

COMBINING FINANCIAL COACHING for low-income parents with regular pediatric visits for their infants leads to fewer missed medical appointments, higher vaccination rates for children and greater financial health for families, a new study finds.

The study, which compared parents who received financial coaching during clinic visits with their infants to those who did not receive financial coaching, was led by UCLA Health pediatrician Adam B. Schickedanz, MD (FEL '16, '18), PhD.

Dr. Schickedanz has been interested in how to address the root causes of poor health outcomes, particularly poverty, since his earliest days as a physician. In his first week of medical residency, two of his patients asked if he could help them find a job.

"My wife is a family physician, and we were both thinking: 'What can we do in our own clinical practices to address poverty?' We saw so clearly that economic hardship was inextricably linked to our patients' health," Dr. Schickedanz says. "The daily

financial stress many of our patients faced impacted nearly every facet of their health and health care. We had to learn how to 'treat' poverty, just as we had learned to treat so many other disease risks and health conditions."

The study began in 2018 at Harbor-UCLA Medical Center with 81 parent-child pairs. Parents received coaching during their infants' regular well-child visits while they waited for the pediatrician. Coaching was provided in the exam room by trained social workers. Coaches also

followed up with parents at least monthly, either in person during pediatric appointments or remotely by phone or text.

The coaches identified parents' strengths and connected them with public benefits and cost-saving services such as free childcare, nutrition assistance and free tax preparation. Data was collected through January 2020 to measure adherence to pediatric health care appointments.

Parents who received coaching "significantly increased average monthly household income six months after enrollment compared to their baseline income" and reported higher income than control participants, the researchers found. Parents who received coaching were also 20% more likely than parents in the control group to attend all their infants' preventive care visits and 25% more likely to be up to date on their child's vaccines.

"Our study suggests that addressing financial goals and needs can improve preventive-visit care adherence and vaccinations," the authors write.

They note that the medical-financial partnership "may have created greater trust in the health care team by virtue of the coaching approach and new motivation to attend clinic visits by offering clinic-based resources of interest to parents that are aligned with their self-identified financial goals."

— Sandy Cohen

"Clinic-based Financial Coaching and Missed Pediatric Preventive Care: A Randomized Trial," *Pediatrics*, February 2, 2023

Brain Changes in Autism Far More Sweeping Than Previously Known

BRAIN CHANGES IN AUTISM are comprehensive throughout the cerebral cortex rather than limited to particular areas thought to affect social behavior and language, finds a UCLA-led study that significantly refines scientists' understanding of how autism spectrum disorder (ASD) progresses.

The study represents a comprehensive effort to characterize ASD at the molecular level. While neurological disorders like Alzheimer's

disease or Parkinson's disease have well-defined pathologies, autism and other psychiatric disorders have had a lack of defining pathology, challenging efforts to develop more effective treatments.

The new study finds brain-wide changes in virtually all the 11 cortical regions analyzed, regardless of whether they are higher-order-association regions — those involved in functions such as reasoning, language, social cognition and mental

flexibility — or primary sensory regions.

"We now finally are beginning to get a picture of the state of the brain, at the molecular level, in individuals who had a diagnosis of autism," says Daniel H. Geschwind, MD (RES '95, FEL '97), PhD, Gordon and Virginia MacDonald Distinguished Professor of Human Genetics, Neurology

and Psychiatry at UCLA. "This defines a molecular pathology that, similar to other brain disorders such as Parkinson's, Alzheimer's and stroke, provides a key starting point for understanding the disorder's mechanisms and will inform and accelerate development of disease-altering therapies."

and Psychiatry at UCLA. "This defines a molecular pathology that, similar to other brain disorders such as Parkinson's, Alzheimer's and stroke, provides a key starting point for understanding the disorder's mechanisms and will inform and accelerate development of disease-altering therapies."

Just over a decade ago, Dr. Geschwind led the first effort to identify autism's molecular pathology by focusing on two brain regions, the temporal lobe and the frontal lobe. Those regions were chosen because they are higher-order-association regions involved in higher cognition — especially social cognition, which is disrupted in ASD.

For the new study, researchers examined gene expression in 11 cortical regions by sequencing RNA from each of the four main cortical lobes. They compared

samples of brain tissue obtained after death from 49 people with ASD against 54 control individuals. While each profiled cortical region showed changes, the largest RNA changes were in the visual cortex and the parietal cortex, which processes information like touch, pain and temperature. The researchers said this may reflect the sensory hyper-

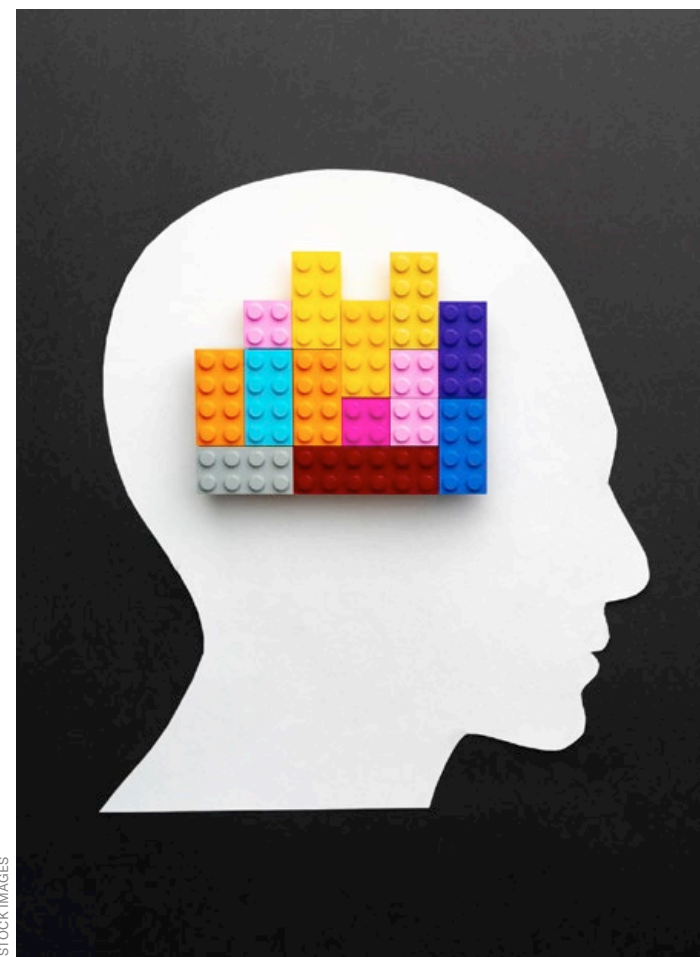
sensitivity that is frequently reported in people with ASD.

Researchers found strong evidence that the genetic risk for autism is elevated in a specific group of genes expressed in neurons that has lower expression across the brain, indicating that these correlated RNA changes in the brain are likely the cause of ASD rather than a result of the disorder.

One of the next steps is to determine if researchers can use computational approaches to develop therapies based on reversing gene-expression changes the researchers found in ASD, Dr. Geschwind says.

— Jason Millman

"Broad Transcriptomic Dysregulation Occurs Across the Cerebral Cortex in ASD," *Nature*, November 2, 2022



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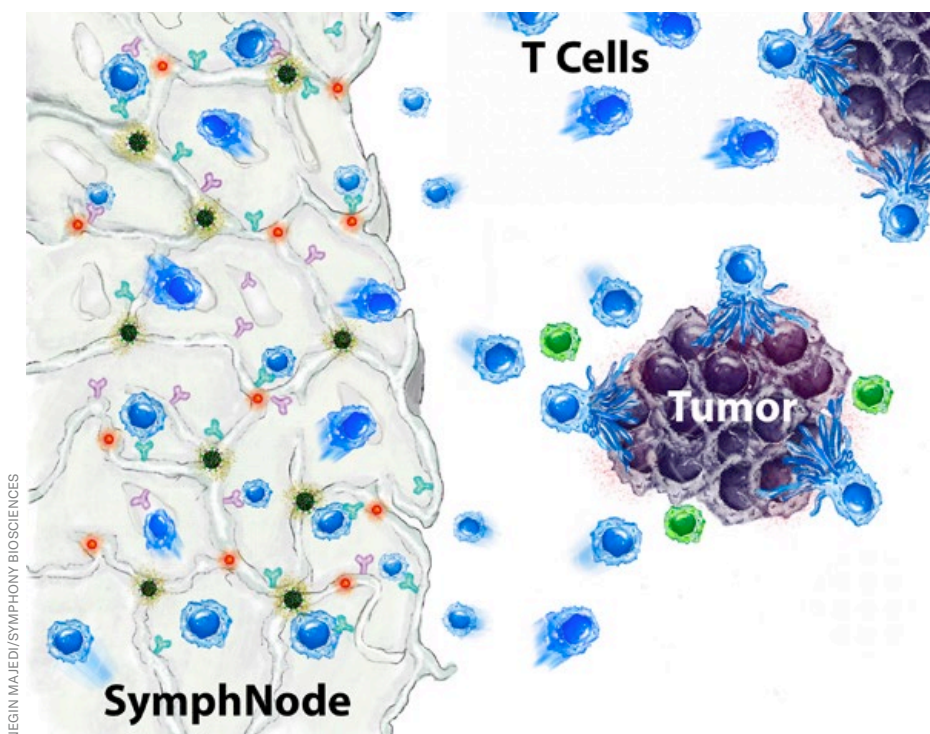
"We now finally are beginning to get a picture of the state of the brain, at the molecular level, of the brain in individuals who had a diagnosis of autism."

Tiny Implantable Device Helps Kill Cancer

MANY SOLID TUMORS RESIST treatment in part by turning human biology against itself. Tumors surround themselves with extra white blood cells known as regulatory T cells, which call off the body's natural defenses against the disease. Strategies to treat cancer by deactivating these cells risk creating

around a tumor while summoning and strengthening tumor-fighting cells. The device was shown to drive tumors into remission, eliminate metastasis, prevent the growth of new tumors and result in longer survival in mice.

"Getting rid of regulatory T cells within the tumor seems to be trans-



NEGIN MAJEDI/SYMPHONY BIOSCIENCES

The SymphNode device (left) contains nanoparticles (red dots) that release a drug that blocks the activity of regulatory T cells (green), which suppress the body's response to solid tumors. At the same time, the SymphNode's microparticles (black dots) attract and beef up cancer-fighting T cells.

other serious problems. Since regulatory T cells play an important role in safeguarding healthy tissues, diminishing them throughout the body can lead to other immune cells mistakenly attacking these tissues and causing autoimmune conditions that damage the colon, liver, heart and other organs.

Now, an interdisciplinary UCLA research team reports encouraging results in laboratory studies testing a tiny implantable device they call a SymphNode, which is designed to keep regulatory T cells in check only in the area

formative," says Manish Butte, MD, PhD, E. Richard Stiehm Professor of Pediatric Allergy, Immunology and Rheumatology and a member of the California NanoSystems Institute at UCLA. "Every solid tumor is crammed with these cells, and they're why 91% of cancer deaths occur from solid tumors. They're probably limiting our ability to cure the cancer in the first place."

The SymphNode is a tiny, biodegradable sponge about the size of a pencil eraser that is made from alginate, the same jiggly polymer used to thicken

pudding. When surgically implanted directly next to a tumor, the sponge stimulates the body's immune response against cancer in multiple ways. It slowly releases a drug that blocks the regulatory T cells in the tumor. At the same time, it attracts and beefs up the T cells that kill tumors. The material that the device is made of resembles a lymph node, a welcoming setting for cancer-fighting cells, and has pores lined with antibodies that further activate those cells.

The researchers tested the SymphNode in mouse models of both breast cancer and melanoma. With breast cancer, the device shrank tumors in 80% of mice and prevented the spread of cancer in 100% of them. In contrast, the cancer metastasized to the brains and lymph nodes of all mice in an untreated control group and killed all these mice within a few weeks. The researchers also found that placing a SymphNode next to one breast cancer tumor halted the growth of a second, simultaneous tumor at a different location in the body.

In melanoma, the device shrank tumors in 100% of treated mice, with tumors decreasing to undetectable levels in more than 40% of cases. In both types of cancer, the treatment significantly extended the life span of mice beyond that of untreated mice.

Most promising, the researchers demonstrated mice whose breast cancer was treated with a SymphNode and survived also resisted the growth of a second tumor injected 100 days after the first, indicating that the technology may decrease the risk of cancer returning.

The team aims to make SymphNode available to treat human cancers in the future by licensing the technology to Symphony Biosciences, a company based at the California NanoSystems Institute's Magnify startup incubator on the UCLA campus.

— Nicole Wilkins

"Systemic Enhancement of Antitumour Immunity by Peritumourally Implanted Immunomodulatory Macroporous Scaffolds," *Nature Biomedical Engineering*, December 22, 2022



Disparities in Insulin Pump Use have Persisted Over 20 Years

USE OF AN INSULIN PUMP has been shown to improve glycemic control, quality of life and satisfaction with treatment, and to lower diabetes distress. Overall use has grown over two decades, from about 32% to 59% among people with type 1 diabetes. Yet, there has been no improvement in racial, ethnic and socioeconomic disparities in use of the device.

“Diabetes technology has numerous benefits for patients with type 1 diabetes, but the problem is that there is a huge divide in who actually has access to these technologies,” says Estelle Everett, MD ’13, assistant professor of medicine in the Division of Endocrinology, Diabetes & Metabolism.

A study led by Dr. Everett found insulin pump use was 67% among non-Hispanic whites, 41% among Hispanics, 29% among Blacks and 46% among other

racial and ethnic groups. In addition, 70% of people with bachelor’s degrees or higher used the pumps, compared with 56% among those with some college, 40% among holders of high school degrees and 18% among those with no high school education. By income level, 74% of those with household incomes of \$75,000 or more, 66% with \$50,000 to \$74,999, 51% with \$25,000 to \$49,999 and 41% with less than \$25,000 used the pumps.

Researchers examined data from the SEARCH for Diabetes Youth Study, a multicenter, observational and population-based study of youths under 20 years of age. They broke up the analysis across four time periods between 2001 and 2019: 690 youths and young adults with type 1 diabetes in 2001-2005, 1,706 in 2006-2010, 2,385 in 2011-2015 and 2,257 in 2016-2019.

“Our study found that over the past 20 years, despite the overall increase in the use of insulin pumps, racial-ethnic minority groups and those of lower socioeconomic status still have unequal access to this very beneficial management tool,” Dr. Everett says. “This is very concerning because these groups have more challenges managing their diabetes and have higher risk of complications with diabetes, so they may actually gain the most benefit from use of diabetes technology.”

More research is needed on ways to improve access to insulin pumps and address persistent inequities in use of the devices. “Changes in the approach to diabetes care and health policies are needed to ensure equal access to this life-changing diabetes device because everyone deserves an equal opportunity to improve their diabetes health,” Dr. Everett says.

— **Enrique Rivero**

“A Longitudinal View of Disparities in Insulin Pump Use Among Youth with Type 1 Diabetes: The SEARCH for Diabetes in Youth Study,” *Diabetes Technology & Therapeutics*, January 27, 2023

Risk Models for Breast Cancer May Incorrectly Classify Many Women

WOMEN AT RISK OF BREAST CANCER are likely receiving vastly different recommendations depending on the risk-assessment model used and the cutoff applied to define “high risk,” according to a new study from UCLA. Current incidence rates indi-

screening mammogram reports.

In 2019, the U.S. Preventive Services Task Force (USPSTF) recommended that clinicians offer risk-reducing medications — such as tamoxifen, raloxifene or aromatase inhibitors — to women who are at high risk for breast cancer in the next five years and at low risk for adverse medication effects.

While previously, a five-year-risk cutoff of 1.67% was established, the USPSTF recommended a new, higher five-year-risk cutoff of 3%. And while current breast cancer risk-assessment tools

work well at a population level, little attention has been paid to how they perform at an individual level or to the variation in risk estimates for the greater than or equal to 3% five-year threshold at the level of the individual.

The current study included more than 31,115 women who were part of the Athena Breast Health Network, a statewide quality-improvement initiative across the University of California medical and cancer centers. It focused on three commonly used risk-assessment models: the Breast Cancer Risk Assessment Tool (BCRAT, also called the Gail model), the Breast Cancer Surveillance Consortium (BCSC), and the International Breast Intervention Study (IBIS, also called the Tyrer-Cuzick model).

Investigators found when using a threshold of greater than or equal to 1.67%, more

than 21% of women were classified as high-risk for developing breast cancer in the next five years by one model but average risk by another model. When using a greater than or equal to 3% threshold, more than 5% of women had disparities in risk severity between models. Almost half of women (46.6%) were classified as high risk by at least one of the three models. Because most women will not be diagnosed with breast cancer within five years, the authors say many women would be incorrectly classified as high-risk.

“This study highlights the risk of a blanket approach to using risk prediction models to inform individual-level medical screening and treatment decisions,” says Joann G. Elmore, MD, professor of medicine in the Department of Medicine in the Department of Medicine, member of the Jonsson Comprehensive Cancer center and professor of health services research at the UCLA Fielding School of Public Health. “All three of the models we looked at had similar accuracy at the population level, but in our analyses there was marked disagreement between who was identified as ‘high-risk’ by all three models.”

The authors point out that newer risk models are being developed that include information on breast cancer susceptibility genes and genetic susceptibility variants, which may improve predictability.

— **David Sampson**

“Easy-to-use risk models are readily available on-line, and women are often given a risk estimate on their screening.”

cate that about one-in-eight women born in the United States today will develop breast cancer at some time during her life. The risk increases with age.

As precision medicine evolves in health care, risk models for breast cancer are increasingly used to identify women who would benefit from medicines and supplemental MRI screening to reduce the risk of breast cancer. Easy-to-use risk models are readily available online, and women are often given a risk estimate on their



“Variability Among Breast Cancer Risk Classification Models when Applied at the Level of the Individual Woman,” *Journal of General Internal Medicine*, February 7, 2023

Genetic Links Between Traits Are Often Overstated

MANY ESTIMATES OF HOW STRONGLY traits and diseases share genetic patterns may be inflated, according to a new UCLA-led study that indicates current methods for assessing genetic relationships between traits fail to account for mating patterns.

With powerful genome-sequencing technology, scientists in recent years have sought to understand the genetic associations between traits and disease risk, hoping that discoveries of shared genetics could point to clues for tackling diseases. However, UCLA researchers say their new study cautions against relying too heavily on genetic-correlation estimates. They say that such estimates are confounded by non-biological factors more than has been previously appreciated.

Genetic-correlation estimates typically assume that mating is random. But in the real world, partners tend to pair up because of many shared interests and social structures. As a result, some genetic correlations in previous work that have been attributed to shared biology may instead represent incorrect statistical assumptions. For example, previous estimates of genetic overlap between body mass index (BMI) and educational attainment are likely to reflect this type of population structure, induced by “cross-trait assortative mating,” or how individuals of one trait tend to partner with individuals of another trait.



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The study authors said genetic-correlation estimates deserve more scrutiny, since these estimates have been used to predict disease risk, search for clues for potential therapies, inform diagnostic practices and shape arguments about human behavior and societal issues. The authors said some in the scientific community have placed too much emphasis on genetic-correlation estimates based on the idea that studying genes, because they are unalterable, can overcome confounding factors.

“If you just look at two traits that are elevated in a group of people, you can’t conclude that they’re there for the same reason,” says Richard Border, PhD, a postdoctoral researcher in statistical genetics at UCLA. “But there’s been a kind of assumption that if you can track this back to genes, then you would have the causal story.”

Based on their analysis of two large databases of spousal traits, researchers found that cross-trait assortative mating is strongly associated with

genetic-correlation estimates and plausibly accounts for a “substantial” portion of genetic-correlation estimates. “Cross-trait assortative mating has affected all of our genomes and caused interesting correlations between DNA you inherit from your mother and DNA you inherit from your father across the whole genome,” says Noah Zaitlen, PhD, professor of computational medicine and neurology.

The researchers also examined genetic-correlation estimates of psychiatric disorders, which have sparked debate in the psychiatric community because they appear to show genetic relationships among disorders that seemingly have little similarity, such as attention-deficit hyperactivity disorder and schizophrenia.

The researchers found that genetic correlations for several unrelated traits could be plausibly attributed to cross-trait assortative mating and imperfect diagnostic practices. On the other hand, their analysis found stronger links for some pairs of traits, like anxiety disorders and major depression, suggesting that there truly is at least some shared biology. “But even when there is a real signal there, we’re still suggesting that we’re overestimating the extent of that sharing,” Dr. Border says.

— Jason Millman

“Cross-trait Assortative Mating Is Widespread and Inflates Genetic Correlation Estimates,” *Science*, November 17, 2022

Tailoring Obesity Treatments for the Male and Female Brain

A NEW STUDY BY UCLA HEALTH researchers finds sex-specific brain signals that appear to confirm that different drivers lead men and women to develop obesity. The study combined data from several modes of MRI with patients’ clinical features and personal histories to identify sex-specific mechanisms in the brain underlying obesity.

“We found differences in several of the brain’s networks associated with early-life adversity, mental health quality and the way sensory stimulation is experienced,” says Arpana Gupta, PhD, a brain, obesity and microbiome researcher and associate professor-in-residence of medicine. “The resulting brain signatures, based on multimodal MRI imaging, may help us more precisely tailor obesity interventions based on an individual’s sex.”

Dr. Gupta said this is believed to be the first study using a data-driven approach to predict sex-specific obesity status based on multimodal brain signatures. It builds on an earlier UCLA study in which Dr. Gupta and colleagues examined sex-related differences in the prominence and signaling of brain regions in obesity. In addition to finding that emotion-related and compulsive eating appear to play a major role in obesity in women, that study showed that men’s eating behavior tends to be affected by a greater awareness of gut sensations and visceral responses — those related to abdominal discomfort.

The new study supports and corroborates many findings from that and earlier studies and provides MRI evidence of differences in brain structure, function and connectivity that may help researchers better understand obesity-related drives and behaviors. For example, alterations in certain brain networks suggest that compared to men, women with a high body mass index (BMI) may be more keenly aware of and drawn to highly processed foods, with an increased risk of developing cravings and food addiction. “In designing treatment plans for females with high BMI, it may be important to focus on emotional

regulation techniques and vulnerability factors,” Dr. Gupta says.

The study, conducted through the Ingestive Behavior and Obesity Program of the G. Oppenheimer Family Center for Neurobiology of Stress and Resilience, included 183 participants, ages 18 to 55. Forty-two males had non-obese BMI, 23 males had high BMI, 63 females had non-obese BMI and 55 females had high BMI. All participants filled out a battery of questionnaires assessing childhood trauma, anxiety and depression, visceral sensitivity, food addiction, bowel symptoms, personality traits and many other factors. Each participant also underwent three different brain MRIs to assess structure, function and connectivity. Data sets from the three scans and from clinical information were analyzed using an analytical tool that seeks to identify a limited number of variables from multiple data sets to predict an outcome.

The results show specific network connectivity changes associated with high BMI, regardless of sex. In females, the study identified brain regions and networks with alterations associated with early-life trauma. These appear consistent with previous observations that females with obesity, compared to males, may have greater anxiety, lower resilience and difficulty integrating emotions with action-directed goal planning. Females also may be more susceptible to the sight, smell and taste of ultra-processed foods. Importantly, the authors said the study identified associations, not cause and effect.

Future studies will be needed to determine whether changes in the brain are a factor in the development of obesity or a result of the condition. “Although causality is unknown, the strong associations between clinical markers, such as anxiety, depression, obesity and neural signatures suggest the importance of the bidirectional mechanistic connection of the gut-brain axis,” the authors said.

— Kevin McClanahan

“Integrated Multi-Modal Brain Signatures Predict Sex-Specific Obesity Status,” *Brain Communications*, April 4, 2023



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MIKE ELLIS

Study Identifies Potential Animal Model to Improve Treatments for Patients with MS

MULTIPLE SCLEROSIS (MS) IS AN AUTOIMMUNE and neurodegenerative disease in which the immune system attacks nerves in the brain and spinal cord. There are numerous treatments aimed at immune mechanisms and reducing MS relapses, but none is designed to protect cells in the brain and spinal cord from damage. Existing treatments have limited effectiveness in slowing the disease, and none improve disabilities. Identifying an

animal model of disease progression is a critical step toward finding better treatments by helping to identify the underlying mechanisms of disease progression.

Rhonda R. Voskuhl, MD, Jack H. Skirball Chair and director of the UCLA Multiple Sclerosis Program, and Allan Mackenzie-Graham, PhD, associate professor of neurology, have identified an animal model that shares many similarities with progressive MS.

“Identifying an animal model of disease progression is a critical step toward finding better treatments”

Previously, acute and relapsing forms of experimental autoimmune encephalomyelitis (EAE), a mouse model characterized by inflammation within blood and the spinal cord, played a central role in development of current anti-inflammatory treatments for MS. In their research, Dr. Voskuhl and Dr. MacKenzie-Graham reported brain MRI and neuropathology analyses in a chronic form of EAE, revealing many features of neurodegeneration that are shared with MS. Beyond the spinal cord, findings included effects on the cerebral cortex, cerebellum and optic nerve, among others.

In the future, this model can be used by researchers to discover targets for treatments that improve walking, cognitive, coordination and visual disabilities in MS.

— Jason Millman

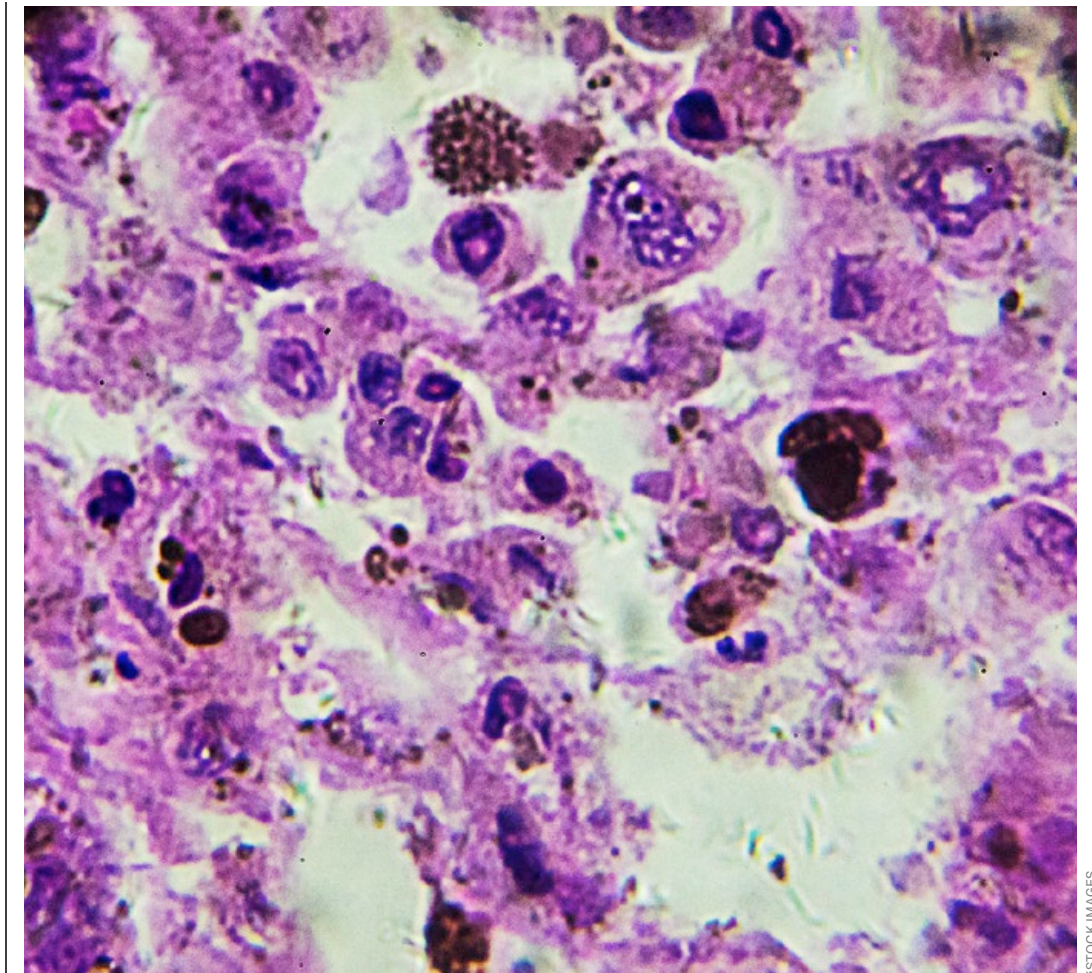
“Chronic Experimental Autoimmune Encephalomyelitis Is an Excellent Model to Study Neuroaxonal Degeneration in Multiple Sclerosis,” *Frontiers in Molecular Neuroscience*, October 19, 2022

UCLA Researchers Identify Possible Approach to Keep Cancer from Evolving

A NEW CLINICAL AND PRECLINICAL study from UCLA Jonsson Comprehensive Cancer Center identifies the DNA roots of resistance to targeted cancer therapy, providing a possible strategy to address a vexing issue in cancer therapeutics. “We are taking a fresh approach to combating ‘acquired therapy resistance’ — the ability of cancers to escape targeted treatments by undergoing molecular evolution,” says Roger S. Lo, MD (RES ’07, FEL ’08), PhD, professor of medicine and molecular and medical pharmacology. “We thought that preventing, rather than trying to reverse resistance after the cancer has become more aggressive, may improve our patients’ odds of survival.”

To understand how the cancer genome changes immediately after the initiation of targeted therapy — potentially generating new genetic variants capable of escaping the therapy — the researchers focused on metastatic cutaneous melanoma. This aggressive skin cancer had no effective treatment until the recent development of a targeted therapy for patients whose cancers harbor a BRAF gene mutation — found in about half of metastatic melanoma patients and in patients with many other types of common and highly lethal cancers.

“We hope that by blocking the means for melanoma to



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generate genetic diversity, we may prevent the myriad ways the cancer escapes targeted therapy,” Dr. Lo says.

Through analysis of tumor biopsies taken from patients before targeted therapy and then at the time of clinical relapse, the team found that the melanoma genome can undergo extensive “shattering and re-stitching” in response to targeted therapy — in a process called chromothripsis.

Small amounts of chromosomal DNA can drop out of the chromosome and become re-stitched and become “circular extra-chromosomal DNAs,” or ecDNAs. The cancer cells can generate and retain many copies of these

ecDNAs — 50-to-100 copies in some cases — which amplify key genes that drive therapy resistance. The ecDNAs also can reintegrate back into chromosomes, becoming a stable source of gene amplification. “We analyzed how the re-stitching of shattered genomic DNA occurred in resistant melanoma and discovered that a protein called DNA-PK may be particularly important,” says

Prashanthi Dharanipragada, PhD, a post-doctoral fellow on Dr. Lo’s team.

“We tested a new combination approach to block genomic instability and prevent acquired resistance in model cell lines and patients’ tumor cells implanted in

mice,” says Gatién Moriceau, PhD, assistant adjunct professor of medicine. “We believe it may be possible to apply this approach to multiple subtypes of melanoma and several other types of aggressive cancers, such as pancreatic and lung cancers.”

— David Sampson

“Blocking Genomic Instability Prevents Acquired Resistance to MAPK Inhibitor Therapy in Melanoma,” *Cancer Discovery*, January 26, 2023

GUT FEELING

As director of UCLA's new Goodman-Luskin Microbiome Center, Elaine Hsiao, PhD, leads groundbreaking research into how our resident microbes help regulate human health.

Elaine Hsiao, PhD

*Director, Goodman-Luskin Microbiome Center
De Logi Professor of Biological Sciences*

One of the most buzzed-about areas of biomedical research is the study of the human microbiome — the population of bacteria, viruses and fungi that inhabit our bodies — and its impact on our physical and mental well-being. Elaine Hsiao, PhD, De Logi Professor of Biological Sciences, is an up-and-coming leader of this emerging field. Since launching her lab in 2015, Dr. Hsiao has published a raft of groundbreaking papers on the relationship between the gut microbiome and the brain and how it influences processes ranging from neurodevelopment in fetuses to neurotransmitter production in adults. In 2022, she was one of three researchers to be honored by the New York Academy of Sciences with a Blavatnik National Award for Young Scientists. This past February, she was named founding director of UCLA's Goodman-Luskin Microbiome Center, established with a \$20 million gift from Andrea and Donald Goodman and Renee and Meyer Luskin. She spoke with contributing writer Kenneth Miller about the wonders of the microbiome and her vision for the center.



Interest in the microbiome seems to have skyrocketed in the past decade. Why is that?

Dr. Hsiao: In part, it's because we're just beginning to grasp the topic's importance. Before the advent of genetic-sequencing technologies, it was very hard to study these microbial populations. In 2012, the Human Microbiome Project gave us the first snapshot of the different bacteria living in a healthy human body. Yet, there's still so much to learn. We don't know what constitutes a healthy microbiome versus an unhealthy one; to some extent, it seems to vary according to the individual. We also don't know much about the non-bacterial members of the population. This is such a vast and complex group of microorganisms! They outnumber human cells 10-to-one, but they're so small that they make up only 1% to 3% of our body mass. The largest numbers are in the gastrointestinal tract, where there are 100 trillion bacteria alone, but they're plentiful in other places as well — the skin, the eyes, the reproductive tract. What's become increasingly clear, though, is that they play many crucial roles across different organ systems.

“We think these sorts of gut-brain interactions can impact a whole range of neurological disorders — things like depression, Parkinson's, autism spectrum disorder and Alzheimer's disease.”

How do these microbes interact with our bodies and brains?

Dr. Hsiao: They produce a lot of metabolites, or signaling molecules. These organisms can communicate with neurons and plug into sensory signaling pathways. They interface between our cells and the foods we eat, the medications we take, the environmental exposures we encounter. They interact with our immune system, our hormones, our metabolism. They affect both our risk of disease and our response to drugs that are used to treat disease.

Can you share some examples of the influence they exert?

Dr. Hsiao: My own team's research centers on the gut-brain connection. In one study, we discovered that metabolites produced by the gut microbiome of pregnant mice can influence fetal neurodevelopment, with lasting effects on the behavior of their offspring. Mice born to mothers with depleted microbiomes had reduced white matter in their brains and an impaired sense of touch. In another study, we found that certain gut bacteria regulate levels of the neurotransmitter serotonin and interact with

common antidepressants, such as selective serotonin reuptake inhibitors, or SSRIs. And in a third study, we found that changes in the microbiome explain why eating a low-carbohydrate, high-fat ketogenic diet helps control seizure disorders; in mice, the regimen changes the proportions of bacterial species that affect levels of the neurotransmitter GABA. We think these sorts of gut-brain interactions can impact a whole range of neurological disorders — things like depression, Parkinson's, autism spectrum disorder and Alzheimer's disease. There's also some evidence that the microbiome can influence the protein misfolding and aggregation that are seen in Alzheimer's and some other neurodegenerative disorders.

All of this seems to suggest that the microbiome can directly influence behavior.

Dr. Hsiao: Absolutely. Across a bunch of lab animals — like mice and rats and zebrafish and flies — we've found that if you manipulate the microbiome, they start behaving differently. And if you change their microbiome to resemble that of an animal with a neurological disease, they'll behave as if they have that disease. More and more studies are also showing that the microbiome is also involved in behavioral problems like eating disorders and addiction. The reasons aren't clear yet, but the correlations are intriguing.

That's kind of spooky. So, are we at the mercy of these microbes' whims?

Dr. Hsiao: Well, it's a two-way street. The microbiome can also be altered by our diets, our stress levels, the amount of sleep we get, habits like smoking and alcohol use, and other behaviors. We're still working out questions of causality — in many cases, a kind of feedback loop may connect the microbiome's behavior and our own.

Has microbiome research led to any effective therapies?

Dr. Hsiao: The FDA approved the first microbiome-based therapy just last December — an enema based on a defined community of microbes to treat the intestinal infection *Clostridioides difficile*. Fecal transplants have already been used experimentally for several years to treat *C. difficile*, with high success rates. Based partly on our findings around the ketogenic diet and seizures, researchers are now testing probiotics for refractory epilepsy. Several other types of probiotics seem to be beneficial for other ailments, though there's little evidence that commercially available products work as advertised. But we think these treatments are just scratching the surface of what microbiome-based therapies could eventually do. The hope is that the microbiome can be leveraged for a wide range of interventions. Specific microbes or their metabolites could be administered to patients in oral pills as treatments for specific diseases. The composition of a patient's microbiome could serve as a biomarker to enhance the efficacy of existing drugs — say, to guide selection of chemotherapy agents for patients with different proportions of gut microbiota — or to detect disease or an individual's risk of disease.



How will the new center advance microbiome research at UCLA?

Dr. Hsiao: Our goal is to provide a collaborative ecosystem for microbiome research that will propel new discoveries, leading to improved clinical care. We're hoping that the center will unite people across the UCLA campus — not just the school of medicine, but also life sciences, the physical sciences, engineering, anyone with microbiome-research interests. That includes researchers who maybe don't have the expertise to run some of the core techniques required and could benefit from working with those who do. We're pursuing several different areas of focus, including cardiovascular disease and lipid metabolism, inflammatory bowel diseases, liver disease, mental illness and pain, neurodevelopmental and neurodegenerative diseases, obesity and metabolic disorders and substance use disorder. We'll be investigating the role of the microbiome in all these conditions, and researching therapeutic approaches based on those disease pathways.

What kind of infrastructure will the center provide for that work?

Dr. Hsiao: We're launching a number of core facilities, which we hope will draw new talent into the field. We'll have a microbiome-sequencing facility. We're starting a gnotobiotic animal facility, where you can raise animals completely germ-free — that is, with no microbiome — and start colonizing them with microbial communities that you're interested in. There's already a biostatistics and informatics core. With microbiomes being so

enormous and complex, you generate huge data sets, and you need sophisticated ways of integrating them. We've also got a neuroimaging core to help us visualize how changes in the microbiome affect the brain.

What excites you most about this project?

Dr. Hsiao: I graduated from UCLA with a BS in microbiology, immunology and molecular genetics. This is where I first learned to love molecular biology and microbes. I came back eight years ago to work with the outstanding group of scientists here who specialize in gut-brain and brain-gut interactions. The Goodman-Luskin Microbiome Center gives us the opportunity to span the entire range of microbiome science, from the most fundamental basic research to the most impactful translational research. I'm confident that in the next few years, we'll be able to push the boundaries forward and show how gut microbes influence chronic diseases that extend far beyond the GI tract, affecting not only the brain, but also organs like the heart and liver. It's such an amazing time to be in this field. I'm thrilled to have the chance to explore new frontiers and make breakthroughs that will ultimately benefit people around the world. ●

DR. KETEMA PAUL

STEPS INTO THE U MAGAZINE SPOTLIGHT

Ketema Paul, PhD, knows a thing or two about getting a good night's sleep. A professor of integrative biology and physiology and of psychiatry and biobehavioral sciences in the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA, Dr. Paul studies the interactions of circadian rhythms — the biological clock — and the biological regulatory mechanisms that govern the sleep-wake cycle. His research aspires to help improve therapies to treat sleep disorders.

WHEN DID YOU FIRST START TO THINK ABOUT SCIENCE?

My cousin had a chemistry set and a microscope, and I thought that was the coolest thing. I must have been around 7 or 8 years old, and I was hooked. I pestered my parents to buy me a chemistry set. I was unrelenting.

WHAT HAS BEEN THE GREATEST CHALLENGE IN YOUR WORK?

It is taking advantage of all the new ways that are available now to communicate. I was trained to do an experiment, write a peer-reviewed paper and publish it. But these days, there are so many creative and exciting ways to communicate what you've found — video, podcasts and now virtual reality. I'm still kind of old-school; I can't keep up with it all. Those scientists who are learning how to take advantage of all of these new multimedia tools are getting a lot more valuable information out to the public.

WHERE DOES YOUR INSPIRATION COME FROM?

There were a lot of challenges growing up as a teenager in Washington, DC, and many of the guys I grew up with were really gifted, but they didn't get opportunities for those gifts to serve them. I watched a generation of young people, my peers, fall victim to circumstances, and many of them aren't around anymore. Their struggles inspire me. I've always felt that I got lucky. I'm here for a reason. Every day for me is like an opportunity to try to do something great, because a lot of the

guys I knew didn't get a chance. Those guys inspire me more than anyone.

WHO IS YOUR SCIENCE HERO?

A legendary scientist, Ernest Everett Just. He was a pioneering African American cytologist and instructor at Howard University's biology department — a legend and a mega-force in science. There's a biography of him, *Black Apollo of Science*, and I credit that book with setting me on a path to be successful in science. For an African American man in the early 20th century, with the challenges and obstacles he had to overcome every day to do something he loved, to be so successful in science, it is incredible.

WHAT HAS BEEN YOUR BIGGEST "A-HA!" MOMENT?

In my third year at Howard, I isolated a pigment from a firefly eye. My advisor had identified the pigment, and he had measured its spectral range in the firefly, but he never isolated it from the firefly. I was able to actually take it out of the firefly eye. I thought it was because I was so great, but in reality, I think it was because I'm colorblind and was able to see the pigment on the background. The revelation in that moment was that this is something I could really do, that I could be a scientist.

WHAT DO YOU CONSIDER TO BE YOUR FINEST ACHIEVEMENT?

I don't know that I've had a "finest achievement" yet. I tend to think of life as a series of moments, and I try to appreciate every moment as

it comes. Whatever I'm doing right now, whatever that now is, I probably see that as my finest achievement.

WHAT ARE THE QUALITIES OF A GREAT SCIENTIST?

The greatest scientists are the ones who always know the best questions to ask. Instinctively or through years of doing the work, they are able to quickly identify what are the most important questions. That is the pinnacle of what makes a great scientist.

WHAT CHARACTERISTIC MOST DEFINES YOU?

Persistence. I'm always going to show up. I'm never going to quit.

WHAT IS YOUR GREATEST VIRTUE?

Luck. I've just had an enormous amount of it in my life and in my career. My circumstances coming up, there's no reason why I didn't meet the same fate as some of my friends. It was just luck. Everyone makes mistakes. I've made mistakes. But my mistakes have always had a way of pushing me forward, so I can only imagine it has been luck.

WHAT IS YOUR GREATEST FAULT?

That changes over time. I tend to always want to work on what I consider to be my faults, so that means once that one is no longer a fault, something else becomes my biggest fault. Right now, I think my biggest fault is saying yes to too many things and over-committing myself.

WHAT IS YOUR MOTTO?

Embrace failure, don't fear it. That doesn't mean try to fail, but when you do, learn from it.

WHAT DO YOU VALUE MOST IN YOUR COLLEAGUES AND STUDENTS?

Honesty. I have to have it. I try to avoid people who tell me things they think I want to hear. I want to surround myself with the people who are not afraid to be straight-up honest with me, who will say it like it is.

WHOM DO YOU MOST ADMIRE?

My dad. My mom passed when I was 10, and he was a single father with all

boys, bringing them up in what was not the best neighborhood. With everything going on around him, he was still able to build a successful career and to raise us, and we are all doing well.

IF NOT A SCIENTIST, WHAT WOULD YOU BE?

A DJ or a musician. I don't know how talented I would be as a musician, but I know I could be a DJ because I used to do that. I could be a DJ or a music producer — maybe half-and-half, a producer working in the studio and a DJ who gets to be out in front of an audience.

WHAT IS YOUR MOST-TREASURED POSSESSION?

Keeping with the theme of being in the moment, it is probably the coffee cup in front of me right now, because I am really enjoying this coffee. At the end of the day, it will probably be my bike as I ride home on this

beautiful day. Tomorrow it will be something completely different.

TO WHICH SUPERHERO DO YOU MOST RELATE?

Cyborg from the Teen Titans. That's weird because I've never liked DC Comics; I've always been a Marvel fan. But that Cyborg character — he is a fusion of electronics and biological tissue — inspired me to think about neuroscience.

WHAT KEEPS YOU UP AT NIGHT?

Absolutely nothing. I would like to say it's because I'm a sleep scientist, but people who have known me since I was a baby will tell you that I've never had a problem sleeping. I don't let anything get in the way of sleeping.

HOW DO YOU WANT TO CHANGE THE WORLD?

I don't have any kind of lofty ambitions. I think that if I can give just one more

thing back to the world than I took from it, that would make me happy.

WHAT IS YOUR DEFINITION OF HAPPINESS?

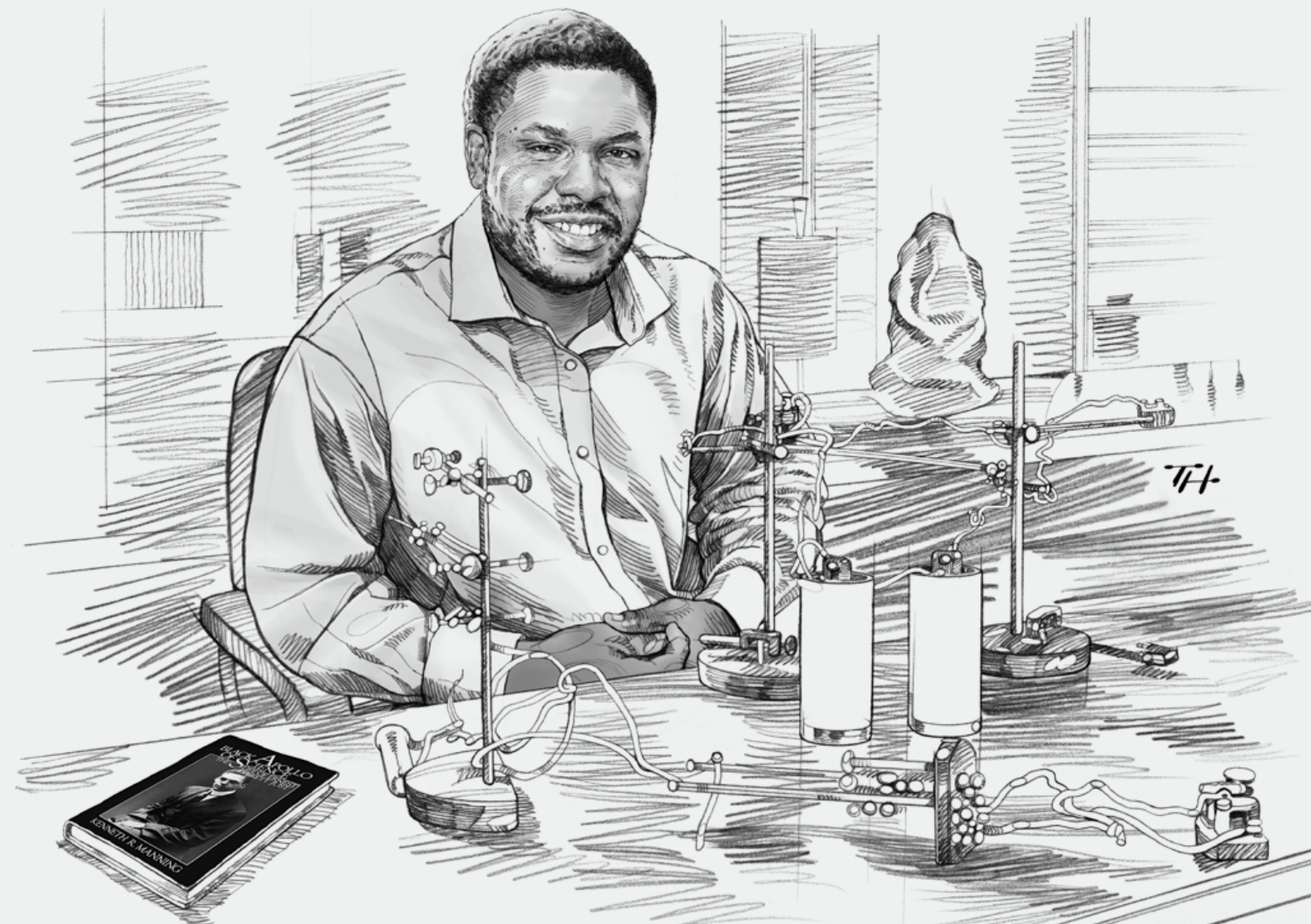
Spending time with the people that I love.

WHAT IS YOUR DEFINITION OF MISERY?

Living inside your head, being so preoccupied with your thoughts that you miss everything that's happening around you.

WHAT MUSIC DO YOU LISTEN TO WHILE YOU WORK?

I listen to jazz-funk fusion more than anything. It used to be straight-ahead jazz, but I've become such a big fan of that that I can't listen to straight jazz when I'm working any more. I find myself getting lost in the individual improvisations and I wouldn't be able to get any work done. So, now it is mostly jazz-funk fusion. ●



TONY HEALEY



THE KIDS AREN'T ALRIGHT

By Dan Gordon

There is an epidemic of sadness among teenagers, with one-in-10 — including one-in-three girls and 22% of LGBTQ+ youths — having seriously contemplated or attempted suicide in 2021. What's going on? And what can be done about it?

WHEN THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) released a report in February that evinced a bleak picture of teen emotional life — particularly among adolescent girls — alarms went off across the country.

“Teen Girls Report Record Levels of Sadness,” read the headline in *The New York Times*. “America’s Teenage Girls Are Not OK,” said *The Atlantic* magazine. “Teen Girls ‘Engulfed’ In Violence and Trauma,” declared the *Washington Post*.

The CDC’s biennial Youth Risk Behavior Survey, which tracks the health and well-being of the

nation’s high school students, examined the state of teen life in 2021, the first full year after the start of the COVID-19 pandemic. Among the key points: More than 40% of the survey respondents reported feeling so sad or hopeless that they couldn’t engage in their regular activities for at least two weeks during the previous year, and one-in-10 had attempted to end their life.

Girls and minoritized youths reported suffering the most. Nearly three-in-five teen girls (57%) said they’d felt persistently sad or hopeless in 2021, double the rate of boys and an increase of nearly 60% over the last decade. Nearly one-in-five girls

experienced sexual violence. Almost one-in-three seriously contemplated suicide. “America’s teen girls are engulfed in a growing wave of sadness, violence and trauma,” Debra Houry, MD, the CDC’s chief medical officer and deputy director for program and science, said at a press conference upon the report’s release.

Among LGBTQ+ youths [the survey asked about sexual orientation, but not gender identity], nearly 70% reported persistent feelings of sadness or

medical director of the UCLA Stress, Trauma, and Resilience (STAR) Clinic, and of EMPWR (empower), an initiative of the UCLA Division of Population Behavioral Health designed to promote well-being and resilience in LGBTQ+ children, teens and adults. “Then it was all heightened and accelerated by the pandemic.”

The wrath of COVID-19 was widely felt, and not evenly distributed. For most teens, the social isolation and missed milestones hit hard, but lower-income families were more likely to bear the extra burdens of economic and housing instability. Many experienced serious illnesses and losses of loved ones. “Being a teenager is difficult in the best of times,” notes Dr. Ramos, assistant clinical professor of psychiatry and biobehavioral sciences in the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA. “When you mix in these additional challenges, it’s not surprising where we are.”

Joan Asarnow, PhD, professor of psychiatry and biobehavioral sciences and director of the UCLA Center for Adolescent Suicide and Self-Harm Treatment and Prevention, says she and her colleagues braced for the worst at the dawn of the pandemic, but their fears didn’t immediately materialize. “For the first year or so, there was actually a reduction in suicide deaths for the total U.S. population, and people we were following in our programs appeared less ill than before,” she says. Dr. Asarnow suspects that was because, in the short term, at-risk teens felt some relief from the removal of school stressors.

But the latest CDC numbers confirm that any respite was short-lived. “With these vast and constantly changing disruptions, and the lack of stability, kids, who are our most vulnerable, really suffered,” says Dr. Asarnow, director of the UCLA Youth Stress and Mood Program within the Semel Institute, which develops and evaluates treatments and services for depression and suicide prevention in children and adolescents. “Meanwhile, with schools having to do all they could just to educate children and adolescents, think of all the mental health support they couldn’t offer.”

Even as schools struggled to transition to online classrooms, the pandemic placed a pause on the social-emotional component and

introduced a heightened level of uncertainty about the future, notes Benjamin N. Schneider, MD (RES ’12, FEL ’13), associate professor of psychiatry and biobehavioral sciences. What initially looked like two weeks of isolation stretched to nearly two years. During that time, social tensions and protests erupted following the police killing of George Floyd. And as pandemic restrictions eased, students returned to a world in which gun violence has become all too common.

“Part of a parent’s job is to teach children that the world is a relatively safe place,” says Dr. Schneider, medical director of the Achievement Behavior Cognition (ABC) Day Treatment Program in the Stewart and Lynda Resnick Neuropsychiatric Hospital at UCLA, which sees

school-age children with a range of developmental, social, cognitive and emotional disorders. “It’s become much harder to do that.”

To be sure, the disturbing trends predating the pandemic point to the need to address concerns unrelated to the coronavirus. Yet, the woes afflicting America’s teens cannot be attributed entirely to mental illness.

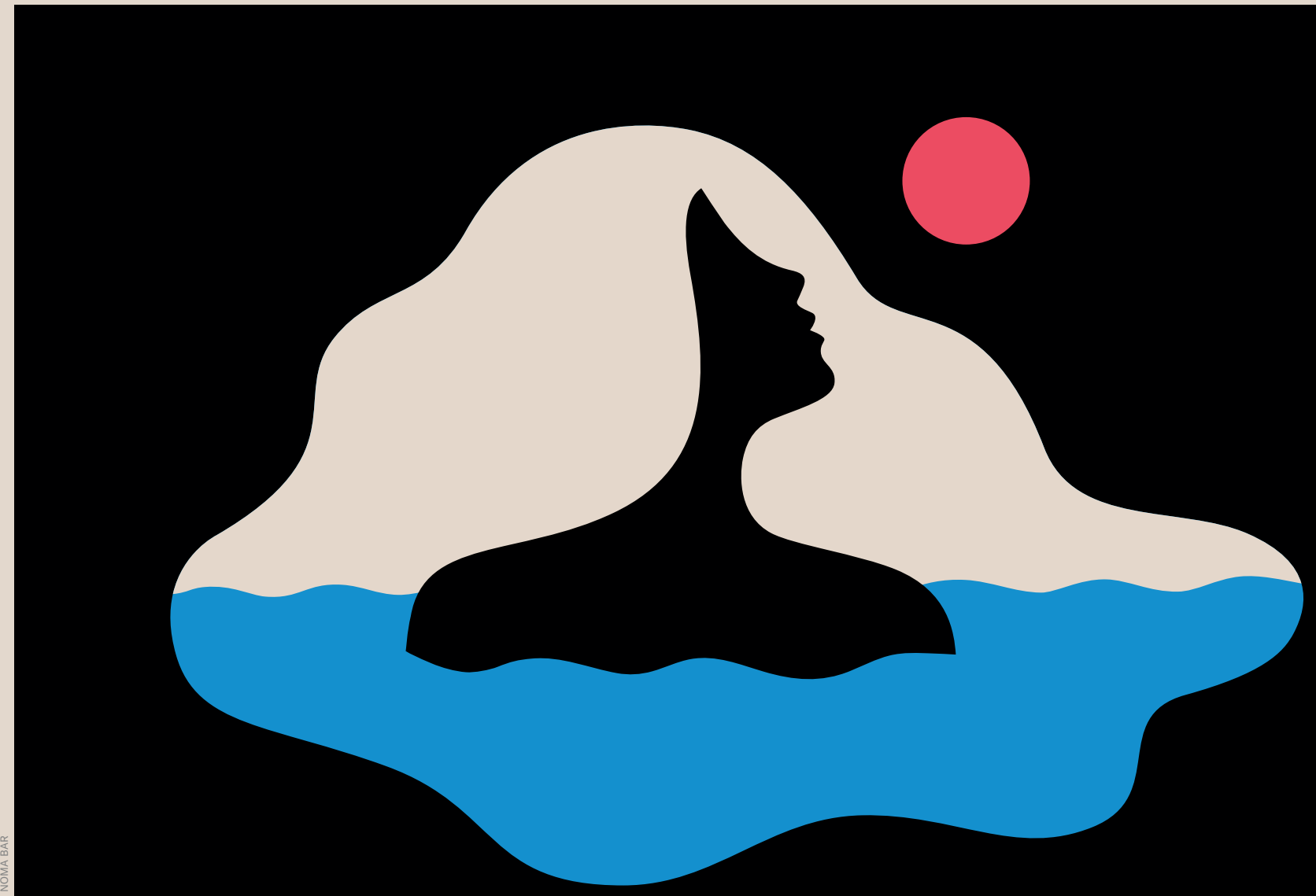
ADOLESCENCE WAS NEVER EASY. But Dr. Ramos points out that new developments, both biological and social, appear to be contributing to the greater distress. “Teens are hitting puberty earlier and earlier with each generation, so teen brains are being subjected to influences of mood and socialization changes that they’re less prepared for,” she says. “With the pervasive, 24/7 access to information,

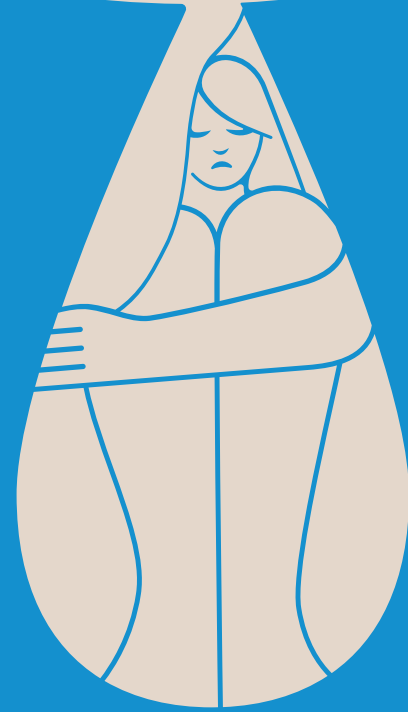
“MORE SADNESS AND DEPRESSION AMONG TEENS WAS A TREND THAT WAS ALREADY BREWING, IN COMBINATION WITH FEWER AND FEWER RESOURCES FOR PREVENTION AND MENTAL HEALTH TREATMENT, AS WELL AS EASIER ACCESS TO POTENTIALLY LETHAL METHODS.”

hopelessness during the past year, with more than 50% experiencing poor mental health over the last 30 days. Twenty-two percent had attempted suicide in the past year.

These and other disturbing trends began well before COVID-19 upended the lives of America’s youths. Each Youth Risk Behavior Survey since 2011 has revealed more mental health problems than the previous one. Suicide deaths spiked 45% in the decade leading up to the pandemic, with disproportionate increases among members of minority groups. Pre-pandemic, approximately 8% of high school students reported a suicide attempt in the previous year.

“More sadness and depression among teens was a trend that was already brewing, in combination with fewer and fewer resources for prevention and mental health treatment, as well as easier access to potentially lethal methods,” says Natalia Ramos, MD (RES ’15, FEL ’17), MPH,





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they're much more aware of stressors, without the cognitive and emotional preparation to process them in healthy ways. It's also become harder for parents to control what their teens have access to, or to discuss it with them, given this constant barrage of information from multiple platforms."

Why these developments seem to weigh more heavily on the psyches of girls than boys is a complicated question. In the CDC survey, female students fared worse than males across all measures of mental health, substance use, experiences of violence and suicidal thoughts and behaviors — with one notable exception. "Teen girls have higher rates of suicidal ideation; suicide attempts; and non-suicidal, self-injurious behavior," Dr. Asarnow says. "But boys die from suicide at a much higher rate."

Jocelyn Meza, PhD, assistant professor of psychiatry and biobehavioral sciences and a teen-suicide researcher, points to two key factors contributing to the higher rates of female distress. "Girls in the second decade of life experience more internalizing symptoms, including depression and anxiety," says Dr. Meza, associate director of the UCLA Youth Stress and Mood Program. "They tend to value social relationships more than boys, which means they're affected more by interpersonal problems, victimization and feeling left out. There are also so many conflicting societal messages about what girls are supposed to be, and some girls feel that if they don't meet those ideals something is wrong with them."

Another factor is the emergence of social media as a mainstay in the lives of most teens. In the

CDC survey, one-in-five girls reported having been cyberbullied, nearly double the proportion of boys. "It used to be that when you were bullied, it was in school, and you knew who it was," Dr. Meza says. "Now, many young girls are victimized without even knowing who the perpetrator is."

Social media is a popular culprit for those seeking to assign blame for the rising levels of teen sadness. The UCLA experts say it's more of a mixed bag. Many youths benefit from the increased opportunities to connect positively

with peers; certainly, it offered relief from pandemic-induced isolation. But the documented negative effects of social media, beyond the cyberbullying, include reductions in face-to-face interaction, poorer-quality sleep and the perils of social comparison.

Netflix series *13 Reasons Why*, which dramatized teen suicide, bullying and rape and offered scenes that may discourage youths from going to a school counselor for help, an important potential protective factor when teens are in acute distress. "Kids were watching it and talking about it," Dr. Asarnow says. "And studies showed a 30% increase in teen suicide deaths around the time it was released." While these data do not prove a causal relationship between viewing the series and suicide deaths, the numbers raise serious concern and support the value of reducing media exposure to suicide-related content in vulnerable teens, particularly when viewed without the support of a protective adult who can help the teen to process the material.

"The contagion phenomenon with suicides used to be more confined," Dr. Schneider says. "People's networks are much larger now. This can also extend to the experience of trauma — when kids see reports of schools getting locked down after shootings, they have to live with that knowledge, and some experience trauma vicariously."

Dr. Ramos believes the ubiquity of hurtful social messaging in a highly polarized environment can take a particular toll on minoritized youths. "There's so much racist, sexist, transphobic and homophobic content, even in mainstream media," she says. "And many youths tend to internalize things that they hear about their identities being negative or unworthy."

Compounding the problem is the all-too-common experience and enduring impact of trauma from adverse childhood events — neglect, violence and abuse, poverty and homelessness, immigration stress, structural racism, sexism, homophobia, transphobia and more, all of it accentuated in the era of COVID-19. In the STAR program, Dr. Ramos says she has seen an uptick in both the number of traumatic stressors families are coping with and their intensity.

All of this comes at a time when access to mental health treatment and preventive services is sorely lacking. "For decades, we have had limited education, funding and resource allocation," Dr. Ramos says. "We're seeing the consequences of that, especially for less-resourced youths, with this tinderbox of factors all stacking up."

Dr. Schneider notes that seeing a child and adolescent psychiatrist in the U.S. often requires

"AS IT PERTAINS TO SUICIDE, THE SUPERCHARGED ERA OF ONLINE INFORMATION AND INTERACTION HAS THE POTENTIAL TO FUEL A CONTAGION EFFECT."

with peers; certainly, it offered relief from pandemic-induced isolation. But the documented negative effects of social media, beyond the cyberbullying, include reductions in face-to-face interaction, poorer-quality sleep and the perils of social comparison.

"Teens may not necessarily post when they are alone or feeling low," Dr. Schneider says. "They may be more likely to post during pleasurable activities — when they are out with friends or having a good time. That gives some of my patients the idea that they're not measuring up."

As it pertains to suicide, the supercharged era of online information and interaction has the potential to fuel a contagion effect — an association between exposure to peers who have attempted suicide or engaged in self-harm and higher rates of suicide and suicidal thinking. Dr. Asarnow notes that this can also occur through media exposure. In 2019, she and other mental health experts noted that many teens viewed the

spending months on a waiting list. “As a result, rather than treating people near the beginning of the problem, we’re having to react to dire circumstances in acute-care settings and emergency rooms,” he says.

Another access-related trend is also troubling. Suicide-prevention experts point out that when a person is contemplating ending their life, having access to lethal means substantially elevates the risk. And with nearly 400 million privately owned firearms in the U.S., it’s become all too easy for youths to act on what might represent a fleeting thought.

“Developmentally, children don’t have a fully developed prefrontal cortex, which is the part of the brain we use to put on the brakes and not act

to implement community-specific suicide-prevention programs for at-risk teens. Evaluations of the programs have found that counties that implemented evidence-informed suicide-prevention care through Garrett Lee Smith saw significantly fewer suicide deaths and attempts.

In March, Dr. Meza, Dr. Asarnow and colleagues published a review of 18 large studies that have evaluated interventions aimed at reducing suicide and self-harm in youths ages 12-to-18. They found several common threads in the programs that showed improvements, including integration of parents or other family caregivers in the therapy, an emphasis on relationship-building and teaching skills such as emotional regulation, development of a safety plan for coping in times of distress and restrictions on access to lethal means.

The UCLA Youth Stress and Mood Program has conducted key studies showing the positive effect of dialectical behavioral therapy (DBT), which teaches teens skills that include emotional regulation and distress tolerance, as well as strategies for building a better life. In multisite research led by Dr. Asarnow at UCLA, DBT reduced self-harm and suicidal behavior in teens at high-risk for suicide and self-harm. “When emotional regulation improved, the kids got better,” Dr. Asarnow says. “We’re all going to experience pain and stress, so as parents and therapists, we need to help our kids tolerate that.”

Involving parents in the treatment contributes to what Dr. Asarnow calls a “protective seatbelt” — a circle of support around the child that provides a buffer against acting out on feelings of self-harm during the toughest times.

Her program counsels parents on reducing family conflict, and on the do’s and don’ts of communication with their child. For example, gentle criticism such as, “Your room is messy; I’d like you to clean it up,” is OK, but statements like “You are the sloppiest person on Earth” don’t help the depressed teen.

The protective seatbelt ideally extends beyond the parents to include other trusted and caring adults — including relatives, teachers, coaches and primary care providers — in whom the teen feels comfortable confiding. “Parents shouldn’t be offended if their child goes to another adult; just make sure their life is populated with people they trust,” Dr. Asarnow says.

Among adolescents, white males are the most likely to die by suicide, but Black and Latino teens

“WHEN EMOTIONAL REGULATION IMPROVED, THE KIDS GOT BETTER. WE’RE ALL GOING TO EXPERIENCE PAIN AND STRESS, SO AS PARENTS AND THERAPISTS, WE NEED TO HELP OUR KIDS TOLERATE THAT.”

impulsively,” Dr. Meza says. And it’s not just the easy access to guns. “There are websites now with detailed instructions about how to ‘successfully’ end your life,” Dr. Meza says. “And we know kids are always online.”

THERE’S NO GETTING AROUND THE BLEAK NATURE OF THE CDC FINDINGS. But Dr. Asarnow is able to offer one optimistic point. “The good news is, we actually know what to do about this,” she says. “Community-based suicide prevention works.”

She points out that the federal Garrett Lee Smith Memorial Act, first signed into law in 2004 and most recently reauthorized in 2022, has provided grants to counties, states and tribes



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have the highest rate of suicide attempts, with trends moving in the wrong direction. In the Health Equity & Access Research and Treatment (HEART) lab directed by Dr. Meza, she and her colleagues focus on understanding the social-cultural predictors of suicide for adolescents and young adults, with the goal of promoting their inclusion in culturally informed treatments. This includes addressing common experiences such as racism, discrimination and acculturation-related factors.

“For Black, Latino, LGBTQ+ and other kids from groups that experience marginalization, predictors include a sense of not having a place in the world,” Dr. Meza says. “Having a strong racial and ethnic identity, a sense of belonging within a community and civic engagement all serve as protective factors.”

Given the barriers to accessing community-based mental health care, particularly among low-income families, the UCLA experts say any solution to the growing crisis has to bring mental health treatment and prevention services to the places where teens spend their time. School-based health and wellness centers play a critical role in providing access to

mental health services for families that face insurance, transportation and other barriers. “We’ve known for a long time that schools are the place where most youths receive mental health services, especially in under-resourced communities,” says Roya Ijadi-Maghsoodi, MD (RES ’12, FEL ’14), assistant professor of psychiatry and biobehavioral sciences, who studies the delivery of mental health services in schools.

Dr. Ijadi-Maghsoodi and her UCLA colleagues have worked closely with the Los Angeles Unified School District to bring evidence-based mental health services to schools. To meet the needs of low-income, predominantly minoritized LAUSD students who have experienced trauma, her team has worked with district partners to adapt and implement a resilience-building curriculum originally developed at UCLA for military-connected families.

The Focus Resilience Curriculum, delivered in the classroom setting and provided to both students and parents, teaches skills that include emotional regulation, goal setting, empathy and communication. In addition to reporting improvements on measures of resilience, problem-solving and empathy,

Dr. Ijadi-Maghsoodi and her colleagues have found that the curriculum enhances connections among students and helps to destigmatize mental health issues.

Among the most promising developments for promoting mental health within schools is the increasing emphasis on programs that build peer support. “Peers play an important role in a teen’s life, and we want students to be able to talk to each other about mental health and normalize help-seeking behavior,” Dr. Ijadi-Maghsoodi explains. Programs have been developed to train high school students in how to recognize and help a peer during times of high distress.

Dr. Ijadi-Maghsoodi says normalizing discussions about mental health should be a priority for the adult population, as well. “We’re living in stressful times, and parents need to know it’s OK to reach out for mental health support for themselves if they need it,” she says.

WHEN FIRST MEETING WITH PARENTS OF CHILDREN WHO ENTER THE ACHIEVEMENT BEHAVIOR COGNITION PROGRAM, Dr. Schneider stresses the important role they will play in navigating their child to a better place. “If there’s turbulence on an airplane and the captain comes on the loudspeaker and calmly says everything is going to be OK, the passenger’s reaction is going to be very different than if they hear the captain in a state of panic,” Dr. Schneider says.

But too many parents are hurting. In an opinion piece in the *Washington Post* the week the CDC findings were released, journalist Kate Woodsome noted that in 2020, more than 50 million adults had a mental illness such as anxiety, depression or bipolar disorder. More than 60% of the adult population experienced trauma as children, challenging their ability to remain attentive and resourceful for their own kids. “There is a frantic search for ways to stop kids from hurting,” Woodsome wrote. “But if we want to make any lasting difference, it is us, the adults, who need an intervention.”

Dr. Asarnow agrees. “Families are stressed, and schools have been struggling with limited resources,” she says. “If everybody’s suffering, who’s going to protect our children?”

Unfortunately, beyond the problems of access, the stigma against talking about depression and suicidality leaves many teens isolated and suffering in silence. Many parents remain in denial, afraid to acknowledge the unfathomable — or concerned that broaching the topic of suicidality with their child might plant the seed. Dr. Meza says the research refutes that assumption. “There is a misconception that if you ask

about suicide, you’re increasing the risk, but bringing it up actually has a therapeutic effect,” she says. Dr. Meza advises parents to raise the subject by making an observation about their child’s behavior and why it concerns them, then asking directly whether they have had any thoughts of self-harm or suicide.

The UCLA Youth Stress and Mood Program educates parents about worrisome behaviors, such as self-harm in the form of cutting, burning and banging; giving away belongings or no longer bathing; and declarations such as “I wish I could go to sleep and never wake up.” Dr. Asarnow says parents should not assume a child who uses such language is merely being manipulative. “It is important to take your child’s comments seriously, let them know you are there for them and that you can work together to address problems and build a life they enjoy and want to live.”

Unfortunately, the signs don’t always appear. One study found that approximately one-in-three child suicides occur without any apparent warning. “If I have a depressed child, I just assume that suicide risk is elevated and protection is needed,” Dr. Asarnow says. “It is better to be safe than sorry.”

When in doubt, she adds, a parent can never go wrong offering unconditional love and support. “The most important message is, ‘I love you to bits,’” she says. “It’s telling the child, ‘We are a team, and there is no problem that’s too big for the both of us. I may not always like it, but there’s nothing you can’t tell me. And I’m here for you.’” ●

Dan Gordon is a frequent contributor to U Magazine. His two-part story, “UCLA In the Time of AIDS,” received the Robert G. Fenley Gold Award for Excellence in Writing and “Best of Show” from the Association of American Medical Colleges.

For more information about the UCLA Youth Stress and Mood Program, go to: uclahealth.org/medical-services/psychiatry/family-focused-programs/youth-stress-mood-program-ysam or scan the QR code



If you are experiencing mental health-related distress or are worried about a loved one who may need crisis support, call or text **988**, or chat at 988lifeline.org, to connect with a trained crisis counselor. The 988 Suicide & Crisis Lifeline is confidential, free and available 24/7.

TALK TO THE ANIMALS

DR. BARBARA NATTERSON-HOROWITZ'S INTEREST IN WHAT ANIMALS CAN TEACH US ABOUT THE HUMAN BODY AND MIND HAS LED HER TO FOCUS ON THE SPECIES-SPANNING SIMILARITIES IN FEMALE HEALTH.

By Corinne Purtill



Zainabu was in good health in the days before she gave birth to her fourth baby, despite the fact that her blood pressure was likely somewhere around 280/220.

FOR A HUMAN, SUCH A READING WOULD BE catastrophic. Spiking blood pressure in a pregnant or recently postpartum woman is a sign of preeclampsia, a common but potentially fatal condition that can affect the heart, lungs, liver and kidneys.

Zainabu, fortunately, is a Masai giraffe at the Los Angeles Zoo. Giraffes have the highest known blood pressure in the animal kingdom, but this has no apparent effect on fetal or maternal health.

For Barbara Natterson-Horowitz, MD (RES '90, '92, FEL '95), a UCLA cardiologist with a long-standing interest in cross-species health, this raises some compelling questions. What adaptations have evolved in female giraffes that protect their cardiovascular systems from the damage high blood pressure can cause? And why don't we know enough about the physiology of human females to prevent a common complication like preeclampsia?

Dr. Natterson-Horowitz's side gig treating animals at the L.A. Zoo has led her to

explore health connections across species. She and collaborator Kathryn Bowers wrote the 2012 bestseller *Zoobiquity*, about the intersection of human medicine, veterinary medicine and evolutionary biology, followed by 2019's *Wildhood*, which examined adolescence across the animal kingdom.

Her latest focus is on cross-species similarities in female health, a field that has long been underfunded, understudied and misunderstood. Diseases that primarily affect women get a disproportionately small amount of research money relative to the years of healthy life they steal. (The reverse is true for diseases that primarily affect men.) In addition, women have historically been a minority of clinical trial participants, and for several years those of childbearing age were barred as research subjects in the U.S., a policy the National Institutes of Health reversed in 1986.

We can't go back in time, Dr. Natterson-Horowitz says. But we can fill some of the gaps by looking to the animal world.



ROBERT GAUTHIER/LOS ANGELES TIMES

Dr. Barbara Natterson-Horowitz visits the flamingo enclosure at the zoo. "There's a pretty vast landscape of unexamined assumptions about human uniqueness," she says.

MANY OF THE SPECIES THAT SHARE OUR PLANET ARE EXPOSED TO SIMILAR STRESSORS and environmental contaminants. Some endure the same chronic diseases that humans do, while others appear to be naturally resistant. Solutions to some of medicine's most vexing questions could be walking on four feet beside us. "There's a pretty vast landscape of unexamined assumptions about human uniqueness," Dr. Natterson-Horowitz says. Failing to recognize our place in the animal kingdom, she adds, "can prevent us from recognizing connections that, were we to see and understand them, could allow us to better understand the cause of disease and to be better at innovating effective solutions."

Dr. Natterson-Horowitz grew up in Los Angeles as the daughter of two psychotherapists. She made occasional trips to the zoo as a child, with no inkling that some of the animals she was looking at would later become her patients.

She studied evolutionary biology at Harvard under famed biologists E.O.

Wilson and Stephen Jay Gould. She returned to California for medical school at UC San Francisco and residency and fellowship at UCLA.

She'd been on the faculty at UCLA for a decade when, in 2005, she got a call from the zoo asking for assistance with a transesophageal echocardiogram, a type of ultrasound exam she specialized in. This one would be for a chimpanzee, her first nonhuman patient.

It was a procedure she'd performed countless times before. But probing the internal biology of a fellow primate, albeit one that wasn't human, was like "that gleam of light you see when you crack open a door," she recalls. "In this case, the door happened to be separating my world of modern human medicine and the natural world's endless health insights."

Physicians tend to be human-centric in their approach. But veterinarians investigating perplexing problems often look to the medical histories of other species — including *Homo sapiens*. "We've always done that, because we know that there's



By examining the animal world, we can fill in some of the gaps in our understanding of human health, says Dr. Natterson-Horowitz, feeding a giraffe at the Los Angeles Zoo.

MILO MITCHELL

“PHYSICIANS TEND TO BE HUMAN-CENTRIC IN THEIR APPROACH. BUT VETERINARIANS INVESTIGATING PERPLEXING PROBLEMS OFTEN LOOK TO THE MEDICAL HISTORIES OF OTHER SPECIES.”

a lot more research that goes on in many of these diseases in humans,” says Jane Sykes, PhD, professor of small-animal internal medicine at UC Davis School of Veterinary Medicine. “We’re always looking for parallels. Is there anything in humans that can help this dog in front of us?”

Now Dr. Natterson-Horowitz wanted to do the same thing, just in the other direction. The more she consulted with the L.A. Zoo, the more she came to admire that inclusive approach — and to ques-

tion its absence in human medicine. “Anthropocentrism is a blindfold,” she says of humans’ fixation on our own species. “If we can move beyond that, we could see connections that are meaningful and powerful.”

ONE OF THE FIRST PATIENTS TO SPARK HER INTEREST IN FEMALE HEALTH WAS A LIONESSE with pericardial effusion, or fluid in the sac around the heart. The condition affects at least 20% of cancer patients, both feline and human, and breast cancer is common in lions. Those two facts made veterinarians worry that the lioness had an advanced case of the disease.

Dr. Natterson-Horowitz started researching. She knew that breast cancers in some women were connected to BRCA1, a gene on the 17th chromosome. People born with certain versions of the gene are more likely to develop breast cancer when exposed to an environmental or hormonal trigger.

What she had not realized was how many non-primate species share this vulnerability. English springer spaniels

with certain BRCA1 variants are four times more likely to develop breast cancer than dogs with the most common version of the gene, Dr. Natterson-Horowitz noted in *Zoobiquity*. Another study found that zoo jaguars taking a particular type of hormonal birth control developed breast cancer in rates similar to human women with high-risk BRCA1 variants, and that the cancer was common in lions and other big cats.

Many factors influence breast cancer rates in females across the animal kingdom: age, genetics, the frequency and duration of lactation, environmental factors and hormonal changes.

Taken together, the range of mammals vulnerable to breast cancers could offer a trove of valuable comparative data, Dr. Natterson-Horowitz realized. But virtually no one was looking for it — even for a disease that claims the lives of more than 42,000 women in the U.S. alone each year.

So, she started researching these evolutionary links herself.

As she dug in, Dr. Natterson-Horowitz says, she noticed something else: “Not only is human medicine anthropocentric, it’s androcentric” — that is, focused on cisgender men.

Until the 1993 passage of the NIH Revitalization Act, women and people of color were not required to be part of research studies or clinical trials funded by the NIH, and as a result, they usually weren’t. The same preference for males is seen even in research on mice. In 2016, the NIH set a policy requiring researchers to at least “consider” biological sex as a variable in the design of human cell and animal studies, though they can study only one sex if they can show “strong justification” for it.

“The good news is that today, over half of the participants in NIH clinical trials are women,” says Janine Austin Clayton, MD, director of the NIH Office of Research on Women’s Health. But, she notes, women are still underrepresented in studies of several major diseases, including cardiovascular disease, kidney disease, hepatitis and HIV/AIDS. “Until we have representation across every disease category that affects women and men,” she says, “we still have work to do.”

A MALE-CENTERED RESEARCH APPROACH MANIFESTS IN MANY WAYS. It isn't just the dearth of funding for conditions primarily affecting women, like endometriosis and rheumatoid arthritis. It's that data on female bodies are often absent from medical research altogether, resulting in skewed results that can short-change all genders.

The result is that researchers often haven't even realized when their results apply only to men.

Take heart attacks. When the Physicians' Health Study, whose sample consisted of 22,071 men and zero women, found in 1989 that a regular low dose of aspirin led to a 44% decrease in heart attacks, many physicians recommended the treatment to men and women alike. But the 39,876 participants in

“THERE IS A TREMENDOUS OPPORTUNITY TO LOOK ACROSS SPECIES AND BEGIN TO UNDERSTAND WHAT HAPPENS WITH WHAT SYSTEMS AND WHY, AND HOW WE COULD IMPROVE HEALTH CARE.”

the Women's Health Study allowed researchers to report in 2005 that for women younger than 65, aspirin didn't help at all. And for those 65 and older, aspirin prevented not only heart attacks, but also strokes — a benefit that was not apparent in the all-male study and would have remained unseen without studying women.

Excluding women from research studies forces doctors to treat them “as guinea pigs, generation after generation after generation,” says Chloe Bird, PhD, a sociologist who heads the Center for Health Equity Research at Tufts Medical Center in Boston.

Dr. Bird has not been involved in Dr. Natterson-Horowitz's efforts to take a broader look at the female population of the animal kingdom, which she called “fantastic, and so needed.”

“There is a tremendous opportunity to look across species and begin to understand what happens with what systems and why, and how we could improve health care,” Dr. Bird says.

Dr. Natterson-Horowitz is now leading a team of obstetrician-gynecologists, wildlife veterinarians and veterinary pathologists to study giraffe pregnancy to understand why animals like Zainabu — who delivered a healthy, 172-pound calf in April 2022 — are not vulnerable to the cardiovascular crises that strike pregnant humans. She's also working with dairy veterinarians to better understand mastitis, a common but painful inflammation of breast tissue, to come up with improved treatments and design a better breast pump for women.

But Dr. Natterson-Horowitz knows unlocking the secrets of the animal world is not a one-person job. Since 2011, she has organized Zoobiquity conferences that have brought together thousands of physicians, veterinarians and evolutionary biologists to examine health issues from multispecies perspectives. The most recent, titled “Female Health Across the Tree of Life,” took place in July 2022 in Lisbon, Portugal.

She also teaches the relevance of the animal world to undergraduates and medical students at UCLA and Harvard, and she is heartened to see the eagerness of a new generation of physicians to look across species for answers.

Climate change and urbanization have blurred the boundaries between the human and nonhuman animal worlds, Dr. Natterson-Horowitz points out. Zoonotic diseases like COVID-19 and influenza have shown us how closely we're tied to fellow members of the animal kingdom.

When she first got into medicine, she pledged to do no harm. Today, she believes, “if we can move from an androcentric, anthropocentric view to a sex-, gender- and species-spanning perspective, then we can do good.” ●

Corinne Purtill is a science and medicine writer for the Los Angeles Times. This article originally was published in the Los Angeles Times. It is reprinted with permission.

To view a video about Dr. Barbara Natterson-Horowitz and her work with animals, go to: uclahealth.org/news/talk-2-animals



MILCO MITCHELL

“Anthropocentrism is a blindfold. If we can move beyond that, we could see connections that are meaningful and powerful,” says Dr. Natterson-Howowitz, stopping by an ape enclosure at the Los Angeles Zoo.



COURTESY OF DR. NATTERSON

One of the first patients to spark Dr. Natterson-Horowitz's interest in female health was a lioness with fluid in the sac around its heart.



“My father never hesitated to talk about what he went through in the Holocaust. I’m sure that left some sort of imprint on me,” says Dr. Gary J. Schiller, outside Holocaust Museum LA, which he helped to steer into existence.

Serving Memory

By Jason Millman

GROWING UP, GARY J. SCHILLER, MD (RES ’87, FEL ’90), listened to the stories his father told of the terrible years as a teenager he spent in Poland’s Lodz Ghetto during World War II and then surviving the notorious Buchenwald concentration camp, among others.

“My father never hesitated to talk about what he went through in the Holocaust,” says Dr. Schiller, professor of medicine and director of the Bone Marrow/Stem Cell Transplant Program at the David Geffen School of Medicine

at UCLA. “I’m sure that left some sort of imprint on me, there’s no doubt about it. Most children of survivors reflect on these things throughout their lives.”

Such reflections have led Dr. Schiller to seek opportunities to engage with the broader community of Holocaust survivors and their descendants. Twenty-three years ago, he took on the challenge of saving the oldest museum of remembrance in the United States, what then was known as the Los Angeles Museum of the Holocaust and is now Holocaust Museum LA. Prior

to that, he was president of Second Generation, a group for descendants of Holocaust survivors.

Amid a troubling rise in anti-Semitism today, it is hard to imagine that not that long ago, Los Angeles almost lost its legacy institution dedicated to remembrance. Founded as the Martyrs Memorial in 1961 by Holocaust survivors in an English-as-a-second-language class at a local high school, the museum, with a mission to commemorate those who died in the Holocaust and honor those who survived, struggled to find a permanent home and for years bounced around temporary locations and eked out a meager existence on a shoe-string budget.

When Dr. Schiller became chairman of the institution in 2000, it had lost a key source of funding, and its continued existence was anything but certain. If the museum had no home, what to do with all its artifacts that had been donated over the years by survivors? It was suggested, at one point, that they be placed in a display case at a local Jewish high school. “I thought that was cynical, and under no circumstances would we do that,” Dr. Schiller says.

Like a patient in desperate need of blood, an infusion of cash was urgently required if the museum was to survive. “Fundraising is something familiar to any physician in academic medicine, but it is much harder when it comes to raising money for Holocaust remembrance,” Dr. Schiller says.

Embarking down such a road was not, however, an easy choice for Dr. Schiller, who was leery of “commercializing” the Holocaust to raise money. “You know the old joke: ‘There’s no business like Shoah business,’” he told the *Los Angeles Jewish Journal* in 2001. “American Jewry has a problem with Holocaust remembrance. I am not the first or the last one to explain this.”

But fundraising is exactly what was necessary — though it was at times difficult to reckon with the fact that Los Angeles already had another well-funded museum primarily focused on the Holocaust, the Museum of Tolerance. “But that museum is state-funded, and it has a different agenda,” Dr. Schiller says. “We had to make the connection for people: Why is this meaningful, why is this valuable, why is this important to you and your family?”

Ultimately, Dr. Schiller and the leadership of the museum were successful enough in their efforts to, in 2010, establish a permanent home in Los Angeles’ Pan Pacific Park. Since then, the museum has had more than 500,000 visitors, and it is planning an expansion that will nearly double its size as it aims to significantly grow its annual attendance.

Telling the story of the Holocaust is in Dr. Schiller’s blood. His father, Frank, a Czech Jew, was 15 in 1941 when he and his family were sent to the Lodz Ghetto, where both of his parents would die. After nearly three years, Frank was sent to a succession of forced-labor and concentration camps. He survived — stories of what happened during those years are harrowing — and immediately after the war wrote a memoir about his experiences. He then set it aside for the next 45 years, when it was translated into English but never published. Such a contemporaneous account of the Holocaust was rare. “Those who survived,



Dr. Schiller shares a photograph taken in October 1939, one month after the start of World War II and two years before they were deported to the Lodz Ghetto, of his father (second from left), and of his father’s parents and brother who perished in the Holocaust.

most were young, they wanted to move on with their lives,” Dr. Schiller says.

These days, Dr. Schiller is chairman emeritus, and he remains active in the museum community. Over the years, his work with the museum has been a family endeavor. His teenage son has become active in the museum, serving as a docent and creating an educational platform on Greek Jewry. Dr. Schiller’s father, who died in 2020 at the age of 94, previously helped with the museum’s

books and served as “de facto treasurer for a long time,” Dr. Schiller says.

Not only did Dr. Schiller’s father imbue him with a deep sense of connection to his past, but he also was instrumental in steering him toward a career in medicine. His father, Dr. Schiller says, believed it was important that his children pursue a career that not only would bring them esteem, but also, crucially, be easily transportable — “in case you need to get out quickly,” a vocational version of sewing jewelry into the lining of one’s garments.

When it was time for him to choose a direction in medicine, Dr. Schiller decided to focus on blood cancers, which he saw as a neglected area. “I wanted to do something that other people didn’t want to do,” he says.

He has come to see parallels between his efforts to educate people about the Holocaust and his work with cancer. Whether talking about the 6

things that are involved in being human,” Dr. Schiller says. “These are things I didn’t appreciate as a young person. I do now.” ●

Jason Millman is a senior media relations officer for UCLA Health.

AWARDS & HONORS

Dr. Aparna Bhaduri, assistant professor of biological chemistry, received the Sontag Foundation’s 2022 Distinguished Scientist Award, given to young scientists pursuing major advances to treat brain cancer.

Dr. Richard Boxer (RES ’79), clinical professor of urology, was appointed by President Joe Biden to the National Cancer Advisory Board of the National Cancer Institute.

Dr. Sara A. Hurvitz (RES ’02, ’03, FEL ’06), professor of medicine, director of clinical research at the UCLA Jonsson Comprehensive Cancer Center and director of breast oncology, received the 2023 European Society for Medical Oncology Breast Cancer Award.

Dr. Barbara Natterson-Horowitz (RES ’90, ’92, FEL ’95), professor of medicine in the UCLA Division of Cardiology, was appointed co-chair of the Board on Animal Health Science, Conservation and Research of the National Academies of Science, Engineering and Medicine.

Dr. Thomas Rando, professor of neurology and molecular, cell and developmental biology and director of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA, received the 2023 Achievement Award from the International Society for Stem Cell Research.

Dr. Chelsea L. Shover, assistant professor-in-residence of medicine and health services research, received the inaugural National Institutes of Health HEAL (Helping End Addiction Long-term) Initiative Director’s Award for addiction research.



TODD CHENEY/UCLA

Carrying Forward an Enduring Connection and Legacy of Philanthropy

By Marina Dundjerski

More than 2,400 years ago, Hippocrates, the Greek physician considered to be the father of modern medicine, stated, “All disease begins in the gut.” Today, researchers at UCLA are studying the gastrointestinal tract — and the trillions of bacteria and microorganisms that make up its microbiome — inspired by significant medical advances and the promise of life-changing applications in disease prevention, diagnosis and treatment.

Their work will be greatly furthered by a \$20 million gift from Andrea and Donald Goodman and Renee and Meyer Luskin to establish and endow the

UCLA Goodman-Luskin Microbiome Center. Part of the Vatche and Tamar Manoukian Division of Digestive Diseases in the David Geffen School of Medicine at UCLA, the center will draw scientific expertise from researchers across the UCLA campus, including the UCLA College Divisions of Life Sciences and Physical Sciences, the UCLA Samueli School of Engineering and the UCLA Fielding School of Public Health.

“It’s old, but also very new,” said Meyer Luskin of microbiome research. “Medical science has known that the gut is an area of determination from where illnesses and diseases emanate. They knew that there was a microbiome, but didn’t understand how pervasive and important it was until recently. Being on the front edge, the frontier, of this newer field was something that we wanted to help further.”

Luskin says that he is particularly interested in the newfound connections being studied between the gut microbiome and the brain. Indeed, the microbiome is being investigated as a pathway — from immune and metabolic functions to neurotransmitters

(From left) Donald and Andrea Goodman and Renee and Meyer Luskin.

such as serotonin — that can affect everything from diabetes to dementia.

The gift will fund a new headquarters in the UCLA Center for Health Sciences to support collaboration in several focus areas, including inflammatory bowel disease; cardiovascular and liver diseases; obesity and eating disorders; neurodevelopmental and neurodegenerative diseases, such as autism, Alzheimer’s and Parkinson’s diseases; irritable bowel syndrome; substance use, mental illness and pain disorders; as well as gender differences of the microbiome. It also will support a fellowship, an early-career research fund for promising scientists, an endowed chair in brain-gut-microbiome research and an annual symposium — all aimed at a fuller understanding of the brain-gut-microbiome interface and its role in human health.

The fact that microbiome research touches upon such a wide number of areas is what attracted the Goodmans to join in this endeavor. “It has a

widespread benefit of helping a large amount of people, and is not limited to one scope of medicine,” said Donald Goodman, president of Don Lee Farms, a multigenerational family food company he founded in 1982. “It strikes me that there is a lot of hope that can lead to other things and help enhance or save people’s lives.”

The joint venture is based on a friendship between the Goodmans and Luskins that goes back a generation. Meyer Luskin, an industry leader in the business of recycling and processing food waste, and his wife were good friends of Larry Goodman, Donald’s late father, and his wife, Muriel Goodman, and the families have been close since. Luskin says it was Larry Goodman who first encouraged him to serve on the UCLA Medical Center, Santa Monica Board of Advisors many years ago, when Larry Goodman was chairman. Luskin later became chairman, and years later he encouraged Donald Goodman to join the hospital board. (He later became chairman.)

Things came full circle when last year, as Donald Goodman was looking to make the family’s first transformational gift, he consulted Luskin for philanthropic advice. The two began talking about the microbiome project with Dr. Eric Esrailian (FEL ’06), chief of the UCLA Vatche and Tamar Manoukian Division of Digestive Diseases and The Lincy Foundation Chair in Clinical Gastroenterology in the David Geffen School of Medicine at UCLA, and a new partnership was forged.

“We are extremely grateful to the Goodman and Luskin families for their foresight,” Dr. Esrailian said. “The center’s initial focus on brain-gut-microbiome research will build on our existing strengths and advance UCLA’s collaborations with other microbiome-research centers across the nation.”

Both families have a long history of being charitable. “I learned from my parents at a young age about philanthropy,” said Goodman. “They didn’t necessarily teach us about it, but it came through dinner conversations and various experiences. I remember my mom worked on a regular basis at

a charity that took in foster children and helped them adapt and cope. I was able to interact with them at a young age. These were experiences

“IT HAS A WIDESPREAD BENEFIT OF HELPING A LARGE AMOUNT OF PEOPLE, AND IS NOT LIMITED TO ONE SCOPE OF MEDICINE.”

that taught me invaluable lessons.”

While this is the Goodmans’ first transformational gift, they have supported several charitable efforts, including the Los Angeles Regional Foodbank, and have been honored with a Congressional Certificate of Special Recognition by United States Congresswoman Maxine Waters for financing scholarships for Inglewood high school students.

Andrea Goodman earned her degrees in 1992 and 1994 from UCLA, and Donald Goodman attended UCLA in 1976 before opting to join the family business and shortly thereafter founding Don Lee Farms.

The philanthropic spirit has been instilled in his children, too. “It’s part of our lives,” said Donald Goodman. “We try to find causes to donate to that use their money efficiently and create a positive impact. We try to find something that we feel some sort of attachment or interest in, and then the best part of it is to see the money put to good use and you feel good.” All three of Goodman’s adult sons, who work in the family business, have made gifts to UCLA, including to UCLA Health Operation Mend, the David Geffen School of Medicine and the Simms/Mann-UCLA Center for Integrative Oncology.

Renee and Meyer Luskin, who earned their UCLA degrees in 1953

and 1949, respectively, have given to myriad causes at UCLA. Some that are close to the couple’s heart, Meyer Luskin said, include the Luskin Orthopaedic Institute for Children in alliance with UCLA Health, the UCLA Meyer and Renee Luskin Conference Center and the UCLA Luskin School of Public Affairs.

Luskin said that he hopes his own giving will lead to others doing the same. “I don’t go to friends and hope that they will contribute to some philanthropic endeavor,” he said. “But by seeing that someone else is doing it, I hope they will emulate me. It’s better to lead by example, and encourage others to do the same. Giving is such a personal act. It has to remain on a personal level and you hope you create a situation in someone else’s mind that makes them feel comfortable about doing it.”

“And there are various ways of giving at different levels in life,” Luskin continued. “If you’re volunteering your time, and that’s what you can afford to do, that’s giving. Even holding the elevator door open for somebody, that’s doing good. You have to have a definite sense of security in yourself when you start giving money, which is a very important concept of living well in various degrees. I say, give what you can, analyze your own situation.”

As for this joint gift with the Goodmans, Luskin says he is proud to carry forward the families’ enduring connection and legacy of philanthropy. “It’s just wonderful to look back at the friendship I had with Don’s father and now to have a joint venture with Larry’s son gives an additional satisfaction to the feeling of helping humanity with what we’re doing.” ●

Marina Dundjerski is a freelance writer in Los Angeles.

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To read an interview with Dr. Elaine Hsiao, director of the UCLA Goodman-Luskin Microbiome Center, see “Conversation” on page 20 of this issue of U Magazine.

Long-standing UCLA Partners Maxine and Eugene Rosenfeld Advance Lung Health



COURTESY OF THE ROSENFELD FAMILY

Maxine and Eugene Rosenfeld.

For more than 50 years, Maxine and Eugene Rosenfeld have been dedicated UCLA partners. Their philanthropy has advanced numerous areas across the campus, including medical research, patient care and education. Their most recent contribution of \$1 million provided the initial resources to launch the Lung Health Innovation Fund in the David Geffen School of Medicine at UCLA.

Under the direction of Dr. John Belperio, interim chief of the UCLA Division of Pulmonary, Critical Care, Sleep Medicine, Clinical Immunology and Allergy and Guitiara Pierpoint Endowed Chair in Interstitial Pulmonary Fibrosis, the fund will provide vital support for Dr. Belperio and his team's efforts to improve treatments for advanced lung

diseases and outcomes for patients who have received a lung transplant.

The Rosenfelds' lead gift established the fund, which the division hopes to increase to \$5 million through continued contributions from other philanthropists. This goal will enable Dr. Belperio and his team to rapidly pursue new directions from real-time discoveries and continue transforming the field of pulmonary medicine.

Grateful for the care Eugene Rosenfeld received from Dr. Belperio, and after learning of the physician's achievements combatting rejection of transplanted organs, the Rosenfelds were committed to helping further his research and clinical initiatives. Dr. Belperio's work also focuses on the use of stem cells to heal airway injuries and reverse fibrosis, as well as research to determine the causes of and develop treatments to improve interstitial lung disease, pulmonary fibrosis, sarcoidosis, chronic obstructive pulmonary disease, emphysema and other advanced and rare lung diseases.

"We are profoundly grateful for Dr. Belperio's lifesaving treatment and care," Maxine Rosenfeld said. "It means so much to help advance his research that promises to improve the lives of so many who are challenged by lung diseases."

The Belperio laboratory also trains the next generation of clinicians and scientists who gain hands-on experience with real-world studies and experiments. Students, fellows and junior faculty work side by side investigating the underlying causes of lung conditions, developing biomedical models that mimic processes and diseases found in humans and testing potential therapies. *U.S. News & World Report* consistently ranks UCLA pulmonology and lung surgery among the top five in the nation.

"I am grateful to Maxine and Eugene Rosenfeld for their partnership, which led the way to begin this new campaign," Dr. Belperio said. "Private philanthropy is essential to our efforts to find novel methods to address lung diseases, and their commitment to our efforts is inspiring."

The Rosenfelds' visionary philanthropy has helped the university pioneer numerous programs, such as their 2020 investment in the UCLA Eugene and Maxine Rosenfeld Medical Home Visit Program in the Division of Geriatric Medicine, which enabled the division to provide vital in-home health care services for homebound older adults with complex medical needs who have difficulty traveling to clinics. The family has endowed chairs in other areas of medicine that give exceptional faculty the resources to accelerate research and training, such as the Maxine and Eugene Rosenfeld Endowed Chair in Medical Education and the Maxine and Eugene Rosenfeld Endowed Chair in Computational Genetics.

The Rosenfelds' mark on education also is significant, having established the Eugene and Maxine Rosenfeld Scholarship fund in 1981, which has awarded 326 scholarships to date, and funding for the Rosenfeld Library at the UCLA Anderson School of Management. Their \$20 million commitment in 2018 revitalized the learning resource center, renamed Eugene & Maxine Rosenfeld Hall, and provided a state-of-the-art space for training medical students in the most advanced patient-care practices.

Maxine and Eugene Rosenfeld recognize the power of philanthropy and are dedicated to helping other people. Eugene Rosenfeld, who is the son of Russian immigrants, said he is grateful to UCLA for empowering his self-determination to forge his own path. "I owe a lot to UCLA," he said. "We believe in giving back. If you're fortunate in life, you should share it with other people." ●

For more information, contact Larissa Harrison at: 310-592-5613

In Memory of His Son, Peter Morton Raises Awareness for Congenital Heart Disease

By Julie Kirst

All loss is difficult, but the sudden death of a loved one leaves no time to prepare and can be especially devastating. While the grieving process is different for each person, some bravely channel their grief into helping others. When philanthropist and restaurateur Peter Morton's son, Harry, died unexpectedly of sudden cardiac arrest at the age of 38, Morton vowed to make a difference. His recent contribution to UCLA Health has established the UCLA Harry Morton Congenital Heart Disease Screening Fund in memory of his son, and also benefits the existing Congenital Heart Disease Program Greatest Needs Fund. This is in addition to his recent support for the Ocular Oncology Research Program led by Dr. Kelsey Roelofs (FEL '22), UCLA Stein Eye Institute.

Harry was living a seemingly healthy life, with no outward signs of a heart condition, when he died suddenly from undiagnosed congenital heart disease in 2019. His family wanted to honor the philanthropist he was and established the fund to help advance screening opportunities and treatment for the condition. The gift will support pediatric and adult patients by providing early-detection screening and diagnosis through scans and heart monitoring to ensure patients are able to access care. It also will fund research to expand the understanding of congenital heart disease, as well as development of a new screening protocol for anomalous coronary artery — a coronary artery that has an abnormality or malformation present at birth.

"Our main goal is to raise awareness of congenital heart problems and help those without resources to get the care they need," Morton said. "We

also want to make sure others know about this disease, and we encourage people to talk with their primary care doctor about their heart health."

Efforts funded by the gift include outreach through distribution of a flier about heart health in UCLA Health clinics and at dozens of UCLA Health community events. Outreach also includes distribution of the flier in 200 UCLA Medical Plaza, named the Peter Morton Building in honor of his 2004 contribution of \$10 million to help fund new operating rooms and expand radiation therapy and research for breast cancer treatment.

"Peter Morton has been a valued UCLA partner for many years, and his amazing generosity in creating the UCLA Harry Morton Congenital Heart Disease Screening Fund will bring much-needed attention to the condition," said Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health



COURTESY OF THE MORTON FAMILY

Harry Morton.

Sciences. "This gift will pave the way for more screenings and early detection, enabling people with congenital heart issues to receive the health care they need to live more fully."

A third-generation restaurateur, Harry Morton followed in his family's footsteps and was founder of the chain Pink Taco. His father, Peter Morton, co-founded the Hard Rock Cafe chain, and his grandfather, Arnie Morton, founded the restaurant chain Morton's The Steakhouse.

Cardiovascular diseases are the leading cause of death globally, and sudden cardiac death (SCD) is the single-greatest cause of natural death in the United States, typically striking people in their mid-30s to mid-40s. In more than 50% of cases, SCD has no warning signs. The American College of Cardiology and American Heart Association urge screening for a family history of SCD. For those who know they have a family history of heart disease or SCD, the organizations recommend screening for asymptomatic left ventricular dysfunction. If a person has a cardiac condition, it is important for family members to learn cardiopulmonary resuscitation and how to use automated external defibrillators, which are located in many offices and public buildings.

"Harry was a man of numerous accomplishments, and a dear friend to many. It means so much to our family to create a legacy for Harry in this way," Morton said. "It gives me great satisfaction to play a vital role in research focused on congenital heart disease that will change outcomes so that other families will not have to experience what we have." ●

Julie Kirst is a senior writer for UCLA Health Sciences Development

For more information, contact Ellen Haddigan-Durgun at: 310-321-8366; or Lindsey Walton at: 424-468-7588

Party on the Pier Returns to the Santa Monica Pier



(From left) Planning committee member Samantha Cutler; Dr. Sherin U. Devaskar, physician-in-chief of UCLA Mattel Children's Hospital and Mattel Executive Endowed Chair in Pediatrics; planning committee members Mia Janick, Ryan Efune, Brynn Efune and Rebecca Khorshidi; planning committee co-chair Loris Lunsford; Lindsey Williams, assistant vice chancellor of UCLA Health Sciences Development; planning committee co-chair and UCLA Mattel Children's Hospital board member Hillary Milken; planning committee member and UCLA Mattel Children's Hospital board member Jodi Perlman; and planning committee member Masha Chase.

On November 6, 2022, the annual Party on the Pier returned for the first time since 2019 to Pacific Park on the Santa Monica pier. The signature fundraising event for UCLA Mattel Children's Hospital, which had gone virtual during the COVID-19 pandemic, raised more than \$1 million and surpassed the previous event record by more than \$215,000. The success of the 23rd annual Party on the Pier was made possible by the dedication of co-chairs Hillary Milken and Loris Lunsford, the UCLA Mattel Children's Hospital Board, event planning committee, sponsors, supporters and volunteers.

"For more than 20 years, Party on the Pier has offered children, families and all attendees a memorable day, while also making a meaningful difference," said Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences. "We are pleased to once again celebrate this special day in person and are so grateful to the many sponsors and volunteers who have helped make this year's Party on the Pier the most successful to date."

Mattel, the hospital's naming partner, provided premium toys to fill the game booths; the Los Angeles

Dodgers Foundation helped make the VIP tent a home run with hat giveaways; and the giant, costumed Dodgers Bobbleheads spread team spirit, sharing high-fives and showing off dance moves. Attendees needing a moment away from the action were able to wind down with therapy dogs and volunteers from the UCLA Health People-Animal Connection.

The Play It Forward area, sponsored by the Goldhirsh-Yellin Foundation, offered a shady retreat for all guests, with a variety of craft activities hosted by Ronald McDonald House Charities of Southern California, face painting sponsored by WWE, as well as a space for children to move and groove during The BeatBuds' live performances.

Elsewhere in the park, a makeover station, hosted by Petite 'n Pretty, and a celebrity photo booth, where guests could take selfies with stars from kids' favorite TV shows and movies, were fun highlights.

Additional major sponsors of the 2022 Party on the Pier include the Michael and Lori Milken Family Foundation, NBCUniversal Media, The Change Reaction, Beth and Dr. Neal Cutler, HCL Technologies, Mia and John Janick, KPMG, the Anthony & Jeanne Pritzker Family Foundation, Ellen and Richard Sandler, Iris and Michael Smith, Wolfgang Puck Catering and WWE.

Party on the Pier generates unrestricted funding for high-priority clinical programs and leading research focused on children's health at UCLA Mattel Children's Hospital, serving children locally and around the world. Philanthropic sponsorships provided admission tickets for UCLA Mattel Children's Hospital patient families to enjoy the event. ●

For more information, contact Danielle Dietz at: 310-694-6539

For a more information about the event, visit partyonthepier.ucla.edu

UCLA Neurology Celebrates the Laurie and Steven C. Gordon Chair in Neurosciences

On October 11, 2022, UCLA Chancellor Gene D. Block and Carol Block welcomed Laurie and Steven C. Gordon, Dr. Ming Guo (RES '01, FEL '02), their families and UCLA faculty to the UCLA Chancellor's Residence. The evening celebrated the Gordons' gift to establish the Laurie and Steven C. Gordon Chair in Neurosciences and Dr. Guo's appointment as the inaugural chair holder.

"The university is very grateful to Laurie and Steve for their dedication to furthering studies into Parkinson's disease and other neurological conditions," Chancellor Block said. "Thank you for establishing the neuroscience chair and providing funding for other endowed chairs that are vital to our health sciences efforts."

The Laurie and Steven C. Gordon Chair in Neurosciences is part of a \$25 million gift made in 2018 by the Gordons to establish the UCLA Laurie and Steven Gordon Commitment to Cure Parkinson's Disease in the David Geffen School of Medicine at UCLA. In recognition of the contribution, the UCLA Neuroscience Research Building was renamed the Laurie and Steven Gordon Neurosciences Research Building.

"Finding a cure for Parkinson's is very important to our family," Steven Gordon said. "Laurie and I have seen the difference funding can make in accelerating research. It's a long but worthwhile process, and we are committed to supporting scientists such as Dr. Guo who have the ability to make a difference and find answers for debilitating, neurodegenerative diseases."

Dr. Guo, professor of neurology, molecular and medical pharmacology and director of the UCLA Aging Center,

specializes in research and the clinical care of patients with memory, neurodegenerative and neurogenetic disorders, including Parkinson's. She has received numerous prestigious awards, including the Alfred P. Sloan Research Fellowship, McKnight Neurobiology of Brain Disorders Award and the Klingenstein-Simons Fellowship

and Laurie for their incredible support, tireless engagement and vision for neuroscience. The Gordons truly go the extra mile with their desire to help others, and it is appreciated across the campus."

Dr. S. Thomas Carmichael (FEL '01), chair of the UCLA Department of Neurology and Frances Stark



(From left) Carol Block, Chancellor Gene D. Block, Laurie Gordon, Dr. Guo, Steven Gordon and Dr. John C. Mazziotta.

Awards in Neuroscience. Funds from the endowed chair will enable Dr. Guo to further advance Parkinson's research, patient care and education.

"Laurie and Steve are true philanthropists," said Dr. John C. Mazziotta (RES '81, FEL '83), vice chancellor of UCLA Health Sciences and CEO of UCLA Health. "Endowing chairs provides a significant benefit that strengthens our competitive edge and provides investigators with flexibility to pursue leading-edge scientific studies that can be applied in a clinical setting and benefit patients around the world."

Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences, also added her appreciation for the Gordons, and said, "I would like to extend my sincere thanks to Steven

Chair in Neurology, presented Dr. Guo and the Gordons with commemorative chair trophies.

"It is an honor to be the inaugural chair holder, and I am grateful to Laurie and Steven," Dr. Guo said. "I am committed to finding cures to alleviate the burden of Parkinson's and other neurodegenerative diseases."

Others in attendance for the special event included Renee and Meyer Luskin, Shirley and Ralph Shapiro, May and Richard Ziman and former U.S. Ambassador to Italy and the Republic of San Marino the Hon. Ron Spogli and the Hon. Georgia Spogli. ●

For more information, contact Christopher Carbedo at: 310-562-6498

MAKING A DIFFERENCE IN WOMEN'S HEALTH

Beth and Joshua Friedman have made a philanthropic commitment to advance women's health and genetics. The gift will establish an endowed chair and annual faculty award in the Department of Obstetrics and Gynecology of the David Geffen School of Medicine at UCLA and support pediatrics at UCLA Health, as well as the UCLA Center for East-West Medicine. The Joshua S. and Beth C. Friedman Chair for Women's Genetic Research will support the work of a faculty member in the Department of Obstetrics and Gynecology who has expertise in women's health and genetics, and the endowed Joshua S. and Beth C. Friedman Award for Women's Reproductive Sciences will foster research breakthroughs that improve women's health through annual awards for promising studies. The Joshua S. and Beth C. Friedman Pediatric Assistance and Innovation Fund will support patient care and clinical innovation in UCLA Mattel Children's Hospital and pediatric clinics. The Friedman gift also benefits the UCLA East-West Primary Care and UCLA East-West Consultative services. In recognition of this gift, the executive leadership suite on the first floor of Ronald Reagan UCLA Medical Center has been named the Beth C. and Joshua S. Friedman Executive Leadership Center.

For more information, contact Gemma Badini at: 310-206-9235

A FRIENDSHIP INSPIRES PHILANTHROPY

Farah and Steve Gozini and Thomas Safran have pledged \$1 million to support the UCLA Medical Assistant Program. Steve Gozini made the lead gift of \$500,000, which inspired Safran to match the contribution. The two close friends are both involved in various areas on the UCLA campus; Gozini serves as a UCLA Health System Board Member and Safran serves on the UCLA Ziman Center Board in the Anderson School of Management and on the Founders Council for the UCLA School of Law Williams Institute.

Medical assistants play an essential role in helping physicians care for patients by taking vital signs, administering medications and performing administrative tasks. The UCLA Medical Assistant Program combines the theory and practical experience necessary to prepare students to transition successfully into a career as a medical assistant.

For more information, contact Ellen Haddigan-Durgun at: 310-321-8366

CELEBRATING THE PHILANTHROPIC WORK OF UCLA HEALTH SYSTEM BOARD MEMBERS

On October 20, 2022, the UCLA Health System Board celebrated the 10th anniversary of its founding in 2012. The evening marked the return of this annual meeting after a three-year hiatus and featured Henry Gluck, chairman of the UCLA Health System Board; Dr. John C. Mazziotta (RES '81, FEL '83), vice chancellor of UCLA Health Sciences and CEO of UCLA Health; and Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences. Award-winning actor, producer and director Michael Keaton was the featured guest speaker. He shared his experience as a teen with his mother's life-altering stroke, and expressed gratitude to UCLA Health for its commitment to preventing and treating strokes, and to physicians, such as the event's featured faculty speaker, Dr. S. Thomas Carmichael (FEL '01), chair of the UCLA Department of Neurology and the Frances Stark Chair in Neurology. His presentation, "The Future State of Brain and Aging," highlighted UCLA's innovations in treating brain diseases, brain aging and brain-injury repair. He noted the latest technological advancements



Michael Keaton (left) and Henry Gluck.

in research, prevention and patient care around stroke, Alzheimer's disease and other dementias. Dr. Mazziotta and Spisso reported on the university's achievements in providing the best in health care and the latest in medical technology to the people of Los Angeles and around the world. Gluck thanked members for their continued partnership, philanthropy and contributions as UCLA Health ambassadors within the community.

For more information, contact Danielle Barr at: 310-267-0050



(From left) Current fellows Drs. John Horton, Marina "Molly" Sprague, Helen Chernicoff, Jessica Lucier, Sarah Jensen, Christine Bui and Tiffany Hsu, and (kneeling) Brandon Wolfeld.

SUPPORTING PALLIATIVE CARE FELLOWSHIPS

The board of the Hennings-Fischer Foundation has contributed \$30,000 to support the work of Dr. Christopher Pietras, director of palliative care at UCLA Health. The gift will support seven hospice and palliative medicine fellowship trainees annually. This is the seventh consecutive year that the Hennings-Fischer Foundation has provided funding in the area of palliative care. This year, partial funding will be directed toward homeless palliative care and advance care planning efforts.

For more information, contact Noah Green at: 424-325-8184

GIVING BACK TO ADVANCE GRADUATE STUDENTS

Lynn and Dr. Gary Kukes (PhD '72, FEL '74, MD '77, RES '81) have made a \$115,000 contribution to establish and endow the Lynn and Gary Kukes Trainee Travel Award to support graduate students working in neurobiology laboratories. The gift, under the administration of the UCLA Department of Neurobiology chair (currently Dr. Paul Micevych), will help



Dr. Gary and Lynn Kukes.

defray costs associated with conference travel. Wanting to give back to future alumni, Dr. Kukes, who in addition to completing his doctorate and medical degrees at UCLA also received his bachelor's degree from the university, said, "I am very grateful for the education I received at UCLA, which provided a solid foundation in science and medicine." Dr. Kukes worked at the VA Long Beach Healthcare System for 28 years and held an academic appointment at UC Irvine.

For more information, contact Elizabeth Naito at: 310-869-0410

HUMANITARIAN PRIZE ESTABLISHED IN MEMORY OF YOUNES NAZARIAN

The Younes & Soraya Nazarian Family Foundation has contributed more than \$1 million to establish the Younes Nazarian Medical Humanitarian Prize in memory of Younes Nazarian, who passed away in March 2022. This gift will recognize a UCLA Health visionary practitioner or senior-level health care provider whose clinical care, medical research, community programs or technological innovations are advancing humanity. Dr. David Reuben (FEL '88), chief of the Division of Geriatrics and Archstone Foundation Endowed Chair in Geriatrics, was awarded the inaugural prize on September 28, 2022. A businessman and vital benefactor to UCLA, Mr. Nazarian supported the creation of the Israel studies program and, with his wife, Soraya, established a permanent endowment in 2010 that led to the naming of the UCLA Younes and Soraya Nazarian Center for Israel Studies. "Our father was a man who believed in the decency and humanity of people," said Sharon

Nazarian. "Establishing a prize in his name that celebrates those in the medical profession who touch so many lives, day in and day out, and whose humanity can make the difference between life and death, is a true reflection of what our father stood for. We are thrilled once again to partner with UCLA to enshrine our family values in ways that celebrate those doing good for our greater society."

For more information, contact Ellen Haddigan-Durgun at: 310-321-8366

EXPANDING SPECIALTY NURSING TRAINING

Longtime UCLA supporters Lynda and Stewart Resnick have made an investment in the education and professional development of cardiac care nurses. The gift to the UCLA Health Center for Nursing Excellence will expand a range of training programs, including providing resources that enable nurses to attend symposia and conferences that enhance specialty nursing practices for cardiac and cardiothoracic nursing clinical care. Thanks to this funding, "The Cardiovascular Nursing Symposium Presented by Stewart and Lynda Resnick" took place on November 18, 2022, at the UCLA Meyer and Renee Luskin Conference Center and covered costs for UCLA nurses to attend at no charge.

For more information, contact Noah Green at: 424-325-8184

FURTHERING SCIENTIFIC DISCOVERY IN CONGENITAL HEART DISEASE

The Ahmanson/UCLA Adult Congenital Heart Disease Center (ACHDC) has received a \$250,000 contribution from the Ruth J. Wagner Survivor's Trust, established by UCLA alumna Ruth J. Wagner and her husband, Gerald D. Wagner. Under the guidance of the center director, Dr. Jamil A. Aboulhosn (MD '99, RES '02, FEL '06), Streisand Chair in Cardiology, the fund will broadly support ACHDC's mission to respond directly to the needs of a

growing patient population, lead the way in research and train the next generation of experts in congenital heart disease. "We are honored by the commitment from Ruth and Gerald," said Dr. Aboulhosn. "Their legacy will enable the UCLA Adult Congenital Heart Disease Center to advance scientific discovery, ultimately benefiting the lives of countless heart patients for many years to come."

For more information contact Lindsey Walton at: 424-946-6102

GRATEFUL PATIENT FAMILY HOLDS FUNDRAISING EVENT TO RAISE AWARENESS ABOUT KIDNEY DISEASES

On October 22, 2022, Nanette and Rick Zumwalt hosted a gala to raise awareness and funds for the UCLA CORE Kidney Health Program to promote its CORE values of clinical excellence, outreach, research and education. Held at the UCLA Wasserman Football Center, family and friends of the Zumwalts, UCLA CORE Kidney staff and faculty and other UCLA staff and faculty members attended the event, which raised more than \$190,000. Under the direction of Dr. Anjay Rastogi (PhD '00, RES '03, FEL '05), the CORE Kidney Health Program aims to spread awareness about kidney disease and provide resources for patients, doctors and the general public. The ultimate goal of this fundraising event was to help fund a CORE Kidney Center that advances the future of comprehensive kidney care. Following Nanette Zumwalt's polycystic kidney disease (PKD) diagnosis, the program helped the couple by providing guidance, support and education. Roughly 600,000 people living in the United States have PKD, which is the fourth-leading cause of kidney failure. Grateful to UCLA for the help they received, the Zumwalts are committed to creating awareness about the UCLA CORE Program and kidney diseases. The family hopes to make this an annual event.

For more information, contact Katie Brown at: 310-267-1845

Voice for the Disappeared

By Elizabeth S. Barnert, MD (FEL '14), MPH

I KNOW SOMETHING ABOUT THE STRUGGLES OF FAMILIES WHO HAVE BEEN SEPARATED AND SCATTERED, either by conflict, natural disaster or by the choices of politicians that are far beyond their control. While in medical school and as a student of public health in the UC Berkeley-UC San Francisco Joint Medical Program between 2005 and 2009, I traveled to El Salvador to volunteer with the Salvadoran nonprofit Asociación Pro-Búsqueda de Niñas y Niños Desaparecidos (Pro-Search for the Disappeared Children) to help build a DNA bank to match — and hopefully reunite with their biological families — children who were forcibly “disappeared” during the 12 years of civil war in the 1980s and early '90s.

So, my heart sank when I first read about children from Ukraine being taken from their homes, brought to Russia and “given” to Russian families. I was on a plane flying to a meeting and, with a feeling of dread spreading

through my chest, I thought: Please, not again. It is the same tactic of war that we saw in El Salvador now playing out 40 years later in Ukraine.

My experience has taught me how being torn from their families in the midst of war will affect these children. They will experience the same fundamental issues of ambiguous loss, the same feelings of fear of abandonment, of identity confusion, of intense longing for their biological families as did the separated children of El Salvador. Depression, substance use and poor physical health are too often the outcomes for children who have experienced such profound trauma, and the health effects likely carry into adulthood.

Russia's leaders have cloaked this outrage in the guise of it being a humanitarian effort, portraying themselves as charitable saviors rescuing vulnerable children from their war-torn country — a country that Russia, without



A mother and son are reunited after 35 years apart through a cold-hit match in Pro-Búsqueda's DNA bank. The son became separated from his family during the Salvadoran Civil War and was raised in Australia.

COURTESY OF DR. ELIZABETH S. BARNERT



Dr. Elizabeth S. Barnert as a student (fourth from right) with members of the Pro-Búsqueda team.

COURTESY OF DR. ELIZABETH S. BARNERT

provocation, invaded. They hide behind a banner of “children's rights.” But the mass transfer of children into Russia is a clear violation of the Convention on the Rights of the Child and is a war crime.

How many times must history repeat itself?

As with the separated children of El Salvador, many of whom were put up for international adoption, DNA matching may be essential to reunite these families in the months and years ahead. Organizations such as DNA Bridge, a nonprofit coalition of scientists and human rights advocates that I co-founded in response to the Trump Administration's U.S.-Mexico border family-separation policy to promote the humanitarian use of forensic DNA for family reunification, will be important participants in this effort.

I have witnessed first-hand the impact of this powerful tool. Expanding on the thesis that I wrote after working with Pro-Búsqueda, my 50 interviews and updated field notes culminated in the publication of the book *Reunion: Finding the Disappeared Children of El Salvador*, a chronicle of families' experiences with military attacks, child disappearances, family separations, joyful reunions and the arduous process of reintegration.

While writing the book, I knew I'd gotten it right if I cried after finishing a chapter. The stories still tug at my heart, and I carry them forward in my current work.

AWARENESS OF SOCIAL-JUSTICE ISSUES WAS AN ELEMENTAL PART OF MY UPBRINGING. My father, a Jewish psychiatrist from New York, instilled in me a love of science and big-picture thinking. My mother, who fled alone from Castro's Cuba when she was 15 years old, is a social worker who, for much of her career, counseled troubled high school students, many of them first-generation Americans who butted heads with their immigrant parents over issues like cultural identity and gangs.

Every Saturday growing up, my father took me to the library and taught me about the importance of lifelong curiosity and learning. At restaurants or in the market, my

mother, who left her home country with just five dollars in her pocket and knew profound poverty, would speak in Spanish to the busboys and cashiers about their lives. She taught me how to connect with people and understand the value of their stories and experiences.

There is something about one's lengua materna — the language that your mother feeds you in, praises you in, admonishes you in — that makes that language and the culture and people it represents feel like home and instills empathy and understanding.

That is how it felt in El Salvador. I went there because I wanted to understand how war affects children's health. I did not anticipate the profound impact it would have on my life, or how it would shape the person I would become. I am still haunted by stories I heard there. As the father of a disappeared child told me, to hear about war is terrible, but to experience it and live it in your skin is something entirely different. To receive their testimony, to hear their anguish, to see their tears and to absorb both their pain and their resilience — it changed me.



Dr. Barnert (back to camera) was present for the family reunion of a transnational adoptee, Angela, with her biological mother and brother in rural El Salvador.

COURTESY OF DR. ELIZABETH S. BARNERT

During an undergraduate year abroad in Latin America, I learned a chant that now plays in my head as I read about events in the world: “El pueblo unido jamás será vencido” — the people united will never be defeated. In spite of all they have gone through, the mothers and fathers and sons and daughters I've met and come to know in El Salvador endure in their calls for justice, identity and truth. They are among the most generous people I've ever known. Having survived a war together, they know they must look out for one another.

In the world today, it is a lesson we all could benefit from. ●

Dr. Elizabeth S. Barnert is associate professor of pediatrics in the David Geffen School of Medicine at UCLA and the author of *Reunion: Finding the Disappeared Children of El Salvador* (University of California Press, 2023). She works extensively with youths held in the juvenile legal system, and her research examines children affected by violence, family separation and incarceration.

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We look forward to hearing from you.

Thank you.

David Greenwald
Editor, *U* Magazine

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