



CONFLICT ON THE MATERNAL- FETAL FRONT

The biological tug between mother and developing fetus is a feature of pregnancy, with potential long-term health effects for both.





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DEPARTMENTS

02 Leadership

UCLA Health expands integrative oncology care throughout Southern California.
By Johnese Spisso, MPA

04 Change Agents

There is much yet to be done to heal the deep wounds of systemic racism and widespread discrimination.
By Medell K. Briggs-Malonson, MD (RES '09, FEL '12)



NICK GARRANZA

06 Viewpoint

Getting the opioid crisis wrong.
By Walter Ling, MD

08 Perspective

Peer pressure and physician burnout.
By Carla Fried

10 The Cutting Edge

Structural racism and everyday discrimination lead to negative effects on health.

20 Conversation:
Nichol Whiteman

CEO, Los Angeles Dodgers Foundation



JESSICA PONS

24 Spotlight: Dr. Arjun Deb

Pursuing a daunting challenge in cardiovascular medicine.

FEATURES



CORAL VON ZUMWALT

26 Conflict on the Maternal-Fetal Front

Researchers from diverse fields are expanding our knowledge of the interaction between mother and developing fetus.
By Anna Louie Sussman



NOMA BAR

34 Three Years After

Has the nation taken the lessons of the COVID-19 pandemic to heart to avert the next crisis?
By Veronique de Turenne

44 Faculty

Dr. Mark S. Sklansky shreds.
By Barbara Odanaka



TIM AUKSHUNAS

46 Friends

Honoring 25 years advancing pancreatic-cancer research.

54 Epilogue

How the pandemic has touched my life.
By Annabelle M. de St. Maurice, MD, MPH



MONTSE BERNAL

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Dear Reader:

The goal of U Magazine is to illuminate the latest scientific and clinical advances in medicine and inform you about what's happening at UCLA Health and the David Geffen School of Medicine at UCLA.

For us to better serve you and make informed editorial choices, it is important to understand your interests and reading habits. To accomplish this, we are utilizing an easy-to-use survey tool developed by the Council for Advancement and Support of Education and successfully implemented by more than 100 of its affiliated college and university publications.

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Thank you.

David Greenwald
Editor, U Magazine

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Caring for Body, Mind and Spirit

UCLA Health expands integrative oncology care throughout Southern California to empower patients and their families with the support they need to face the challenges of a cancer diagnosis.

Medical practitioners historically have viewed patients primarily through the lens of their disease, focusing their attention almost exclusively on the physical symptoms that are plaguing their patients. Fortunately, at UCLA Health, the Simms/Mann-UCLA Center for Integrative Oncology applies a holistic model, where the focus of the physicians, nurses and the entire health care team is on the whole person, caring not just for their body, but also their mind and spirit. While holistic care has its roots in ancient times, it truly came to the fore in the 19th century, when Florence Nightingale, considered to be the founder of modern nursing, promoted a comprehensive approach to care by considering the totality of the patient's needs: biological, social, psychological and spiritual.

The Simms/Mann-UCLA Center for Integrative Oncology embodies Nightingale's ideal. Founded more than 25 years ago within the UCLA Jonsson Comprehensive Cancer Center, it was the first center of its kind in the nation to establish a model of integrative and holistic care for patients and their families touched by cancer. Now we are proud to share that, with the support of the Simms/Mann Family Foundation, we have expanded this model to 20 UCLA Health community cancer clinics throughout Southern California.

The Simms/Mann Center provides a unique resource to patients and their families, offering free — with some exceptions — psychosocial services that include individual and family counseling, psychiatry, spiritual care, nutrition and supplement guidance, and other integrative modalities that support and empower patients and their loved ones through the trajectory of their cancer care.

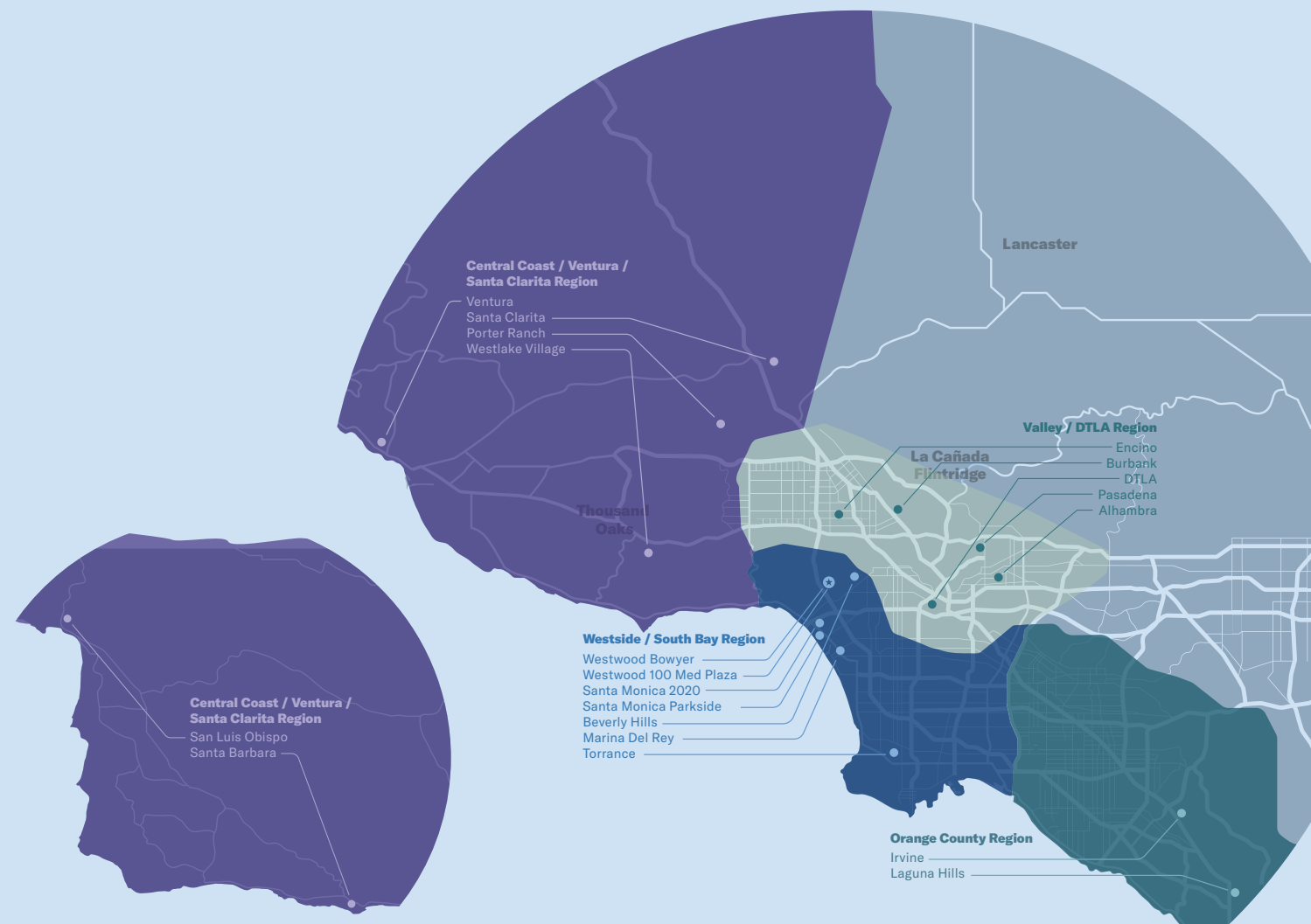
The number of patients served by the Simms/Mann team continues to grow; it now averages close to 600 patients per month. In addition to treating those

patients, the center also trains the next generations of medical practitioners. Predoctoral students, social work students and chaplaincy trainees develop skills such as leading individual and group patient and family sessions, patient advocacy and identifying and providing resources to improve patient wellbeing. Trainees also gain essential insights into the experience of patients with cancer and their families, which ultimately helps them become compassionate and effective caregivers.

All of this is made possible because of the vision and generous support of psychotherapist Dr. Victoria Mann Simms and her husband, Ronald Simms. Dr. Simms learned from her training in infant psychiatry, and her work with families and children, the importance of understanding the mind-body connection and how they influence each other and affect one's physical and mental health and wellbeing. When Dr. Simms' father, producer and movie-theater entrepreneur Ted Mann, was diagnosed with non-Hodgkin's lymphoma in the 1990s, Dr. and Mr. Simms introduced supportive and complementary therapies into his treatment and witnessed firsthand the positive impact that this integrative and holistic care had on his quality of life.

Based on this experience, Dr. and Mr. Simms committed to funding a whole-person team approach to patient- and family-centered cancer care at UCLA.

In 2020, the Simms/Mann Family Foundation pledged \$18 million to UCLA Health toward creating a \$50 million endowment to ensure the center's vital care would endure in perpetuity. To inspire other philanthropists to support the center, the Simms/Mann Family Foundation's commitment includes a gift-matching fund of \$6 million. Combined with its generous previous gifts, the foundation now has given more than \$33 million to UCLA.



The endowment from the foundation not only helped expand the center's psychosocial and integrative services into UCLA Health's community cancer clinics, the funding also enhanced the training program, strengthened patient care at UCLA Health facilities in Westwood and Santa Monica, endowed a chaplaincy and created the Simms/Mann Family Foundation Chair in Integrative Oncology, which was bestowed on Dr. John A. Glaspy (MD '79, RES '82, FEL '83), the center's medical director and a member of the UCLA Jonsson Comprehensive Cancer Center.

As a member of the Founders Board, I am grateful to the Simms/Mann family, the center's board members, Dr. Glaspy and Barbara Jagels, RN, MHA, interim director of the Simms/Mann Center, for their leadership. I especially praise the center's dedicated team who provide this tremendous care every day throughout our community. My thanks as well to the more than 80 oncologists on staff and the entire clinical and support staff who commit themselves to our patients and their families.

I am immensely proud when I hear from our patients and their families how the holistic approach provided by the Simms/Mann Center has helped them through their cancer diagnosis, treatment and recovery. We are honored to care for them in body, mind and spirit.

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

For more information about the Simms/Mann-UCLA Center for Integrative Oncology, go to:
simmsmanncenter.ucla.edu

OUR NEW FRONTIER

By Medell K. Briggs-Malonson, MD (RES '09, FEL '12), MPH



NICK CARRANZA

IT HAS BEEN THREE YEARS SINCE the COVID-19 pandemic collided with the Black Lives Matter social-justice movement that erupted following the deaths of George Floyd, Breonna Taylor and other unarmed Black men and women at the hands of police. Like a receding glacier, the upheaval that followed exposed a scarred landscape littered with the shards of decade upon decade of racial and ethnic injustice.

Three years, and there is so much yet to be done to heal the deep wounds and address, overturn and dismantle the systemic racism and widespread discrimination that have been a tragic feature

But exclusively focusing on how we provide care is not enough. Research tells us that 80% of health inequities is due to factors outside the scope of the day-to-day care we provide. Economic stability, housing, nutrition, education, community connection, access to technology — the social drivers of health — are the broader contributing factors of *true* health and wellness.

UCLA Health is a large and influential institution, but addressing these expansive societal issues is not something we can do on our own. To advance our goal of supporting the wellbeing of our communities, we now are part of the Healthcare

“ECONOMIC STABILITY, HOUSING, NUTRITION, EDUCATION, COMMUNITY CONNECTION, ACCESS TO TECHNOLOGY — THE SOCIAL DRIVERS OF HEALTH — ARE THE BROADER CONTRIBUTING FACTORS OF TRUE HEALTH AND WELLNESS.”

of this country since its founding. The events of the past three years provoked the consciousness and opened the eyes of our organization. UCLA Health is working hard to right these endemic wrongs. While our initial efforts have been directed inward to build a highly inclusive and supportive environment for faculty, staff, patients, trainees and students, we are focused broadly, too, on advancing equity and justice in terms of access to health care, community health and overall wellbeing.

This is our new frontier.

No longer can we conduct business as usual. The leadership of UCLA Health understands the moment that we're in and embraces the need for change and our responsibility to do more. To achieve true health equity, UCLA Health has to reach beyond the walls of our hospitals, clinics and community offices to lay the foundation for a significant presence within *all* the communities of Greater Los Angeles to ensure that *all* of our neighbors have a fair and just opportunity to be as healthy as possible.

Anchor Network — a national alliance of more than 70 leading health care institutions working in partnership with community-based organizations and social-service agencies to address root causes of economic and racial inequities that create barriers to health and wealth for people in under-resourced communities.

Our evolving community-partnered efforts include providing education and mentorship for young people to give them tools to live healthier lives while encouraging them to explore careers in health care. As we conduct health examinations, we are screening people to determine their social needs and connecting them to housing- and nutrition-assistance programs. With our UCLA Health Homeless Healthcare Collaborative, we bring high-quality health care and associated resources directly to one of our most vulnerable populations — men, women and children who are unhoused or experiencing housing insecurity. And we are directing UCLA Health dollars toward small

minority-, woman- and veteran-owned businesses to support the economic growth of communities.

We also are confronting a long-standing criticism often leveled at UCLA Health that we historically have not served all of the communities within Los Angeles. As we build a more integrated health system, we are doing so with a vision through an equity lens. We are intentionally evaluating how we can better serve the diverse communities of Los Angeles, especially the areas of greatest need that have been historically neglected. Doing so is our moral obligation, and it also makes good business sense.

All of this necessitates a significant shift in mindset at the institutional level about how we address the health and overall wellbeing of people throughout Los Angeles to achieve equity, which means not only delivering the best care possible, but also taking into account the specific needs — economic, cultural and psychosocial, among other factors — of individuals and communities and filling in the gaps to ensure that the person we are treating has the best care, the best experience and the best outcome that we can provide.

To accomplish this requires a heightened level of strategic intentionality as we decide where and how to apply our resources to positively influence social drivers of health to create the greatest individual and community benefit possible.

This is our vision for the future. Three years is the blink of an eye, and transformation doesn't happen overnight. There are many more years of work ahead of us. But our renewed commitment to uphold principles of inclusivity, equity and justice for our people, patients and communities will be our North Star.

We will proceed with courage, compassion and intentional actions to promote health equity and overall wellness throughout Los Angeles and beyond. ●

Dr. Medell K. Briggs-Malonson is chief of Health Equity, Diversity and Inclusion at UCLA Health and associate professor of emergency medicine.

To learn more about health equity, diversity and inclusion efforts at UCLA Health, go to: tinyurl.com/UCLA-Health-HEDI



IRFAN KHAN/LOS ANGELES TIMES

A woman places photos on a memorial outside of Los Angeles City Hall during International Overdose Day in August 2022.

HOW ARE WE GETTING THE OPIOID CRISIS SO WRONG?

By Walter Ling, MD

MY MOTHER HAD A SAYING: “Even if history doesn’t repeat itself, those who ignore its lessons will suffer.” That is, unfortunately, as relevant today as it was when she first uttered it.

Just as we thought we were seeing light at the end of the tunnel in containing a deadly, decades-long prescription-opioid epidemic, we find ourselves battling another opioid-overdose crisis, driven by fentanyl, a synthetic opioid 50 times more deadly than heroin. In the 12 months ending in March 2022, nearly 110,000 people died from drug overdoses, according to the Centers for Disease Control and Prevention. That is a 44% jump from the same period two years earlier. Los Angeles County has not been spared. The Los Angeles County Department of Public Health released a report at the end of November in which it laid out the stark realities of the crisis closer to home: Fentanyl, which often is added to other misused drugs, was involved in 55%

believe that patients with substance use disorder should not be given medications — certainly not ones that might make them feel good — so we don’t embrace medications that work.

Some years ago, the noted author and recovery expert Anne M. Fletcher surveyed the country’s opioid-treatment system and found that medications are rarely used, that research data were mostly ignored and that most “treatment” consists of AA-style 12-step programs. The bulk of the country’s efforts remain focused on detoxification, which also happens to be the most lucrative, and least effective, element of recovery; its most common outcome is relapse. Even when use of medication-assisted treatment is reluctantly tolerated, the aim is to get patients off these beneficial medications as soon as possible.

Expecting detoxification on its own to return patients to their old selves, before they became ill, ignores the fact that substance

“WE DON’T WANT TO GO AGAINST THE ABSTINENCE-TREATMENT INDUSTRY, AND WE LET THE REGULATORY AGENCIES BECOME SYMBIOTIC WITH THE SYSTEM THEY REGULATE.”

of overdose deaths across the county in 2021 — 1,504, up from 109 in 2016. That is a staggering 1,280% increase over five years.

Why is this happening?

There are three necessary steps to recovery from substance use disorder: detoxification (getting off drugs), relapse prevention (staying off drugs) and rehabilitation (living a life without drugs). While detoxification can free patients from the immediate effects of drugs, it does nothing to contribute to their staying off drugs. But this country’s treatment system seems to be focused primarily on detox.

I analogize this to a wedding. A wedding is a big deal, but it ultimately has nothing to do with making a happy, lasting marriage. Our recovery system is targeted on the wedding. Detoxification may be good for a lot of things, but keeping someone off drugs is not one of them.

The best way to stay off potentially lethal drugs like fentanyl and oxycodone — and thus achieve a rewarding, responsible and sustainable life — is to be on a prescribed medication. We have three effective, FDA-approved medications to be used as part of a comprehensive treatment plan: buprenorphine, methadone and naltrexone.

The tools are there, but we fail to make the best use of them. At a national level, we act according to what we believe and not according to what we know, adopting treatment philosophies and policies that ignore the lessons of history. As a society, we are ambivalent about substance use disorder, understanding, perhaps, that people with addiction are sick and need help, yet harboring feelings that they have done it to themselves. We

use has irreversible impacts on the body and brain. To think otherwise is like believing that contraceptives don’t just keep you from getting pregnant, they also make you a virgin again.

On a national scale, we refuse to see that emphasizing the supply side has not worked. We congratulate ourselves for having reduced opioid prescriptions by half while ignoring the continued rise of opioid-overdose deaths. We don’t want to go against the abstinence-treatment industry, and we let the regulatory agencies become symbiotic with the system they regulate.

We can do better, and the prescription for doing so is not difficult: Support the broad use of prescribed medications like buprenorphine, eliminate regulations that limit physicians in exercising their best judgment and provide the resources to help patients live a life without drugs.

It’s been said that Americans love reality shows because we believe that if we put something on TV, we don’t then have to face it in real life. But opioid use disorder is not a reality show, and if we want to fight it and reduce overdose deaths, we must have the courage to look in the mirror, resist our biases, acknowledge where we fall short and find the gumption to make real changes to finally end this crisis.

Dr. Walter Ling is professor emeritus of psychiatry and biobehavioral sciences at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA and founding director of the Integrated Substance Abuse Program.

PEER PRESSURE? IT ONLY LEADS TO MORE BURNOUT

By Carla Fried



ISTOCK IMAGES

IF THERE'S A WORK COHORT WE ALL HAVE A VESTED INTEREST in keeping happy and healthy, it is primary care doctors. By one estimate published in 2021, the U.S. is expected to be short by between 17,800 and 48,000 primary care physicians by 2034, and nearly one-third of current primary care docs reported being burned out.

Talk to any primary care physician for more than a minute and you will likely get an earful about crushing workloads and frustration over too-short appointment times during which they often are tethered to a tablet or laptop, recording everything to satisfy regulatory and insurance-reporting requirements.

All of that raises the stakes on how to guide primary care doctors toward best practices in a way that does not add to their discontent.

Against this backdrop, research published in the *Proceedings of the National Academy of Sciences* finds that a nudge that compared physicians with one another undermined their job satisfaction and failed to improve their performance.

In a five-month study involving 199 primary care doctors and 46,631 patients in the UCLA Health system, physicians were sent feedback about how their job performance — specifically, the track record of their patients in scheduling recommended preventive care tests — compared with the performance of other doctors. The physicians who received this peer-comparison information reported significantly higher levels of burnout and lower levels of job satisfaction than those who did not receive the peer-comparison nudge.

Moreover, the nudge itself didn't improve the rate at which preventive procedures were scheduled.

The researchers [from UCLA Health and the David Geffen School of Medicine at UCLA, the UCLA Anderson School of Management, UC San Francisco and Central Michigan University College of Medicine] further found that the negative psychological cost was mitigated when the peer-comparison nudge was paired with training to help leaders better support physicians' job performance and put into proper context the metrics used in the feedback.

While this research focused on primary care physicians, the key findings may offer valuable management insights that transcend industries.

The initial focus of the research was to explore whether or not a peer-comparison nudge would compel primary care doctors to get more of their patients to undergo recommended preventive care, such as routine screenings. That didn't move that performance despite other research that shows that such an approach can work in reducing the over-prescription of antibiotics, improving emergency department efficiency and boosting medical quality of care. The researchers discuss possible reasons for that difference with prior research. Their focus, however, lies in unpacking the negative effects on wellbeing.

Doctors' performance was tracked with a "health-maintenance-completion rate," which summarizes the share of recommended preventive-care measures that a doctor's patients completed in the previous three months. The experiment had a control group of doctors who were simply presented with this health-maintenance-completion rate. Doctors in the peer-comparison treatment group were additionally shown a list of the 25 doctors who had the highest completion rates, as well as information about where the peer-comparison-group doctors personally ranked compared with these "top performers."

On a scale from 1 (extremely dissatisfied) to 7 (extremely satisfied), doctors in the control group reported higher job satisfaction (5.5) than the doctors in the peer-comparison group (5.0). The burnout rating (on a 1-to-5 scale) was higher for those in the peer-comparison group (2.5) than the control group (1.9). A third group received the peer-comparison nudge, but they were managed by leadership that had received explicit training to create a supportive and collaborative framework for the "why" behind the metrics used in the comparisons. Among this third group, reported job satisfaction (5.3) and burnout (2.1) were statistically indistinguishable from the levels seen in the control group.

Though the intended 12-month experiment was truncated to five months due to the onset of the pandemic, the researchers circled back to doctors four months after the intervention had ended, and they found that the decrease in job satisfaction among the peer-comparison group had persisted.

Doctors were also asked to rate how supported they felt by leadership (on a scale from 1 to 5). Furthering the notion that peer-comparison nudges may work better when delivered within a positive, supporting context, doctors in the control group (3.5) and those who got the nudge delivered with leadership training (3.6) felt significantly more supported than those who received only the peer comparison intervention (3.0).

Based on qualitative feedback from doctors, the researchers posit that the negative consequences may be a function of doctors being frustrated by the "reductionist" approach to evaluating them on a single metric. Doctors were also upset by the nudge because it pitted doctors against one another in an environment where collaboration is the norm.

The authors share general lessons for managers about the importance of first understanding how a nudge's design and implementation may be perceived by the target population before scaling their interventions. Their findings should be of interest to all managers eager to harness behavioral science to drive performance and wellbeing.

"When leaders offer the necessary context and support to accompany a peer-comparison intervention, recipients may draw more positive inferences about their leaders' intent. This can buffer against the harmful effects of peer-comparison interventions on wellbeing," the authors conclude. ●

Carla Fried is a freelance journalist with a keen interest in how behavioral issues impact consumer decisions. Her writing has appeared in The New York Times, Money, Barron's and Consumer Reports. This article originally was published online in UCLA Anderson Review (anderson-review.ucla.edu). It is reprinted with permission.

"When Peer Comparison Information Harms Physician Well-Being," *Proceedings of the National Academy of Sciences*, July 14, 2022



EGLE PLYTNIKATE

Racism Is Sickening

HOW, ASKS GILBERT GEE, PHD, professor of community health sciences at the UCLA Fielding School of Public Health, does somebody treating you unfairly literally make you sick? To find answers to that question, he and an interdisciplinary team of researchers at UCLA are exploring the ways racism,

stress and everyday discrimination affect and alter our brains, gut microbiomes and immune systems. “Right now, there are a lot of calls to treat racism as a public health crisis,” Dr. Gee says.

Evidence demonstrates that structural racism and everyday discrimination can, in fact, lead to many negative

effects on health, including obesity, diabetes, heart disease, preterm birth, anxiety, depression and suicide ideation. “The research we’re doing is what we call systems biology,” says Arpana Gupta, PhD, associate professor in the UCLA Vatche & Tamar Manoukian Division of Digestive Diseases. “It’s about looking at health and

disease from more than one angle, within the body but also how the body interacts with the environment.”

The UCLA researchers, hypothesizing that everyday discrimination would affect stress responses, which in turn would influence adverse health outcomes, surveyed 154 Black, Latino, Asian

and white individuals from Los Angeles. They collected data including MRI scans, anthropometrics (height, body mass index and waist-hip ratios), blood samples and stool samples. They also collected questionnaire data on early-life adversity, resilience, eating habits and physical and mental health symptoms, such as stress, anxiety and depression.

Participants of all ethnic and racial backgrounds self-reported experiences of racism and discrimination, says Tien Dong, MD, PhD, assistant professor in the Division of Digestive Diseases. Most intriguing, he says, was how these experiences presented differently in the brain, body and gut for each race. Patterns in the research suggest that for Black and Hispanic individuals, discrimination leads to changes that include increased systemic inflammation. For Asian individuals, the patterns suggest possible responses to discrimination include somatization, or the production of multiple medical symptoms with no discernible known cause. Among white individuals, discrimination is related to anxiety but not inflammation.

Without stratifying the data by race, researchers observed that people who had experienced discrimination also had an increase in the emotional arousal regions of the brain. The limbic regions of the brain, which are associated with the stress response of fight or flight, showed increased connectivity.

Participants who self-reported experiences of discrimination also showed decreased connectivity in the frontal regions of the brain, the areas responsible for things such as cognitive

reasoning, thinking, memory and executive function. “I think of the frontal region as the brakes,” Dr. Gupta says. “Our research shows that, in general, if you’re experiencing discrimination, you’re not able to pump the brakes as efficiently and effectively.”

The patterns show differences in the ways various

Discrimination rewires how the brain copes with stress, the researchers say. When the stress network is disrupted, it has the potential to promote anxiety and diminish sleep and appetite, all of which have an effect on health.

Stress signals in the brain can influence the gastrointestinal process, including gene

ways in which discrimination is processed in the brain can affect inflammation and gut microbiome changes.

Dr. Gupta believes that with more granularity in data and more work, such as looking at differences among gender, we can come closer to understanding the ways discrimination affects the body

“It’s about looking at health and disease from more than one angle, within the body but also how the body interacts with the environment.”

individuals internalize and cope with discrimination and stress. These new clues give researchers a better understanding of the ways discrimination can lead to poorer health outcomes. “I think we’re getting closer to understanding mechanistically how racism gets into the body,” Dr. Gee says. “We’ve had a couple of studies in the past that give us some clues here and there, but they are snapshots of different parts of the body or different systems working in the body. I think here, what we’re trying to do is understand the totality of how racism works within the body, between the brain and the gut and other systems.”

expression patterns in certain gut microbes. The gut also communicates with the brain, which affects neural signaling. Inflammation mediates the communication process between the gut and brain.

Black and Latino participants who reported discrimination had correspondingly lower levels of “helpful” anti-inflammatory gut bacteria. In Asian individuals, high levels of discrimination seemed to correspond with metabolites linked to fat and cholesterol, indicating less-healthy eating habits.

Dr. Gee says this study “connects the dots” on how racism affects the body as one system, by showing how the

over time. This study supports the idea that social inequities affect health.

Part of what excites Dr. Gupta about this study is that it reinforces previous research that the gut microbiome is influenced by the environment more than by genetics. “As a researcher, it’s empowering to me because that means we can implement changes to counteract the effects of discrimination,” she says. “You might not be able to change your genetics, but you can change your environment or, at the very least, how you deal with the environment. You can do something that is empowering.”

— Jocelyn Apodaca Schlossberg

As Planet Warms, Sleep May Wane, Increasing Vulnerability to Disease



IT'S A SCENE FAMILIAR to many after yet another scorching summer: You're lying awake during a hot night, bedsheets kicked aside, an overmatched ceiling fan providing little, if any, relief as you struggle to get a good night's sleep. As the planet continues to warm, this scenario may become more the norm, and in so doing, it also might make those fighting against the

oppressive, sleep-robbing heat more vulnerable to infections. "No one has previously put together this notion that the ongoing climate crisis is contributing to sleep disturbance and that it's possibly contributing to the altered risk of infectious disease we're seeing," says Michael R. Irwin, MD, director of the Cousins Center for Psychoneuroimmunology at the Jane and Terry Semel

Institute for Neuroscience and Human Behavior at UCLA.

Dr. Irwin has extensively researched how sleep regulates the immune system, and he notes in a recent research review that findings show poor sleep is associated with heightened risk of infectious disease and could make some vaccinations less effective. And limited studies that have been conducted on how ambient temperature affects sleep indicate that warmer temperatures contribute to sleep disturbance.

Given research showing a potential link between poor sleep and reduced immune response, Dr. Irwin says this raises timely questions about whether or not climate change results in heightened infectious-disease risk amid the ongoing COVID-19 pandemic, a monkeypox outbreak and the reemergence of the poliovirus in New York and London.

Dr. Irwin says the issue also raises important implications about socioeconomic disparities, since low-income communities and communities of color face heightened risk from heat and have less access to air conditioning.

Dr. Irwin's paper reviews how poor sleep affects the immune system and could make people more vulnerable to infectious-disease threats. Among the research he cites:

- *There's a strong association between sleep and thermoregulation, or how humans maintain a steady core temperature. Studies have shown that reducing temperatures to a range in which humans can maintain a normal body temperature without expending excess energy improves sleep quality, while increases in air temperature result in increased wakefulness.*

- *It's thought that sleep helps prepare the body's response to possible injury or infection that could occur the following day. When sleep is disrupted, that contributes to increases in inflammation and dampens the body's ability to fight off infections.*

- *Some small experimental studies in humans indicate that poor sleep could also result in poorer vaccine response. In one study, for instance, people who had four straight nights of partial sleep deprivation before receiving a trivalent influenza vaccine had a 50% reduction in antibody titers compared to those with normal sleep.*

- *A recent study of more than 46,000 patients indicated that a significant sleep disturbance was associated with a more than two-fold increase in mortality risk for patients who had COVID-19, while no similar association was found in those who did not.*

Dr. Irwin says that future research on this topic should evaluate how altering ambient temperatures affects sleep and, as a result, immune function. He said there should also be a focus on how rising ambient temperatures may be affecting diverse and disadvantaged communities. "Just like the pandemic is impacting socioeconomically disadvantaged and ethnic groups disproportionately with more morbid outcomes, it might be that the increase in ambient temperature we're seeing is further exaggerating those risk profiles," he says.

— Jason Millman

"Sleep Disruption Induces Activation of Inflammation and Heightens Risk for Infectious Disease: Role of Impairments in Thermoregulation and Elevated Ambient Temperature," *Temperature*, August 21, 2022

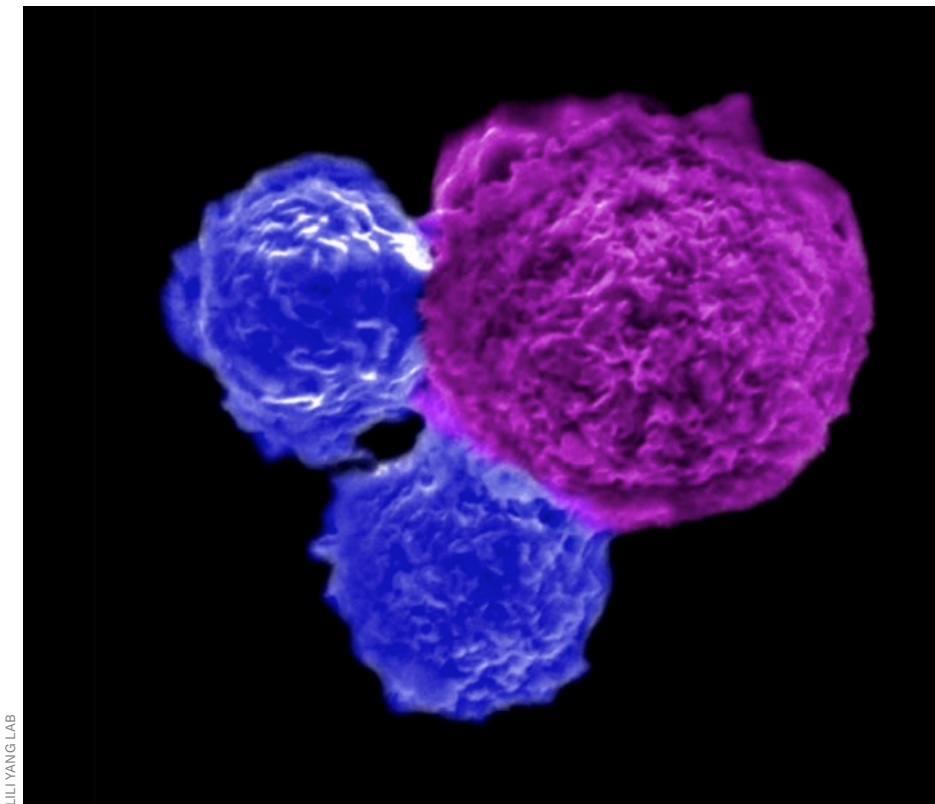
Cell Therapy could Improve Bone Marrow Transplant Safety

safely used to treat patients without the need for immune system compatibility.

Any bone marrow transplant that involves cells or tissue from a donor carries the risk of graft-versus-host disease, a condition in which the donated immune cells attack healthy tissue. Graft-versus-host disease occurs in 30-to-50% of people who receive bone marrow transplants and comes in two forms: acute, which typically occurs in

One was injected with human immune cells and the other with a combination of human immune cells and the genetically engineered iNKT cells.

While the transplanted cells helped both groups of mice clear their tumors, the group that received only immune cells developed severe graft-versus-host disease (both the acute and chronic forms) that caused weight loss, organ damage and, ultimately, death. The mice that received iNKT cells along with the immune cells lived nearly twice as long as those in the other group and developed



LULIYANG LAB

UCLA RESEARCHERS REPORT a step forward in development of an "off-the-shelf" cell therapy that could reduce the severity of graft-versus-host disease in people receiving donor bone marrow transplants for the treatment of blood cancers such as leukemia and lymphoma. The method utilizes rare and powerful immune cells called invariant natural killer T, or iNKT, cells, which can reduce and delay the transplanted cells' attacks on healthy tissue without compromising these cells' cancer-fighting abilities.

The iNKT cells are produced from blood-forming stem cells obtained from donated umbilical-cord blood and could potentially be produced in large quantities, stored for extended periods and

Human stem cell-engineered iNKT cells (blue) attack a human blood cancer cell (magenta).

the first 100 days after transplantation and can affect the skin, the gastrointestinal tract or the liver; and chronic, which often sets in after the first 100 days and can affect one or more organs.

The researchers used a method they developed to produce large numbers of genetically engineered iNKT cells from stem cells that had been isolated from donated cord blood. To test the efficacy of these cells at preventing graft-versus-host disease, the researchers divided immune-deficient mice with leukemia or lymphoma tumors into two groups.

"Any bone marrow transplant that involves cells or tissue from a donor carries the risk of graft-versus-host disease, a condition in which the donated immune cells attack healthy tissue."

slower-progressing and less-severe cases of chronic graft-versus-host disease. If the same effect occurs in humans, the researchers say the slower onset of graft-versus-host disease could extend patients' lives and give them more time for currently available therapies to treat their disease.

While the protective effects iNKT cells have against graft-versus-host disease have been observed in patients in the clinic, this discovery has not yielded an available therapy because iNKT cells are so rare. The new study outlines a new method for producing large numbers of iNKT cells from donated cord blood. The researchers estimate one cord-blood donation could produce more than 10,000 doses of iNKT cells for clinical use.

—Tiare Dunlap

"Off-the-Shelf Third-Party HSC-Engineered iNKT Cells for Ameliorating GvHD while Preserving GvL Effect in the Treatment of Blood Cancers," *iScience*, September 16, 2022

Mice May Hold Key to Understanding Menopause-Related Cognitive Deficits

RESEARCHERS AT UCLA HEALTH believe the results of a study conducted on female mice that explores menopause-related memory and cognitive deficits could lead to a better understanding of neurological and psychiatric changes experienced by some women during menopause.

The study's scientists, led by Istvan Mody, PhD, professor of neurology and physiology and a researcher with the UCLA Brain Research Institute, observed the mice for 33 weeks, during which they measured brain oscillations, phase-amplitude coupling (the coordination of slow and fast brain rhythms), sleep- and vigilance-state patterns, running-wheel use and other behaviors. The study also measured bone loss, similar to a scan for osteoporosis in menopausal women.

Menopause is the stage in a woman's life when the ovaries stop producing reproductive hormones and there are no monthly periods for 12 consecutive months. Because mice do not have menopause as humans do, Dr. Mody's team needed to simulate it chemically. Half



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of the study mice were injected with 4-vinylcyclohexene-diepoxide, a chemical that replicates menopause in mice by killing the ovarian follicles. The control group received saline solution.

After 15 days of daily injections, electrodes were attached to monitor the animals' brains 24 hours a day for six weeks. An infrared camera tracked the mice's activities day and night. The results showed significant alterations in brain rhythms and oscillations in the menopausal mice, the brain waves were not acting as they used to. "Perhaps cognitive impairment, problem-solving and memory impairments — all these could result from such a finding," Dr. Mody says.

After two weeks, the researchers introduced running wheels in the mice's cages. Dr. Mody notes that infrared cameras in the wild have shown that mice will line up and try to get on the wheel and run as fast as they can, averaging up to two miles a day. In the study, the menopausal mice got on the wheel much sooner than the control mice, and they ran for much longer. The team also recorded slower brain-wave activity during wheel-running, almost like sleeping. "It remains to be replicated and further analyzed if this rhythm-inducing effect of the wheel-running is something calming for the animals, perhaps like sleep is," Dr. Mody says.

In addition to these findings, the team scanned the mice's bones and found

osteoporosis, or bone loss, often found in menopausal women. He noted that they did not find major anxiety in the mice.

The National Institutes of Health did not require the use of female candidates — including animals — in research studies until recently, which may explain the lack of studies on women's-health issues. Dr. Mody notes that women are twice as likely as men to develop depression, and after menopause, the likelihood increases four-fold, indicating the need for more studies on menopausal women.

—Jennifer Karmarkar

"Altered Brain Rhythms and Behaviour in the Accelerated Ovarian Failure Mouse Model of Human Menopause," *Brain Communications*, June 22, 2022

Gene could Be Key to Therapy for Treatment-Resistant Brain Cancer

SCIENTISTS AT THE UCLA Jonsson Comprehensive Cancer Center and the UCLA Jane and Terry Semel Institute for Neuroscience and Human Behavior have identified a gene that may provide a therapeutic target for the deadly, treatment-resistant brain cancer glioblastoma multiforme (GBM). The gene, P300, enables GBM cells that have been damaged by radiation therapy to recover by rearranging DNA and initiating a molecular mechanism that reinvigorates tumor cells for growth and survival. Blocking P300 disrupted its ability to set this process in motion, according to the researchers, who conducted their studies in mouse models and in human GBM cells.

Although glioblastoma is considered rare — about 13,000 new cases are expected to be diagnosed in the United States

this year, according to the National Brain Tumor Society — it is the most common primary brain tumor in adults. There is no known cure, and the average length of survival is measured in months. GBM cells and their precursors, glioma stem cells (GSC), quickly adapt and recover

"This suggests that small molecules that inhibit P300 HAT activity may be useful in preventing tumor growth and adaptive resistance of GBM."

from injury, so chemotherapy and radiation therapy, which may initially slow a tumor's progress, can ultimately contribute to growth and recurrence.

By performing single-cell transcriptomic sequencing, which can identify

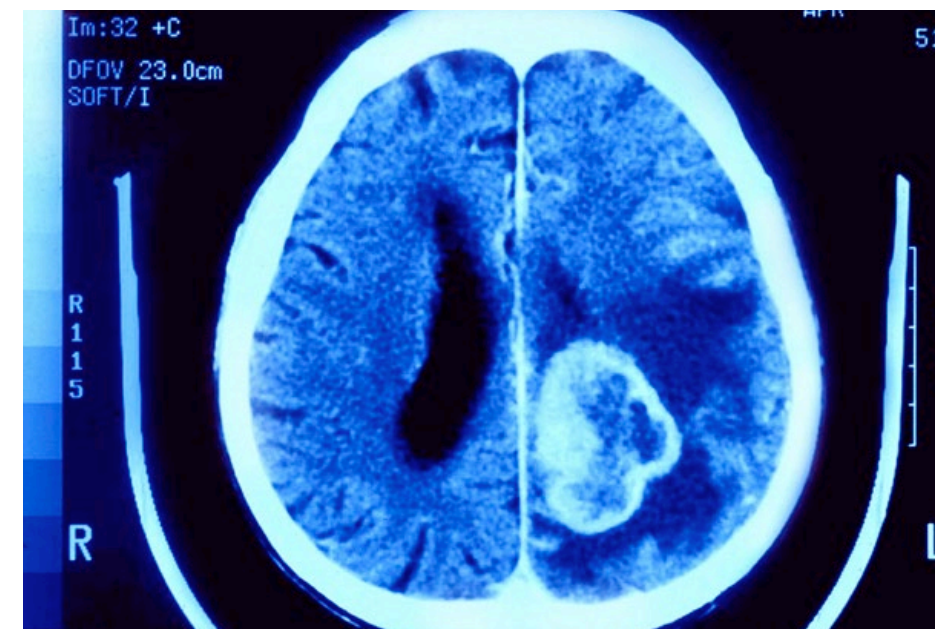
molecular changes in cancerous cells, the UCLA-led research team, which included scientists from several other institutions, showed that radiation-therapy-induced stress promotes phenotypic conversion of glioma stem cells to resemble two types of cells that are normally found in blood vessels (vascular endothelial-like cells and pericyte-like cells). They found that these converted cells promoted tumor growth and post-treatment recurrence. The conversion was brought about by changes within specific vascular gene regions in a process mediated by the gene P300, or P300 HAT (histone acetyltransferase).

"Our findings show at the single-cell level that 'radiation-stress' alters the functional states of glioma cells, but instead of reconstituting the vascular system to carry blood supply — as has sometimes been theorized — these converted cells provide trophic support that enables the cancer cells to survive and grow under the hostile conditions created by radiation," say Harley I. Kornblum, MD (RES '91, FEL '94), PhD, a researcher at the UCLA Jonsson Comprehensive Cancer Center and the UCLA Brain Research Institute.

"Just as P300 plays a key role in changing the molecular landscape of glioma stem cells, inhibiting the gene's function appears to block the phenotypic conversion," says Sree Deepthi Muthukrishnan, PhD, assistant project scientist in Dr. Kornblum's lab. "This suggests that small molecules that inhibit P300 HAT activity may be useful in preventing tumor growth and adaptive resistance of GBM."

While further studies will be needed to fully uncover the underlying mechanisms at play, it is important to note, the authors state, that the factors that mediate the trophic actions of radiation-induced vascular-like cells would likely be targets for potential therapeutic intervention to prevent GBM relapse.

—David Sampson



"P300 Promotes Tumor Recurrence by Regulating Radiation-induced Conversion of Glioma Stem Cells to Vascular-like Cells," *Nature Communications*, October 19, 2022



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Roadmap Shows Way to Tailor Neuroprotective Treatments for Men and Women

AGING IS ASSOCIATED WITH cognitive decline and brain atrophy, and also confers a major risk for developing a neurodegenerative disease. Given the aging population — consider that all Baby Boomers, more than a fifth of the total population of the United States, will be age 65 or older by 2030 — novel strategies are needed to identify therapeutics to protect against these conditions.

Now, scientists at UCLA believe it is possible to develop new sex-specific treatments tailored for women and men to protect them from age-related cognitive decline and neurodegenerative-disease progression.

Rhonda Voskuhl, MD, professor of neurology and Jack H. Skirball Chair for Multiple Sclerosis Research, and Yuichiro Itoh, PhD, associate researcher in the Department of Neurology, have created a roadmap to identify novel neuroprotective treatments that leverage known sex differences in brain aging and neurodegenerative diseases. Previously, research pursuing treatments for neurodegenerative diseases ignored sex differences in the brain and pooled data together from males and females, taking a “one-size-fits-all” approach. Doing so, however, could dilute robust effects that exist in one sex but not the other at the clinical-research level and

fail to capitalize on known disease modifiers in the discovery of new treatment targets at the basic-research level.

In a recently published study, the scientists write that known sex differences in the brain, as well as the effect of higher expression of certain X chromosome genes in females (XX) compared to males (XY), can be assessed for their role in neurodegeneration during aging, a stage of life characterized by loss of potentially neuroprotective hormones in females (estrogen in menopause) and males (testosterone in andropause). The study offers a pathway to disentangle the contribution of these sex-specific factors, which can yield treatments optimized and targeted for each sex.

In the future, this roadmap can be used by researchers to discover targets on the X chromosome gene for development of modulatory treatments that prevent neurodegeneration and promote neural repair during brain aging. “Given

the aging population and lack of treatments to prevent cognitive decline, and to reduce the risk for developing neurodegenerative diseases, it is now imperative to apply new strategies to identify neuroprotective treatments,” says Dr. Voskuhl, who also is director of the UCLA Multiple Sclerosis Center.

“Leveraging what is known about sex differences in multiple sclerosis, Alzheimer’s disease and Parkinson’s disease can reveal candidate treatment targets tailored for women and men affected by these conditions,” she says. “Sex-chromosome effects remain understudied and represent a promising frontier for discovery, particularly in the context of declining levels of sex hormones during menopause and andropause.”

—Jason Millman

“The X Factor in Neurodegeneration,” *Journal of Experimental Medicine*, November 4, 2022

Gut Bacteria May Contribute to Susceptibility to HIV Infection

NEW UCLA-LED RESEARCH SUGGESTS CERTAIN GUT BACTERIA — including one that is essential for a healthy gut microbiome — differ between people who go on to acquire HIV infection and those who have not become infected. The findings suggest that the gut microbiome could contribute to one’s risk for HIV infection, says Jennifer A. Fulcher, MD ’10 (RES ’12, FEL ’16), PhD ’08, assistant professor in the Division of Infectious Diseases.

“This is an important area that needs further research to better understand if

Cohorts Producing NIDA Opportunities (C3PNO), a resource and data center for millions of pieces of research, lab samples, statistics and other data aimed at boosting investigations into the effects of substance abuse on HIV/AIDS. The researchers found that during the first year, there was very little change in the gut bacteria of the infected men. They found, however, that the men who acquired HIV had pre-existing differences in gut bacteria, even before they became infected, compared with their uninfected counterparts.

Compared with the uninfected at-risk controls, these men had decreased levels of *Bacteroides* species, a type of bacteria prevalent in the lower intestinal tract that have an important metabolic function in maintaining a healthy gut environment, and increased levels of *Megasphaera elsdenii*, whose role in the human gut is not yet known. The researchers also found that, prior to infection, the men who acquired HIV had elevated inflammatory cytokines and bioactive lipids, both of which are associated with systemic inflammation — indicating that their bodies were constantly on the defensive against infection or injury, compared to the matched controls.

— Enrique Rivera

“Gut Dysbiosis and Inflammatory Blood Markers Precede HIV with Limited Changes after Early Seroconversion,” *eBioMedicine*, October 1, 2022

“This is an important area that needs further research to better understand if and how these bacteria could affect HIV transmission.”

and how these bacteria could affect HIV transmission,” Dr. Fulcher says. “Microbiome-based therapies are becoming a hot area of research, with great potential. With further research, this could be a novel way to help in HIV prevention.”

Prior research has established a link between chronic HIV and changes in gut bacteria, Dr. Fulcher says. The researchers wanted to get a better understanding of when, following HIV infection, these changes begin to take place. To this end, they examined gut-microbiome samples from 27 men who have sex with men that were collected both before and after they became infected. They then compared those samples with 28 men who were at similar behavioral risk for infection but did not have HIV.

The samples came from the UCLA-led Collaborating Consortium of



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L.A.'s Diverse Genetic Ancestry Could Bring Ethnic Equity to Precision Medicine

ANALYZING GENETIC-ANCESTRY DATA FROM A LARGE GENOMIC REPOSITORY, UCLA researchers have found a highly diverse patient population that is consistent with the global diversity of Los Angeles — one of the most ethnically diverse cities in the world and an ideal location to pursue personalized, precision medicine for underrepresented populations.

The researchers are beginning to leverage this information, drawn from the UCLA ATLAS Precision Health Biobank, to evaluate disease risk,

prevention strategies and treatment options based on a person's individual genetic makeup, or genotype, and their phenotype, which consists of personal, observable characteristics that come from the interaction between their genotype and environment.

"People of European ancestry constitute about 16% of the global population, but they account for nearly 80% of all genome-wide association-study participants, making existing methods to predict disease risk from genetics vastly inaccurate for those of non-European ancestry," says Bogdan Pasaniuc, PhD, vice chair of computational medicine and associate professor of human genetics and pathology and laboratory medicine.

When talking about their race and ethnicity, people tend to describe social constructs that include shared values, cultural norms and behaviors within their subgroups. But the UCLA study looks at genetic ancestry — the history of one's genome — and takes both into consideration. "This study gives us an opportunity to explore the interplay between the two," Dr. Pasaniuc says. "So far, we've analyzed the genomes

of about 30,000 patients and found a stunning amount of genetic diversity. Ancestries from virtually all continents are represented among UCLA patients, and by extension, the Los Angeles area."

Insights into the area's rich ancestry are interesting, but greater value lies in how the data is mined, analyzed and leveraged to improve research and health care, especially for underrepresented populations. "The prevalence of genetic factors that impact disease risk can vary from one ancestry group to another, highlighting the need to take genetic ancestry into account when we're studying risk and seeking to improve personalized health care," says Daniel H. Geschwind, MD (RES '95, FEL '97), PhD, Gordon and Virginia MacDonald Distinguished Professor of Human Genetics, Neurology and Psychiatry and senior associate dean and associate vice chancellor of precision health.

The ATLAS study collects biological samples from consenting UCLA Health patients, codes the samples, removes any personally identifying information and provides the samples to approved researchers seeking new ways to prevent, detect and treat health problems. Self-reported demographics, including race and ethnicity designations, come from linked electronic health records. These also are de-personalized for anonymity.

"Our results underscore the utility of studying the genomes of diverse individuals through biobank-scale genotyping efforts linked with electronic health records phenotyping," Dr. Geschwind says. In this and similar studies, phenotypes are derived from clinical conditions documented in medical records.

According to the authors, as the ATLAS sample size increases, researchers will be able to do more rigorous genetic and epidemiological studies to gain a better understanding of the role of genetic ancestry in disease development, with the goal of accelerating genomic medicine in diverse populations and exploring more individualized health solutions and interventions.

—Jason Millman

"Leveraging Genomic Diversity for Discovery in an Electronic Health Record Linked Biobank: The UCLA ATLAS Community Health Initiative," *Genome Medicine*, September 9, 2022

Vaccinating Infected Women During Pregnancy Provides COVID-19 Antibodies to Newborns

WOMEN WITH COVID-19 DURING PREGNANCY who are subsequently vaccinated after recovery, but prior to delivery, are more likely to pass antibodies on to the child than similarly infected but unvaccinated mothers, a UCLA study finds. "Several studies have demonstrated that mothers with a history of COVID-19 during pregnancy may pass antibodies to their babies at delivery," says Mary C. Cambou, MD '15 (FEL '22), clinical instructor in the Division of Infectious Diseases. "However, our study was able to examine several factors, including timing, the severity of COVID disease and subsequent vaccination on both maternal and infant levels at birth and at 6 months."

In a longitudinal study, a multidisciplinary team of researchers in pediatric and adult infectious diseases, neonatology, obstetrics, immunology and epidemiology at UCLA and partner sites collected blood samples from pregnant women and infants at the time closest to infection, birth and six months postpartum. Samples were collected from 148 women and 122 newborns at birth, and another 45 maternal and 48 infant samples were taken at 6 months of age. Some participants dropped out of the trial during the intervening

time, and some mothers gave birth to twins or triplets, accounting for the differences in numbers tested.

Researchers found that 78% of the infants tested at birth had antibodies. Of these infants, three-of-four born to unvaccinated mothers had evidence of antibodies while all of those from vaccinated mothers carried COVID antibodies. At 6 months, 52% of the babies, from both vaccinated and unvaccinated mothers, carried antibodies. The decrease in that percentage is due to a combination of infants of vaccinated mothers carrying more antibodies than those from unvaccinated mothers at birth, a waning of detectable antibodies over time and some participants

leaving the trial prior to the six-month point. Some infants born to unvaccinated mothers had no detectable antibodies at birth.

This is one of the largest longitudinal studies of mothers and infants with a history of COVID-19 infection during the mother's pregnancy. However, the researchers note some limitations to the study. Due to the study's design, associations may not imply causation, they did not have vaccinated controls without a history of COVID-19 infection for comparison and they had a high attrition rate in study subjects by the six-month point.

In this analysis, the mother's vaccination status was the strongest predictor of antibody transfer to the infants, who were more likely to have detectable antibodies at birth. There are currently no approved COVID-19 vaccines for newborns under the age of 6 months. "This fact underscores the importance of immunization against COVID during pregnancy as an efficacious approach in the prevention of disease in early infancy," says Karin Nielsen,

MD (FEL '96), professor of pediatrics in the Division of Infectious Diseases at UCLA Mattel Children's Hospital. "COVID-19 early in life can have severe manifestations."

Transplacental transfer of antibodies to the infant from the mother during pregnancy may provide protection against COVID-19 during the first six months of life. Little, however, is known about the impact of mothers' COVID-19 severity, timing of infection and subsequent vaccination on both maternal and infant antibodies over time. "Vaccination following infection and prior to delivery was the strongest predictor of infant antibodies at birth," Dr. Cambou says. "Notably, infant levels dropped significantly by 6 months, emphasizing the importance of starting the COVID vaccine series as early as 6 months."

—Enrique Rivero

"Longitudinal Evaluation of Antibody Persistence in Mother-Infant Dyads After Severe Acute Respiratory Syndrome Coronavirus 2 Infection in Pregnancy," *The Journal of Infectious Diseases*, September 9, 2022



RHAPSODY IN BLUE

UCLA Health and the **Los Angeles Dodgers Foundation** find common cause to uplift underserved communities in Los Angeles.

Nichol Whiteman
CEO, Los Angeles Dodgers Foundation

In 2019, UCLA Health and the Los Angeles Dodgers Foundation — the charitable arm of the Los Angeles Dodgers — entered into a partnership to provide resources to benefit underserved communities in the city. At any other time, the relationship might simply have moved forward along an expected trajectory, each party playing its distinct role to advance their joint mission. But just a year in, the COVID-19 pandemic hit, and in an instant both organizations had to pivot to meet the urgent demands of the emerging crisis. Rather than testing the young relationship, however, the pandemic proved to fortify it, says Nichol Whiteman, CEO of the Los Angeles Dodgers Foundation. “Together, we looked at what was happening and how it was affecting the communities we both want to serve, and together we developed a plan to respond to it. Partnership,” she says, “was the secret sauce that made it possible



for us both to respond in a positive and beneficial way.” UCLA Health chief of communications Judy Fortin sat down with Whiteman at Dodger Stadium and spoke with her about the partnership, its successes and both organizations’ hopes for the future. Their conversation has been edited for length and clarity.

As CEO of the Los Angeles Dodgers Foundation, you have cultivated partnerships across a broad spectrum of industries that have generated more than \$40 million in community investment. The foundation and UCLA Health first joined forces in 2019. Why did the Dodgers enter into a partnership with UCLA Health?

Nichol Whiteman: It is about excellence. Both the Dodgers and UCLA Health are about being excellent. Both the Dodgers and UCLA Health want to serve and do good for our community. There is a natural affinity here. Sports is a way for people to enjoy themselves and to have fun, a diversion that brings thousands — tens of thousands — of people together in one place. It is a choice that fans make to come together for the enjoyment of sport. Health care, on the other hand, is not a diversion, it is not a choice; it is a necessity. But sport and health care are, each in its own way, two powerful forces that, when brought together through our partnership, multiply the positive impact we each can have on the lives of Angelenos. The whole of our work together is greater than the sum of our parts.

On the Los Angeles Dodgers Foundation website, it states: “The Los Angeles Dodgers Foundation envisions a city where everyone, regardless of zip code, has the opportunity to thrive,” and it goes on to say that the foundation “is bigger than baseball.” What does that mean?

Whiteman: It means that we are using the Dodgers brand to amplify the impact we can have, beyond the enjoyment of baseball, to address needs in underserved communities that can benefit from our resources, our services and our support. It means we are using the Dodgers brand to provide access and opportunities to youths and families throughout Los Angeles who otherwise might not have the opportunity to thrive.

Let’s talk more about how each participant in this partnership supports and enhances the efforts of the other.

Whiteman: Our alliance with UCLA Health has been one of the best partnerships we’ve had in my almost 10 years as head of the foundation. We knew we were entering into something special, but I don’t think we knew at the start just how powerful and important this partnership would become. For the foundation to have a role in the work that UCLA Health is doing in the community — beyond what is being done within its hospitals and clinics — is

tremendously special and fulfilling. The care that UCLA Health provides to the homeless, the programs it has implemented to enhance community health, its mobile clinics to provide vision care or emergency response to patients having a stroke — all of these things, and more, send the message that UCLA Health is in the community and cares about the community and wants to make a difference in the community, and that is exactly the mission, too, of the Los Angeles Dodgers Foundation. It’s about meeting people where they’re at. I think that UCLA Health is very unique in this regard. A lot of hospital systems don’t do that. I think the Los Angeles Dodgers Foundation and UCLA Health are great partners because we believe in the same things and our missions are aligned, our visions are aligned, and we’re really about getting the work done. If there’s a need, we’re going to figure it out, and we’ve done a really good job of doing it together.

We have talked somewhat in the abstract about the relationship between the foundation and UCLA Health. Let’s talk, now, about where the rubber meets the road. How has this partnership moved the needle to improve community health?

Whiteman: UCLA Health provides a number of services to underserved communities that are at the core of our partnership. Within our Dodgers Dreamteam Program [formerly Dodgers RBI], which is our sports-based youth-development program that serves 12,000 youths at 88 locations throughout Los Angeles, UCLA Health has joined us on the ground to provide vision and health screenings on a regular basis. During the worst of the pandemic, when we thought we would never be able to leave the house, UCLA Health provided PE kits to families and participated in our Dodger Day drive-throughs to provide masks and hygiene essentials to thousands of families throughout Los Angeles. It made it possible for thousands of families to receive a level of care — and caring — that they might not otherwise have received. Together with the Dodgers, UCLA Health came into communities and said to the people, “We are here for you.” They provided services for free, and referrals if there was an issue that needed to be checked further. It is a tremendous statement from both the Dodgers and UCLA Health to show up in a community, to set up a tent in a local recreation center or park, and to say, “We are here, in your neighborhood, around the corner from your house, and we can help you.” We have worked with UCLA Health to educate communities about fitness and nutrition, and we have provided resources for thousands of Dodgers Dreamteam players to participate in fitness classes. We’ve worked with UCLA Health Sound Body Sound Mind to ensure that gyms in schools throughout Los Angeles have what they need. And we are excited about engaging in a partnership that amplifies what UCLA Health is doing to provide care to the unhoused population of this city. We know that it’s important to move beyond Dodger Stadium and beyond UCLA Health hospitals and clinics to ensure that Angelenos know we are here for them.



JESSICA PONS

You mentioned the pandemic. How has that affected this relationship?

Whiteman: I like to say that the Los Angeles Dodgers Foundation was built for this moment in time, and I really believe that UCLA Health was as well. We are two like-minded organizations coming together to address an enormous problem. We both were able to quickly pivot and come up with a plan to work together to deliver services to vulnerable populations. Our relationship grew stronger during the pandemic. It made us double down on our initial commitment to communities and to say we’re going to do more, and we’re going to make sure it happens more often, and we’re going to bring our resources to new communities. The passion of the UCLA Health staff who contributed their personal time to be on the ground with us, who joined us for events, passing out masks and hygiene items — it was really, really awesome to know in this time of need that we have a partner with such compassion and commitment.

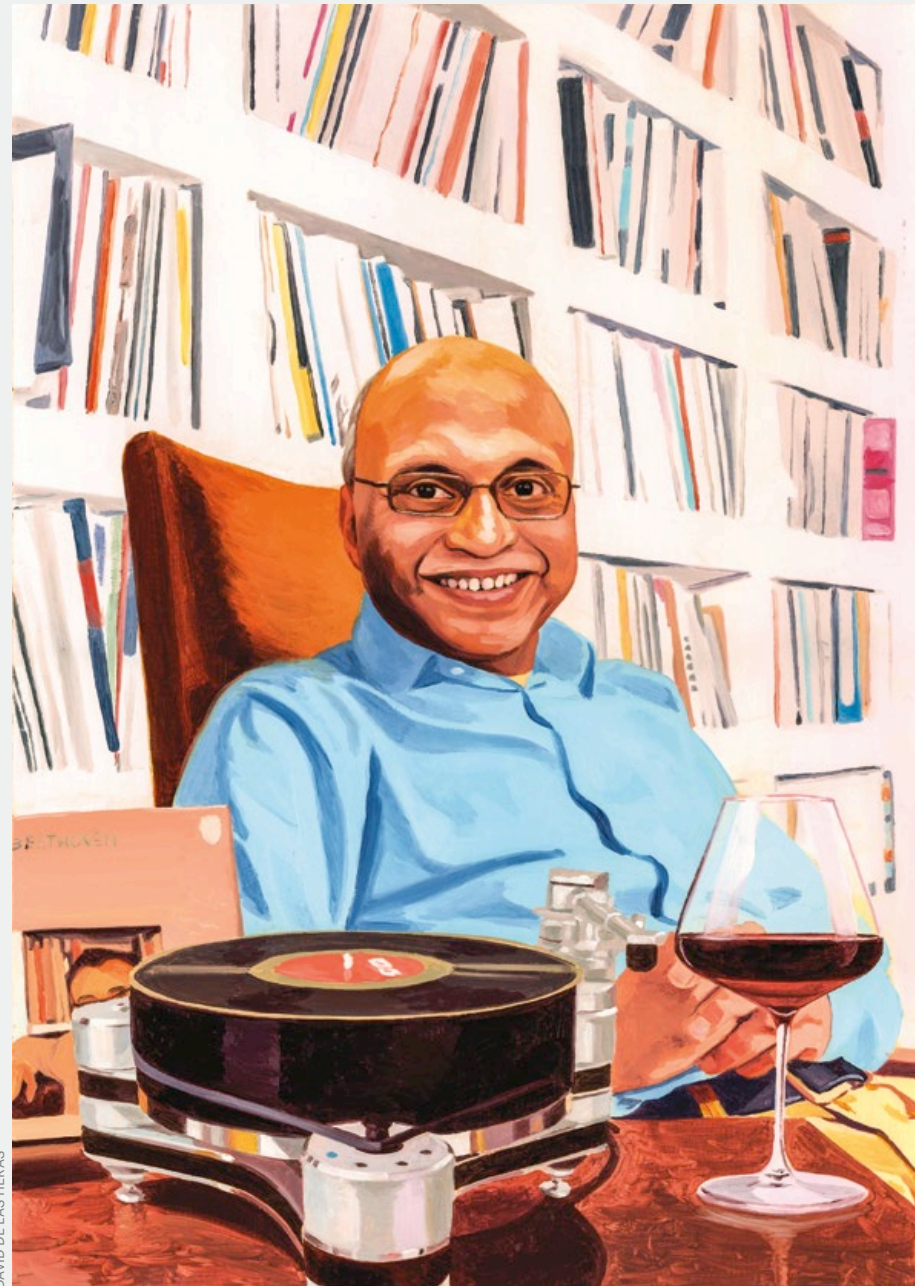
You have been CEO of the foundation for almost 10 years. Ten years from now, when you look back, what do you envision as the lasting legacy of the partnership between the Los Angeles Dodgers Foundation and UCLA Health?

Whiteman: Legacy is important to me, and it is baked into so much of what we do here. Our strategic plan is very much focused on sustainability. We’ve done a lot to create programs, but right now it’s about sustaining them, ensuring that they endure. When I look at UCLA Health

and the Los Angeles Dodgers Foundation, I see this as a partnership that could be for a lifetime, a partnership that could exist forever. We are building something together that we want to be able to look back on and say, “Wow!” We hope that in 10 years, we will be able to look back and know that we served millions of people — specifically black and brown people in underserved communities here in Los Angeles. We want to look back and know that we have been able to instill trust in those people and that they know that the Los Angeles Dodgers Foundation and UCLA Health are here for them, and that they pass that sense of trust on to their family members and friends. The need that drives what we are doing is not going to go away in the next 10 years. Continuing to strengthen and grow this partnership will provide even greater benefits for many more communities. I think that the expansion of what we’re doing today projected 10 years into the future is going to lead to something phenomenal.

Do you have any concluding thoughts?

Whiteman: I don’t think when UCLA Health and the Los Angeles Dodgers Foundation first signed the contract to enter into this partnership that anyone thought it would be so holistic. But it truly is a partnership, in every sense of the word. We are committed to doing this work together. We have had many partnerships, and I can say that UCLA Health walks the walk. That really shines through for me: UCLA Health walks the walk. ●



DAVID DELAS HERAS

DR. ARJUN DEB

STEPS INTO THE U MAGAZINE SPOTLIGHT

Reversing or preventing scar tissue from forming after a heart attack remains one of the major challenges of cardiovascular medicine, but Arjun Deb, MD, director of the UCLA Cardiovascular Research Theme and professor of medicine and molecular, cell and developmental biology, is dedicated to untangling the mysteries of that process. As a physician-scientist, Dr. Deb both treats patients with advanced heart disease and works in his lab to find new therapies to enable the heart to heal better, reverse damage and extend or save the lives of patients.

WHEN DID YOU FIRST START TO THINK ABOUT SCIENCE?

My father was a physicist, so I grew up with science around me, and I always had an inclination to do something scientific. When I trained in medicine and was thinking about what I would do after my training, I realized that even with the best medical technologies, medicines and innovations, you still are sometimes limited in what you can do to treat a patient. That really stimulated my desire to do research to push the envelope and make discoveries that can translate to patient care.

WHAT WAS YOUR FIRST EXPERIMENT?

My first experiments in medical school involved studying spinal-cord reflexes in amphibians. I remember those because often the frogs would jump out of the dish and hop around in the lab, and we had to run after them to catch them.

WHAT HAS BEEN THE GREATEST CHALLENGE IN YOUR WORK?

The greatest challenge is translating a discovery in the lab into a therapy that can actually help patients. The translational part of science — the bench-to-bedside part of science — is what I still struggle with.

WHERE DOES YOUR INSPIRATION COME FROM?

My inspiration comes from my direct experience in medicine — being presented with a difficult or incurable medical problem such that, no matter how good a diagnostician you are or how clever a therapeutic strategy you can come up with, you are not going to solve it because the disease is going to win. Faced with situations like that, I am inspired to find new therapies. That problem, that struggle against the disease, is what drives me the most.

WHO IS YOUR SCIENCE HERO?

Growing up, I idolized the great physicists of the early 20th century who essentially shaped the way we think about life, reality and the universe. Einstein and Heisenberg stand out. In biology, I admire Francis Crick. I have read all his popular books; he

is an absolute delight to read, and I think all students should read his writings. Peter Medawar, the father of organ transplantation, is also someone I have idolized, surely one of the wittiest scientists to ever live.

WHERE ARE YOU HAPPIEST?

In the lab, without a doubt. I take great pleasure in scientific pursuit and am happiest when investigating a scientific problem.

WHAT HAS BEEN YOUR BIGGEST “AHA!” MOMENT?

I can't say that I've had one. The science writer Isaac Asimov famously said, “The most exciting phrase to hear in science is not ‘eureka’ but ‘that's funny or interesting.’” If I find something in the lab that really is interesting and can translate to alleviate human suffering, that would be an “aha!” moment for me.

WHAT DO YOU CONSIDER TO BE YOUR FINEST ACHIEVEMENT?

Hopefully, it is still to come.

WHAT ARE THE QUALITIES IT TAKES TO BE A GREAT SCIENTIST?

I think what distinguishes a great scientist is an ability to ask the right question. When you ask the right question, you really don't know if it's great or not until you've worked your way through it and, hopefully, made a truly impactful discovery. If you ask a mediocre question, the solution or the conclusion cannot be a very exciting one. Great science involves taking significant risk, and it starts by asking the right question.

WHAT IS YOUR GREATEST VIRTUE?

Being interested in many questions at the same time.

WHAT IS YOUR GREATEST FAULT?

That's easy: I'm not patient.

WHAT IS YOUR MOTTO?

There is a verse from the *Bhagavad Gita* that, in Sanskrit, begins with the phrase, “Karmanye vadhikaraste.” The entire verse in translation means: “You have the right to work only but never to its fruits. Let not the fruits of action be your motive, nor let your

attachment be to inaction.” I take this to mean one cannot control the outcomes of one's labor and so one should perform one's duty without great expectations. It is something I largely live by. I focus on completing the work at the highest standard one is capable of and not worrying about outcomes. It is something I ask my postdocs and my kids to adopt, as well, as an approach to life — though my astute teenage daughter often uses the verse to her advantage by telling me “it is about the journey” when her grades drop.

WHAT DO YOU VALUE MOST IN YOUR COLLEAGUES AND YOUR STUDENTS?

In my colleagues, I most value the ability to engage in a very honest, scientific conversation. At UCLA, it is a real privilege to discuss what I'm working on or the problems I'm encountering with others whom I respect and admire and to hear back what they think, and to receive their ideas or maybe new ways to approach a question. We work on difficult physiological problems, but the collective scientific consciousness on campus often guides us closer to the solution. In my students, I value their ability to ask a question that really gets to the heart of the problem. We see that a lot with our students at UCLA, and it is a joy to work with them.

WHEN DO YOU NOT THINK ABOUT SCIENCE?

I'm an aficionado of classical music, and I'm a wine lover and a certified sommelier. When I'm having a glass of wine and listening to fine classical music, I don't think about science.

IF NOT A SCIENTIST, WHAT WOULD YOU BE?

It is difficult for me to imagine a life outside medicine or science, but I like creating, and I love music, so perhaps a composer.

WHAT IS YOUR MOST TREASURED POSSESSION?

My vinyl collection and my turntable. I have hundreds of old classical vinyl records, many of which you cannot get anymore.

TO WHICH SUPERHERO DO YOU MOST RELATE?

Batman. Batman is the most interesting superhero from a scientific perspective. At least the “bat” part of Batman is from my perspective as someone who studies hearts. The normal heart rate of a bat is about 300 beats a minute, but in flight that can go up to 1,000 beats per minute, and when they are hibernating, it can go down to two beats per minute. And they cycle their heart rates to save calories and protect themselves from starvation — so their hearts are beating at 300 beats per minute, then drop down to 200 for maybe half a minute and then go back up to 300. That is amazing mind-body control for survival. So, Batman is my favorite superhero, without a doubt.

WHAT KEEPS YOU UP AT NIGHT?

Thinking about whether or not I can really translate what's happening in my lab to directly helping patients.

WHAT ARE YOU MOST COMPULSIVE ABOUT?

When there is an interesting observation in the lab that perhaps is surprising or counterintuitive, I'm really compulsive about interrogating that observation from different angles and making sure that it is correct. It drives my postdocs crazy.

WHAT IS THE BEST MOMENT IN YOUR DAY?

The “best moment” doesn't happen every day, or maybe it doesn't even happen in a number of weeks. But the “best moment” is when my postdocs tell me something they observed that comes as a complete surprise. I savor moments like that.

WHAT MUSIC DO YOU LISTEN TO WHILE YOU WORK?

Music is like wine; you don't have the same wine every day, so you don't listen to the same music every day. The great conductor Daniel Barenboim observed that you may have a large music collection, but over time you tend to come back to the same pieces, and they become your lifelong companions. So, in that regard, I would say Beethoven's piano sonatas, his violin and cello sonatas have become my lifelong companions. ●

RIGHT ON THE MATERNAL-FETAL FRONT

The biological tug between mother and developing fetus is a feature of pregnancy, with potential long-term health effects for both.

By Anna Louie Sussman



In her line of work, Yalda Afshar, MD (FEL '19), PhD, sometimes has to deliver difficult news. A maternal-fetal medicine physician, she works collaboratively with other sub-specialists to manage high-risk pregnancies, such as patients with cardiovascular disease, high blood pressure or organ transplantations who take multiple immune suppressants. At her first meeting with every patient, she issues a caution: "I say to them, 'I may look you in the eyes and tell you that I am worried that this pregnancy can harm you. And if this happens, I will tell you what I think needs to be done about it.' For some of my very, very sick patients, that pregnancy can become a risk to their life."

Dr. Afshar's goal as a clinician is to care for the patient in front of her and to optimize care for the fetus developing within her womb. But what happens when the interests of mother and fetus conflict? Such biological quarrels are not always a matter of life and death. But even in the healthiest patients, pregnancy is not purely the harmonious biological process that we often think it to be. In fact, maternal-fetal conflict is a feature of pregnancy, not a bug; the genetic divergence between a fetus, whose DNA comes from two distinct individuals, and the mother creates the potential for a host of pregnancy complications and adverse outcomes for both parties.

Yet the causes of even common pregnancy afflictions (such as pre-eclampsia, which occurs in 12% of pregnancies, or gestational diabetes, which affects 2-to-10% of pregnancies in the United States) are still not well-understood. Research by Dr. Afshar and other UCLA faculty is yielding new insights

into the hows and whys of the maternal-fetal conflict, and its costs and benefits for the health of women and their children.

HAVING A NUMBER OF ROBUST TOTS, EVEN IF THAT IS A MOTHER'S DREAM COME TRUE, does not necessarily support her long-term health. "Evolution doesn't promote health and happiness and longevity; it promotes reproductive success. Sometimes, that reproductive success comes at the cost of health or happiness or longevity," says Molly Fox, PhD, a biological anthropologist and assistant professor in the UCLA Department of Anthropology and the Department of Psychiatry and Biobehavioral Sciences in the UCLA Semel Institute for Neuroscience and Human Behavior. "In the case of reproduction, there are costs to the mother's body and health that play out over the course of her life, and those costs are balanced against the adaptive benefit of passing on her genes," says Dr. Fox,



Dr. Molly Fox (left) and Dr. Yalda Afshar.

who studies the evolutionary context and role of family environments in transgenerational transmission of health and disease.

To understand why this is, it helps to look more closely at the mechanisms of pregnancy itself. Pregnancy in certain species of mammals, such as primates and mice, features a unique interaction between the placenta, an organ that develops during pregnancy to deliver nutrients and oxygen from the mother's blood to the growing embryo, and the endometrium, or the lining of the uterus. Responding to hormonal signals, the placental cells enlarge the blood vessels on the endometrial surface to secure maximum blood supply. Unlike in other mammals, a human mother has limited control over this process. You might say that the fetus and its placental cells are in the driver's seat, sending hormonal messages that steer the vehicle that is the mother's body. Some of this hormonal signaling occurs through what's called genomic imprinting, in which genes are either expressed or suppressed depending on whether they are inherited from the mother or father.

The maternal body has its own, albeit more limited, way of pushing back. From the outset

of a pregnancy, the mother's immune system treats the embryo, with its partially foreign DNA, as an intruder. It has evolutionary reasons for doing so: The mother may have existing children, or she may be early in her reproductive years, with the potential for many more children, possibly by other partners. If she is going to invest her energies in gestating this particular embryo, the embryo itself has to give her body a reason to do so by proving it is healthy. The first test is implantation: An embryo must send a continual stream of hormones to the endometrial tissues to convince the endometrium to let it implant. (The Harvard evolutionary biologist David Haig has described this interaction as a "job interview.")

Then the mother and fetus must work out how they're going to allocate resources, such as nutrients and calories. Most female mammals keep their own blood supply separate from that of the fetus, and control over what nutrients are filtered to the fetus remains with the mother. In humans, the mother is at a disadvantage, as an implanted embryo not only can access all the blood and nutrients it needs but also sends its own hormones into the mother's bloodstream. In a healthy

pregnancy, this exchange reaches a balance, so that the fetus can grow at an appropriate pace with the nutrients, blood and sugars it needs, while the mom's health remains intact. Unfortunately, that's not always the case.

GROUND ZERO FOR THIS LOW-INTENSITY BIOLOGICAL BATTLE OF WILLS BETWEEN MOTHER AND FETUS is the placenta. "It's this organ that's, in essence, created to sustain the pregnancy, and it is truly where the cellular crosstalk from the fetus and the mother happens," Dr. Afshar says. The placenta contains a number of different cell types: endothelial (or vascular) cells, decidual cells, trophoblast cells and immune cells, among others. Dr. Afshar believes that a better understanding of normal pregnancy biology and physiology throughout the 280 or so days a pregnancy normally lasts would shed light on the range of eventual pregnancy and maternal-health outcomes.

But it's not enough to study only the placenta. She and her colleagues observe development of the embryo and the fetus parallel to the dynamic changes of the placenta throughout the pregnancy in order to gain a better understanding of the relationship between placental abnormalities (such as placenta accreta, in which the placenta attaches too deeply into the uterine wall) and outcomes such as heart disease or genetic abnormalities of the fetus. "I think about how the placenta develops concomitantly with the embryology of the fetus," Dr. Afshar says. "I'm really interested in the cellular signaling and the crosstalk, and what is happening at the cell level, especially in the vascular cells in the placenta."

How does one tune into the conversations between cells? Dr. Afshar eavesdrops, as it were, using a range of diagnostic and monitoring tools to observe and sample the fetal-placental unit throughout the pregnancy. These include observation of the fetus, usually via a handheld Doppler and an ultrasound, and an MRI in some instances, throughout the pregnancy; monitoring the fetal heart rate and rhythm and observing the fetus' anatomy; and maternal blood draws, chorionic villus sampling (biopsy of the placenta) or amniocentesis (sampling the amniotic fluid). She and her team then use a multi-step process to isolate placental DNA, RNA or cells circulating within the maternal blood. "Those isolated DNA, RNA, proteins or

whole cells are our window into what's going on in the placenta," Dr. Afshar says.

One study Dr. Afshar co-authored and published in 2022 found that key placental functions that shape maternal and fetal pregnancy outcomes vary based on fetal sex. This is because male and female fetuses control the expression of microRNA (or miRNA), which regulates gene expression and mediates communication between cells, differently. Another line of her research, done in collaboration with UCLA colleagues Yazhen Zhu, MD, PhD, assistant professor of molecular and medical pharmacology and member of the Crump Institute of Molecular Imaging, and Hsian-Rong Tseng, PhD, professor of molecular medical pharmacology and member of the Crump Institute and the UCLA Jonsson Comprehensive Cancer Center, uses a nanostructure-embedded microchip to detect circulating trophoblasts (cTBs). Trophoblasts are the cells on the outer layer of a developing embryo that help it attach to the wall of the uterus; during implantation, cTBs are shed into the mother's bloodstream. Their presence may indicate placental accreta spectrum disorders. "What are the genetic changes at the level of the placenta that differentiate disease versus no disease?" Dr. Afshar asks. "What are the changes that happen as a function of gestational age?"

An increase in cTBs floating around the mother's blood can indicate that this process has somehow gone awry. Tracking the concentration of cTBs throughout pregnancy can help doctors screen for various placental abnormalities, some which cause severe hemorrhage at the time of birth. Current diagnostic tools such as MRIs or ultrasounds are either unavailable in low-resource settings or fail to capture one-third to one-half of placental accreta spectrum disorders. The capacity to continually monitor cTB levels could help prevent emergency hysterectomies, blood transfusions or intensive care unit admissions that accompany such placental disorders.

SLEEP-DEPRIVED PARENTS LAYING OUT A SUBSTANTIAL PORTION OF THEIR TAKE-HOME PAY FOR DIAPERS AND CHILDCARE will be the first to tell you that reproduction has costs. But what about the biological costs? If Dr. Afshar's findings have given us a better picture of how the mother and fetus "talk" in real time through gene regulation

“FROM A PUBLIC HEALTH OR EPIDEMIOLOGICAL STANDPOINT, THIS MASS SHIFT IN REPRODUCTIVE BEHAVIOR IS GOING TO HAVE CONSEQUENCES FOR MANY AREAS OF WOMEN’S HEALTH THAT ARE STILL BARELY UNDERSTOOD.”

and expression and hormonal signaling, the lingering effect of these conversations is still being worked out. "The interplay between the maternal and fetal systems is understood during pregnancy, but it's not well-characterized in terms of long-term effects."

Dr. Fox's research looks at the long-term health effects of pregnancy on both the mother and the fetus. She is investigating both how reproductive activity alters women's risk of various diseases, and also seeking to understand how women's experience of pregnancy might affect fetal development of certain traits that predispose their children to the risk of chronic disease. Like Dr. Afshar, she and her colleagues have a range of observational and measurement tools at their disposal: cognitive testing, assessments of oxidative stress, tracking the levels of certain cells responsible for suppressing inflammation.

But because women in general have been a neglected population throughout decades — if not centuries — of scientific research, Dr. Fox cautions that knowledge in this field is still in its infancy, so to speak. What's more, certain areas are marked by significant disagreement. Dr. Fox gives the example of research on Alzheimer's disease and pregnancy. "Some people say that having more pregnancies is helpful to your brain health, and some people say having more pregnancies is harmful. And

some people say it has no effect at all," she says. "There have been a lot of studies in all of these different directions. It's really hard to reconcile."

One reason these studies have conflicting findings may be a lack of consensus on how to even characterize women's reproductive histories. Incomplete pregnancies, meaning miscarriages and elective abortions "have been totally neglected," Dr. Fox points out, so they are typically not included in the count of pregnancies. "You have these wonderful long-term studies of health and disease, but they often don't include that kind of nuanced information that may not have even been part of the person's medical record. Yet, this kind of information is crucial to accurately counting their pregnancies or documenting the age at first pregnancy."

Similarly, she observes, "lactation also has profound physiological effects on a woman's body, and the variation in breastfeeding duration is really massive," with some women spending years of their lives engaged in it and others no time at all.

If these variations in the experience of pregnancy and lactation influence women's health outcomes over the long-term, how does the fetus then manifest its own experience of pregnancy as a child or adult? One of Dr. Fox's research projects, looking



Dr. Rhonda R. Voskuhl.

at the health of U.S.-born Latinos, seeks to answer these questions by understanding how women's experiences of pregnancy map onto their children's health. Her findings could go some way toward explaining what's known as the "Hispanic health paradox," in which the children of immigrants to the U.S. tend to have worse health outcomes than their parents, even though their parents are of the generation that uprooted themselves from their home countries, experienced the stress and trauma of setting up lives in a new country, and potentially struggled financially as well.

Why would their children, who were born in the U.S. and never experienced the loss of social ties or homesickness, fare worse? Dr. Fox's hypothesis is that the trauma experienced by the pregnant mothers may affect fetal development, such that the second generation of children are "prenatally built in a way that makes them maybe more sensitive to the exposures that they face." She cites obesity risk as an example. "A person who's born with more of a predisposition towards obesity can eat the same diet as someone who is not, and they'll be more likely to

become obese," she explains. "Everyone's eating the same, crappy American diet, but the second generation has a higher risk of suffering as a result."

THAT INTERPLAY BETWEEN ENVIRONMENTAL AND BIOLOGICAL FACTORS had long been the subject of speculation about why women were far more susceptible than men to autoimmune diseases such as lupus and multiple sclerosis (MS). In the early years of MS research, this was often attributed to differences in lifestyle — for example, women are more exposed to viruses because they're the ones doing school pick-up and drop-off — or sometimes women's complaints were simply dismissed as excessive.

Rhonda R. Voskuhl, MD, Jack H. Skirball Chair for Multiple Sclerosis Research and director of the UCLA Multiple Sclerosis Program, noticed another way that women differed from men in their experience of MS, the symptoms of which can include intense paralysis, visual loss and numbness.

Like many clinicians, she began to appreciate that relapses among her patients with MS seemed to be fewer during pregnancy.

Then, in 1998, a study in the *New England Journal of Medicine* showed a 75% reduction in relapses for pregnant people. At the time, that improvement was more than twice as powerful as what the most effective MS drug on the market had been able to achieve. "It was like, my goodness, this effect of pregnancy is stronger than anything else we have," Dr. Voskuhl recalls.

She wanted to understand what it was about pregnancy that had such a potent effect on her patients. Through experiments on mice, she traced the beneficial effects to the hormone estradiol, which in humans starts to be produced in the first trimester of pregnancy and peaks in the third trimester, before falling off dramatically after delivery. Since then, she and others have documented a beneficial effect on MS disease mechanisms of the increase in blood levels of this estrogen during pregnancy both in mice and in humans. (The fact that female mice with the relapsing form of disease are also more susceptible than male mice to MS debunks the theories about lifestyle or excessive complaints in humans, Dr. Voskuhl notes.)

Dr. Voskuhl highlights the role estradiol plays in influencing the immune system during pregnancy. Rather than attacking the male proteins that have been introduced thanks to the father's genetic material via a cellular response, the way an immune system might attack a localized infection, a pregnant person's immune system shifts to responding less with cellular infiltration and more with antibodies. Dr. Voskuhl believes decreasing the cellular immune attack is beneficial for fetal survival. (Antibodies can be passed through the placenta, which is why pregnant women are given vaccines in order to provide passive immunity to the fetus.)

This, incidentally, benefits a pregnant mother with a cell-mediated autoimmune disease by reducing those types of immune responses during pregnancy. "An immune attack on those foreign male proteins on the fetus would be bad," Dr. Voskuhl says. "I think women have been selected, evolutionarily, to shift their immune systems to where they don't attack the fetus in deleterious ways. They go more for an antibody-mediated response, which is good for the fetus."

Estradiol is not only anti-inflammatory but also neuroprotective. That means it helps protect the fetus's developing neural system

in the case of maternal insults — an event such as hypoxia (low oxygen) or an infection in the mother. Both of these maternal changes, the shift from a cellular immune response to an antibody response, as well as the presence of a neuroprotective estrogen in the blood, contribute to the amelioration of MS symptoms in the mother.

Dr. Voskuhl notes that women with MS used to be told to avoid pregnancy; now it is clear that pregnancy offers health benefits both in the short-term and over the long-term. Other research has shown that having more pregnancies compared to fewer or none seems to align with having less long-term disability over the subsequent decades.

All of the researchers agree that we will need a better understanding of these dynamics as countries around the world undergo demographic transition and women globally have fewer and later pregnancies. "In a very short period of time, the average age at first birth has shot up; it's now extremely delayed compared to even one generation ago," Dr. Fox notes.

At the same time, fertility rates have also fallen dramatically in the course of a generation in nearly all rich and middle-income countries. From a public-health or epidemiological standpoint, this mass shift in reproductive behavior is going to have consequences for many areas of women's health that are still barely understood. Whichever way the data cuts, it's imperative to get a better grasp on it, the UCLA scientists assert. That means teasing apart why some women gain physiological benefits from pregnancy or lactation while others pay a cost in the form of accelerated aging or other degrading effects on the body.

"If we don't understand how the number of pregnancies or the age of first pregnancy or how long you breastfeed — and all these other aspects of health — relate to one another, then we're going to be woefully unprepared for the epidemiological environment in which we're going to find ourselves, especially as populations age," Dr. Fox says. "Some of the effects will be immediate, and some of them will manifest only decades later." ●

Anna Louie Sussman is a freelance journalist based in New York. A former staff reporter at Reuters and The Wall Street Journal, her writing has been published in The New Yorker, The New York Review of Books and The New York Times.



THREE THREE YEARS AFTER

THE COVID-19 PANDEMIC HAS
TAUGHT MANY IMPORTANT
LESSONS, BUT HAS THE NATION
TAKEN THEM TO HEART
TO AVERT THE NEXT CRISIS?

By Veronique de Turenne



In the waning days of autumn in 2019, a coronavirus in Wuhan, China, is believed to have jumped species. It entered its first human host, and a new respiratory illness started to spread. Hospital beds filled with patients, each of them gravely ill with pneumonia-like symptoms. Standard treatments had no effect. As people began to die, doctors became increasingly desperate. Despite their repeated pleas for help, local officials refused to act. In those first critical weeks, instead of issuing public warnings, authorities punished and silenced anyone who dared sound the alarm. By the time Wuhan publicly admitted to 100 coronavirus infections, medical workers put the true number at closer to 10,000. In that close-packed city of 8.5 million people, mere weeks after that first infection, the start of the COVID-19 pandemic was well underway.

For the past three years, humanity has been held hostage by the cluster of genetic code now known as SARS-CoV-2, and it has paid a heavy price. We have witnessed a historic loss of life, with a worldwide death toll that now totals well over 6.6 million people. In the 200-plus nations and regions where COVID-19 still rages today, every aspect of daily life has been transformed. Health care, childcare, education, commerce, family life, social life, social justice — none has been spared.

But we enter the fourth year of COVID-19 armed with a measure of hope. We have effective vaccines that blunt the virus, and also ease the burden on our health care institutions. There are also medical advances to help those who previously would have died. Although infections continue and the virus claims lives, it's not at the same frenzied pace.

After three difficult and frightening years, the pandemic is easing into an endemic phase. And in

these hard-won moments of respite, there comes time to assess and reflect.

For Shangxin Yang, PhD (FEL '16), assistant medical director of the UCLA Health Clinical Microbiology Laboratory, the appearance of COVID-19 in the U.S. came as no surprise. It was mid-December, well before news of a novel coronavirus had begun to leak out, when he began to hear rumblings that something was amiss. Chinese social media was suddenly filled with posts about a mysterious new pneumonia spreading throughout Wuhan. But details were sketchy, and at first Dr. Yang shrugged it off. "It seemed like it was an exaggeration," he says. "I thought it was likely that something else was going on, just people being a little bit paranoid, so I really didn't give it much thought."

Then, in the final hours of the final day of 2019, his perspective dramatically shifted. "On New Year's Eve, I got a message through

Chinese social media that officials high up in the government in Wuhan had put out a notice about the virus," Dr. Yang recalls. "That made everything that I had been hearing in the last few weeks more legit." It was nearly midnight, and Dr. Yang was already in bed. But the nagging unease made sleep impossible. "I just jumped out of bed and got online, doing research and chatting with friends and colleagues in China," he says. Combing through social media, he found a deep trove of information about the growing crisis, panicked chats and posts, frightening videos of overwhelmed hospitals, none of which had yet been made public.

"So many people in the city were sick, they were rushing to all of the hospitals, but all of the hospitals had already run out of beds," Dr. Yang says. "They were setting up tents in the open space outside of hospital buildings in the very cold winter weather. Everything I was reading that night indicated that this was going to be very, very severe."

Dr. Yang shared what he had learned with colleagues at UCLA. But the clamp-down on information from Wuhan was so complete he was met with astonishment, skepticism, and even some disbelief. By late February, when news of a novel coronavirus had finally been made public, it became a topic of discussion at a town hall meeting in his laboratory. "I remember telling everyone that this would be the last in-person meeting where we have more than 50 people in the room for a very long time," Dr. Yang says. "I just didn't expect it to last this long."

No one did. In the beginning, "it was a bit exhilarating, to be honest," recalls Dan Uslan, MD, MBA, co-chief infection-prevention officer for UCLA Health. "I naively thought that with enough up-front public health efforts we might get by relatively unscathed. I hadn't experienced anything of this scope before — no one really had. At UCLA, we were well-prepared for an influx of patients with an emerging infection like Ebola, but I didn't imagine anything of the scope of what we eventually had to deal with, or how rapidly things evolved. Exhilaration rapidly gave way to exhaustion."

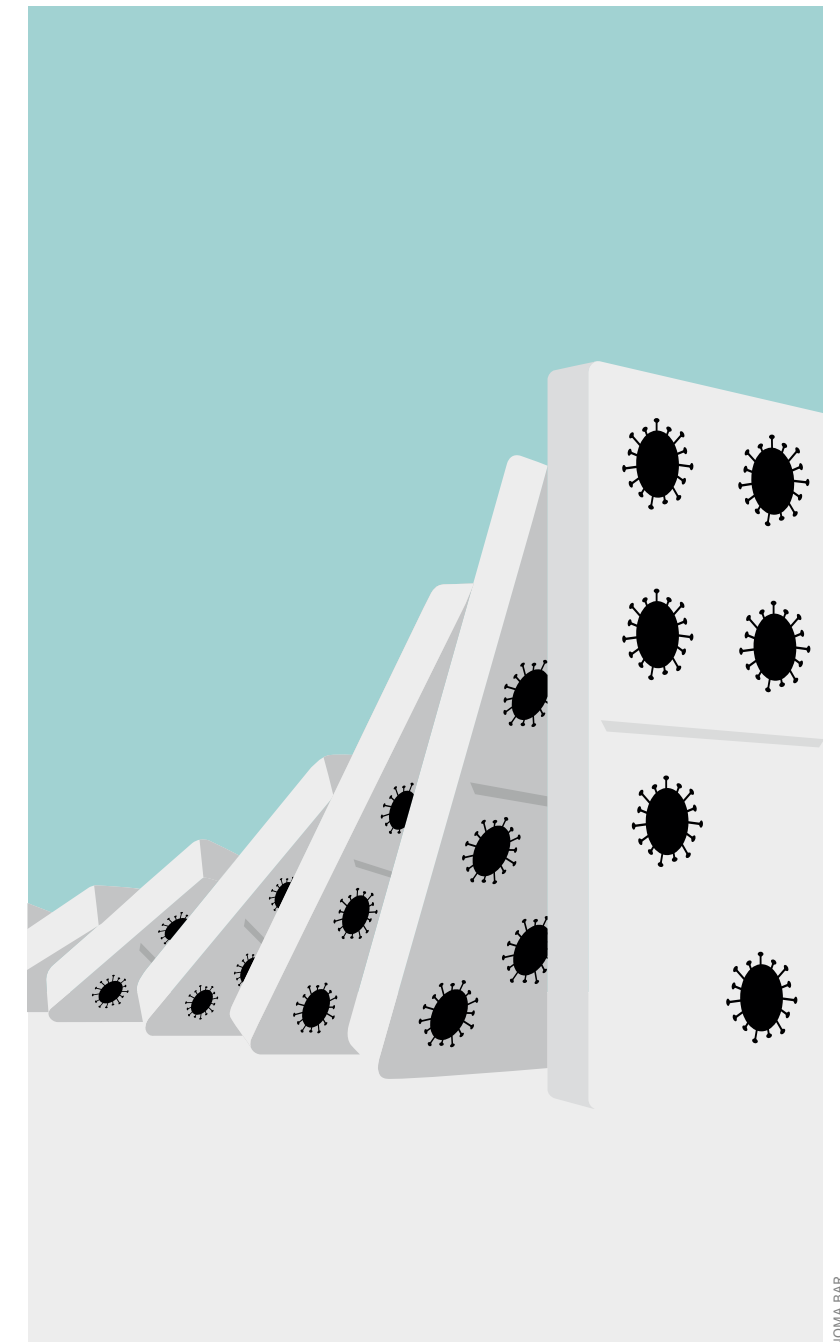
THE VIRUS QUICKLY STARTED ITS GLOBAL SPREAD. In the U.S., clusters of the illness that would soon come to be known as COVID-19 began to appear, first in Washington State and then in New York. Dr. Yang was deeply shocked when, with misinformation and denials, top U.S. government officials mirrored the Chinese response. Even the Centers for Disease Control and Prevention (CDC), the independent public health agency whose guiding mission is to safeguard the wellbeing of Americans, was subjected to political pressure.

"I truly believed the U.S. would do better than China because here, we are not afraid to speak the truth," Dr. Yang says. "But

then it went the other way. There were denials by the president, and even political interference with the CDC. We lost a whole month when we really could have stopped the spread."

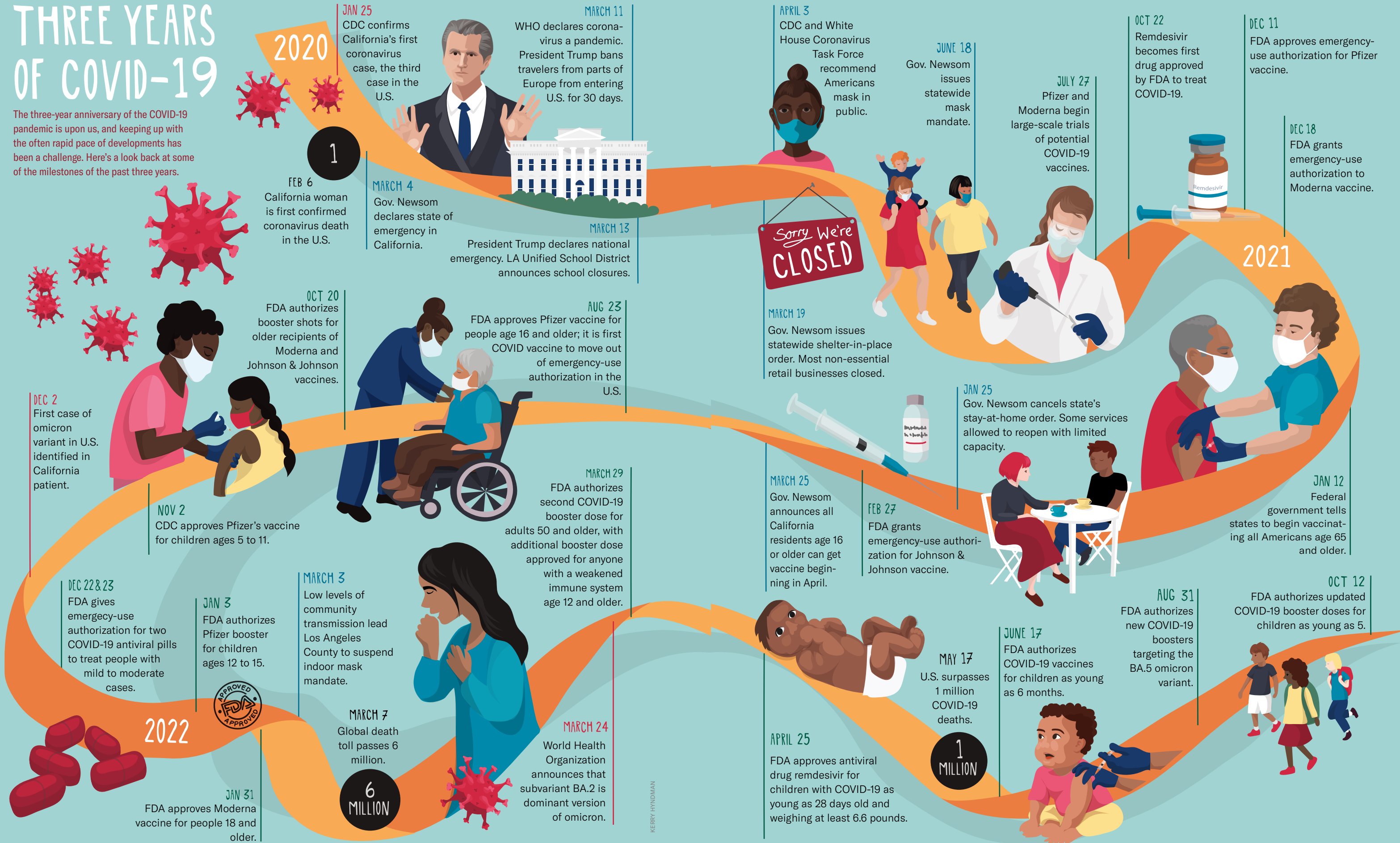
Meanwhile, federal health agencies in the U.S. were having problems of their own. Slow and unsteady, they took dubious steps to address the looming threat. Omai Garner, PhD (FEL '12), associate professor of pathology and laboratory medicine and director of the

clinical microbiology lab, knew that to slow the spread of the virus, it was necessary to accurately identify who was infected. Immediate and widespread testing for COVID-19 had to be done. But because this was a new illness, diagnostic tests did not yet exist. That meant not only creating accurate tests, but also arranging for their manufacture. With the virus spreading so quickly and so far, it was clear that hundreds of thousands of tests would be needed right away. [continued on p. 40 →](#)



THREE YEARS OF COVID-19

The three-year anniversary of the COVID-19 pandemic is upon us, and keeping up with the often rapid pace of developments has been a challenge. Here's a look back at some of the milestones of the past three years.



KERRY HYNDMAN

continued
from p. 37 →

“Here in our lab, we knew that we had the molecular capabilities in-house to develop a COVID-19 test, so we actually started to order the test components before anyone else did,” Dr. Garner says. “And that was one of the reasons why UCLA was among the first hospitals in Southern California to have diagnostic testing.” (To date, Dr. Garner’s lab has performed close to 1.2 million PCR tests.)

But in one of a series of baffling moves, the CDC set extremely limiting criteria for who qualified for COVID-19 testing. At a moment in

“By then, the global supply chain had fallen apart,” Dr. Garner says. “Reagents, testing swabs — none of it was easy to get. And the whole time the virus is spreading. The numbers were just staggering.”

At the same time that the CDC’s decisions hamstrung the scientific community’s virus response, the agency’s public relations arm was engaged in its own struggles. In communicating with the public about the virus, the agency issued guidance that was complicated, often confusing and sometimes downright incoherent. And on an

job at preparing the public for changes in the guidance over time, as we got to know the virus better and as the virus itself mutated,” Dr. Kim-Farley says. “Perhaps if marketing experts, behavioral scientists, social media experts had been included early on, communications with the public would have been more successful. Unfortunately, that didn’t happen.”

Dr. Uslan agrees. “Early on there were recommendations against wearing masks, and obviously that changed. That’s what science and medicine do — they

“WEARING A MASK, SELF-ISOLATING, GETTING INOCULATED WHEN VACCINES BECAME AVAILABLE, KEEPING UP WITH BOOSTERS, ALL BECAME RED STATE VERSUS BLUE STATE ISSUES.”

time when the virus was exploding, a mere fraction of the populace was able to get a test. That allowed countless active cases, including in people with no obvious symptoms, to go undetected. So infected people kept on spreading the virus. The agency further slowed reaction time by limiting who was allowed to create a diagnostic test.

Unlike South Korea, which immediately launched nationwide manufacturing of COVID tests, the CDC required the use of its own test. In an embarrassing turn of events, those first CDC tests contained a faulty reagent, which made them unreliable. By the end of February 2020, South Korean health officials had tested 65,000 people and were expanding their efforts; the U.S., by contrast, had managed to test just 459 people. CDC officials eventually backtracked. The agency expanded its testing guidelines and allowed widespread test manufacturing. However, it proved to be much too late.

almost-daily basis, that advice also continued to change, which led to a loss of public confidence in its accuracy. This shifting information about COVID-19 and its mitigations stemmed, in large part, from the fact that scientists and medical personnel were learning about the disease in real time.

“This was a new virus that we knew so little about, and as we learned more and more, the public health recommendations kept changing,” says Robert Kim-Farley, MD, MPH, professor-in-residence in the UCLA Fielding School of Public Health and former director of the Division of Communicable Disease Control and Prevention at the Los Angeles County Department of Public Health. “But from the public perception, it seemed like experts were flip-flopping in their guidance.”

For federal public health agencies to find themselves so unprepared was surprising. “Public health should have been able to do a better

evolve as research is conducted and as we learn more. It is a part of the normal process, especially with something new like an emerging infectious disease.”

And then, an even bigger shock — the science was beset by politics. Politicians, including the president, began to weaponize basic mitigation measures. Wearing a mask, self-isolating, getting inoculated when vaccines became available, keeping up with boosters, all became Red State versus Blue State issues. Tragically, the COVID-19 data soon reflected that split, with increased infection rates and higher death tolls in the cities and states that rejected COVID-19 precautions. “I didn’t see that coming, and still don’t understand why evidence-based medicine became political,” Dr. Uslan says. “It’s been very sad to see the hostility and anger misdirected against well-intentioned scientists, public health experts and health care workers.”

Communication challenges also led to a misunderstanding of why certain mitigation measures were undertaken, says Annabelle M. de St. Maurice, MD, MPH, associate professor of pediatrics in the Division of Infectious Diseases and co-chief infection-prevention officer for UCLA Health. This includes the shutdowns, which were widely associated with the idea of eliminating transmission of the virus. But the virus continued to spread despite shutdown measures, which were causing enormous hardship. As a result, the measure quickly came to be viewed as useless, and even a failure.

Again, poor messaging was to blame. “The goal of the shutdowns wasn’t to eliminate transmission; it was to reduce transmission so that our hospitals, and our whole medical system, wouldn’t be overwhelmed,” Dr. de St. Maurice says. “Even with the shutdowns, that was an extremely difficult period [for health care institutions]. Without the shutdowns, I really don’t know how we could have functioned.”

ONE OF THE GREAT SUCCESS STORIES OF THE PANDEMIC has been the development of the COVID-19 vaccines. Under normal circumstances, the complex process of vaccine development can take well over a decade. But building on existing research, and thanks to international cooperation, the COVID vaccines were ready for use in under a year. And yet, due once again to misunderstanding, fueled in part by politicization, a large segment of the public has a low opinion of the vaccines.

“The biggest shame of all this is that the vaccines have been viewed as failures because they don’t prevent 100% of transmission of the virus,” Dr. de St. Maurice says. “But the focus should instead be on how effective they have been at lowering the rates of hospitalization. In that regard, the vaccines

were, and continue to be, a tremendous success.” (UCLA Health has administered 300,000 doses of the vaccine to date.)

The challenge, of course, is how to change those perceptions going forward. It is not an easy task, as the public response to the twists and turns of the pandemic has proven. “It seems that some people begin with the conclusion that they feel most comfortable with, and then it’s confirmation bias — they seek out the arguments that agree with that,” Dr. de St. Maurice says. “I wasn’t on Twitter before the pandemic, but now I try to at least talk to people [on Twitter] about the vaccines in an evidence-based fashion. But it’s challenging.”

Another viral phenomenon that emerged during the pandemic has been the glut of conspiracy theories. Fueled by the still-unknown origins of the novel coronavirus and amplified by both humans and bots on social media, new theories continue to pop up almost every day. Some of the most outlandish — and popular — have centered on 5G cellular technology, evil billionaires, mass enslavement and the presence of surveillance microchips in COVID vaccines. Things went so far off the rails that the director of the World Health Organization proclaimed an “infodemic.”

Though not nearly as far-fetched in its particulars, a parallel discussion about whether or not the SARS-CoV-2 virus may be lab-made continues to pop up in scientific circles. A recent scientific paper circulated as a preprint — research that has not yet undergone peer review — by a team of scientists in Germany created an uproar when the authors claimed to prove that the virus is entirely synthetic. Others have opined that the presence of certain genetic sequences in the virus shows signs of human intervention.

WHAT COMES NEXT?

As the first surge of the COVID-19 pandemic rocked the U.S., it brought the nation’s health care system to its knees. Hospitals quickly filled to capacity and beyond, and gravely ill patients were turned away. Health care workers carried the brunt of the load, working endless hours in perilous conditions. It cost many their lives. Now, as we emerge into a changed landscape, a reckoning is taking place.

“The virus isn’t going away, so the question now is how do we live with it,” says Annabelle M. de St. Maurice, MD, MPH, associate professor of pediatrics in the Division of Infectious Diseases and co-chief infection-prevention officer for UCLA Health. “I think we have seen some positives, like more and better collaboration between public health and academics.”

There also have been significant lessons learned about how respiratory viruses are transmitted and how they can be prevented, adds Dan Uslan, MD, MBA, Dr. de St. Maurice’s colleague as co-chief of infection prevention. “From development of vaccines and therapeutic treatments to non-pharmacologic interventions such as masking and enhanced ventilation, we’ve learned a tremendous amount,” he says. “We’ve developed novel health care operations, policies and processes for dealing with everything from symptomatic employees to screening surgical patients. All of these are positive developments and have placed us in a stronger position moving forward.”

One major development that has had a significant impact on addressing the racial and economic disparities of who has access to treatment has been the expansion of telehealth. In addition to broadening the channels to deliver medical care, telehealth has vastly expanded the population who can receive mental health services, says Emanuel Maidenberg, PhD, clinical professor of psychiatry and biobehavioral sciences at the David Geffen School of Medicine at UCLA. “While we do lose something by not meeting in person, the positives far outweigh the negatives,” Dr. Maidenberg says. “Remote care allows more equitable access to important services. It makes it possible for people who otherwise could not afford the time it takes to come to an

office setting to receive mental health care services at home.” This includes patients in underserved communities throughout the U.S., where COVID-19 hit the hardest. (At the peak of the pandemic, in April 2020, telehealth accounted for 60% of the total visits at UCLA Health. Since March 1, 2020, there have been more than 1.335 million telehealth visits.)

It’s also quite likely that the pandemic has given rise to a new medical sub-specialty to care for the disturbingly large percentage of patients who may never fully recover from COVID-19. What now is known as ‘long COVID’ is a lingering and often debilitating constellation of symptoms that continue for weeks and months after an initial infection. As with the viral illness itself, long COVID is brand new to the medical community, and thus baffling.

“The medical issues of long COVID are so varied, they don’t fall into any one subspecialty,” says Nisha Viswanathan, MD, assistant professor of medicine and director of the long COVID program at UCLA. “You have to learn a whole new body of knowledge. And for a primary care doctor, who is already trying to manage the rest of a patient’s health care, this can be very difficult.”

As word of Dr. Viswanathan’s focus on long COVID spread, patients began flooding her program. “We have seen something like 1,500 long COVID patients at this point, and with each one, we learn a bit more about what we are dealing with,” she says.

Taking the long view early on in the pandemic, Jared Diamond, PhD, professor of geography at UCLA and a Pulitzer Prize-winning author, found reason for hope. “For the first time in world history, people around the world are being forced to acknowledge that we all face a shared threat that no country can overcome by itself,” he wrote in a December 2020 essay published on the op-ed website Project Syndicate. “If the world’s peoples join together, under compulsion, to defeat COVID-19, they may learn a lesson. They may become motivated to join together, under compulsion, to combat climate change, resource depletion and inequality. In that case, COVID-19 will have brought not only tragedy but also salvation, by finally setting the world’s peoples onto a sustainable course.”

— Veronique de Turenne

Otto O. Yang, MD, associate chief of the Division of Infectious Diseases, doesn’t give any of these theories credence. “None of the serious virologists who have looked at the genetic sequence of the virus have found any convincing evidence of human manipulation that makes it look in any way unnatural,” Dr. Yang says.

He has examined the code of the virus himself and has not seen any persuasive evidence of human interference. “Most of the scientific community is of the opinion that this is a natural virus, and that it has not been genetically engineered.”

As for the lab-leak theory, that SARS-CoV-2 was accidentally released in a biosafety incident at a Wuhan research facility, Dr. Yang says that while it’s possible, we likely will never know. “Not unless there’s some kind of smoking-gun evidence, like written records or a sample,” he says.

What is of greater concern than any of these conspiracy theories is whether or not the U.S. has learned from the COVID-19 epidemic and is thus better prepared for the next one. “In part, COVID spread so fast because it was a completely new virus and there was no immunity in the population, but it also was because of the disorganized and, frankly, ineffective response of our public health agencies,” Dr. Yang says.

The recent outbreak in the U.S. of mpox — formerly called human monkey pox — in which public health agencies once again fumbled testing, contact tracing and medical care, did little to bolster confidence. “How much better of a situation can you have than a virus for which there is already a vaccine, there’s an effective treatment, it’s spreading in a very defined group of people, and you have advance warning that it’s coming?” Dr. Yang asks. “We had every advantage, and still there was an outbreak.”

LOOKING TO THE FUTURE, Nisha Viswanathan, MD, assistant professor of medicine, worries about the effects of the pandemic on her colleagues, and more broadly on the health care profession in general. The co-director of the UCLA Health COVID-19 ambulatory monitoring program and director of the long-COVID program, Dr. Viswanathan works with, and coordinates the care of, medically complex patients.

“A lot of health care workers have come out of the pandemic burned out and demoralized. And now we’re seeing a decrease in respect for the health care profession itself,” she says. “The work that we do is constantly questioned by people who have become really distrustful of us, and of the health care industry.”

While endless hours, huge patient loads and relentlessly poor outcomes played a significant role in health care workers’ burn-out, the political climate took a steep toll, as well. “A lot of the damage that was done was due to the politicization of COVID-19, and, honestly, I’m not sure how we will ever repair that,” Dr. Viswanathan says. “We now have a generation of physicians and other health care workers who are young and already burned out. We also have a lot of older physicians who, because of what we went through during the pandemic, are leaving the profession much sooner than they had planned. It’s terribly sad for our patients, who depend on us.”

The problem is even worse in areas where COVID-19 denialism has become ingrained. Dr. Viswanathan says the region of the country where a health care worker practices can play a role in how the pandemic unfolded, and how they were personally affected. “Being in L.A., we had a population that took the pandemic more seriously. Living here protected me from some of the worst of the politicization,” she says. “I’m originally

from Arkansas, and I previously worked in rural Arkansas, and the health care community there felt the dichotomy far more starkly than we did.”

PANDEMIC PREPAREDNESS HAS BEEN A FOCAL POINT OF PUBLIC HEALTH EXPERTS like Anne Rimoin, MD, MPH. A professor of epidemiology and the Gordon-Levin Endowed Chair in Infectious Diseases and Public Health in the UCLA Fielding school of Public Health, Dr. Rimoin is an internationally recognized expert on emerging infections, global health, surveillance systems and vaccination. She worries that, rather than improve

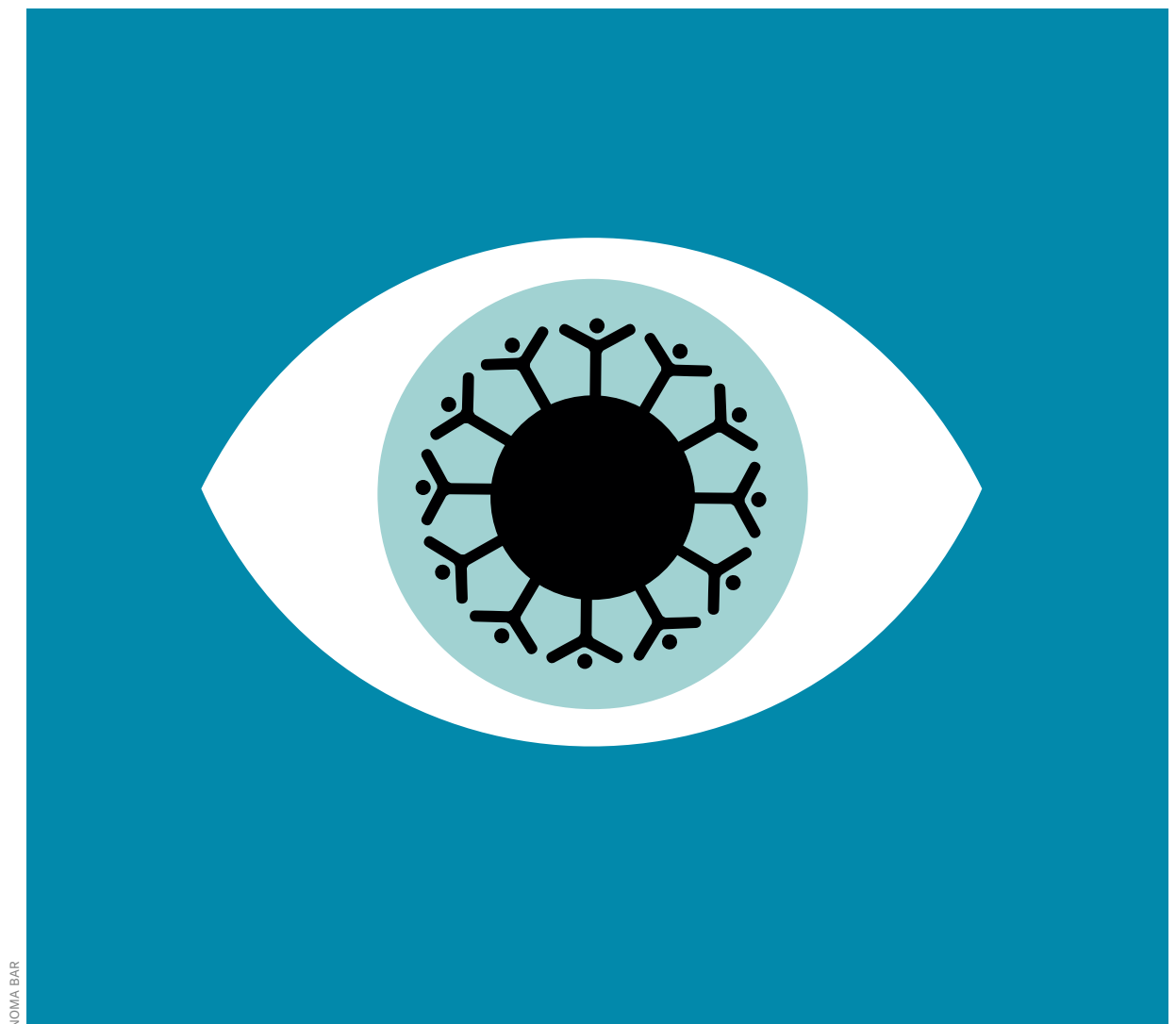
future response, widespread pandemic fatigue may leave the U.S. similarly ill-equipped for a new threat in the future.

“We are at such an important crossroads right now, and I worry that in some ways, we are even less prepared for another surge or another pathogen,” she says. “I think that we’ve learned some things, in particular about the complexity of science communication and the importance of being able to let people know what’s happening,” but even as vaccines and natural immunity lead to an easing of the pandemic, systemic challenges remain.

The health care community continues to combat misinformation, disinformation and a

growing disregard for fact-based science. Each plays a role in hindering response to the inevitable next pathogen, Dr. Rimoin says. “I always go back to what my father-in-law, Dr. Morris Claman, who was a urologist at UCLA, used to say: ‘It is much easier to stay out of trouble than it is to get out of trouble,’” she says. “The problem is, this is a lesson that we seem to keep having to learn over and over again.” ●

Veronique de Turenne is a freelance writer in Los Angeles and frequent contributor to U Magazine.





TIM AUKSHUNAS

"At first, I tried walking on campus with a colleague, which was fun," Dr. Mark Sklansky says. "But then I saw some students skateboarding."

Board Certified

By Barbara Odanaka

MARK S. SKLANSKY, MD, grabs his nylon lunch bag and heads out the door of the UCLA Children's Heart Center, where he serves as medical director. Stepping onto the sidewalk, the soft-spoken pediatric cardiologist, looking fit in dark-blue slacks and a light-blue shirt, could easily be confused for a lunchtime power-walker.

But as Dr. Sklansky bounds up the stairway of the nearby parking structure — two steps at a time — and pops open the trunk of his white Infiniti, it is clear the silver-haired physician has something more interesting in mind than mere pedestrian pursuits.

"Here it is!" he says, an impish grin creasing his lips as he reaches into the car's boot.

With that, Dr. Sklansky pulls out a skateboard — a 33-inch-long cruiser with big blue wheels that was a gift from his wife to replace the small, obsolete '60s-era board he rode since childhood. He gazes at it for a moment, his eyes twinkling in the gloom of the parking garage. But the workday clock is ticking, so without further ado, he drops the board, gives a push and ... whoosh! With a casual confidence — and lunch bag in hand — Dr. Sklansky glides down the ramp of the parking garage to begin another cross-campus adventure.

A midday stroll? Heavens, no! For Dr. Sklansky, chief of pediatric cardiology at UCLA Mattel Children's Hospital, lunch is best served on a roll.

Skateboarding has been part of Dr. Sklansky's life for more than a half-century. Growing up in Orange County, he and his buddies sought out the smoothest asphalt, the silkiest concrete. Like hawks on the hunt, they swooped and soared, flying over streets, sidewalks and parking lots. They were oh-so stoked.

Despite this freewheeling exuberance, young Dr. Sklansky was a thoughtful, patient and intellectually intense child — as his father noted in his journal.

"Mark is a very serious boy," his dad wrote (Mark was a toddler at the time). Several years later, his parents gave him a copy of *Gray's Anatomy*, which intrigued the boy no end. Perhaps none of this was as influential on the future Dr. Sklansky's destiny, though, as the family's academic DNA: His mother, father and younger brother all earned PhDs in their fields (his older brother earned a JD and now teaches law).

After graduating from Brown University with a degree in biomedical ethics, followed by UC Irvine School of Medicine and residency and fellowship training, he spent several years at UC San Diego and USC before sticking his landing at UCLA in 2010 as a world-leading expert in fetal echocardiography. In spite of his professional accomplishments, he remains modest. "We're really just here to help kids and their families," he says.

Although his skateboard accompanied him through his many academic and career

"Mark is a very serious boy," his father wrote in a journal entry when Dr. Sklansky was still a toddler.



TIM AUKSHUNAS

stages, the wheels stayed relatively still until about 10 years ago when he started skateboarding on weekends with his son, Gabriel. Then the pandemic hit, and work stress skyrocketed. Many days, Dr. Sklansky barely had time to gulp down lunch at his desk, much less step outside for a bit of fresh air and sunshine. He knew something had to change, stat.

"At first, I tried walking on campus with a colleague, which was fun," Dr. Sklansky says. "But then I saw some students skateboarding"

The solution? More stoke, less stress.

On this particular fall day, Dr. Sklansky exits the parking structure, rolls up

"WE'RE REALLY JUST HERE TO HELP KIDS AND THEIR FAMILIES."

Gayley Avenue, then cruises eastward into campus. His wheels kuh-clunk, kuh-clunk as they roll over the sidewalk cracks. Gliding over a long, brick-lined path sounds like someone rolling their Rs. The campus is abuzz with first-week activity, and Dr. Sklansky maneuvers his board with the confidence of a thousand rides. By skateboarding standards, he is exceedingly polite, giving a comfortable cushion of space between his board and others sharing the sidewalk.

Still, Dr. Sklansky is getting some looks, ranging from bemused to confused. Even a squirrel looks puzzled. Several young women do a double take as the senior skateboarder zooms past.

"I've had a few yell out, 'Hey, Einstein!'" Dr. Sklansky says with a chuckle, a tuft of his silver hair billowing in the breeze.

After wheeling past Pauley Pavilion, it's time to stop for lunch. Dr. Sklansky hops off his board and finds a shady spot in tree-lined Bruin Plaza. If he were Tony Hawk, he might be tempted to ollie up and over the bronze Bruin Bear statue a few yards away. But as Dr. Sklansky unzips his lunch bag and digs into a yummy-looking rice dish prepared by his wife, Lauren, it's clear settling down to savor a tasty meal in a beautiful part of campus is something he's been looking forward to all morning.

"The first time I came up here, I said, 'Wow! I need this — I need to keep this up,'" Dr. Sklansky says. He pauses to take in the azure sky, the pines and eucalyptus, the clusters of students chatting and laughing around the plaza. Then he zips up his lunch bag and readies his board. It is time to get back to work.

"This next part is the best," Dr. Sklansky says. "It's mostly downhill."

With a push, whoosh! And the impish grin is back.

Barbara Odanaka is a Los Angeles Times reporter-turned-children's-book author and is founder of *Skateboard Moms and Sisters of Shred*. She lives and skates in Laguna Beach, California.

AWARDS & HONORS

Dr. Arleen Brown (FEL '98), professor of medicine and co-director of the UCLA Clinical and Translational Science Institute, was elected to the National Academy of Medicine.

Dr. Michelle Craske, professor of psychiatry and biobehavioral sciences in the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA and director of the UCLA Anxiety and Depression Research Center, received the 2023 James McKeen Cattell Fellow Award from the Association for Psychological Science.

Dr. Tyler Clites, affiliate faculty in the Department of Orthopaedic Surgery in the David Geffen School of Medicine and assistant professor of mechanical and aerospace engineering at the UCLA Samueli School of Engineering, received a 2022 director's new innovator award from the National Institutes of Health.

Dr. Steven M. Dubinett (RES '84), interim dean of the David Geffen School of Medicine at UCLA, received the 2022 Breath of Life Award from Breathe Southern California.

Dr. Patricia A. Ganz (MD '73, RES '76, FEL '78), Distinguished Professor of Medicine at the David Geffen School of Medicine at UCLA and associate director for population science at the UCLA Jonsson Comprehensive Cancer Center, received the 2022 Ellen L. Stovall Award for Innovation in Patient-Centered Care from the National Coalition for Cancer Survivorship.

Dr. Daniel H. Geschwind (RES '95, FEL '97), Gordon and Virginia MacDonald Distinguished Chair in Neurology, Psychiatry and Human Genetics, received the National Academy of Medicine's 2022 Rhoda and Bernard Sarnat International Prize in Mental Health.

Dr. Michael Grunstein, Distinguished Professor Emeritus of Biological Chemistry, received the 2022 Albany Prize.

Dr. O. Joe Hines (RES '97), interim chair of the Department of Surgery and Robert and Kelly Day Professor of General Surgery, received the 2022 Sherman M. Mellinkoff Faculty Award, the highest honor presented by the David Geffen School of Medicine at UCLA.

Dr. Varghese John, professor of neurology and director of the Drug Discovery Lab at UCLA, received a bronze prize from the Oskar Fischer Prize.

Dr. Timothy Miller (MD '63, RES '70), professor emeritus of plastic and reconstructive surgery and co-founder and chief surgeon of UCLA's Operation Mend, received the Congressional Medal of Honor Society's Distinguished Citizen Award.

In Memoriam

Dr. Jerrold Alan Turner (MD '58), professor emeritus of medicine and microbiology, immunology and molecular genetics, former assistant dean for student affairs at the David Geffen School of Medicine at UCLA and associate medical director for Harbor-UCLA Medical Center, died June 13, 2022, two days before his 91st birthday. Dr. Turner was a lifelong Bruin, earning his BA in zoology and MD degree at UCLA. Following a trip to Guatemala while a medical student, he contracted paralytic polio, but continued his studies and went on to train in tropical medicine at the London School of Hygiene & Tropical Medicine. He joined the UCLA faculty in 1960. His optimism and love of teaching were reflected in the four Golden Apple awards he received from the students of the medical school.



COURTESY OF CONNIE FRANK

The Philanthropy of Connie Frank Helps Transform Transplantation Medicine

By Nancy Sokoler Steiner

Before attending college, Connie Frank aspired to become a physician. However, at the University of Illinois, she obtained a liberal arts degree and did not pursue a medical career. Nevertheless, through her philanthropic activities Frank has saved and enhanced the lives of thousands of patients.

Recently, Frank gave two major gifts supporting clinical innovation in organ transplantation. She maintains a strong interest in medicine and finds transplantation particularly meaningful. “It is one of the few instances where someone has an end-of-life disease that can be turned around to give them a new lease on life,” she said. “Both projects give transplant patients the possibility for a better, healthier life.”

The first gift establishes the Immune Tolerance Project, which aims to tackle lifelong dependence on anti-rejection drugs. Kidney-transplant surgeon Dr. Jeffrey Veale (FEL '06), director

Connie Frank and her husband, Evan Thompson.

of the UCLA Kidney Transplantation Exchange Program, is using a new clinical technique where he administers stem cells from the living kidney donor to the kidney recipient following transplantation. The donor’s cells prime the recipient’s immune system to accept the new organ as its own — to recognize it as “self” — without rejection.

“Organ transplants are a gift of life, but for many, powerful medications are required to prevent the recipients from rejecting their new organ — and these drugs come with multiple complications,” Dr. Veale said. “Connie’s generosity will help us advance our pioneering process to induce transplant tolerance, enabling the transplant recipient to thrive without lifelong immunosuppressive medications.”

At press time, Dr. Veale had performed the stem-cell technique on five pairs of well-matched siblings. To date, two patients have been taken off all immunosuppressive medications and two more will soon be off of all medications. Ronald Reagan UCLA Medical Center is one of only five medical centers worldwide capable of this groundbreaking approach, and the only medical facility in the United States currently running an active tolerance protocol for well-matched donors.

Frank said Dr. Veale, who received initial funding from the OneLegacy Foundation, hopes to broaden the approach to non-matched donors.

It may eventually have potential for use with deceased kidney donations and retroactively for recent kidney recipients. “If things go as Dr. Veale hopes, this will be a game changer,” Frank said. “At some point it could be applicable to every kind of transplantation.”

The second of Frank’s recent gifts established the Connie Frank Bone Lab. Bone biopsy is done at very few institutions but can help reveal crucial information that can guide physicians in how to best target treatments for a variety of conditions, including transplant-related bone disease.

“IT IS ONE OF THE FEW INSTANCES WHERE SOMEONE HAS AN END-OF-LIFE DISEASE THAT CAN BE TURNED AROUND TO GIVE THEM A NEW LEASE ON LIFE.”

Andrew Macias (right) was the first patient to undergo Dr. Jeffrey Veale’s transplant-tolerance protocol. He received his new kidney from his brother, Tom (left), and is now living without immunosuppressive medication.



ADAM AMENGUAL



ADAM AMENGUAL

Dr. Jeffrey Veale.

“Bone biopsy is a vital technique that can significantly improve the treatment of metabolic bone diseases in adults and children,” said Dr. Isidro Salusky (FEL '82), Distinguished Professor of Pediatrics in the David Geffen School of Medicine at UCLA, chief of pediatric nephrology and director of the Pediatric Dialysis Program. “Thanks to Connie’s commitment to our work, the Connie Frank Bone Lab at UCLA will provide clinical bone-biopsy services for patients throughout the University of California health system and the nation, and it will have a profound impact on the clinical care and lives of these patients.”

Frank reported that Dr. Salusky planned to do five biopsies in the first year of the program but had already performed 22 procedures by October. “People are reaching out to him from institutions around the country,” she said. “This is another example of UCLA seeing a need and stepping forward to make it happen.”

Born in the Midwest, Frank credits her philanthropic spirit to her parents and grandparents. “They taught me to be kind and caring,” she said. “That’s a message I have shared with my own children and grandchildren.”

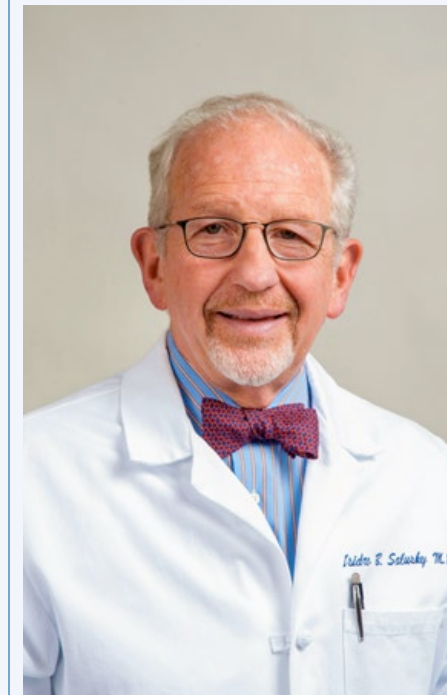
Frank and her husband, Evan Thompson, believe in the value of helping others and focus most of

their giving on health and education. Longtime friends who married in 2008, the couple confer and take interest in each other’s philanthropic endeavors. She funds scholarships

“THE CENTER ALLOWS DOCTORS PREVIOUSLY HOUSED IN SEPARATE LOCATIONS TO COME TOGETHER AND SHARE IDEAS.”

for underserved students at UC Santa Barbara and he aids students at the University of Southern California. Frank also lends support to Stuart House, a program of the Rape Treatment Center at UCLA Santa Monica Medical Center, among many other projects. In addition, the couple have combined their efforts and have made joint gifts to UCLA.

Dr. Isidro Salusky.



UCLA HEALTH

“The positive impact our philanthropy has on patient lives enriches our lives as well,” Frank said.

Frank’s first major gift to UCLA established the Connie Frank Kidney Transplant Center, which opened in 2015. It almost tripled the size of the prior space, creating a serene, 10,000-square-foot suite with all patient services available in one location. Frank provided input on everything from the colors and materials to the overall design of the clinic.

“I know that patients get the highest level of care at UCLA, and I wanted their physical surroundings to also be of the highest level,” said Frank. “The center is beautiful and set a new standard for what a clinic should look like. Whenever I am with any of the doctors or at the center, it is rewarding to know I have made a difference by helping patients to feel more comfortable while facing a serious, life-altering situation.”

Thompson added, “The center allows doctors previously housed in separate locations to come together and share ideas.” The new space, he said, also serves to recognize the center’s nationally renowned physicians by “giving them the best surroundings to work in.”

Frank emphasizes the need for private philanthropy to benefit UCLA’s medical and scientific endeavors, particularly projects in their early stages. “The Immune Tolerance Program and the bone lab still need more funding as the programs expand, and support is needed at all levels,” she said. “Many UCLA programs are funded by donors. It really does take a village.” ●

Nancy Sokoler Steiner is a freelance writer in Los Angeles.

For more information, contact Molly Moursi at: 310-267-1826

To learn more about UCLA’s transplant-tolerance program and link to an article in U Magazine about the procedure, go to: tinyurl.com/Transplant-Tolerance-Program

UCLA Orthopaedic Surgery Celebrates the Jeffrey J. Eckardt Chair



REED HUTCHINSON

On June 8, 2022, UCLA faculty members, family and friends gathered at the UCLA Meyer and Renee Luskin Conference Center to celebrate the legacy of the late Dr. Jeffrey J. Eckardt (RES '79), and also the appointment of Dr. Nicholas Bernthal (RES '12) as the inaugural holder of the Jeffrey J. Eckardt, M.D., Term Chair in Orthopaedic Surgery, David Geffen School of Medicine at UCLA.

The chair was established through lead gifts by Maxine and Eugene Rosenfeld, the Leonetti/O'Connell Family Foundation and Jean-Marc Chapus and Christine and Steven F. Udvar-Hazy, along with contributions from 38 others.

A world-renowned orthopaedic oncologist, Dr. Eckardt, who retired to emeritus status in 2019 and died in November 2020, served as Distinguished Professor of Orthopaedic Surgery, chair of the Department of Orthopaedic Surgery and held the Helga and Walter Oppenheimer Endowed Chair in Orthopaedic Oncology. The late

(From left) Dave Eckardt; Dr. Eckardt's wife, Mary Eckardt; Dr. Nicholas M. Bernthal; Susan Eckardt Bradley; and Jennie Eckardt.

Dr. Eckardt pioneered "limb-salvage" surgery that replaced amputation for patients with bone cancers, designed and improved oncologic implants and trained hundreds of surgeons in how to treat bone tumors and care for patients. Under his leadership, the UCLA Department of Orthopaedic Surgery pushed scientific frontiers by opening dozens of clinical trials for less-toxic agents in sarcoma care, added studies to understand and improve function after surgeries and developed an "avatar" program of precision medicine to try to understand each patient's individual tumor.

"We are very grateful to our numerous donors who have recognized the extraordinary accomplishments of Dr. Eckardt and are honoring him in this way," said Dr. Steven M. Dubinett (RES '84), interim dean of the David Geffen

School of Medicine at UCLA. "Endowed chairs provide valuable resources for our faculty, and this new chair will enable Dr. Bernthal to push the boundaries in medicine, as did Dr. Eckardt."

Dr. Bernthal joined the UCLA Department of Orthopaedic Surgery in 2013, and he serves as an associate professor, executive medical director and interim chair of the Department of Orthopaedic Surgery and director and founder of the Global Orthopaedic Initiative at UCLA. Funding from the chair will support Dr. Bernthal's research to enhance quality of life for patients with sarcoma, decrease orthopaedic-implant infections and advance implant engineering. His clinical interests focus on bone and soft-tissue tumors, and his National Institutes of Health-funded laboratory is pioneering new implant coatings to prevent surgical infections.

Prior to his death and as fundraising for this chair began, Dr. Eckardt expressed his respect for the support and how honored and moved he was. Dr. Bernthal, who shared a close relationship with Dr. Eckardt, said, "Dr. Eckardt was an unparalleled physician who taught many of us how to be doctors and to challenge ourselves to be better. He will be most remembered for his unwavering humanity, and I am immensely proud to hold the inaugural chair named in his memory."

Dr. Dubinett presented Dr. Bernthal and Dr. Eckardt's son, Dave, with commemorative chairs. In addition, Dave Eckardt read a letter from his late father to Dr. Bernthal.

The Eckardt family was joined by several other family members, friends and fellow philanthropists who contributed to the chair fund. Also in attendance were members of Dr. Bernthal's immediate family and UCLA colleagues. ●

For more information, contact Gretchen McGarry at: 310-794-4746

UCLA Department of Neurology Celebrates New John Douglas French Alzheimer's Foundation Chair

On September 27, 2022, UCLA faculty members, John Douglas French Alzheimer's Foundation (JDFAF) board members and friends gathered at the UCLA Meyer and Renee Luskin Conference Center to celebrate the John Douglas French Alzheimer's Foundation and its gift to establish the Michael M. Minchin, Jr., President, J.D. French Alzheimer's Foundation Endowed Chair.

Dr. Keith Vossel, director of the Mary S. Easton Center for Alzheimer's Disease Research at UCLA and professor of neurology, was appointed the inaugural chair holder.

The chair is named in memory of the late Michael M. Minchin, Jr., who served as president of the John Douglas French Alzheimer's Foundation for nearly two decades. This is the second endowed chair in the UCLA Department of Neurology funded by the JDFAF.

"Based on the John Douglas French Alzheimer's Foundation's strategic initiative and the continued generosity of

our donors, the directors wanted to establish a second endowed chair at UCLA," said foundation president and CEO Dr. Cheryl Mae Craft. "The Michael M. Minchin, Jr., President, J.D. French Alzheimer's Foundation Endowed Chair honors our

laboratory research and clinical trials focusing on abnormal brain rhythms in Alzheimer's and related dementias, and he leads a large multidisciplinary group of clinicians, scientists and trainees who are committed to making major strides toward eradicating

Foundation made a strong investment in our research enterprise by endowing two chairs," said Dr. Carmichael. "Endowed chairs provide a sustained funding source to faculty that allows them to innovate. This endowed chair will enable Dr. Vossel to take new directions in



TODD CHENEY

(From left) UCLA Drs. Keith Vossel and S. Thomas Carmichael, Dr. Cheryl Mae Craft and Monty Minchin.

inspirational leader and friend with a lifetime of UCLA family ties."

"The foundation is thrilled to present this second endowed chair to Dr. Keith Vossel, a dynamic neurologist treating patients and working to discover novel treatments for Alzheimer's disease," said BJ Kirwan Hanna, chairman of the JDFAF.

Funds from the chair will help Dr. Vossel make advances in Alzheimer's research, patient care, education and community outreach. He conducts

Alzheimer's disease.

Dr. Vossel has been recognized for his major contributions to the Alzheimer's field with prestigious awards, including the Paul B. Beeson Career Development Award in Aging Research.

Dr. S. Thomas Carmichael (FEL '01), chair of the UCLA Department of Neurology and Frances Stark Chair in Neurology, presented Drs. Vossel and Craft with commemorative chair trophies.

"As long-standing partners in discovery, the John Douglas French Alzheimer's

his research and to pursue 'out-of-the-box' approaches to treating Alzheimer's disease and addressing scientific problems."

Those in attendance included UCLA alumnus Montgomery "Monty" Minchin, son of the late Michael Minchin; Genevieve McSweeney, foundation secretary; Margaret Black, foundation vice president, and her husband, John Ptak; and JDFAF members Brenda Klehn and Karen Coyne. ●

For more information, contact Elizabeth Naito at 310-206-6749



TODD CHENEY

Operation Mend Celebrates its 15th Anniversary

UCLA Health Operation Mend held its 15th anniversary Red, White & Denim Backyard Bash on October 2, 2022, at the home of founding family members Dana and Todd Katz. The event raised more than \$1.1 million, 100% of which will go directly to treatment for wounded veterans and support for caregivers. More than 500 guests attended, including 44 warriors who have been treated through Operation Mend programs for physical and psychological wounds related to their post-9/11 military service.

“Operation Mend’s 15th anniversary celebration represents the long-term commitment UCLA has made to treating our military veterans suffering from the visible and invisible wounds of war and supporting their caregivers,” said UCLA Chancellor Gene D. Block. “I am grateful to the Katz family for welcoming so many Operation Mend team members and supporters to their home to honor the wounded

U.S. Army Staff Sgt. Darius Johnson.

warriors and their families, who have sacrificed so much to be with us.”

Operation Mend provides surgical and medical treatment, comprehensive psychological evaluation and support and intensive treatment programs for post-traumatic stress disorder (PTSD), traumatic brain injury and substance use disorder. It is the only program in the nation that includes caregivers as full participants in a mental health treatment program for veterans. Family-centered care is a core value of Operation Mend and is vital to the warriors’ healing process. Thanks to generous donors, all travel, accommodations, case management and treatment are provided at no cost to veterans and caregivers.

Stories shared by Operation Mend patients and family members formed the highlight of the evening’s program. In 2011, United States Army Staff Sgt. Darius Johnson survived two improvised-explosive-device explosions, one right after the other, in Afghanistan. An Operation Mend patient who participated in the physical-injury program and the intensive treatment program for PTSD, Staff Sgt. Johnson said, “The program gave me the tools to accept that

what happened wasn’t my fault, it was beyond my control. You can’t do this stuff on your own, and you can’t do it half-way. Once I realized all this, change kind of happened all at once.” Since then, Johnson received his bachelor’s degree, married and began a master’s program in business and leadership.

Special recognition was given to program founder Ronald A. Katz, whose initial gift to UCLA, ongoing financial support of the program and continuing leadership of Operation Mend’s advisory board have been instrumental in enabling the program’s sustainability and growth. The idea of bringing together UCLA leadership and the Army was inspired by his late wife, Maddie. Their efforts have resulted in life-changing care for the wounded post-9/11 military service member and veteran community.

Operation Mend board of advisors member Gary Ghazarian received the inaugural Maddie Katz Humanitarian Award for his contributions to advancing the mission of Operation Mend. Since he began volunteering with the Buddy Program in 2013, Ghazarian has provided social support to 18 warriors.

U.S. Marine Corps Vietnam veteran Ric Ryan, known as “The Walking Man of Murphys, California,” joined the celebration with his wife, Joanne. Ryan has been walking to raise money for Operation Mend since 2008 as a coping strategy to manage his own PTSD. This year, he surpassed 10,000 miles, raising not only awareness, but also funds in excess of \$160,000 for UCLA Health Operation Mend.

Clark Gregg, actor and director of *The Avengers* and *Agents of S.H.I.E.L.D.*, emceed the event. Actors Joel Grey, Jennifer Grey, Ruta Lee and Patrika Darbo also attended. Citizen Queen provided entertainment.

Special thanks to the Katz family for hosting the event and sponsoring half of it, along with The Thaliens, and to all event sponsors and those who support Operation Mend. ●

For more information, contact Nicholas Middlesworth at: 310-227-5670

Giving to Benefit Others

By Dan Gordon

Charitable giving is the lifeblood of nonprofit organizations, enabling the expansion of programs and providing funds for urgent needs and the acceleration of vital research. At UCLA, these philanthropic relationships often evolve from joyful occasions and gratitude for exceptional health care. For Judith and Robert Winston, the beginning of their story with UCLA began more than 50 years ago, when their son, Bob Jr., was born at UCLA.

“It was a wonderful experience, and so UCLA has always been very close to us,” said Judith. “We’ve always had a great affection, and certainly respect, for UCLA.”

Their early gifts benefited the UCLA Department of Medicine and the UCLA Jonsson Cancer Center Foundation. Then, 30 years ago, when Robert was told his PSA count was high, he connected with Dr. Arie Belldregun, director of the UCLA Institute of Urologic Oncology and Roy and Carol Doumani Chair in Urological Oncology.

“Judy called UCLA and talked to this relatively new person on the block, Dr. Arie Belldregun, who turns out to be one of the world’s top experts, who said he would see me,” said Robert. “I had prostate cancer, and from there we were just taken care of.”

Judith also benefited from urological care at UCLA from Dr. Shlomo Raz

(FEL ’75), Distinguished Professor Emeritus. These experiences solidified the Winstons’ commitment to direct their gifts to the UCLA Department of Urology.

“We actually were helping the urology department before it was even a department,” said Robert. “There were others involved in this pioneering work, and when urology needed some financing, several families got together and helped fund the first da Vinci machine for robotic-assisted surgery.”

The Winstons also focused on research and pediatric urology, establishing the Judith and Robert Winston Chair in Pediatric Urology in the urology department. Dr. Steven

Lerman (RES ’98), clinical professor of urology, director of the Clark Morrison Children’s Urological Center at UCLA and chief of the Division of Pediatric Urology, holds the chair, which fosters advancement in the field and enables Dr. Lerman to accelerate his teaching, research, training and clinical activities.

The Winstons continued their commitment to UCLA in 2021 by establishing the Winston Research Grant Endowed Fund in the Department of Urology, and in 2022 they increased the endowment to further support urology research. Recognizing that the early stages of investigations are crucial, and that securing funding for novel research ideas is highly competitive, their goal is to seed early investigations. Working with Dr. Mark S. Litwin (FEL ’93), chair of the UCLA Department of Urology and The Fran and Ray Stark

Foundation Chair in Urology, they have seen great success in supporting early-career faculty who have advanced their research enough to receive National Institutes of Health funding.

“We want to give research money to help new people. That research pays off if you get the right people and nurture them in the early years, that’s the strategy,” said Robert.

Through their long-standing philanthropic partnership with UCLA, the Winstons have seen how their gifts have fueled advances and supported young investigators. “The great medical schools are admired because of their ongoing commitment to research,” said Robert, who, along with Judith, encourages those who have benefited from UCLA Urology to consider funding promising investigations.

The Winstons created the endowment that they say is their legacy for UCLA and the local community. “We have had superior personal care at UCLA Urology, and we want other people to benefit,” Robert said. “We’re working to build endowment money so that doctors who are hired, current associates and families in the area can benefit from what we’ve benefited from. We’re delighted in the way the department has grown and that we have had a small part in helping the growth.” ●

Dan Gordon is a freelance writer in Los Angeles.

For more information, contact Molly Moursi at: 310-267-1826



Robert and Judith Winston.

SARAH CONNOR



TERESA CLOSSON

Former Faculty Member Endows Chair for Director of Consultations

A celebratory luncheon took place on August 30, 2022, in the Jules Stein Building to honor the appointment of Dr. Laura Bonelli, UCLA Stein Eye Institute director of consultations and health sciences assistant clinical professor of ophthalmology, as the inaugural Olive and Anga Lundgren Endowed Chair.

In 2020, faculty alumna Dr. J. Bronwyn Bateman (RES '78, FEL '79), former professor of ophthalmology and pediatrics at the David Geffen School of Medicine at UCLA and president of the UCLA Ophthalmology Alumni Association, established the chair in memory of her mother, Dr. Olive Anga Lundgren, and grandmother, Anga Lundgren.

Dr. Bateman learned the values of honesty and integrity and the importance of work from her mother and grandmother, and she felt it was important to honor them. "This was an opportunity to create a legacy for them. Both were as honest and hard-working as any American, and my Norwegian grandmother contributed to the immigrant culture in our country," she said.

Dr. Bateman's mother graduated from the University of Minnesota Medical School in 1941, and she was the first board-certified pediatrician in Long Beach, California. "I am sure that my mother would be thrilled to have Dr. Laura Bonelli be the first recipient of the chair," Dr. Bateman said. "The director of consultations is on the front

(From left) Drs. Bartly Mondino, Bronwyn Bateman, Laura Bonelli, Anne Coleman and Bradley Straatsma.

line, just as pediatricians are. I hope that this gift will enable Dr. Bonelli to rise to greater heights, and I hope that others will be inspired to honor their mothers and grandmothers."

Dr. Bonelli, as director of consultations, holds an important position at the interface of the Department of Ophthalmology with other departments in the David Geffen School of Medicine at UCLA and other services within the UCLA Health system. This is the only chair at UCLA that supports a director of consultations.

"The director oversees consultations by residents and fellows from the inpatient services and emergency rooms," said Dr. Bartly J. Mondino, Distinguished Professor of Ophthalmology and former chair of the UCLA Department of Ophthalmology. "These consultations are often complicated and may involve conditions that are vision-threatening, requiring timely and competent consultations at all times."

In addition to family members and friends, attendees also included Dr. Bradley R. Straatsma, professor emeritus of ophthalmology and founding chair of the UCLA Department of Ophthalmology and founding director of the UCLA Stein Eye Institute; Dr. Anne L. Coleman, Bradley R. Straatsma, M.D., Endowed Chair in Ophthalmology, chair and executive medical director of the Department of Ophthalmology, director of the UCLA Stein Eye Institute and affiliation chair of the Doheny Eye Institute; and Dr. Anthony C. Arnold (MD '75, FEL '83), Mary Oakley Foundation Chair in Neurodegenerative Diseases, professor of clinical ophthalmology, chief of the neuro-ophthalmology division, director of the UCLA Optic Neuropathy Center and vice chair of education. ●

For more information, contact Leiloni L. Breidert at: 310-206-6035

HONORING THE DEDICATION OF UCLA FACULTY

COURTESY OF UCLA HEALTH
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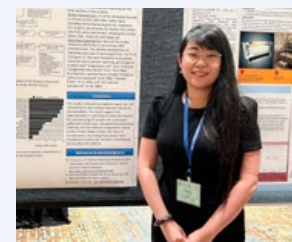
Drs. Danielle Greig and Andrea Cracchiolo.

Through the philanthropy of multiple donors, the Cracchiolo/Leventen Resident Research Award in Orthopaedic Surgery has been established to honor the dedication of Dr. Andrea Cracchiolo III, (RES '68, FEL '69), professor emeritus of orthopaedic surgery, and Dr. Edward O. Leventen, who served as an assistant clinical professor of orthopaedic surgery at UCLA from 1967-2013. The award named for Drs. Cracchiolo and Leventen recognizes their contribution to advancing the field of orthopaedic surgery and mentoring the next generation of foot and ankle specialists. Following a lead gift of \$5,000 from Dr. Harold Kitaoka (FEL '87) in April 2022, the additional \$95,000 was raised from former foot and ankle fellows and residents who worked with the doctors, as well as through notable contributions from Dr. Jiun-Rong Peng, Dr. Cracchiolo (through the Blalock Foundation) and The Steele Foundation. The endowed Cracchiolo/Leventen Resident Research Award in Orthopaedic Surgery provides \$3,000 annually to support an orthopaedic surgery resident who presents the best basic science or clinical research paper. The first award was presented to Dr. Danielle Greig (RES '22) during the UCLA graduation ceremony on June 3, 2022, with Dr. Cracchiolo in attendance.

For more information, contact Gretchen McGarry at: 310-794-4746

GIFT FROM UCLA FACULTY MEMBER BENEFITS MEDICAL STUDENTS INTERESTED IN INTEGRATIVE MEDICINE

Thanks to support from the new Hui Family Integrative Health Student Innovation Fund, Cindy Liu, a medical student leader from the UCLA Chinese Medical Interest Group was able to travel to the 2022 International Congress on Integrative Medicine and Health in



JASMINE DENG

Cindy Liu.

Phoenix, Arizona, to present her research. More than 1,000 researchers, educators, clinicians and trainees from around the world attended the congress, which fosters the development of new collaborations and strengthens existing partnerships within the field of integrative health care. The Hui Family Fund, established by alumnus Dr. Ka-Kit Hui, (MD '75, RES '78), founder and director of the UCLA Center for East-West Medicine and Wallis Annenberg Endowed Chair in Integrative East-West Medicine, supports student projects that advance innovative integrative medicine approaches and benefit vulnerable populations.

For more information, contact Emily McLaughlin at: 310-794-4763

MATTEL YOUTH AMBASSADORS RAISE FUNDS TO BENEFIT CHILDREN

On June 24, 2022, members of the Mattel Youth Ambassadors class of 2022 presented a check of nearly \$50,000 to Johnese Spisso, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences, and Richard Azar, chief operating officer, UCLA Health. Mattel Youth Ambassadors, high school students who raise funds to support UCLA

Mattel Children's Hospital and patient experience programs, meet each week to explore various health care careers with physicians, researchers and guest speakers. The students co-lead meetings, moderate the speaker sessions and create presentations to



REED HUTCHINSON

Chase Child Life and volunteer services teams joined members of the 2022 Mattel Youth Ambassadors who presented a check to Johnese Spisso (second from right) and Richard Azar (second from left).

develop their skills. This is the second annual class of Mattel Youth Ambassadors, comprising 70 high school students from Los Angeles, the Bay Area and several out-of-state members. Funds raised will support the Chase Child Life Program and UCLA Health Volunteer Services.

For more information, contact Leigh Dierck at: 310-794-9928

TRANSFORMING A CANCER DIAGNOSIS INTO INSPIRATIONAL PHILANTHROPY

Ever since Jennifer Greenhut Tollin received a stage IV triple-negative breast-cancer diagnosis in 2017, she has turned a negative, life-changing event into an inspiring, uplifting story. She began treatment in 2017 with UCLA oncologist Dr. Dennis J. Slamon (FEL '82), director of the Revlon/UCLA

Women's Cancer Research Program at the UCLA Jonsson Comprehensive Cancer Center, chief of the Division of Hematology/Oncology and Bowyer Professor of Medical Oncology. Tollin said, "Midway through my chemotherapy, I was extremely passionate about starting a company that could help raise money and give back to cancer research. I believed my team of doctors at UCLA were saving my life. So, my triple-negative diagnosis became a Zero Negative company, spreading love and gratitude through accessories that give back to cancer research at UCLA." Over the past four years, Tollin has donated a portion of her company's profits to the UCLA Jonsson Cancer Center Foundation for Dr. Slamon's cancer



DEBBIE BANAFSHEHA

Jennifer Greenhut Tollin.

research. She was honored by UCLA Health in the Laker for a Day program, and recently published a book she wrote with her husband, *Everyone Needs a Larry*. A UCLA alumna, Tollin participated on the UCLA gymnastics team and was a USA Gymnastics National Championships team member. "I owe so much to UCLA, and will always want to give back and help find a cure," she said.

For more information, contact Margaret Steele at: 310-968-0734

GIFT TO CARDIOVASCULAR HEALTH IN MEMORY OF UCLA ALUMNUS

The Stanton H. Wong Survivor's Trust has made a \$100,000 gift, memorializing UCLA alumnus Stanton H. Wong, who passed away in December 2021. Wong received care from UCLA Health and was inspired to support groundbreaking research in cardiovascular health through a planned gift upon his passing. This funding will benefit the cardiovascular research theme, a David Geffen School of Medicine at UCLA initiative that aims to facilitate and integrate campus-wide research in cardiovascular biology. Additionally, the gift will support the analysis of clinical blood samples of individuals with heart attacks to provide insight into genes and metabolites that could affect the development of heart failure after heart attacks. Every 30 seconds, one person in America has a heart attack, which contributes to more than 50% of all cases of heart failure. Dr. Arjun Deb, who oversees the UCLA Cardiovascular Medicine Research Theme, said, "This gift will greatly impact our ability to predict who will and who will not have a good outcome after a heart attack and help fashion precision medicine approaches tailored toward every individual patient."

For more information, contact Lindsey Walton at: 424-468-7588

Ingenuity and Hope

By Annabelle M. de St. Maurice, MD, MPH



MONTSE BERNAL

THE COVID-19 PANDEMIC HAS TOUCHED THE LIVES OF EVERYONE. IT CERTAINLY TOUCHED MINE, in ways both professional and personal. I remember going to dinner with colleagues in December 2019, not long before the pandemic officially started, and casually talking about cases of “unknown pneumonia” in Wuhan, China. The initial reports noted that there were no instances of human-to-human transmission. We all had our own theories about the etiology of the outbreak but thought it was likely viral, possibly due to a novel coronavirus.

With such limited information early on, it was impossible to predict what would happen next. We prepared as best we could for what we believed was to come, training staff how to wear personal protective equipment (PPE), preparing protocols and stockpiling masks and face shields.

Early in my career, as an Epidemic Intelligence Service officer at the Centers for Disease Control and Prevention (CDC), I worked in several areas where there were viral outbreaks. I conducted public health investigations abroad in Uganda, Haiti, Brazil, Guinea and Liberia, and closer to home in Wisconsin. While these experiences helped me to lead UCLA Health’s infection-prevention response to the COVID-19 pandemic, I was used to responses with defined time frames and involving known pathogens. We knew that

also was confident in our PPE, isolation protocols and vaccines. I was fortunate to have received two doses of the vaccine and a booster prior to delivering my daughter, and I tried to encourage others to get their vaccine while pregnant.

The unpredictability of COVID-19 seeped into other areas of my personal life and had a profound impact. Because of travel restrictions and a hectic work schedule, weeks would go by and I wouldn’t see my husband, whom I had married six months before the pandemic began, as he was completing a fellowship in Palo Alto. I haven’t seen my eldest brother, who lives in Japan, for more than two years because of quarantine guidelines, and I am not sure when he will be able to meet his new niece.

And I thought about my mother, who passed away in October 2019, and felt grateful to have been able to say goodbye to her in person when so many others could not be at the bedside of loved ones or grieve with family members due to the pandemic.

Despite all these challenges, the pandemic has left me feeling hopeful and more appreciative of human ingenuity, community and resilience in the face of uncertainty. At UCLA Health, many multidisciplinary teams came together to solve problems during the pandemic, creating processes to conserve and reuse N95 masks, revising workflows in the ICUs to make them more efficient and reduce the need for additional PPE. Our colleagues on campus stepped up to help, too; faculty and students in the School of Engineering used 3D printers to make face shields and masks for personal use were sewn from surgical wrap.

Taking up paddle boarding helped me relieve the stress. Since paddle boards naturally require at least a six-foot clearance, I was able to go with friends, and also bring my dog, Arlo. Patiently steadying myself (and Arlo) on a 10-foot-long board wobbling in the swells was good practice for dealing with the instability of the pandemic. Moving over the water in the evening, I would hear boats in the marina ring their bells and blow horns at 7 p.m. as a tribute to essential workers. This was a way for people to connect with each other, and also provide some sense of regularity in an otherwise troublesome time.

When I heard these sounds, I felt uplifted and ready for the next challenge ahead.

Dr. Annabelle M. de St. Maurice is assistant professor of pediatrics in the Division of Infectious Diseases and co-chief infection-prevention officer for UCLA Health.

“DESPIITE ALL THESE CHALLENGES, THE PANDEMIC HAS LEFT ME FEELING HOPEFUL AND MORE APPRECIATIVE OF HUMAN INGENUITY, COMMUNITY AND RESILIENCE IN THE FACE OF UNCERTAINTY.”

Zika virus was transmitted by mosquitoes and that Ebola virus was only contagious when people developed symptoms. Controlling these virus epidemics was challenging, but we had defined protocols for things like contact tracing and PPE.

COVID-19 was different.

As our knowledge about COVID-19 transmission evolved, we realized how important it was to conserve our PPE during the global shortages. It became evident that asymptomatic and airborne transmission were valid concerns. We communicated about the importance of judicious use of PPE and adhering to CDC guidelines. Yet, I also understood the fear this pandemic was arousing as physicians, nurses and other medical staff requested higher levels of protection than were being recommended at that time, such as N95 masks and hazmat suits.

For me, the fear and uncertainty that my colleagues felt early in the pandemic really hit home in 2021, when I became pregnant with my daughter and was on the floors taking care of patients with COVID-19. I became acutely aware of the potential danger, but I



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Thank you.

David Greenwald
Editor, *U* Magazine

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