



THE STRADIVARI OF WESTWOOD

A neurosurgeon trades his scalpel for a plane and wood knife to craft exquisite violins.



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INTERIM CHIEF OF MARKETING

Dominic Parero

EDITOR

David Greenwald

NEWS EDITOR

Diya Chacko

ART DIRECTION & DESIGN

Rent Control Creative

CONTRIBUTING WRITERS

Maxime Cannesson, MD, PhD

Catherine L. Chen, MD, MPH

Sandy Cohen

Veronique de Turenne

Judy Fortin

Gregg J. Gold, PhD

Dan Gordon

Zina Jawadi

Kristofer J. Jones, MD

Robin Keats

Julie Kirst

Jennifer M. Lucero, MD, MA

Nancy Sokoler Steiner

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Cover Illustration by
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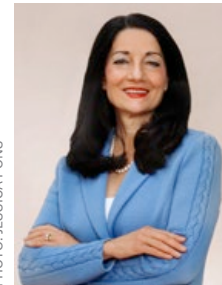


PHOTO: JESSICA PONS

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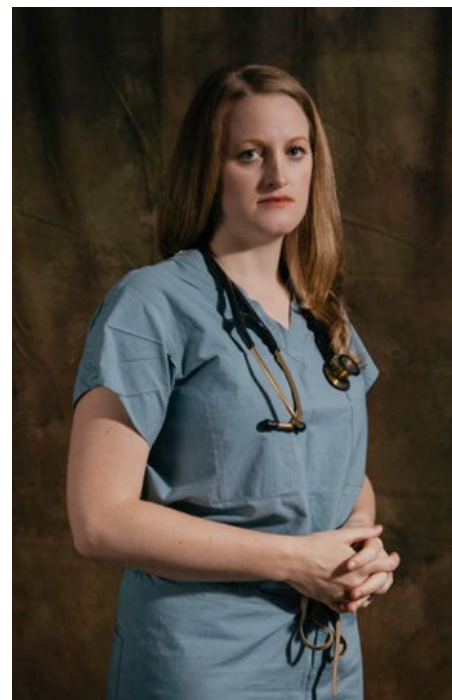


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AND NEWS
FROM UCLA
HEALTH.

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“There is a freedom for me in violin making that I find liberating. In my work as a surgeon, there are consequences for errors that are potentially severe. Making a violin is a way to hone my skills and not worry about the stakes because no one gets hurt.”

— Dr. Daniel Lu, “The Stradivari of Westwood,” p. 26

Taking It to the Streets

Accessing medical care is beyond the reach of many people experiencing homelessness. With the launch of our mobile-van program, UCLA Health takes a major step toward improving access to care for vulnerable populations by bringing essential health care services to where they are needed most.

PHOTO: ROBERT HERNANDEZ



It is our hope that by creating this durable structure, we can play a significant role in improving the lives of so many people who too-often fall between the cracks. At UCLA Health, we see

firsthand the detrimental health consequences that can be brought on by homelessness. Over the last five years, UCLA Health's emergency departments have treated approximately 15,000 unique individuals for various medical, psychiatric and social needs. Of those visits, 85% have been due to primary- or urgent-care conditions that can be prevented or treated in a community setting, while 15% required specialty care or inpatient admission.

Providing quality care not only improves the overall health of people experiencing homelessness, it also improves their chances of receiving housing and employment opportunities.

The pandemic has heightened awareness of inequities in health care and brought them more clearly into focus. It is essential that we do our part to address these longstanding disparities. Our Homeless Healthcare Collaborative is another component of UCLA Health's ongoing effort and commitment to providing comprehensive and equitable health care in our community. This commitment has been demonstrated through our many community-outreach efforts. These include our UCLA Mobile Eye Clinic, our partnership with the Venice Family Clinic's Homeless Healthcare Program, the Student Run Homeless Clinic and Mobile Clinic Project, health-promotion partnerships with the Los Angeles Lakers Foundation and Los Angeles Dodgers Foundation, as well as many other community-service and engagement efforts.

We will continue to work with key partners to identify areas of greatest need in our community and deepen our institutional commitment to advance health equity. The UCLA Health Homeless Healthcare Collaborative is one more step on that journey toward greater health equity for all in our community.

Johnese Spisso, MPA

President, UCLA Health
CEO, UCLA Hospital System
Associate Vice Chancellor, UCLA Health Sciences

For more information about the UCLA Health Homeless Healthcare Collaborative, go to: uclahealth.org/hhc

For information about UCLA Health equity initiatives, go to: uclahealth.org/community-equity

UCLA HEALTH HAS AN ENDURING COMMITMENT to providing quality health care to our community, but there are many for whom necessary services are out of reach. These are the men and women who live without permanent shelter throughout the Greater Los Angeles area.

California has the largest number of people experiencing homelessness in the country, an estimated 160,000. There are more than 66,000 unhoused people in Los Angeles County, with 41,290 in the Greater Los Angeles area. The COVID-19 pandemic has caused an increase in the number of people experiencing homelessness due to unforeseen economic hardship — an average of 227 people in L.A. County become homeless every day.

How can we best help? By doing what we know how to do best and working to provide this vulnerable population with access to high-quality medical care. That is why we have joined together with community-health and social-service organization partners to create the UCLA Health Homeless Healthcare Collaborative. Our mission is straightforward: to promote greater health equity and improved clinical outcomes by expanding access to comprehensive, high-quality health care and social services to those who are most in need.

In the initial phase of this program that launched in January, we deployed a fleet of medically equipped vans to provide quality primary- and urgent-care services to areas throughout the city that have the greatest need, to be followed by additional vans providing medical and behavioral-health services throughout Los Angeles County.

UCLA Health

Homeless Healthcare Collaborative

UCLA Health's direct community care program to support local unhoused populations

Every day **227 people** become homeless in L.A.
 Living on the street can take more than **20 years** off one's life.

The UCLA Health Homeless Healthcare Collaborative will provide:

- Medical screenings
- Preventive care and vaccinations
- Primary care
- Continuity care for chronic medical conditions
- Urgent care
- Primary psychiatric care
- Referrals to housing and social services

Who are the unhoused people in L.A.?

- 20%** are families with children
- 17%** are living with a physical disability
- 29%** have experienced domestic violence

The primary causes of homelessness include:

- Increasingly unaffordable housing
- Inequitable access to health care
- Stagnant wages
- Systemic racism

Unhoused populations are more vulnerable to disease, and often can't access care.

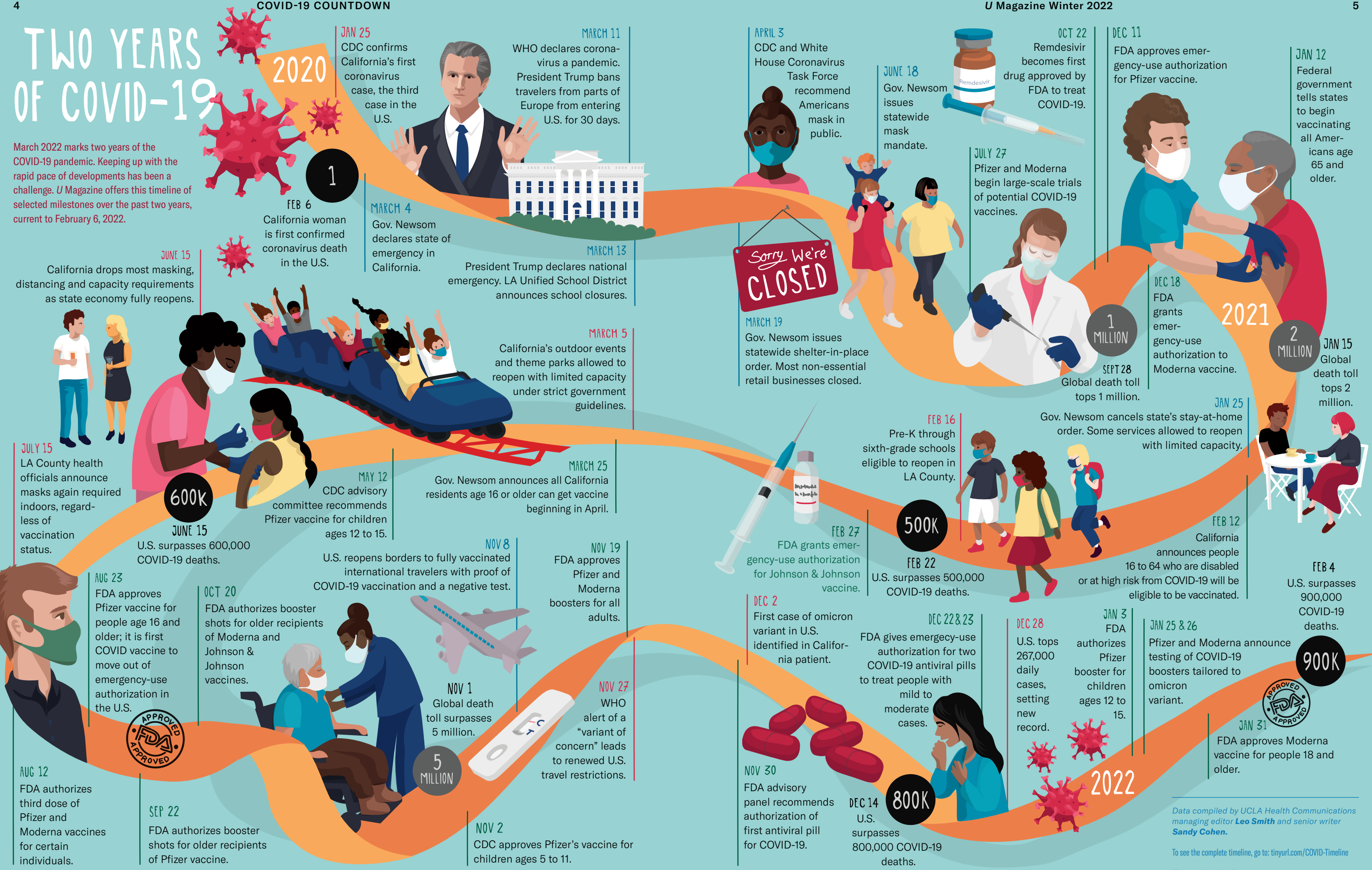
- Unhoused people suffer higher rates of:
- Tuberculosis
 - Asthma
 - Hypertension
 - HIV/AIDS
 - Diabetes
 - Hospitalizations

Learn more and find out how you can help: uclahealth.org/hhc



TWO YEARS OF COVID-19

March 2022 marks two years of the COVID-19 pandemic. Keeping up with the rapid pace of developments has been a challenge. *U Magazine* offers this timeline of selected milestones over the past two years, current to February 6, 2022.



JAN 25

CDC confirms California's first coronavirus case, the third case in the U.S.



MARCH 11

WHO declares coronavirus a pandemic. President Trump bans travelers from parts of Europe from entering U.S. for 30 days.

1

FEB 6

California woman is first confirmed coronavirus death in the U.S.

MARCH 4

Gov. Newsom declares state of emergency in California.

MARCH 13

President Trump declares national emergency. LA Unified School District announces school closures.

MARCH 5

California's outdoor events and theme parks allowed to reopen with limited capacity under strict government guidelines.

JUNE 15

California drops most masking, distancing and capacity requirements as state economy fully reopens.



600K

JUNE 15 U.S. surpasses 600,000 COVID-19 deaths.

JULY 15

LA County health officials announce masks again required indoors, regardless of vaccination status.



MAY 12

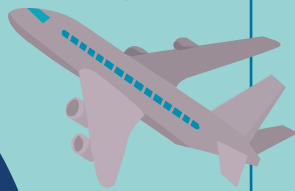
CDC advisory committee recommends Pfizer vaccine for children ages 12 to 15.

MARCH 25

Gov. Newsom announces all California residents age 16 or older can get vaccine beginning in April.

NOV 8

U.S. reopens borders to fully vaccinated international travelers with proof of COVID-19 vaccination and a negative test.



NOV 19

FDA approves Pfizer and Moderna boosters for all adults.

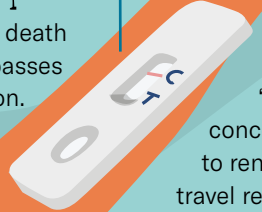
NOV 1

Global death toll surpasses 5 million.

5 MILLION

NOV 27

WHO alert of a "variant of concern" leads to renewed U.S. travel restrictions.



NOV 2

CDC approves Pfizer's vaccine for children ages 5 to 11.

APRIL 3

CDC and White House Coronavirus Task Force recommend Americans mask in public.



JUNE 18

Gov. Newsom issues statewide mask mandate.



OCT 22

Remdesivir becomes first drug approved by FDA to treat COVID-19.

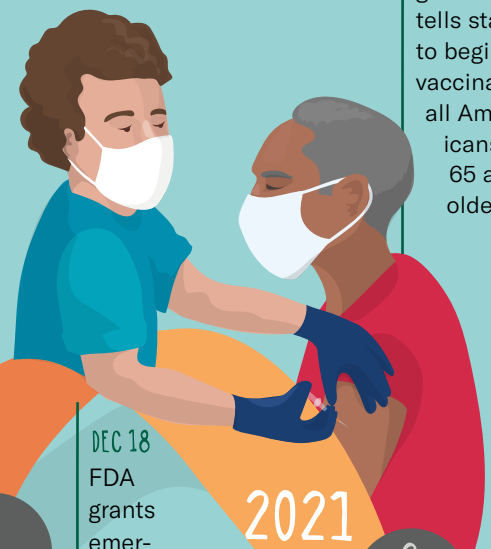


JULY 27

Pfizer and Moderna begin large-scale trials of potential COVID-19 vaccines.

DEC 11

FDA approves emergency-use authorization for Pfizer vaccine.



JAN 12

Federal government tells states to begin vaccinating all Americans age 65 and older.



MARCH 19

Gov. Newsom issues statewide shelter-in-place order. Most non-essential retail businesses closed.



2021

1 MILLION

DEC 18

FDA grants emergency-use authorization to Moderna vaccine.

2 MILLION

JAN 15 Global death toll tops 2 million.

JAN 25

Gov. Newsom cancels state's stay-at-home order. Some services allowed to reopen with limited capacity.



FEB 16

Pre-K through sixth-grade schools eligible to reopen in LA County.



500K

FEB 22 U.S. surpasses 500,000 COVID-19 deaths.

FEB 27

FDA grants emergency-use authorization for Johnson & Johnson vaccine.

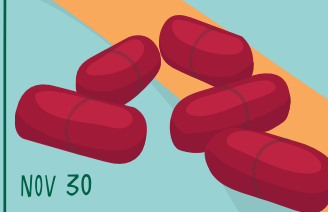


DEC 2

First case of omicron variant in U.S. identified in California patient.

DEC 22 & 23

FDA gives emergency-use authorization for two COVID-19 antiviral pills to treat people with mild to moderate cases.



NOV 30

FDA advisory panel recommends authorization of first antiviral pill for COVID-19.

DEC 14

U.S. surpasses 800,000 COVID-19 deaths.

800K

DEC 28

U.S. tops 267,000 daily cases, setting new record.



JAN 3

FDA authorizes Pfizer booster for children ages 12 to 15.

JAN 25 & 26

Pfizer and Moderna announce testing of COVID-19 boosters tailored to omicron variant.

900K

JAN 31

FDA approves Moderna vaccine for people 18 and older.



2022

Data compiled by UCLA Health Communications managing editor **Leo Smith** and senior writer **Sandy Cohen**.

To see the complete timeline, go to: tinyurl.com/COVID-Timeline

Illustrator: Kerry Hyndman

CALLING OUT AVERSIVE RACISM IN ACADEMIC MEDICINE

By Jennifer M. Lucero, MD, MA; Maxime Cannesson, MD, PhD;
Catherine L. Chen, MD, MPH; and Gregg J. Gold, PhD



Dovidio and Samuel Gaertner, who defined the concept in the 1990s, aversive racism occurs when people endorse egalitarian values in principle, but when faced with ambiguous situations or unclear guidelines, discriminate against people from historically marginalized groups while rationalizing or justifying their actions on the basis of factors other than race. Aversive racism is pervasive in both academic medicine and society at large. In areas ranging from medical school admissions decisions to executive-leadership appointments, aversive racism in academic medicine impedes diversity, equity and inclusion efforts. Understanding this construct and developing strategies for combatting aversive racism will help diversify academic medicine and reduce health disparities.

“If he just kept his head down and stayed under the radar, he would be a lot more successful.”

Aversive racism undermines the substantial investments in antiracism initiatives that many institutions have made to combat structural racism. One manifestation of aversive racism in academic medicine is ongoing inequalities in the promotion of faculty from historically marginalized groups. Although Asian students and students from groups that are underrepresented in medicine (URM) made up 31% of U.S. medical school graduating classes in 2018, Asian and URM faculty accounted for only 18-to-19% of full professors in perioperative and primary-care specialties.

The residency-application process is another area where aversive racism has substantial effects. Program directors may unwittingly rationalize the selection of a less-diverse incoming residency class by lamenting the lack of qualified applicants from diverse backgrounds, rather than acknowledging the barriers facing URM applicants in the selection process. URM students are less likely to receive honors grades on their clinical clerkships and are awarded fewer honor-society memberships upon graduation than white students. The grades assigned during third- and fourth-year clerkships are more subjective and more susceptible to bias than the pass-fail grade commonly used during the preclinical years. This system impedes URM students' chances of matching in competitive residency programs, thereby perpetuating disparities in academic medicine.

The same mechanisms are at play when URM candidates for leadership positions are evaluated less favorably than their equally qualified white peers. Using subjective phrases such as “not a good fit,” “not what we’re looking for” or “I’m going with my gut on this” allows an evaluator’s biases to hold sway when guidelines are ambiguous.

“She was a promising candidate, but she just wasn’t the right fit for our department.”

In the language of social psychology and sociology, aversive racism results from the interplay of normal cognitive processes, including social dominance, implicit bias and in-group favoritism. Aversive racism flourishes when decisions are left to judgment calls by people who don’t recognize the effects of intergroup dynamics on their thought processes. Social-dominance theory explains the mechanisms behind the inevitability of group-based hierarchies. According to this theory, society and social systems have at least two groups — the dominant or top group, which has the most of whatever attribute society deems valuable (e.g., power or money), and the less-dominant group or groups.

When it comes to race, the hierarchy is upheld by institutional racism (racial discrimination within financial, legal and education systems, among others); interpersonal racism (discrimination, overt or aversive, by members of the dominant group against members of less-dominant groups); and internalized racism (conscious or unconscious acceptance of the racial hierarchy by members of less-dominant groups). To avoid sanctions or to move up the hierarchy, members of less-dominant groups tend to show deference to members of the dominant group, a process that reinforces and perpetuates this hierarchy, whereas people at the top often deny that a group-based hierarchy exists.

The hierarchy is maintained in part by societal myths that legitimize inequity. People at the top of the hierarchy not only have a stronger preference for hierarchical societies than members of less-dominant groups, but they are more likely to endorse such legitimizing myths. In academic medicine, myths that legitimize inequity include the concept of a meritocracy — the idea that success is based primarily on a person’s abilities, which ignores the effects of structural and aversive racism on opportunities. Implicit bias — the unconscious, automatic association of negative stereotypes or attitudes with a particular group — also helps maintain inequality.

Implicit bias works in concert with in-group favoritism, which entails preferring members of one’s own group to outsiders. When faculty members interview residency applicants, for example, in-group favoritism manifests when an interviewer ranks students from a school they personally attended higher than they otherwise would have, thereby disadvantaging other applicants. Aversive racism occurs when people fail to recognize the influence of these forces on their judgments. Social dominance, implicit bias and in-group favoritism intersect within academic medicine, resulting in aversive racism that affects the judgments of decision makers and contributes to structural racism in medicine.

“They are clearly qualified for the job, but they’re too ‘in your face.’ I’m worried people won’t respect their opinion.”

Behaviors that reflect aversive racism are harmful to people from historically marginalized groups but maintain the positive self-image of the people carrying them out. For example, Dovidio and colleagues had white college students evaluate hypothetical university applicants. Participants had previously completed a

questionnaire, which was used to stratify them into high-prejudice and low-prejudice groups (although even the high-prejudice students ranked low on measures of prejudice as compared with the general population). Participants then evaluated admissions packets of Black and white applicants that were constructed to reflect high, low or ambiguous academic achievement. There was no difference between high- and low-prejudice participants’ evaluations of high- or low-achieving applicants, regardless of the applicant’s race. When evaluating applicants with ambiguous achievement records, however, high-prejudice participants rejected Black applicants significantly more often than they rejected white applicants. The investigators concluded that the ambiguity of the application allowed participants to justify their admissions decisions to themselves by focusing on the application’s weaknesses.

“But I voted for Obama.”

The COVID-19 pandemic unmasked the structural racism that exists throughout the United States. Academic medicine isn’t immune to the scourge of white supremacy and structural racism. No matter how many institutional statements are made condemning racist acts, we cannot expect to overcome structural racism within academic medicine until we acknowledge the reality of aversive racism. In addition to examining their role in upholding a race-based hierarchy, members of the academic-medicine community must do the difficult work required to challenge their own conscious and subconscious thoughts and actions that contribute to aversive racism. This work includes unlearning implicit biases, countering negative stereotypes and legitimizing myths, and eliminating the use of automatic, biased judgments to make decisions, all of which will require extensive and deliberate practice.

Future work will involve developing evidence-based anti-aversive-racism programs to break down academic medicine’s unspoken racial hierarchy, which contributes to structural racism in health care. Effective programs would help normalize anti-racist attitudes; provide continuous and effective antiracism education for trainees, faculty, executive leaders and staff; and refashion existing systems that favor the “in group.” Finally, academic institutions should capitalize on the good intentions and desires of progressive academic leaders to overcome their aversive racist thoughts and actions. We hope academic leaders will lead the charge by acknowledging the need to openly address aversive racism within broader efforts to dismantle structural racism in medicine. ●

Dr. Jennifer M. Lucero is associate professor of clinical anesthesiology and perioperative medicine at UCLA and vice chair for Diversity, Equity & Inclusion; **Dr. Maxime Cannesson** is chair of the UCLA Department of Anesthesiology and Perioperative Medicine; **Dr. Catherine L. Chen** is assistant professor of anesthesia at UC San Francisco School of Medicine; **Dr. Gregg J. Gold** is professor of psychology at Cal Poly Humboldt. This article was originally published in the December 30, 2021 issue of The New England Journal of Medicine. It is reprinted with permission.

STRUCTURAL RACISM IS A FORM OF RACISM that is embedded in the laws, policies, institutions and practices of society that provide advantages to certain racial groups while disadvantaging others. Although structural racism is well documented as an important contributor to health care inequities, its effects on medical students, trainees and faculty have received less attention. We believe aversive racism is a critical and overlooked contributor to structural racism in academic medicine.

“We want diversity, but we also want qualified people.”

Aversive racism, an established construct in social psychology, is defined as exhibiting racist tendencies while denying that one’s thoughts, behaviors or motives are racist. According to John

FOURTH AND VACCINATED

By Kristofer J. Jones, MD

“Doesn’t a professional athlete ... have a responsibility to be an example to others?”

UCLA orthopaedic surgeon **Dr. Kristofer J. Jones** is the head team physician for the Los Angeles Lakers and a team physician for UCLA Athletics.

IN 1993, BASKETBALL STAR CHARLES BARKLEY PROCLAIMED in a national TV ad: “I am not a role model.” Nearly three decades later, sports heroes like Green Bay Packers quarterback Aaron Rodgers and Tampa Bay Buccaneers wide receiver Antonio Brown are saying essentially the same thing, though more covertly, with their COVID-19 vaccination deceptions.

But, like it or not, these high-profile athletes are role models for millions of fans, young and old. And in the polarized environment of today’s debates about how best to address the pandemic, for many people their actions speak louder than words.

As a physician, I know that, two years into this pandemic, vaccines are the best tool we have to prevent widespread and recurrent outbreaks of COVID-19. And the single-best tool we have to convince people that vaccines are not only effective at controlling spread of the disease, but also are safe, is information. Whether it’s a patient in the office or an athlete in the training room, education is paramount, and it is incumbent upon me to make sure they are well informed.

The overwhelming majority of professional athletes have gotten vaccinated. Others have not. I acknowledge that there may be legitimate reasons for someone to refuse the vaccine — a medical condition, perhaps, or a strongly held religious belief. But for many people, none of these justifications pertain. I am proud to say that 100% of the players on the Los Angeles Lakers, for which I am head team physician, are fully vaccinated.

Abundant evidence demonstrates the vaccines prevent severe disease symptoms and limits the spread of COVID to others. When I speak to anyone, athletes included, about the vaccines, I try to impress upon them that by taking the shot, they are protecting not only themselves from severe disease, but also their friends and loved ones who may be at higher risk for severe COVID-related complications. They also are protecting young people — a large percentage of athletes’ worshipful fans — who may not yet have received the vaccine, or who are too young to be eligible, including children under the age of 5. And they are delivering a message that, if not for themselves, then for the common good, they are willing to be vaccinated.

But does their example even make a difference anymore? Before the vaccines became widely available, I thought that athletes would be in the perfect position to use their influence to urge the broader population to get vaccinated. Now, everything around COVID, vaccines included, has become so politically charged that it is difficult to know what messages might break through. It’s not enough anymore for someone with the stature of Elvis Presley to go, as he did in 1956, on *The Ed Sullivan Show* to receive the polio vaccine to encourage others to follow his example.

Still, doesn’t a professional athlete, who has reached the pinnacle of public acclaim and admiration, have a responsibility to be an example to others, as Elvis was, to do what clearly is in the public interest? Perhaps the public glare is too bright in our internet age — where any comment or action, no matter on which side of the political line it falls, can instantaneously become a lightning rod for criticism and hostility — for star athletes to step forward to take a position that might push against the beliefs of a large percentage of the population, and of their fans.

Or maybe Charles Barkley was right and athletes are not inherently role models. They are what we make them. Role model or not, I do believe that athletes, like every other person in today’s COVID-altered society, have a baseline obligation to be truthful to their fellow citizens about their vaccination status.

I will leave it to others to debate Aaron Rodgers’ and Antonio Brown’s choices to not be vaccinated. There is no debate, however, that by deceiving people about their status — Rodgers misled the public into thinking he was vaccinated, until he tested positive for COVID-19 and the truth came out, and Brown, who was cut from the team in January for an unrelated infraction, was found to have used a fake vaccination card to misrepresent his status — they have done a serious disservice. There are real, potentially life-threatening, consequences to exposing someone who may be at higher risk for severe disease from the virus. Neither Rodgers nor Brown have any way of knowing if they might have exposed someone like that.

Athletes are not absolved of the responsibility to not endanger others. Maybe they are not role models, but they have the same societal obligations as the rest of us. ●



An opposing fan chides Green Bay Packers quarterback Aaron Rodgers over misleading statements he made about his vaccination status.



PHOTOS: MILO MITCHELL

102-YEAR-OLD WWII VET NAVIGATES A NEW LIFE WITH HIS HEARING RESTORED



Top: Irvin Poff holds a photograph of himself at age 23 in the cockpit of a B-17 Flying Fortress while stationed in Italy during World War II.

PILOTING BOMBING MISSIONS OVER EUROPE in a B-17 during World War II was a dangerous job. More than 4,700 of the planes — over a third of all the B-17s produced — were lost in combat. During one mission, while flying in formation with 28 other planes, one of the engines of Irvin Poff's Flying Fortress failed five minutes before he was to drop 6,000 pounds of explosives over an Austrian oil refinery. Knowing that German fighters were keen to pick off solo flyers, he diverted full-throttle emergency power to his remaining three engines — risking a possible engine explosion — to stay in formation and complete his bombing run.

Poff survived the war, but the repeated climbs to 20,000 feet in the plane's unpressurized and unheated cockpit and descents to return home following his missions wreaked havoc on his inner ears and led to hearing loss. Seventy-five years later, when hearing aids no longer worked for him, he decided to pursue a cochlear implant.

He was 102 years old.

"I realize that cochlear-implant surgery is unusual for someone of my age," Poff says. "You have to be open to change, because the world is going to change, with or without you."

When Poff underwent surgery for the implant at UCLA, he became one of the oldest Americans to receive the device.

"Mr. Poff wants to hear so he can continue to socialize and be independent," says Akira Ishiyama, MD (RES '96), director of UCLA's cochlear implant program. "I've never seen anyone like

"Before the surgery, I couldn't hear or understand people across the table at a restaurant. It made me feel left out, and it was embarrassing to speak up, so I quit talking. Now I can sit on my front porch and enter into a conversation with my neighbors across the street."

him. He doesn't look a day over 80."

Age-related hearing loss is a serious concern, leading to social isolation and increased risk for dementia and cognitive decline, Dr. Ishiyama says. Many elderly patients suffer needlessly, not realizing that treatment exists, and unaware that Medicare covers the cost of both cochlear-implant surgery and the device itself.

Poff's procedure was performed under local anesthesia, eliminating the risk of putting a man his age under general anesthesia. Unlike a hearing aid, which amplifies speech, a cochlear implant electronically stimulates the auditory nerve, bypassing the damaged inner ear. A speech processor, attached by a magnet outside the skull, sends signals to the implant, enabling the brain to decode the input as sound.

Prior to the procedure, Poff was profoundly deaf and relied on a transcription device to understand conversations on phone calls. Now, he can discern 60% of words in conversation — a number that's gradually increasing as he adjusts to the implant. "The first thing I noticed was my simple little electric clock," Poff says. "I could hear the tick-tock real plain. I hadn't heard it before."

Poff, who has two grandchildren and two

great-grandchildren, has been delighted with how the cochlear implant has restored his hearing and quality of life. "Before the surgery, I couldn't hear or understand people across the table at a restaurant," Poff says. "It made me feel left out, and it was embarrassing to speak up, so I quit talking. Now I can sit on my front porch and enter into a conversation with my neighbors across the street."



Poff in the garage-turned-workroom of his Ventura County home. The processor for his cochlear implant is visible above his ear.

The world in which Poff now lives — one that includes the technology to restore his hearing — is very different from the one he grew up in. He was delivered at home by a doctor who arrived in a horse-drawn buggy. He grew up without electricity or indoor plumbing on his family's 80-acre farm in Smithfield, Missouri, and attended a one-room schoolhouse through the eighth grade.

After earning a degree in soil science, marrying and having a son, he volunteered at the outset of World War II

to train as a pilot. He was sent to Italy. Poff flew 50 combat missions in three months, bombing German outposts in subterranean Italian caves and dropping explosives on railroads in Romania. He was discharged as a captain in 1945, and later promoted to the rank of lieutenant colonel, and he returned to service to train cadets during the Korean War.

Twice widowed, Poff lives independently and stays busy

exercising, repairing his home, watching Western movies and enjoying neighborhood block parties. He encourages other seniors to explore how cochlear implants and hearing aids can help them lead fulfilling lives and remain active in their communities. "I appreciate everything that UCLA did to get it done for me," he says.

—Elaine Schmidt

For more information about UCLA Health's cochlear implant program, go to: uclahealth.org/head-neck-surgery/cochlear-implant-program

Discrimination Increases Risk for Mental Health Issues in Young Adults



PHOTO: ISTOCK

YOUNG ADULTS WHO HAVE EXPERIENCED DISCRIMINATION are at higher risk for both short- and long-term behavioral and mental health problems, a UCLA study has found. Researchers examined a decade's worth of health data on 1,834 Americans who were between 18 and 28 years old when the study began. They found that the effects of discrimination may be cumulative — that the greater number of incidents of discrimination someone experiences, the more their risk for mental and behavioral problems increases.

The study also suggests that the effects of discrimination in young adults are connected with disparities in care for mental health concerns and institutional discrimination in health care overall, including inequities in diagnoses, treatments and health outcomes. Previous studies have linked

“We have the opportunity to rethink and improve mental health services to acknowledge the impact of discrimination.”

discrimination — whether due to biases against race, sex, age, physical appearance or other attributes — to increased risk for mental illness, psychological distress and drug use. This new study is the first to focus on the transition to adulthood and to follow the same group of individuals over time.

“With 75% of all lifetime mental health disorders presenting by age 24, the transition to adulthood is a crucial time to prevent mental and behavioral health problems,” says Yvonne Lei, a medical student in the David Geffen School of Medicine at UCLA and the study's corresponding author. “The COVID-19 pandemic has brought to the forefront new mental health challenges — particularly for vulnerable populations. We have the opportunity to rethink and improve mental health services to acknowledge the impact of discrimination, so we can better address it to provide more equitable care delivery.”

Researchers used data spanning 2007 to 2017 from the University of Michigan's Transition to Adulthood Supplement of the Panel Study of Income Dynamics survey. Approximately 93% of the people in the study reported experiencing discrimination; the most common factors they cited were age (26%), physical appearance (19%), sex (14%) and race (13%). The analysis

showed that participants who experienced frequent discrimination, defined as a few times per month or more, were roughly 25% more likely to be diagnosed with a mental illness and twice as likely to develop severe psychological distress than those who had not experienced discrimination or had experienced it a few times per year or less. Overall, people who experienced any amount of discrimination had a 26% greater risk for poor health than people who said they did not experience discrimination.

During the 10-year period, young adults in the study who had experienced multiple successive years of high-frequency discrimination showed a much more pronounced, cumulative risk for mental illness, psychological distress, drug use and worse overall health.

“The associations we found are likely also intertwined with mental health care service disparities — including inequities in care access, provider biases and structural and institutional discrimination in health care — leading to inequities in diagnoses, treatments and outcomes,” says Adam Schickedanz, MD (FEL '16, '18), assistant professor of pediatrics, the study's senior author.

—**Evelyn Tokuyama**

“Discrimination and Mental Health in Young Adults,” *Pediatrics*, November 8, 2021

An ‘Off-the-Shelf’ Immunotherapy for Cancer

UCLA RESEARCHERS ARE REPORTING A CRITICAL STEP FORWARD in the development of an “off-the-shelf” cancer immunotherapy using rare but powerful immune cells that could potentially be produced in large quantities, stored for extended periods and safely used to treat a wide range of patients with various cancers.

Immunotherapies, which harness the body's natural defenses to combat disease, have revolutionized the treatment of aggressive and deadly cancers. But often, these therapies must be tailored to the individual patient, costing valuable time and pushing their price into the hundreds of thousands of dollars. “In order to reach the most patients, we want

“In order to reach the most patients, we want cell therapies that can be mass-produced, frozen and shipped to hospitals around the world.”

cell therapies that can be mass-produced, frozen and shipped to hospitals around the world,” says Lili Yang, PhD, a member of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA.

For the study, Dr. Yang and her colleagues focused

on invariant natural killer T cells, or iNKT cells. These are unique not only for their power and efficacy but also because they don't carry the risk of graft-versus-host disease, which occurs when transplanted cells attack a recipient's body, and which is the reason most cell-based immunotherapies must be created on a patient-specific basis.

The researchers developed a new method for producing large numbers of these iNKT cells by genetically engineering blood-forming stem cells — which can self-replicate and produce all kinds of blood and immune cells — to make them more likely to develop into iNKT cells. Next, these stem cells were placed into artificial thymic organoids, which mimic the environment of the thymus, a specialized organ in which T cells naturally mature in the body. After eight weeks in the organoids, each stem cell produced, on average, 100,000 iNKT cells.

Dr. Yang and her collaborators tested the resulting cells, called hematopoietic stem cell-engineered iNKT cells, or HSC-iNKT cells, by comparing their cancer-fighting abilities with those of immune cells called natural killer cells, or NK cells. In a lab dish, the HSC-iNKT cells were significantly better at killing multiple types of human tumor cells — including

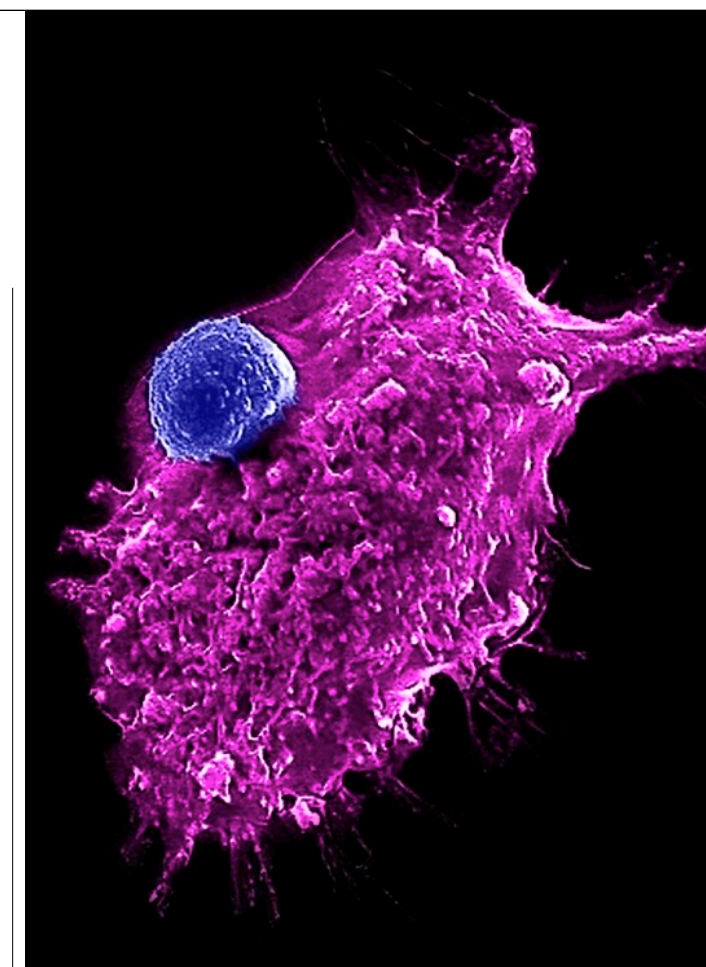


IMAGE: YANG LAB/UCLA

An engineered HSC-iNKT cell (blue) attacking a human tumor cell.

leukemia, melanoma, lung cancer, prostate cancer and multiple myeloma cells — than the NK cells. More importantly, the HSC-iNKT cells sustained their tumor-killing efficacy after being frozen and thawed, an essential requirement for widespread distribution of an off-the-shelf cell therapy.

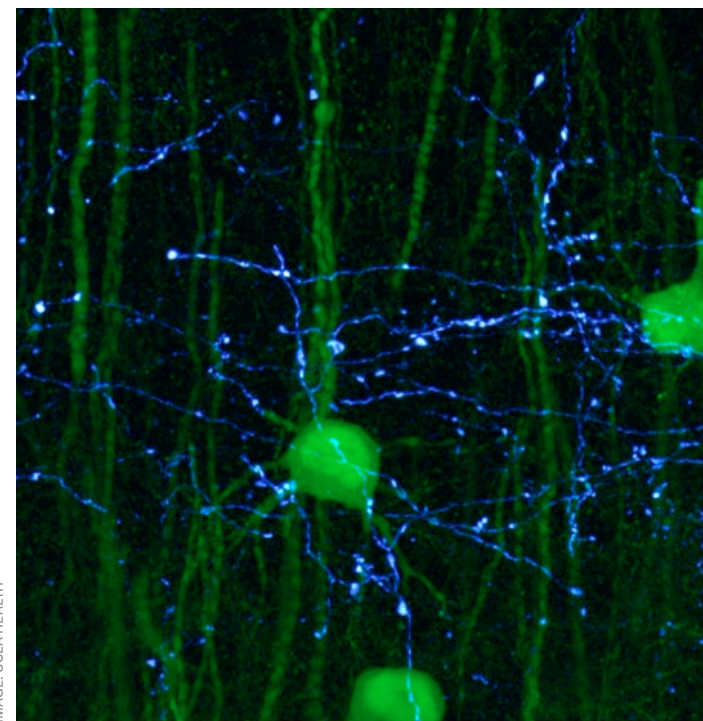
The researchers next equipped the HSC-iNKT cells with a chimeric antigen receptor (CAR) that targets a protein found on multiple myeloma cells, and then tested the cells' ability to fight human multiple myeloma tumors that had been transplanted into mice. These CAR-equipped HSC-iNKT cells eliminated the multiple myeloma tumors,

and the mice that underwent this treatment remained tumor-free and showed no signs of graft-versus-host disease throughout their lives.

The researchers are now working to move to a system that eliminates the need for supportive cells — such as those used in the thymic organoids — in producing iNKT cells. Dr. Yang says she hopes this will better enable mass-production of the therapy and, ultimately, its clinical and commercial development.

—**Tiare Dunlap**

“Development of Allogeneic HSC-engineered iNKT Cells for Off-the-Shelf Cancer Immunotherapy,” *Cell Reports Medicine*, November 16, 2021



Branch-like axons (blue) connect with neurons (green) in the last stage of the cortico-basal ganglia-thalamic loop, a neural circuit that links several important parts of the brain.

Study of Mouse Brain could Pave Way to New Treatments for Human Movement Disorders

A UCLA STUDY USING MICE reveals new insights into the wiring of a major circuit in the brain that is attacked by Parkinson's and Huntington's diseases. The findings, based on research conducted by UCLA scientists as part of the national BRAIN Initiative Cell Consensus Network, could shape future understanding of how diseases arise in the human brain and pinpoint new targets for treatment.

UCLA scientists have

been conducting a comprehensive analysis of how the mouse brain is wired. Their research has thus far analyzed 600 pathways and catalogued nerve-cell connectivity to create a wiring diagram of critical brain circuits. "Like any explorer traveling deep into uncharted territory, we make maps to guide future visitors," says Hong-Wei Dong, MD, PhD, professor of neurobiology. "My lab mapped out the intricate circuitry of the mouse brain

to enable other scientists to conduct more accurate experiments in mouse models of diseases like Parkinson's or Huntington's disease."

Using a green dye, the UCLA scientists labeled a small number of individual neurons and tracked their connections with other neurons through arm-like projections called axons and dendrites. Those connections, called circuits, process and communicate distinct types of sensory information in the brain.

The researchers were particularly interested in the cortico-basal ganglia-thalamic loop, a crucial neural circuit that links regions in the brain that regulate movement, emotions and complex cognitive processes like learning and memory. The loop is affected by neurodegenerative disorders like Parkinson's and Huntington's diseases.

"We identified smaller circuits within the cortico-basal ganglia-thalamic loop that process information for specific functions," says Nicholas Foster, PhD, a project scientist in Dr. Dong's lab. "Some of these subcircuits enable the brain to control movement of the arms, legs and mouth. Other circuits process emotional input or complex cognitive processes, such as learning the consequences of actions."

The research gives scientists a baseline for what normal brain wiring looks like and pinpoints smaller circuits that could go awry when neurological diseases progress. "These subcircuits could reveal new treatment targets

and serve as physiological benchmarks to measure the effectiveness of new drug treatments in preclinical experiments," Dr. Foster says.

When researchers detect shortened axons and dendrites in the neurons of a particular circuit in a mouse with a certain disease, for example, they can observe

"Like any explorer traveling deep into uncharted territory, we make maps to guide future visitors."

where the disease is having an effect. And if scientists administer treatment to the mice and see axons and dendrites developing normally in that area, they can surmise that the treatment is effective.

"Our results illuminate clearer paths for future studies to follow by illustrating how different brain structures organize into networks and communicate with one another," Dr. Dong says. "These findings will enable scientists to better understand how dysfunction in one small brain region can undermine the function of its larger neural circuit."

— Elaine Schmidt

"The Mouse Cortico-Basal Ganglia-Thalamic Network," *Nature*, October 6, 2021

Robin the Social Robot Brightens Hospitalized Children's Experience



A young patient interacts with Robin the social robot during a study of the device's impact on hospitalized children.

VISITS FROM A FRIENDLY ROBOT encourage a positive outlook and improves medical interactions for children who are hospitalized, a new study from UCLA finds. Robin is a social-companion robot with big WALL-E eyes and a sleek plastic body. It stands about four feet tall and can move, talk and play with others while being remotely controlled by a child-life specialist. It utilizes emotional-learning technology — recognizing a child's emotions by interpreting his or her facial expressions and building responsive dialogue by replicating patterns formed from previous experiences — to engage realistically with children.

Specialists from UCLA Mattel Children's Hospital's

Chase Child Life Program conducted hour-long video visits with young patients using Robin from October 2020 to April 2021 and compared it to interactions using a standard computer tablet.

"Our team has demonstrated that a social-companion robot can go beyond video chats on a tablet to give us a more imaginative and profound way to make the hospital less stressful."

At the conclusion of the study period, children and their parents were interviewed about their experiences, and child-life specialists provided feedback in a focus group. Researchers then used a transcript of the discussion to identify recurrent and salient themes. Ninety percent of parents who had a visit with Robin indicated they were "extremely likely" to request another visit, compared to 60% of parents whose children interacted with the tablet.

Children experienced a 29% increase in positive affect — described as the tendency to experience the world in a positive way, including emotions, interactions with others and with life's challenges — after a visit with Robin and a 33% decrease in negative affect. Children who had a tablet visit experienced a 43% decrease in positive affect and a 33% decrease in negative affect.

"Our team has demonstrated that a social-companion robot can go beyond video chats on a tablet to give us a more imaginative and profound way to make the hospital less stressful," says pediatric surgeon Justin Wagner, MD (RES '17).

— Evelyn Tokuyama

"A Visit from a Social Robot Improves Hospitalized Children's Outlook," *Reports and Proceedings, UCLA Health Sciences*, October 8, 2021

Children Born with Deadly Immune Disorder Remain Healthy 10 Years Post-Gene Therapy

A DECADE AGO, UCLA physician-scientists began using a pioneering gene therapy they developed to treat children born with a rare and deadly immune system disorder. They now report that the effects of the therapy appear to be long-lasting, with 90% of patients who received the treatment still disease-free.

ADA-SCID, or adenosine deaminase-deficient severe combined immunodeficiency, is caused by mutations in the gene that creates the ADA enzyme, which is essential to a functioning immune system. For babies with the disease, exposure to everyday germs can be fatal. If untreated, most will die within the first two years of life. In the gene-therapy approach detailed in the new paper, Donald Kohn, MD, Distinguished Professor of Microbiology, Immunology & Molecular Genetics and a member of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA, and his colleagues removed blood-forming stem cells from each child's bone marrow, then used a specially modified virus, originally isolated from mice, to insert healthy copies of the ADA gene into the stem cells' DNA. Finally, they transplanted the cells back into the children's bone marrow.

The therapy, when successful, enables the body to produce a continuous supply of healthy immune cells capable of fighting infections. Because the transplanted stem cells are the baby's own, there is no risk of rejection.

Dr. Kohn and his team report that of the 10 children who received the one-time treatment between 2009 and 2012 as part of a phase 2 clinical

trial, nine have continued to remain stable. "What we saw in the first few years was that this therapy worked, and now we're able to say that it works for more than 10 years," Dr. Kohn says. "We hope someday we'll be able to say that these results last for 80 years."

While not yet approved by the Food and Drug Administration, gene therapy for ADA-SCID represents a potentially life-changing option for children who otherwise must undergo twice-weekly injections of the ADA enzyme — an expensive and time-consuming treatment — or find a matched bone-marrow donor who can provide a transplant of healthy stem cells.

Most of the 10 children who received the therapy were babies. The one older child, who was 15 at the time, was the only participant whose immune function was not restored by the treatment. This suggests the therapy is most effective in younger children, Dr. Kohn says.

The other nine children were successfully treated and have remained healthy enough that none has needed enzyme replacement or a bone-marrow transplant to support their immune systems in the years since.



Evangelina Vaccaro, who received the gene therapy for ADA-SCID in a clinical trial in 2012.

"We hope someday we'll be able to say that these results last for 80 years."

The researchers did find significant immune-system differences among the successfully treated children. Some had nearly 100 times more stem cells containing the corrected ADA gene than others, as well as more copies of the gene in each cell; those with more copies of the ADA gene in more cells appeared to have the best immune function.

—Sarah C.P. Williams

"Long-Term Outcomes after Gene Therapy for Adenosine Deaminase Severe Combined Immune Deficiency," *Blood*, October 14, 2021

PHOTO: COURTESY OF ALYSIA PADILLA-VACCARO

Women Receiving Inadequate Mental Health Care through California's Public Programs

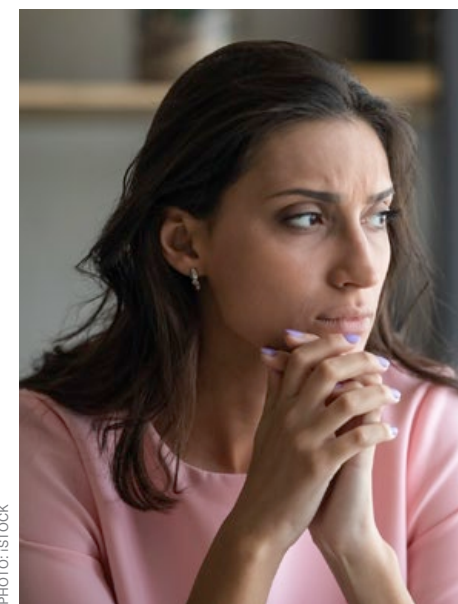


PHOTO: ISTOCK

psychological distress has the potential to become progressively more severe and disabling. "A public-health focused approach is vital because it may prevent more severe impacts on individuals' lives," says D. Imelda Padilla-Frausto, PhD, a research scientist at the center.

Researchers found that women who were eligible for Medi-Cal or other public-care programs had high degrees of unmet mental health needs across all levels of psychological distress. Roughly 90% of those with mild distress, 70% with moderate distress and 50% with serious distress reported that they hadn't accessed professional care within the previous 12 months.

The researchers also sought to identify how socioeconomic factors may influence whether women are eligible for public insurance, and how these factors may present barriers to accessing needed mental health care. They found that women of color were two-to-four times as likely as white women to be eligible for public health coverage, and that those without a high school education were more than four times as likely as those with a graduate degree to be eligible. Of single women with children, 68% were eligible. Compared with 28% of U.S.-born citizens, 54% of noncitizen women with a green card were eligible.

The authors also discovered that many of the same social and economic determinants appeared to influence whether those experiencing distress had accessed treatment or support services.

Among women experiencing serious distress who have unmet needs, 66% were Asian, 55% were Latina, 52% were Black and 42% were white. Asian women experiencing mild psychological distress also had the highest overall percentage of unmet needs (95%). Noncitizen

Researchers found that women who were eligible for Medi-Cal or other public-care programs had high degrees of unmet mental health needs across all levels of psychological distress.

women without a green card were more likely to report unmet needs for mild and serious psychological distress than women who were born in the U.S., with a particularly large difference for serious distress (75% vs. 52%).

This information can aid in developing tailored approaches for specific populations, Dr. Padilla-Frausto says. The researchers recommended the implementation of national standards for culturally and linguistically appropriate health services, large-scale promotion of mental health literacy and outreach, supporting policies that reduce inequities in care for women and expanding screening services into settings such as "faith-based organizations, beauty salons, grocery stores, libraries and community resource centers," she says.

—Elaiza Torralba

"Missed Opportunities: Up to 9 in 10 Women Eligible for Public Health Services in California Have Unmet Mental Health Need," UCLA Center for Health Policy Research, October 20, 2021

READY, WILLING AND ABEL

The new executive chair of medicine in the David Geffen School of Medicine at UCLA and executive medical director of the UCLA Health Department of Medicine steps into his role at a time when diversity, equity and inclusion are at the top of the agenda.

E. Dale Abel, MD, PhD

*Executive Chair, Department of
Medicine, David Geffen School of
Medicine at UCLA*

*Executive Medical Director,
Department of Medicine, UCLA Health*

As a child growing up in post-colonial Jamaica, E. Dale Abel, MD, PhD, learned an important lesson from his parents, both of whom were teachers and the children of subsistence farmers who themselves had no more than six or seven years of schooling. “They were convinced that the way to make an impact in society and advance in life was to have a good education,” says the newly appointed executive chair of the Department of Medicine in the school of medicine and executive medical director of the Department of Medicine for UCLA Health. “We grew up being told that we would become a doctor or a lawyer or an engineer. I am one of five children, and, as it turns out, three of us are doctors and two are engineers. So, I guess we ended up listening to our parents.”

Dr. Abel joins UCLA at a time when it is expanding its commitment to health equity, diversity and inclusion, and as the leader of the school and health system’s largest department, he will play a significant role in shaping that journey. While chair of the Department of Internal Medicine at the University of Iowa, Dr. Abel was dedicated to broadening communication to build a greater sense of community; provide strategic direction; and address issues of diversity, equity and inclusion. He talked with UCLA Health interim chief of communications Judy Fortin about his background, thoughts on equity, diversity and inclusion in health care and the value of mentorship.



“We need to have a really important conversation about how we, as an organization, serve the community of Greater Los Angeles in a much more meaningful way,” says Dr. E. Dale Abel.



PHOTO: JESSICA POINS

You grew up and earned your MD in Jamaica, and then went on to earn a doctorate at Oxford as a Rhodes Scholar and complete residency and fellowship training at Northwestern and Harvard. How did that early experience inform your attitudes about medicine and health care?

Dr. E. Dale Abel: I learned medicine at the bedside, talking to patients. Almost every time, the patient tells you something that is nuanced, that is not actually in the record, something that may ultimately alter the course of how to manage his or her care. That has continued to flavor how I practice medicine today. Also, when you practice medicine in a place that is much more resource-constrained than the United States, there is, obviously, less access to the latest and greatest tests that could help you to diagnose a patient. So, you come to recognize that you sometimes must make life-or-death decisions in the face of diagnostic uncertainty based on your best judgment. This gave me a very clear perspective about the power that a physician has over the lives of their patients. When I started to train in the United States, I was struck by how many tests doctors order, and by the many contingencies that are put in place because there is concern that somebody might turn around and take you to court over a decision that you made. I think that there is a fine line between practicing good, safe and cost-effective medicine that is high quality versus practicing defensive medicine. I am encouraged that in the U.S. medical establishment, we are now getting closer to a point where medicine is becoming somewhat more rational in asking questions about how we balance resources with what ultimately is proven to be effective.

What are your priorities for UCLA’s Department of Medicine, and where do you see opportunities for growth?

Dr. Abel: It is remarkable taking over a department that has been led by someone like Dr. Alan Fogelman, (MD ’66, RES ’68, ’71, FEL ’73) who, over the nearly 30 years of

his stewardship, has built a department organically that is the envy of the country. He bet on people and he bet on talent, and he told those individuals he brought to UCLA, “I’m going to give you the freedom and resources to excel in whatever way that you want to do that.” The result has been spectacular. Having said that, you can’t keep growing organically when you get to the size of the current Department of Medicine. Both on the clinical and research sides, we will have to identify those critically important priorities where we can really be the world leaders, and then invest to achieve that goal. UCLA is a tremendously collaborative place, but I think there are levels of additional collaboration that can amplify our impact. We can catalyze growth without necessarily having to bring in many more people by embracing points of synergy that just need to be realized for the department to continue to succeed.

UCLA has an incredibly strong clinical program, is in a very strong financial position, and it has amazing researchers and very energized and motivated faculty. There are relatively few places that have all of those things together under the same roof. I would like to leverage that strength to expand the reach of our experts on the national stage. I believe that the quality of our faculty, the quality of our trainees and the quality of our entire enterprise deserves a greater level of national attention.

In your previous positions, you have been very focused on issues of diversity, equity and inclusion. How do you plan to carry on that work at UCLA?

Dr. Abel: We need to pay close attention to the people who we recruit into the school of medicine, and ultimately into the department. And we need to have a really important conversation about how we, as an organization, serve the community of Greater Los Angeles

in a much more meaningful way. UCLA is located on the Westside of Los Angeles, in an affluent area, yet within a few miles there are neighborhoods and communities that have third-world levels of mortality and sub-optimally managed chronic noncommunicable diseases, like hypertension and diabetes. I know there would be tremendous support for us to broaden our engagement with these communities. Mentorship and paying it forward also is something that I am passionate about, and there, too, are opportunities to expand our connections. UCLA has a tremendous talent pool, and I believe that we have a responsibility to ensure that we provide thoughtful and meaningful mentorship across the entire career spectrum.

A recent UCLA study found that the proportion of Black physicians, specifically men, who are being trained in the United States has not increased in 120 years. Do you feel there are new training opportunities that can be created through the Department of Medicine to increase those numbers?

Dr. Abel: First of all, we have to get more Black men into medical school. I have colleagues in other parts of the country who actively mentor young Black men ages 13 to 17 to show them that a career in medicine is very much within their grasp, and also to show them what it takes to become competitive for medical school. It really has to start early, and not just at the time of admission. The second point is that I really want the department to be a magnet for minorities, and particularly for Black and Latino physicians and medical school graduates who are thinking of training in internal medicine. UCLA should be at the top of their list of places to apply. There is strong competition from a few other elite and premier programs across the country. A “holistic” review is an excellent approach to achieve this goal. I know that the training departments in the Department of Medicine at UCLA have been active in their recruitment of diverse trainees and do this, and Massachusetts General Hospital in Boston does this as well. With a holistic approach, there are independent “academic reviews” and “holistic reviews.” The individuals who are focusing on recruitment through the lens of diversity, equity and inclusion will pick up on things in the application that the folks doing the academic review may have missed because they are focused on test scores or more traditional academic metrics. As a result, both UCLA’s Department of Medicine and Mass General achieved among the most diverse and accomplished incoming residency classes in the country. I look forward to continuing our journey together to build on this progress in our quest to leverage UCLA’s incredible pipeline opportunities to increase diversity within our department. I believe that excellence and diversity go hand in hand.

As the leader of a very large department, how will you maintain the balance between your personal goals as a researcher and your responsibilities as an academic chair and administrator?

Dr. Abel: My research group has been with me for a fairly long time, and they are pretty mature independent

investigators. A few people are relocating with me; I believe that they will rapidly size up opportunities on campus to enhance not only our work, but also their own work. At this stage in my career, it doesn’t have to be all about my own research anymore. I think that there are a lot of young people with great ideas — probably better ideas than mine — and if I can just point them in appropriate directions, then they can run with things. One of my goals is to identify, nurture and encourage young and upcoming investigators and physician-scientists within the department, and to really ensure that we can develop a strong community of young people who are being supported and actively mentored to achieve their full potential.

You’ve mentioned mentoring several times. Who has had the biggest influence on you personally and professionally?

Dr. Abel: A critical mentor was my PhD supervisor at the University of Oxford, Professor John Ledingham. After we began working together, he asked me, “What do you want to do when you finish?” I said, “I want to go to the United States.” He marched me over to the chair of the department, Sir David Weatherall, and introduced us. Sir Weatherall picked up the phone and called friends who were senior academics in the United States, and he said to them, “This young man from Jamaica who is sitting in my office is someone I think you should meet.” That opened doors, and it is how I met another significant mentor, Lewis Landsberg, when he was a professor at Harvard before going to Northwestern, ultimately as my chair in the Department of Medicine. Dr. Landsberg asked me: “What do you want to do after residency?” I said, “I think I want to be an endocrinologist.” He said, “Okay, fine. You’ve got to go to Boston. Here are the people I want you to train with.” He was a tremendously generous mentor. It didn’t matter who I was or where I came from; he just saw what the future could be like for me and then essentially facilitated that. At the end of the day, what makes me look good, or what makes anyone look good, is not how many papers I have published or how many honorific societies I’ve been a member of. It’s the people who you can say you have touched and who would have your back. The success of others amplifies what your personal impact might be.

Now that you are working just a short skip from Hollywood, do you have a favorite movie that perhaps reflects on your own attitudes and/or style?

Dr. Abel: *Dr. Zhivago*. That is my favorite movie because it really captures this amazing, tragic story of a time when Russia was undergoing convulsive upheavals. When I watch it, I reflect on how our life experiences are framed both by history and by circumstances over which we often have no control, and which can really shape the way that we ultimately interpret future events. I think that stories that really touch on a deeper aspect of life and humanity are the ones that tend to appeal to me the most. ●

What's the Difference?

STEPHANIE CORREA, PHD

Assistant Professor of Integrative Biology & Physiology

The core question that concerns Dr. Stephanie Correa is how the brain regulates temperature and energy balance differently in males and females. “We want to know how estrogens” — the primary hormone produced by the ovaries — “act on the hypothalamus to alter temperature homeostasis and metabolic health,” she says. “Why would something so crucial to biological function be sensitive to sex and sex hormones?” By using mouse models to answer that question, she hopes to enhance understanding of the underlying causes of weight gain and hot flashes in postmenopausal women and provide future scientists with broader knowledge to develop treatments.

WHEN DID YOU FIRST START TO THINK ABOUT SCIENCE?

I always liked science, but I never knew that I could *do* science until I was in college. When I was a kid, “science” was Bill Nye in a bow tie on TV. Nobody I saw who was a scientist looked like me — not female and not Latina. I didn’t know that scientific research could be a career for me. But in college, I got to work with professors and talk with professors about science, and many of them were women, and I realized that science was something I could do.

WHAT WAS YOUR FIRST EXPERIMENT?

There was a science fair in the sixth grade and in my science class we had to come up with experiments. The teacher gave us some options, and I picked one, but I thought it was rather limited — it involved putting black and white fabric over ice in a cup to see how the different colors might reflect or absorb heat. I expanded on

that and used other colors of fabric, and I also controlled for the fabric thickness, and I made predictions about how the different colors and fabrics would absorb or reflect heat. I won second place.

WHAT HAS BEEN THE GREATEST CHALLENGE IN YOUR WORK?

The greatest challenge has been trying to frame what I work on as important to the overall field of biological sciences. Historically, working on female subjects has been treated as a side project, or an epiphenomenon, and not central to the problems being explored. My challenge has been to promote recognition that research involving female subjects is as essential to understanding these issues as is research involving male subjects. If you understand how a biological process works only in males, then you don’t really understand how it works.

WHERE DOES YOUR INSPIRATION COME FROM?

It really comes from the biology — the animals that we study or the subjects we are investigating or the data we are collecting. Taking all that information and trying to figure out what the animals are trying to tell us — what is the truth — is the most exciting and inspiring thing.

WHO IS YOUR SCIENCE HERO?

My science hero is Art Arnold (Distinguished Professor of Integrative Biology & Physiology), here at UCLA. I met him as a fourth-year PhD student at Cornell, and we got to talking about sexual differentiation and sex differences, and we just had a really exciting conversation. In my eyes,

he was someone who was famous, and it was so inspiring that he would engage with me about science. Now, I am his colleague at UCLA, and he still is the hero who continues to inspire my work.

WHERE ARE YOU HAPPIEST?

In my lab. When I was a post-doc, my husband was a post-doc at the same institution, and when he would come to visit me in my lab, it was such a joy. That was when I was happiest, when everything that I loved was in one room. Now, our two daughters sometimes come to spend time with me in my office. That makes me very happy.

WHAT DO YOU CONSIDER TO BE YOUR FINEST ACHIEVEMENT?

I don’t think I’ve gotten there yet. I’ve been at UCLA six years, and I’ve had a lot of really amazing people come through my lab. I think my finest achievement will come when they go off and establish their own labs and do amazing things.

WHAT ARE THE QUALITIES OF A GREAT SCIENTIST?

Perseverance is very important because a lot of times things fail, and you have to be willing to go back and try again or try doing things a little differently. Coupled with that is optimism, because you can’t keep coming back after failures if you’re not optimistic. And there’s skepticism, too. You have to be willing to take a hard look at your own data or at other people’s data, and to recognize what the limitations are and how that might influence our understanding of what it is the mice are trying to tell us.

WHAT CHARACTERISTIC MOST DEFINES YOU?

I think I do embody that optimism in the face of failure. Maybe that is because I think the process of doing science is really fun. Even if the result is negative or uninterpretable, I enjoy the challenge of going back and doing it better.

WHAT IS YOUR GREATEST VIRTUE?

I try to see people as whole people. I try to recognize their strengths as well as their weaknesses, and to leverage

those strengths and work on shoring up their weaknesses. I try to do that with myself, as well.

WHAT IS YOUR GREATEST FAULT?

I can take the excitement a little too far. I might get really wrapped up in some line of research or some experimentation, and then I’ll get ahead of myself with that and maybe not pay attention as I should to other projects going on in the lab.

WHAT IS YOUR MOTTO?

Something we ask ourselves a lot in the lab is, “What is the critical test?” So, that might, I guess, be considered a motto. Or maybe it is, “What are the mice trying to tell us?”

WHOM DO YOU MOST ADMIRE?

The women who have trained me. I believe that my ability to be a woman in science is very much helped by the women who came before me, who really had to deal with many more barriers than I’ve had to. Their trailblazing efforts have made it possible for me to not just conduct important research, but also to be able to bring my children with me to my workspace or to talks and to work in an environment that has become more accepting.

WHEN DO YOU NOT THINK ABOUT SCIENCE?

It’s difficult for me to not think about science, but I know it is important to be able to detach a bit at times. It is most important for me to do that when I’m with my kids, and to just think about them and take joy in them. That is something that I’ve been working on getting better at.

WHAT IS YOUR MOST TREASURED POSSESSION?

I try not to be very attached to possessions. I have nice things, but if I lost them, most would be replaceable. But if I ever lost my wedding rings — I think I would be crushed.

TO WHICH SUPERHERO DO YOU MOST RELATE?

The Hulk. Bruce Banner is a scientist, he is an intellectual, but he has this other side of his personality that



he tries to keep in control. I feel that other side, The Hulk, can be leveraged for strength. I think I have a little bit of that in the way that I try to mentor people, take them under my wing. I advocate for them. And if somebody crosses one of my people, I am not a happy camper.

WHAT IS THE BEST MOMENT OF YOUR DAY?

Seeing my kids after school. Those hugs are the best.

WHAT IS YOUR DEFINITION OF HAPPINESS?

Knowing what it is I need to do to

move forward, being ready for something and able to adjust if needed.

WHAT IS YOUR DEFINITION OF MISERY?

Ruminating on previous errors.

WHAT MUSIC DO YOU LISTEN TO WHILE YOU WORK?

I don’t listen to much music when I’m working because I like to focus. But when I need a pick-me-up, I listen to Latin music. I go back to the cumbias that I listened to as a child at family parties, and people would get up and start dancing. That really gives me a second wind. ●

The Stradivari of Westwood

By Veronique de Turenne
Photos by Ann Johansson

A neurosurgeon trades his scalpel
for a plane and wood knife
to craft exquisite violins.



The entrance to Angeles Violin Shop isn't so much a door as it is a portal. It hides in plain sight between a dry cleaner and a minimart in a West L.A. strip mall. Gain entry, and the grit of Pico Boulevard falls away. It's quiet inside, and gently lit. Workbenches are stacked high with a crazy quilt of tools and raw materials. Stringed instruments at all stages of construction scent the air with sweet notes of cut wood and the sting of glue and varnish. It's in this workshop that a neurosurgeon from UCLA gets to shed his identity as Dr. Lu. To the musicians and craftsmen who gather here, he's just plain Daniel, a skilled maker of fine violins.

Bending and forming the ribs.



"There is a freedom for me in violin making that I find liberating," Dr. Daniel Lu says of his transition from physician to luthier. "In my work as a surgeon, there are consequences for errors that are potentially severe. Making a violin is a way to hone my skills and not worry about the stakes because no one gets hurt."

Today, Dr. Lu is at the shop to finalize the gift of one of his hand-crafted violins to a graduate student at UCLA's Herb Alpert School of Music. It's the first of many such donations he hopes to make. The form of this specific instrument is inspired by a storied violin made in 1735 known as the "Plowden." It was crafted by Giuseppe Guarneri, an Italian luthier, whose surviving instruments are as sought after as those of

Antonio Stradivari. Unlike many violins these days, which are mass produced, Dr. Lu's are all bench-made. It means that, through an exacting process with roots in the Renaissance, he takes slabs of spruce, maple and ebony and, over the course of months, coaxes a violin into existence.

Many hobbyists take up violin making, but few of those instruments ever get much serious play. Building such an instrument is a notoriously exacting craft that treads a fine line between art, science and alchemy. Each stage of the process — making the templates, creating the mold, measuring, cutting and incrementally shaping — demands accuracy down to the millimeter. And still, once an instrument is fitted and glued, varnished and polished, each step perfectly rendered, its



Graduating violin plate with wooden plane.



Left: Forming and carving scroll. Above: Assembling top plate of violin.

“voice” remains a mystery until the first notes are played.

“Two different violin makers can start with exactly the same form, use the same wood and follow the same steps, and yet each instrument will come out with its own distinctive sound,” Dr. Lu says. His copy of the Plowden is a beautiful instrument, feather-light, with sinuous curves and a dark, glowing finish. With its complex and

powerful voice, it’s a violin that can launch a musician’s career.

“That Daniel’s violins are on a par with a fulltime maker’s is unusual, if not unique,” says Phillip Levy. An acclaimed violinist with an international reputation — none other than Yehudi Menuhin called him “a most excellent violinist!” — Levy gives Dr. Lu the occasional violin lesson. More often these days, he visits Dr. Lu’s

home to play the newly made violins. This allows both men to assess the instruments — and their maker’s progress in his adopted craft. “The level I play at, you can pick up an instrument and know right away if it’s of interest, if it’s worthy, which Daniel’s are,” Levy says. “He takes everything very seriously, precision down to the micron, everything done perfectly, and that’s unique.”

It is the care with which Dr. Lu crafts his instruments that makes them desirable for a musician the caliber of Roberto Cani, concertmaster of the LA Opera orchestra. Among the three violins Cani owns are two built in Cremona, Italy, in the 18th century and one by Dr. Lu. “I’m very impressed by the violins he makes — he’s very talented,” Cani says. “I make violins myself, but not like his.” Cani has played Dr. Lu’s violin during rehearsals, as well as in performance. “His violins are very precise, and they sound quite good,” Cani says. “Modern violins can be quiet; his fill the room.”

THE SHIFT FROM PLAYING VIOLINS TO MAKING THEM came naturally to Dr. Lu. “I’ve always wanted to build things, always liked to tinker around and figure out how and why something works,” he says. “Building a violin is like taking something — in this case, music — back to its elements, reverse-engineering it, in a way, and that’s always been fascinating to me.”

In addition to his “day job” as a surgeon, Dr. Lu is a professor of neurosurgery and the principal investigator of UCLA’s Neuroplasticity and Repair Laboratory. He also serves as vice chair of research in the Department

of Neurosurgery. He and his team are conducting National Institutes of Health-funded research into the mysteries of the spinal cord and ways to improve function after injury. “We’ve generally sorted out how the kidneys work, how the heart functions, how the GI tract works, how the muscles work, but the brain and the spinal cord — there are trillions of connections,” Dr. Lu says. “It’s as large as a universe, and we still haven’t figured out how it’s all put together.”

Dr. Lu is particularly interested in the concept of automaticity, or muscle memory, and the body’s ability to create alternative neural pathways. With a more-complete understanding of these mechanisms, and utilizing cutting-edge neural-stimulator implants, it could be possible to help someone with a paralyzing spinal-cord injury to regain function, he says.

It’s all part of a career path that echoes Dr. Lu’s earliest interests. “When I was a kid, I used to take things apart — dismantle a radio, the telephone, take apart some toys. Unfortunately, I wasn’t always quite as successful at putting them back together, and there was often a spare part or two left over,” he says, with a laugh. “It’s that same curiosity and that mystery that eventually drew me to neuroscience, and it still draws me to other creative pursuits.”

Among the earliest of those pursuits was music. Dr. Lu took his first violin lesson

at the age of 12, several years after he moved with his family from Taiwan to Los Angeles. “I started playing the violin a little late,” he says. “We emigrated to the U.S. when I was 10, and at that time I didn’t speak any English and was working to learn the language. So, I didn’t start playing until around middle school.”

The violin is a demanding instrument. With four strings, no frets and an infinity of options for how to use the bow, the learning curve can be steep. But the mix of precision, daring and intuition the instrument requires appealed to the young teen, and violin became a passion. He continued his music studies throughout high school and played in the university orchestra as an undergrad at Dartmouth College. While earning his PhD and MD degrees from UC San Diego, Dr. Lu performed with a small chamber music ensemble. But then came the intensive years of a neurosurgery residency in

San Francisco, during which his violin rarely left its case. It wasn’t until 12 years ago, when he joined the Department of Neurosurgery at UCLA, that Dr. Lu found the breathing room to make music again. He unpacked his instruments, picked up a bow, and then serendipity came into play.

“It was in 2012, when I had some bows and violins that I needed to have worked on,” Dr. Lu recalls. He asked fellow musicians to recommend a good luthier, and they directed him to Angeles Violin Shop. The owner, Jeff Muller, is a second-generation violin maker renowned for his skill and knowledge. He began learning his craft as a boy, helping out after school in his father’s Sacramento violin shop. As a young man, Muller took his place alongside his father as a full-fledged luthier. His small Los Angeles shop, an exuberant study in organized chaos, leads Dr. Lu to refer to him with affection as “some kind of mad genius.” And, as

Gluing and clamping top of violin.



Varnishing a completed instrument.



Playing a finished instrument.

Dr. Lu quickly learned, Muller is also a generous teacher.

“Daniel came in for a bow re-hair, and right away he was very interested in what I do here. He asked if he could learn how, and I said sure,” Muller says of their initial meeting. “But making bows didn’t interest him as much as making a violin. He came in with a picture of an instrument he liked and said, ‘OK, I want to make a copy of this.’ I said sure, and now here we are.”

Those first few months held surprises for them both. It wasn’t Dr. Lu’s transition from customer to student that proved remarkable. In the 25 years that Muller has owned his shop, more than a few of his clients have waded into violin making as a hobby. What stood out with Dr. Lu was how quickly he learned, and how adept he became.

“You get people who come in and follow the steps, cobble something together, and the instruments they made just don’t sound,” Muller says, referring to the crucial ability of a violin to project its voice. “But Daniel’s violins are like

cannons. He’s got very good hands. He’s very meticulous. And he listens quite well. All of that makes working with him easy. It’s very unusual to have someone come in at the hobby level and make instruments that are this good.”

FOR DR. LU, THERE WAS THE UNEXPECTED SURPRISE of finding a new setting for his skills. “I do surgery, and we’re talking about the need for sub-millimeter precision, which is an existing skill set that I can apply to the violin,” he says. “But in violin making, there’s a lot of give. Even if you make an error, there are ways to work around it to give each instrument its distinct personality.”

The process begins in Angeles Violin’s workshop, where Muller uses an industrial-size band saw to cut the wood slabs. “No, I don’t let Daniel do that part — his hands are just too valuable,” Muller says. But the rest of the building, 300 to 400 hours per violin, is done by Dr. Lu alone.

Working at night, which is his only free time, he trades

the instrument tray of the OR for a tool chest. It’s stocked with the chisels, knives, finger planes and rasps that he uses to cut, scoop and shave the delicate parts of a violin into existence. As the hours pass, curls of spruce pile up around him. Some are so thin they seem transparent. Often, it’s midnight before he interrupts his flow and finally heads to bed. “I’ve found a lot of similarities between surgery and this kind of work,” Dr. Lu says. “When I say to someone that I’ve been in surgery for eight hours, they’ll think that’s a long time, but it goes by in what feels like a second. It’s like an out-of-body experience when you’re concentrating, and things go right.”

The impetus for his first violin, which has since been followed by eleven others, was Dr. Lu’s 7-year-old son, Sebastian. “I want him to learn to play, but like his mother, he plays the piano,” Dr. Lu says. “We’re hoping that his sister, Emmie, will take it up, but right now, she’s only 3. So, we’ll have to wait a few years and see.”

Until that time, he continues to build a violin collection to share with promising music students at UCLA. The purchase price of a violin of such quality can range from \$15,000 to more than \$30,000. It’s a prohibitive sum for a student. And while it makes sense that someone like Dr. Lu would donate an instrument to the university’s violin program, the fact that he builds them himself makes the gifts all the more meaningful.

Arutyun Piloyan was both grateful and relieved to learn he would receive the gift of a violin. A graduate of the Tchaikovsky Moscow Conservatory, he’s an exceptional violinist on the cusp of establishing a professional career. Soon after arriving at UCLA to continue his studies, though, his teachers told him he would need a better instrument in order to progress. And while the news of the donated instrument was a godsend, the details of its origin struck Piloyan as less than promising. “When my professor told me that Dr. Lu is a neurosurgeon, and that he had built this violin himself, I thought it was a joke,” he says. “I know people who make violins as a hobby, and these are not instruments that you are going to want to play.”

But his teacher was serious, and Piloyan was intrigued. He tried out several of Dr. Lu’s instruments and was immediately impressed by their quality. And the moment he played the Plowden copy, he knew he had found his new violin. “I picked it up, and it sounded like a great violin, like an old violin, warm, with a bit of a sweet sound — but not too sweet — which I love,” Piloyan says. “I can play anything

on this violin. I thought maybe it’s that way just for me, but my teacher played it as well, and he found the same thing.” In fact, Piloyan’s teacher compared Dr. Lu’s violin to ones often heard in a concert hall — the kind of Old World instruments that are considered to be the gold standard for violins and can cost upward of \$150,000 — and found the sound of his Plowden to be superior.

Piloyan recently played Dr. Lu’s violin in an audition and won the position of concertmaster with the UCLA Philharmonia, the music school’s flagship orchestra. A few weeks later, when he performed in Schoenberg Hall, his new violin continued to exceed his expectations. Now, meeting with Dr. Lu at Angeles Violin Shop for a final consultation, Piloyan was jubilant. “It’s fantastic, this violin, beautiful, and so easy to play. And the sound — every day the sound gets better,” he says. “It’s so generous of Dr. Lu to help me like this because I just arrived here, and music is everything for me.”

Piloyan played for a few

moments, a bit of the buoyant brightness of Mozart’s Violin Concerto No.4, then a peek into the Sibelius Violin Concerto, dark and wistful. Dr. Lu and Muller exchanged glances as the sound spilled into the room and nodded, both of them satisfied. A new phase of Dr. Lu’s journey as a luthier had begun.

“You don’t just build a violin by yourself. There’s a lineage to it, and I’m honored to be a part of that,” Dr. Lu says. “It’s the same in neurosurgery, where the person you train with imprints their principles and their ideals onto you, and then you carry that torch.”

But the real satisfaction of learning the art and craft of a luthier is when an instrument reaches a musician’s hands. “The greatest amount of joy comes from listening to someone play one of my violins,” Dr. Lu says. “Seeing your violin out in the world, bringing music and happiness to other people — it’s indescribable, really. It’s above anything I felt as a performer and is the true fulfillment of building a violin.” ●

THE PRICE

COVID-19 has exacted a heavy emotional toll on the nation's health care workforce on the frontlines of the pandemic. Many have left the profession, while others continue to shoulder the burden and carry on.

By Sandy Cohen
Photos by Jessica Pons

About nine months into the COVID-19 pandemic, Jane Fazio, MD, began to question her future in medicine. She was in her first year of a pulmonary-critical-care fellowship at UCLA when her chosen career path began to feel unsustainable, like it was taking more from her than she could give. After months spent in the hospital system's ICUs caring for patients critically ill from COVID-19 — watching as many shared final words with family over Zoom and then died alone in their hospital beds — and working too long and sleeping too little, she was exhausted and depleted.





KAREN GRIMLEY, PHD, MBA, RN

She also was among the more than 910,000 health care workers in the United States to contract COVID-19.

Despite being young and healthy, Dr. Fazio worried that she, too, could die. “It felt like the only COVID patients I had ever seen were the ones who were dying,” she says. “The emotional impact of having COVID and going right back to the same thing, I think that was probably the worst. I started feeling like, ‘I cannot do this anymore.’”

Like so many health care workers, she was experiencing burnout — what the American Medical Association defines as a long-term stress reaction characterized by a sense of detachment, emotional exhaustion and negative feelings about work, patients and personal achievements.

“At one point, I was asking myself, ‘Why am I doing this?’ This is a choice. I don’t have to be a critical-care doctor,” Dr. Fazio recalls. “And I just started to think, I’m going to quit, and what will I do if I quit?”

Pandemic-related burnout among health care workers has become a national crisis, one that is receiving attention from the popular press, as well as academic journals, across the country. “U.S. Faces Crisis of Burned-Out Health Care Workers: Hospital leaders are sounding the alarm as health systems face an exodus of exhausted and demoralized doctors, nurses and other front-line workers,” shouts a headline in *U.S. News & World Report*. “Why Health-Care Workers Are Quitting In Droves,” reports *The Atlantic*. *AAMCNews*, the online magazine of the Association of American Medical Colleges, published an opinion piece titled, “Medical burnout: Breaking bad.”

Finding solutions to this problem now is a priority for such organizations as the National Academy of Medicine, the U.S. Centers for Disease Control and Prevention (CDC) and the Office of the Surgeon General.

Even before the pandemic intensified workloads and exacerbated stress levels in hospitals and health clinics across the country, 79% of physicians reported feeling burnout, according to the CDC. “The pandemic has really highlighted to us that if we do not take urgent action, then our health care workers will continue to suffer, and the entire health care system will be under threat,” said U.S. Surgeon General Vivek Murthy, MD, during a presentation last year about the emotional state of the nation’s health care workers.

Dr. Murthy’s concern is borne out in a survey conducted in October 2021 by the research firm Morning Consult, which reported that nearly one-in-five health care workers have left their jobs since the pandemic began. Another 31% have thought about leaving their employers, including 19% considering leaving health care altogether. (In an earlier Morning Consult survey, 46% of health care professionals said their mental health has deteriorated during the pandemic.)

Another study, by researchers at the University of Washington published in the *Journal of General Internal Medicine*, found that half of health care workers surveyed were reconsidering their occupation because of the pandemic.

“Depending on which survey you read, 60-to-75% of health care workers are experiencing symptoms of exhaustion, depression, anxiety, insomnia and even PTSD,” says Victor Dzau, MD, president of the National Academy of Medicine. “This was a problem to begin with, and COVID has made it much worse.”

THE STRESS OF THE PANDEMIC HAS PUT ADDITIONAL PRESSURE on an already strained national health care system that is short on medical professionals: The U.S. Bureau of Labor Statistics predicts a need for 1.1 million additional nurses in 2022 to meet health care demands, and the Association of American Medical Colleges forecasts a shortage of as many as 48,000 primary-care physicians and 77,100 specialty physicians in the next dozen years.

From the start of the pandemic, the leadership of UCLA Health recognized the emotional toll the health crisis could take on its frontline physicians and staff. “This has been an unprecedented situation for health care providers nationwide,” says Johnese Spisso, MPA, president of UCLA Health and CEO of UCLA Hospital System. In an open letter to all staff

“I was asking myself, ‘Why am I doing this?’ This is a choice. I don’t have to be a critical-care doctor. And I just started to think, I’m going to quit.”

written early in the pandemic, she said: “To get through it we must continue to care not just for our patients, but also for each other as well as for ourselves.”

In response, UCLA Health launched a number of initiatives, including counseling and wellness programs, to help staff deal with the daily stresses of the pandemic and the burdens, both professional and personal, that it was creating. “We support the health and well-being of our health care workers as they navigate through the pandemic and continue to provide exceptional patient care,” Spisso says. “We know that the last two years have taken a toll on our staff and their families, and we continue to be committed to offering ongoing support.”

Borrowing from a colleague’s vivid description of the pandemic, Karen Grimley, PhD, MBA, RN, chief nurse executive for UCLA Health, called it “the longest, slowest mass-casualty event in our history.” Hiring more health care workers has been a key priority; Dr. Grimley expects to have added nearly 500 nurses by January 2022. “If I don’t have the right number of people in the units and clinics caring for the patients, I can’t start offering nurses the time and resources they need to decompress and begin to care for themselves,” she says. “First, we have to have the foundation in place.”

As the pandemic has unfurled over the past two years, the stressors confronting health care workers have multiplied.

Initially, there was widespread fear and uncertainty and global shortages of personal protective equipment. Patient intake soared by unprecedented numbers, and so, too, did deaths. Each patient lost to the pandemic further ate away at the morale of those working so hard to save them. Nathan Yee, MD (FEL '21), a critical-care physician at UCLA-Harbor Medical Center, recalls a COVID-19 patient he cared for during the final year of his fellowship at UCLA who went home and was doing well after a long hospitalization in the ICU, only to suffer a cardiac arrest and die. "It was story after story like that for months," Dr. Yee says. "These stories have taken a piece of my soul that I don't think I'll ever get back. Like many of us, I'm certain I'm going to emerge a different person when this is all said and done, hopefully for the better, but who knows."

Around the country, staffing levels have been further stretched as workers, no longer able to bear it, resigned or retired, or got sick with COVID-19. Vaccines simultaneously offered a new measure of protection and a new sense of national division along political and philosophical fault lines.

The cumulative burden of the pandemic has been overwhelming: the fear that has permeated hospitals and the strain of isolation at home; the unfairness of the disease and the toll it has taken on communities of color that disproportionately have borne the brunt; the sheer volume of patients and deaths driven by each recurring surge and, now, the evolution of new variants; and the politicization of the virus that has led some people to distrust science and disregard common-sense protective measures to curb the spread.

It took nine months for that cumulative burden to break Tatiana Johnson, RN. It was more than the sadness of so many deaths witnessed in the COVID ICU, the daily stress of being an emotional bridge for family members who couldn't be close to their loved ones and the fear of catching the virus and spreading it to her friends and roommates. "A huge part of how I'm able to be a good nurse is having the time to decompress by going out to eat with friends, hiking, socializing," she says. But the isolation and social-distancing measures of the pandemic erased all that. "It felt like a lot of my support system was taken away, that the way I decompress and cope with things was taken away," Johnson says. "My emotional health started to rapidly deteriorate."

When Johnson finally got to the point where she felt she was "not capable of showing up"—that her stress and inner turmoil might potentially compromise the care she delivered to patients—she quit the ICU. It was an agonizing choice. "I had to give myself permission to take care of myself," she says.

"We are trained to adapt and cope and care for patients in the most difficult situations, but this felt different. Not only was there concern for our patients, there also was concern for ourselves and the potential personal risk we would be facing."

"I love my coworkers, and I loved working in the ICU. But this was a weight that I carried for months. I carried it because I knew I was skilled and trained to help during this pandemic. But I also knew that I couldn't be the nurse I needed to be for my patients. And I couldn't keep my emotional health in a good place if I continued to work there. I no longer had the stamina." Though Johnson left the ICU, she remains at UCLA as a member of the medical-surgical resource team, rotating among the med-surg floors at Ronald Reagan UCLA Medical Center and UCLA Santa Monica Medical Center.

Like Johnson, health care workers at every level experienced heightened anxiety around the novel coronavirus. Many custodial workers were nervous about entering patients' rooms for fear of the virus. The unremitting awfulness of it all was enough to bring some to tears. "It was very sad to see how the families couldn't be together, talking to their loved ones in the ICU on the iPad," says senior custodian Beatriz Hernandez, quietly crying as she describes the experience. "Many times, the sick person felt so alone—sad and desperate. I saw so many deaths, including patients who told

me they didn't want to be alone and asked if I could stay with them a moment longer since they couldn't be close to their families. I tried to be strong and give them support for the brief time I was in their room cleaning," she says. "I would talk with them. Some of them clearly couldn't speak, but they were looking at me as if to say, 'Help me.' I'd tell them everything is going to be OK, don't worry, and I'm

cleaning up your room so you can have a speedy recovery. And some did recover, but others died."

No one was immune to the sadness. Thanh Neville, MD '05 (RES '08, FEL '11), a seasoned critical-care specialist and ICU attending physician, cried many times after finishing her shifts. In one of her many social-media posts over the course of the pandemic, she wrote: "I just left the hospital after a 14-hour day, walked back to my hotel room, and I think I need a long, good cry tonight. I cry for the patient I just lost. I cry for the mother who is not allowed to be at the bedside of her disabled son. I cry for the patient who hasn't seen her husband for nearly three months. I cry for the newly widowed husband. I think of all the reasons we have to cry right now, and I cry harder."

The pandemic played havoc with the natural instincts of frontline health care professionals who are, as emergency-medicine physician Natasha B. Wheaton, MD, describes, trained "to run toward the fire, toward someone in need." The tension in the ERs was palpable. "We are trained to adapt and cope and care for patients in the most-difficult situations, but this felt different," she says. "Not only was there concern



THANH NEVILLE, MD



BEATRIZ HERNANDEZ

GARRY KNIGHT, RT



for our patients, there also was concern for ourselves and the potential personal risk we would be facing.”

Respiratory therapist Garry Knight remembers how “completely scared” he and many of his colleagues were. No matter how urgent a situation was or how strong the desire to “run toward the fire,” he and his coworkers still had to take time to put on full PPE — gowns, appropriate masks, eye protection, double gloves. “You didn’t want a piece of your skin showing, because we didn’t know how you could get this disease,” Knight says.

He was so worried about passing the virus to his fiancé that he developed a meticulous post-shift decontamination routine. Before driving home, he would change out of his work shoes, spray his clothes with Lysol at the front door and head straight into the shower. “I would do my laundry with gloves and a mask on,” he says.

DURING HER FELLOWSHIP TRAINING, DR. FAZIO ROTATED ICU SHIFTS at Ronald Reagan UCLA Medical Center, UCLA Santa Monica Medical Center, the West Los Angeles VA Medical Center and Olive View-UCLA Medical Center. Each hospital serves its own communities and mix of patients, and has different levels of resources. Seeing up-close the disparities between the different patient populations contributed to her sense of distress. “As fellows, we were in a unique position to see what was and wasn’t able to be given to a patient based on where they happened to be,” she says. At Olive View, a Los Angeles County facility in Sylmar that is affiliated with UCLA as a teaching center, for example, the supply of ventilators and other critical resources was sometimes stretched thin by the patient load. “To see your decision-making change based on where you were was a very hard struggle,” Dr. Fazio says.

Such experiences also contributed, for many, to erosion of the professional detachment that is necessary for frontline health care workers to focus and do their jobs effectively in moments of urgency. “You try to disconnect when you can, but sometimes you can’t and you feel everything, and it is awful,” Dr. Fazio says. “I am a very resilient person, but there are things that push even the most resilient people to seek help for their emotional well-being.”

Recognizing that one needs help — and then taking the steps to get it — has not had significant standing within the culture of medicine. But asking for help “is a sign of strength,” says Dr. Murthy, the U.S. Surgeon General. “It is a sign that we are human.”

Dr. Neville knew she needed help when her mood tanked and her level of stress soared during the pandemic. “The worst part were the surges,” she says. “That felt very, very

different than my normal stresses. And most of that was the pure volume of work and the volume of tragedy.”

Sometimes when she got home at the end of a shift, she didn’t have enough energy left to cry. Even on days off, she couldn’t unwind. “It was hard because I was, like, ‘Why are people happy and doing normal things when there are a whole bunch of people on ventilators?’”

She also couldn’t ignore the physical manifestations of the emotional strain she was experiencing — the exhaustion, insomnia, nightmares when she did finally fall asleep, an inexplicable outbreak of severe hives. Dr. Neville took measures to address her stress and sought relief through acupuncture and breath work at the UCLA Center for East-West Medicine. And she wrote, sharing her experiences on social media and in editorials. “Writing about how I couldn’t save a patient who had just become engaged and was having a baby allowed me to make the experience of this pandemic much more real for people than just stating the number of deaths. It helps me to know that my words can help people who are not in my shoes understand the gravity and magnitude of this pandemic,” she says.

DURING THE PANDEMIC, ADDITIONAL DISCUSSION AND DROP-IN SESSIONS WERE ADDED to the already robust counseling and crisis-management services that UCLA

Health offers its faculty and staff. Such services are necessary to counteract — or at least mitigate — the harm that prolonged stress can inflict. This is particularly true, says Robert Bilder, PhD, professor of psychiatry and biobehavioral science, when traditional coping mechanisms — gathering with friends, traveling, playing sports or

taking exercise classes — aren’t available, as has been the case off and on for the past two years.

“People often can handle about one-to-three months of stress pretty well, although it of course depends on the severity of the stressors. What we call acute stress usually lasts less than a month, and our bodies, our brains, our physiology are pretty good at coping for those brief periods of time,” Dr. Bilder says. “But once we get beyond a month of stress, we enter a new phase of chronic stress.” Once a person’s resources for coping have been depleted, “we’re dealing with a whole different spectrum of problems physiologically and psychologically.”

It has been more than two solid years of chronic stress for the nation’s health care workforce. More than 900,000 Americans have died of COVID-19 and in excess of 76 million cases have been diagnosed since the pandemic began in 2020. New variants such as delta and omicron bring on new waves of fear, disease and death. Vaccines became widely available across the country early in 2021, but uptake hasn’t been as

“The pandemic has really highlighted to us that if we do not take urgent action, then our health care workers will continue to suffer, and the entire health care system will be under threat.”

broadly embraced as health officials hoped and polarization over the pandemic has worsened. Through it all, health care workers who have remained on the job are still caring for COVID-19 patients while continuing to endure their own physical and mental fatigue.

For Trang Guzze, RN, the pandemic has altered the way she approaches her job as a nurse in the emergency department of UCLA Santa Monica Medical Center. She doesn't volunteer for extra shifts, as she used to. Instead, she spends time on self-care activities, including exercise and rest. And rather than educating patients, she now, in the superheated political environment that surrounds the disease, often elects to keep quiet. "I signed up to help patients and educate patients, but it's been so political that I can't do that," she says. "My approach now is, 'I don't want to fight with you.'"

That, to everyone's detriment, undermines the traditional role of nurses, says Dr. Grimley, UCLA Health's nursing chief. Nurses engage in a "social contract" with their patients, she says. They are patient advocates and approach each new encounter without judgment. But the COVID-19 pandemic has stretched frontline workers to their limit. "What we normally do with glee — patient to patient, day to day — is protracted and extremely difficult," she says. "We're tired, but we're resilient. Nurses are fixers and doers, so we'll come through it." But in the face of this relentless disease, and too-often the naked hostility of patients and families, "we need space to heal," Dr. Grimley says. "We need some time. And we need people to be patient and caring with us."

Having patients second-guess their motivations or intentions has been particularly painful for caregivers. "It is important to me that I am viewed as a person who is trying to help, not hurt, people," Dr. Neville says. "And in this era of misinformation, I can tell you this is a struggle."

After unrelenting months of combatting the illness on one hand and struggling against tides of misinformation and resistance on the other, many frontline workers caring for unvaccinated patients with COVID-19 feel betrayed by members of the communities they are dedicated to serving. It is a sentiment that has been echoed in numerous articles and opinion pieces. Over the summer, Anita D. Sircar, MD, a UCLA infectious-diseases specialist, wrote in the *Los Angeles Times* of her "compassion fatigue" toward unvaccinated patients 17 months into the pandemic. "I had cared for hundreds of COVID patients. We all had, without being able to take breaks long enough to help us recover from this unending ordeal," she wrote. "For those of us who hadn't left after the hardest year of our professional lives, even hope was now in short supply."

For Dr. Fazio, it was that sense of waning hope that gave her pause. "It got to the point where I had an elevator pitch

for how to talk to a family about their dying loved one," she says. "And then you realize how crazy that is, and you think about how that's really the opposite of what humans are designed to do."

She finally spoke to her supervisors, who insisted she take two weeks off to rest and decompress. Doing so made her feel guilty, knowing her colleagues would have to cover her shifts, "but it was to the point where I was, like, 'I'll take the guilt,' because I was so miserable."

It is essential that frontline workers like Guzze and others be given the space to talk about the challenges they face, says Robert Cherry, MD, chief medical and quality officer for UCLA Health. "It's so critical that the staff have their voices heard," he says. "The key is understanding what their problems are and finding the solutions to help support them." The silver lining, he adds, is that "during the course of the pandemic, communication between everyone has improved greatly."

Nearly a year has passed since Dr. Fazio first started to question her professional future. After spending some time in nature, soul-searching about what lay ahead, she chose to continue with her fellowship in pulmonary-critical-care medicine. But she also decided to add a research component to her work. Dr. Fazio is now pursuing a PhD in health policy and management "to try to figure out some of those

tough questions about how COVID has played out in terms of disparities," she says. "I think that's going to be something that will sustain me longer term than being in the ICU all the time."

Clearly, Dr. Fazio's life has changed as a consequence of the pandemic. That is true for every health care worker on the frontlines. As Tisha Wang, MD, clinical chief of pulmonary critical care and director of Dr. Fazio's fellowship program, concludes: "Our souls may never be the same." ●

"Like many of us, I'm certain I'm going to emerge a different person when this is all said and done, hopefully for the better, but who knows."

Sandy Cohen is a senior writer in UCLA Health Communications and a former national writer for *The Associated Press*.

To read an essay published in *Intensive Care Medicine* by Dr. Thanh Neville about a particularly difficult ICU challenge during the pandemic, go to: tinyurl.com/Brave-Enough



TRANG GUZZE, RN

UCLA IN THE TIME OF AIDS:

The Long Road

In the 40 years since AIDS was first identified at UCLA, the university has been at the forefront of research and clinical advances that have transformed the disease from an almost-certain death sentence to a treatable chronic illness.

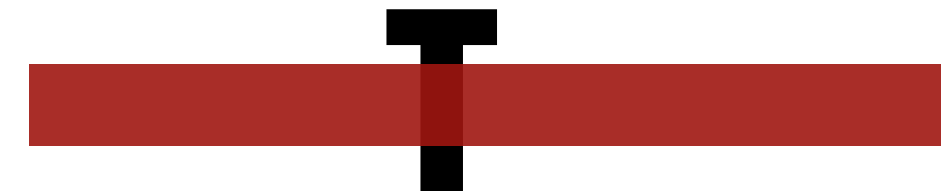


"It has been a hell of a journey," Dr. Ronald T. Mitsuyasu says of his nearly 40-year engagement with HIV/AIDS.

PHOTO: CHANTAL ANDERSON

By Dan Gordon

This is Part 2 of a two-part story chronicling UCLA's engagement with the HIV/AIDS epidemic over the past four decades. Part 1, detailing the first identification of AIDS at UCLA and the efforts that followed to overcome the scientific, clinical and social hurdles of the deadly new illness, appeared in the Fall 2021 issue of U Magazine.



om Gillman has lived a long time with AIDS. He was 38 years old when he was diagnosed in 1984. Now he is 75. His journey with AIDS has taken up half of his life, and it has often been filled with obstacles and pain. "In my darkest days, I've felt like I was in a rowboat in the middle of a very rough ocean," he says.

But it also has been a journey punctuated with hope. For that, Gillman credits Ronald T. Mitsuyasu, MD '78 (FEL '84), who has managed Gillman's care for the past 37 years, and the clinical AIDS research and treatment program that Dr. Mitsuyasu founded at UCLA. "There's no question about it, Dr. Mitsuyasu and his clinic saved my life," Gillman says.

Dr. Mitsuyasu, a hematologist-oncologist who was starting his fellowship training when the first report of a group of young gay men with an unusual constellation of illnesses was published in 1981, was one of UCLA's earliest clinicians treating patients with AIDS.

The clinic Dr. Mitsuyasu established in 1983 has gone through numerous iterations over the years. Starting in a basement in UCLA's Center for the Health Sciences to today's bright and modern suite in a building on Pico Boulevard, where it operates as a multidisciplinary hub of state-of-the-art medical care, clinical trials, education and research, the program now known as the Clinical AIDS Research and Education (CARE) Center remained under his direction until Dr. Mitsuyasu announced his retirement in 2020.

But Dr. Mitsuyasu continued to see patients for a year after retiring, and when Gillman learned that he would be having a final clinic day this past June, he rushed to get on the calendar to be Dr. Mitsuyasu's last patient.

Their journey together has been extraordinary. Gillman is among the few survivors from those earliest years. "My job has been to stay alive," Gillman says. "In that regard, I've done pretty damn well."

When Gillman first came to the clinic, with a diagnosis of Kaposi's sarcoma (K1), Dr. Mitsuyasu started him in a study of interferon alpha, one of the first drugs tested for AIDS-related K1. Other trials followed over the years.



Dr. Judith S. Currier: "Many times, it can take decades before scientific findings are translated into something that will impact patients. We've had the incredible privilege of moving developments from the laboratory into the clinic over just a few years."

PHOTO: CHANTAL ANDERSON

"It has been a hell of a journey," Dr. Mitsuyasu says.

That journey has encompassed almost the entirety of the history of AIDS to date, starting with its first identification by a young physician at UCLA 40 years ago. Throughout that time, UCLA has been at the forefront of research and clinical advances that have transformed AIDS from a near-certain death sentence to a treatable chronic illness, akin to diabetes.

Gillman is a living example of the progress that has been made.

Judith S. Currier, MD, was in medical school at Dartmouth when UCLA reported the first AIDS cases. She remembers a microbiology professor telling his students about the importance of reading the *Morbidity and Mortality Weekly Report* of the U.S. Centers for Disease Control and Prevention (CDC) to stay well-informed about the world of infectious diseases.

When her professor read the June 5, 1981 *MMWR*, with its three-page report by a young UCLA immunologist named Michael Gottlieb, MD, and four of his colleagues titled "Pneumocystis Pneumonia — Los Angeles," he said, "Mark my words, this is going to be something," Dr. Currier recalls.

In 1985, Dr. Currier moved to Boston for her training; since she was interested in both laboratory immunology and primary care, HIV seemed like the ideal way to combine the two. "We saw a lot of people admitted to the hospital who never got out," Dr. Currier says. "Without any treatment, we tried to support them the best we could."

But through her involvement with clinical trials, Dr. Currier saw the emergence of medications that helped patients, at least in the short term. That ignited her interest in HIV/AIDS research. She came to Los Angeles in 1993 as medical director of the L.A. County-USC Rand Schrader HIV clinic, then moved to UCLA in 1998 to focus on HIV/AIDS research — including studies that shed light on the unique health impacts for women living with HIV — and became associate director of the CARE Center. She serves as

"IT'S BEEN STUNNING AND SPECTACULAR TO SEE PEOPLE GOING FROM TRYING TO SURVIVE FROM ONE BIRTHDAY TO THE NEXT TO BEING ABLE TO LIVE A FULL LIFE."

— Judith Currier, MD

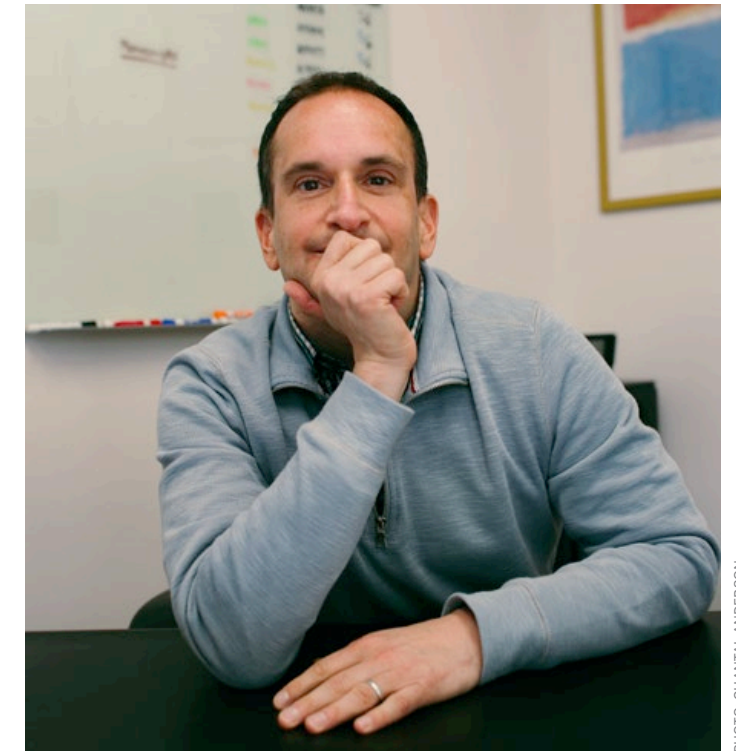


PHOTO: CHANTAL ANDERSON

Dr. Raphael J. Landovitz: "Until we remove the stigma attached to an HIV diagnosis, we're never going to encourage people who are most at risk and most disenfranchised from medical interventions to come forward and get tested so that we can move to the next step."

the national chair of the AIDS Clinical Trials Group (ACTG), an international network of centers evaluating trials of treatments for HIV, the virus that causes AIDS, and is chief of the UCLA Division of Infectious Diseases. She assumed the role of director of the CARE Center in June 2020.

From her vantage, Dr. Currier has had a front-row seat to the dramatic medical advances that have altered the landscape for patients with AIDS. An important breakthrough came in 1996, when research showed that the combination of three antiretroviral medications — the "cocktail" known as highly active antiretroviral therapy (HAART), and now more commonly known as antiretroviral therapy (ART) — could durably suppress the virus to the point that it was no longer detectable. UCLA was a site for many of the pivotal multicenter studies, with investigators whose work informed the treatments.

"It's been stunning and spectacular to see people going from trying to survive from one birthday to the next to being able to live a full life," Dr. Currier says. "Many times, it can take decades before scientific findings are translated into something that will impact patients. We've had the incredible privilege of moving developments from the laboratory into the clinic over just a few years."

Raphael J. Landovitz, MD, graduated from Harvard Medical School the year antiretroviral therapy changed the paradigm for HIV care. By that time, he had already decided on his career path, based on an experience he had as a third-year medical student helping to provide

“MOST DISEASES TRICKLE
DOWN TO POOR,
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— Gail Wyatt, PhD '73

Dr. Gail Wyatt: “No matter how elegant the advances in medications are today, until HIV/AIDS researchers focus on the disparities in maximizing general health care overall, and in HIV/AIDS specifically, there will continue to be people of color who are at risk but who are not being adequately treated.”



PHOTO: CHANTAL ANDERSON

hospital care for a patient with cerebral toxoplasmosis — a complication of advanced HIV/AIDS. Despite numerous clues of a progressive immunodeficiency, the patient hadn't been tested for HIV until well into his illness. When Dr. Landovitz asked the man's primary-care physician why not, the doctor responded disparagingly: “I don't do AIDS.”

“I was rattled to my core,” Dr. Landovitz recalls. “What does that mean — that it's too complicated? Or that you don't want to care for people in the risk groups affected most by HIV? At that moment, I decided I was going to be the best physician who ‘does HIV/AIDS’ that I could be.”

Dr. Landovitz was recruited in 2006 to join the UCLA CARE Center, where he now serves as co-director. He entered the field at an inflection point, not only for HIV therapeutics, but also for HIV prevention, his major interest. He is now a leader in research focusing on preventive approaches such as pre-exposure prophylaxis (PrEP), a daily pill that greatly reduces the risk of acquiring HIV, and post-exposure prophylaxis (PEP), medication that can lower the risk of becoming HIV-positive if started within three days of exposure. “It used to be that all we could offer were behavioral strategies, like ‘use a condom,’” he says. “My arrival at UCLA coincided with an explosion in our understanding of what was possible and opportunities to develop and implement these strategies as part of our prevention tool kit.”

While effective therapy has been a game changer, it by no means has solved all of the problems associated with the HIV/AIDS epidemic. As more patients live longer with the virus, it has become clear that HIV exacerbates the aging process — including an increased risk of heart attack, stroke, neuropathy, certain cancers and dementia — from both the virus and the long-term medications to keep it in check.

Beyond that, Dr. Currier says, “One of the biggest challenges is to implement the effective tools we have for both prevention and treatment.”

In 2016, the Joint United Nations Programme on HIV/AIDS established an ambitious goal for all countries to reach by 2020, known as 90-90-90: 90% of all people with HIV knowing their HIV status, 90% of those who know their HIV-positive status being on antiretroviral therapy and 90% of those receiving antiretroviral therapy experiencing viral suppression. All but 14 countries fell short of the goals, including the United States. In Los Angeles County, Dr. Landovitz notes, the overall number of people living with HIV who don't know they are infected is 9-to-10%. However, according to the latest statistics, that number is as high as 20-to-40% for some age groups and other high-risk populations. “Until we remove the stigma attached to an HIV diagnosis, we're never going to encourage people who are most at risk and most disenfranchised from medical interventions to come forward and get tested so that we can move to the next step,” he says.



PHOTO: CHANTAL ANDERSON

Dr. Steve Shoptaw: “We have to focus first on the groups where the disease is most represented, understand their conditions and bring in expertise to competently address the issues they face.”

The importance of dismantling the barriers to getting people tested and on sustained treatment is underscored by the emergence in the last decade of scientific evidence that shows when those living with HIV have an undetectable viral load, they are untransmittable to sexual partners — the concept of U=U. But the stigma preventing at-risk individuals from getting tested is only part of the problem, Dr. Landovitz says. He points to factors such as racism, sexism, homophobia and transphobia, along with larger failures of the health care and mental health systems. Black and Latino populations, in particular, continue to experience the highest burden of the disease.

“On every level, we are failing people of color,” says Gail Wyatt, PhD '73, of the efforts directed against HIV/AIDS. As a member of the UCLA faculty in 1980, Dr. Wyatt — now Distinguished Professor of Psychiatry and Biobehavioral Sciences at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA and director of the UCLA Center for Culture, Trauma and Mental Health Disparities — was the first person of color to receive a prestigious National Institute of Mental Health Research Science Career Development Award. Her focus

was sex research, and with the initial AIDS cases, she began to study sexual risk-taking, including the impact of trauma and other mental health issues. In the four decades since, she has developed culturally congruent interventions for women and people of color — which she believes are in short supply in the HIV/AIDS field.

Dr. Wyatt laments that the current “one size fits all” approach to HIV prevention and treatment was developed for a population of gay white men that was highly motivated to seek care and had strong community-support systems. “It's a colonial model that doesn't address the barriers and issues for women and people of color, which are not the same,” Dr. Wyatt says. “Most diseases trickle down to poor, underrepresented people who don't have good health care, and that's where this disease is now. But the methodology for those populations hasn't changed, and it's been extremely challenging to get the funding to address the cultural and epidemiologic issues relevant to them.”

Within the broader context of national health care, the issues surrounding HIV/AIDS point to much deeper problems that plague our system as a whole, Dr. Wyatt says. “No matter how elegant the advances in medications are today, until HIV/AIDS researchers focus on the disparities in maximizing general health care overall, and in HIV/AIDS specifically, there will continue to be people of color who are at risk but who are not being adequately treated.” Four decades of research and clinical care count for little, she says, “if disparities in health and health care utilization, and the failure to address the historical roots of structural racism that inhibit diversity in leadership and in approaches to HIV/AIDS prevention, are not addressed.”

Dr. Wyatt's sentiment aligns with that of other researchers in the field at UCLA. “We have to focus first on the groups where the disease is most represented, understand their conditions and bring in expertise to competently address the issues they face,” says Steve Shoptaw, PhD '90, professor of family medicine and psychiatry and biobehavioral sciences and director of the UCLA Center for HIV Identification, Prevention and Treatment Services (CHIPTS). Dr. Shoptaw has devoted much of his work over the last decade to research involving Black men who have sex with men, a group affected by HIV at three-to-four times their representation in the population.

An addiction-science researcher, Dr. Shoptaw was drawn to HIV/AIDS research in the early 1990s, based on the fact that methamphetamine use has been a primary driver of HIV infection in Los Angeles. His epiphany came at a community meeting in 1992, where the prevailing belief was that methamphetamine-using men who had sex with men belonged at the back of the line in the distribution of HIV drugs. “I realized my understanding of how these behaviors engage risk in people's lives was unique, and that we needed more people with expertise in both addiction medicine and infectious diseases,” Dr. Shoptaw says.

CHIPTS, which includes a multidisciplinary team of experts, studies and develops intervention strategies focusing on substance use, mental health disorders and social determinants that impair people living with or at risk for HIV from meeting their goals. It includes faculty like Dr. Shoptaw, with expertise at the intersection of addiction medicine and infectious diseases. His push for better integration of the two fields recently led to the first federal study targeting addiction for Americans living with HIV, which Dr. Shoptaw is co-chairing. INTEGRA, funded by the HIV Prevention Trials Network, will try to establish if using mobile health units to deliver integrated health services for people with opioid-use disorder can improve HIV and substance-use treatment and prevention.

News reports coming out of New York City in the spring of 2020 took Dr. Gottlieb back to the beginning of the AIDS epidemic. “The images of COVID ICUs reminded me of the early days in the respiratory-care unit at UCLA, where all of the beds were occupied by young men on ventilators with pneumocystis pneumonia,” he says.

Dr. Irvin S.Y. Chen: “From a scientific point of view, the AIDS virus is very different from the coronavirus. With SARS-CoV-2, someone with the virus eventually will clear the infection and then have natural immunity. That hasn’t been the case with HIV.”

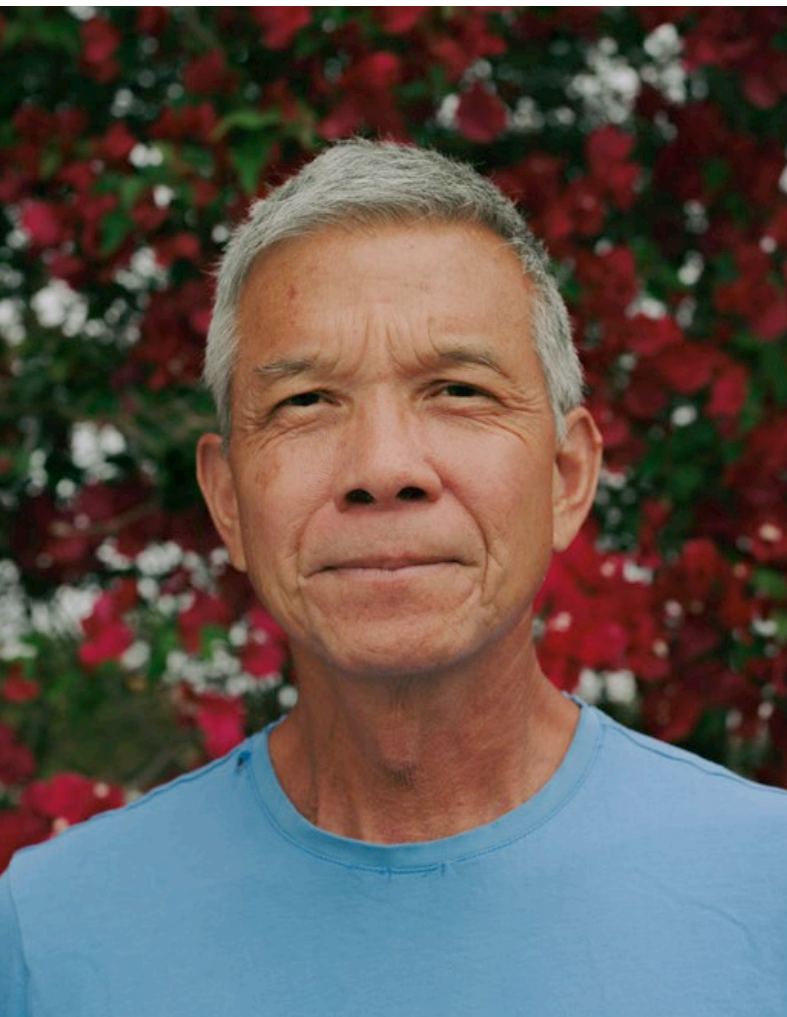


PHOTO: CHANTAL ANDERSON

Despite obvious differences, Dr. Landovitz can’t help but notice the echoes of HIV/AIDS in how the COVID-19 pandemic has unfolded in the U.S. “We’ve seen the science move so fast it’s dizzying, but also some of the stigma and inequities of care playing themselves out again,” he says. “It’s a sobering reminder that science can move things forward, but we’re not always so good at learning the lessons from previous experience.”

Adds Dr. Currier: “Both of these viral pandemics hold a mirror up to some of the huge cracks in our society in the way we treat each other, and in the disparities in our health care system.”

In 1984, U.S. Secretary of Health, Education and Welfare Margaret Heckler and Dr. Robert Gallo, the National Cancer Institute researcher who played a key role in the discovery of HIV as the cause of AIDS, announced that an HIV vaccine would come within two years. While effective COVID vaccines were developed in less than a year, 37 years after the announcement of an imminent HIV vaccine, it remains elusive.

It is not for lack of trying, says Irvin S.Y. Chen, PhD, founding director of the UCLA AIDS Institute. “From a scientific point of view, the AIDS virus is very different from the coronavirus,” he says. “With SARS-CoV-2, someone with the virus eventually will clear the infection and then have natural immunity. That hasn’t been the case with HIV — in which, in all but a few extraordinary circumstances, people stay infected for life, without ever developing natural immunity to clear the infection. HIV also becomes part and parcel of your DNA, which is why latency is such an issue. That’s not the case with SARS-CoV-2. And both viruses have a capability of mutating, but because there’s very little immunity to HIV, the virus tends to mutate more rapidly, which means that within any patient, there can be thousands of variants.”

Dr. Currier points out that COVID-vaccine researchers benefited greatly from the scientific advances that have come out of decades of HIV research — most notably, the use of messenger RNA technology, or mRNA, to induce cells to make a protein that triggers an immune response. Likewise, she and her colleagues are hopeful that the heavy investment in COVID research will bear fruit for HIV/AIDS researchers in their pursuit of an effective vaccine.

The search for a cure also looms large, particularly in light of the side effects of current long-term HIV treatments. UCLA researchers led by Jerome A. Zack, PhD, chair of the Department of Microbiology, Immunology & Molecular Genetics and co-chair of the UCLA AIDS Institute, have contributed key findings on the matter of HIV latency — the concept that even with antiretroviral treatment to the point of undetectability, the virus tends to hide in the body and will quickly rebound once the drugs are stopped.

A major current focus of the international ACTG network, led by Dr. Currier, is to achieve antiretroviral therapy-free remission through drugs capable of awakening and killing the latent virus. But before promising

approaches can be tested in the clinical setting, studies need to be done in the laboratory. In fact, lab-based research led by scientists at UCLA that was reported in January in the journal *Nature Communications* has demonstrated significant advances on that front. The work amplified earlier developments into a treatment strategy called “kick and kill” to target HIV-infected cells and reduce, or even eliminate, the amount of virus in an infected individual. The approach utilizes a synthetic compound, administered in combination with antiretroviral drugs, to coax infected cells out of hiding and then kill them. “Our findings show proof-of-concept for a therapeutic strategy to potentially eliminate HIV from the body, a task that had been nearly insurmountable for many years,” says UCLA infectious-diseases specialist Jocelyn Kim, MD, the lead researcher. Such bench research lays the groundwork for future clinical studies.

Dr. Chen and others have actively pursued a second important approach, using gene therapy in an effort to permanently modify the immune system. The research builds off of insights from “the Berlin patient,” a well-known case in which a previously HIV-positive man from Berlin, Germany, remained free of the virus without antiretroviral drugs following a bone-marrow transplant from a donor with a rare gene mutation that confers resistance to HIV infection.

“That was an amazing finding, and it set the stage for research to mimic that approach through gene therapy,” Dr. Chen says. In laboratory research that started in the early 2000s, Dr. Chen’s group and researchers at Caltech used a technology known as RNA interference to eliminate the production of CCR5, the protein expressed on the surface of T cells that allows HIV to gain entry. The approach is currently being tested in human clinical trials.

On the morning of his final appointment with Dr. Mitsuyasu, Tom Gillman arrives at the CARE Center wearing a checked shirt, dark slacks and a blue surgical mask. He comes bearing plates of cupcakes for the staff, along with a retinue of family and friends: Bill Akell, his husband and partner of 23 years; Launa Romoff, the sister of a life partner who died from AIDS; and Bobbe Korbin, one of Gillman’s three older sisters.

It is an emotional visit, during which doctor and patient reflect on their nearly four-decades-long relationship. “I dreaded this appointment,” Gillman says as he takes a seat on a table in one of the clinic’s examination rooms. “I was very sad and insecure, like a child being deprived of something familiar. When I come here, I



PHOTO: JOSHUA SUDOCK

“When I come here, I don’t feel like I am going to the doctor; I feel like I am coming home,” says Tom Gillman during his final clinic visit with Dr. Ronald T. Mitsuyasu.

don’t feel like I am going to the doctor; I feel like I am coming home.”

Today, Gillman’s health problems are less directly related to AIDS — though there are some that are connected to the treatments he has received over the years — and more closely associated with those that would be familiar to any man his age. Within the last decade, he was successfully treated for prostate cancer. He now has physical limitations stemming from six back surgeries.

But after close to 40 years living with this disease, Gillman remains a success story within the long, twisting saga of HIV/AIDS. It is a success worth celebrating with a warm, lingering hug with the doctor who has taken care of him over these past many years. “I’m alive,” Gillman says. “There still are health issues, to be sure, but my problems have to do with being old. Seventy-five is just a number, but it’s an old number.” ●

Dan Gordon is a freelance writer and frequent contributor to *U Magazine*. UCLA Health senior writer **Jocelyn Apodaca Schlossberg** contributed reporting to this article.

For more information about the UCLA Clinical AIDS Research and Education (CARE) Center, go to: www.uclahealth.org/care-center

IN THE DARKENED SPACE OF AN EQUINOX GYM IN WESTWOOD, 14 masked exercise devotees frenetically pedal stationary bikes as a trainer astride a cycle on a raised platform exhorts them to ride faster and sweat harder. “Keep your shoulders down and enjoy the party!” he calls out as he rises up in his seat and pumps the pedals of his own cycle ever more furiously. “If you had a crappy week, leave it right here! Take it out right here, and then let it all go!”

The amped-up, percussive music is booming as Raphael J. Landovitz, MD, leads the group through one of his 45-minute classes. All eyes are on him, and as he whoops and shouts commands, his voice barely penetrating the pulsing beat of the mash-up soundtrack, he is trainer, choreographer, conductor and cheerleader all rolled into one.

It’s an endorphine-fueled sweat fest, and a welcome release for Dr. Landovitz from his UCLA day job as an infectious-diseases specialist and HIV/AIDS clinician. Several times a week, he teaches classes, encouraging his students — and himself — to reach deeper and push harder to achieve that euphoric runner’s high that is the Holy Grail of high-intensity athletes.

“How lucky are we that we get to move our bodies and sweat in this way?” he calls out to the class. “Let’s take a moment of gratitude that we are healthy enough to be here together!”

Dr. Landovitz took up indoor cycling after he finished his fellowship training at Harvard University/Massachusetts General Hospital and he



SPIN DOCTOR

By Robin Keats



Dr. Raphael J. Landovitz finds that teaching indoor cycling classes several times a week is a welcome release from his day job as an infectious-diseases specialist and HIV/AIDS clinician.

realized he was overweight and concerned about his health; his father had died of a heart attack at the age of 57. “I knew I had to do something about my own health, so I signed up at a gym and took a cycling class,” he recalls. “I nearly fell off my bike from exhaustion. But it was so much fun that I wanted to get good at it.”

A self-described over-achiever — a trait that drove him to set off for Southeast Asia to take the position of medical co-director for the Vietnam CDC Harvard Medical School AIDS Partnership in Ho Chi Minh City before coming to UCLA in 2006, as well as to earn a number of prestigious recognitions — he couldn’t take just one or two classes

a week. “I had to go five or six times, then every day, then multiple times a day,” he recalls, with a laugh. Friends suggested that he start teaching classes, and so, like an actor looking for his big break, he made an audition tape and landed a slot at a Boston gym. He used the same tactic in Vietnam, where he taught indoor cycling to a class of international ex-pats.

“I’ve always had a little bit of a theatrical gene, and I think if I had any talent I would have gone into musical theater as a profession,” he says. “You don’t want to hear me sing, and you definitely don’t want to see me dance, but these classes serve as an amalgamation of my love of teaching and an opportunity to perform a little bit. That combination of characteristics and opportunities is kind of seductive to me.”

Dr. Landovitz finds there are parallels between teaching indoor cycling and teaching students in an academic hospital. “In both cases, I have to be able to teach at multiple levels,” he says. In the hospital, he may be working with students who are at very different points in their training — medical students, residents or fellows. In his cycling classes, some participants “may be professional cyclists while others have never exerted themselves to such extreme degrees before.” In either environment, “You have to be something of a chameleon.”

His drive to cycle didn’t abate during the COVID-19 pandemic. When gyms shut down, Dr. Landovitz tapped into Zoom classes for his regular work-outs. For the first time in 17 years, he had no exercise class to

teach. But that enabled him to devote more time to the frontline fight against COVID, while the at-home Zoom workouts helped to alleviate the accumulated stress of difficult 14-hour days.

Now that vaccines have helped to somewhat ameliorate the pandemic, gyms have reopened and he is back to teaching regular cycling classes, huffing and puffing through a KN-95 mask. “For the majority of my medical career, indoor cycling has been very therapeutic because it’s been that theatrical outlet that takes me away from the weight of academic medicine,” he says. “It allows me to be theatrical and crazy and out of the box. It’s been invaluable.” ●

Robin Keats is a regular contributor to U Magazine.

AWARDS & HONORS

Dr. Keriann Backus, Alexander and Renee Kolin Professor of Molecular Biology and Biophysics, received a New Innovator Award from the National Institutes of Health’s High-Risk, High-Reward Research Program.

Dr. Patricia Bath, the first female faculty member in ophthalmology at UCLA, was posthumously inducted into the National Inventors Hall of Fame as one of the first two Black women to be honored by the organization.

Dr. Aparna Bhaduri, assistant professor of medicine and executive vice chair for equity, diversity and inclusion in the UCLA Department of Medicine, received the Klingenstein-Simons Fellowship Award in Neuroscience.

Dr. Alejandra Casillas, assistant professor-in-residence of medicine, was named by the National Academy of Medicine as an emerging leader in health and medicine.

Dr. Enrico Castillo (FEL ’17), assistant professor of psychiatry and biobehavioral sciences at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA, was selected among 22 New Voices by the National Academies of Sciences, Engineering and Medicine.

Dr. Laura DeNardo, assistant professor of physiology, received the Klingenstein-Simons Fellowship Award in Neuroscience.

Dr. Eric Esrailian (FEL ’06), chief of UCLA’s Vatche and Tamar Manoukian Division of Digestive Diseases, was recognized by Pope Francis with the Benemerenti Medal for exceptional service to the Roman Catholic Church.

Dr. Alan Fogelman (MD ’66, RES ’68, ’71, FEL ’73), chair emeritus of the UCLA Department of Medicine, received the 2022 APM Robert H. Williams, MD, Distinguished Chair of Medicine Award from the Alliance for Academic Internal Medicine.

Dr. Helena Hansen, professor of psychiatry and biobehavioral sciences at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA, was elected to the National Academy of Medicine.

Dr. Beth Karlan, professor of obstetrics and gynecology and director of cancer population genetics at the UCLA Jonsson Comprehensive Cancer Center, received the Lifetime Achievement Award from the International Gynecologic Cancer Society.

Dr. Zhaoping Li (FEL ’94), professor of medicine and director of the UCLA Center for Human Nutrition, was named 2021 Honorary Medical Chair for the 24th annual L.A. Cancer Challenge 5K Walk/Run sponsored by the Hirshberg Foundation for Pancreatic Cancer Research.

Dr. Keith Norris, professor of medicine and executive vice chair for equity, diversity and inclusion in the UCLA Department of Medicine, was elected to the National Academy of Medicine.

Dr. Yi-Rong Peng, assistant professor of ophthalmology at the UCLA Stein Eye Institute, received

the Klingenstein-Simons Fellowship Award in Neuroscience.

Dr. Moira Szilagyi, professor of pediatrics, received the 2021 Thomas F. Tonniges, MD, FAAP, Lifetime Achievement Award for Advocacy on Behalf of Vulnerable Children from the American Academy of Pediatrics.

Dr. Peter Tontonoz, Francis and Albert Piansky Professor of Pathology and Laboratory Medicine, was elected to the National Academy of Medicine.

Dr. Kenneth Wells, professor of psychiatry and biobehavioral sciences at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA and of health policy and management at the UCLA Fielding School of Public Health, received the Special Jury Courage Award from the Los Angeles Awareness Film Festival for his opera *Veteran Journeys*.

In Memoriam

Dr. Gary Gitnick, chief emeritus of the Vatche and Tamar Manoukian Division of Digestive Disease, died November 4, 2021. He was 82 years old. Dr. Gitnick joined the UCLA faculty in 1969, and he later became chief of staff of the UCLA Medical Center, medical director of the UCLA Health Care Programs and chief of the Division of Digestive Diseases. Dr. Gitnick produced more than 300 publications and authored or edited 64 books on gastroenterology and hepatology. “Gary Gitnick’s leadership over more than two decades helped the Division of Digestive Diseases become the best in the world,” said Dr. Alan Fogelman (MD ’66, RES ’68, ’71, FEL ’73), the recently retired chair of UCLA’s Department of Medicine. “His work will continue to benefit the lives of many for decades to come.”

Dr. Lissy Jarvik, professor emerita of psychiatry and biobehavioral sciences, died October 1, 2021. She was 97 years old. Dr. Jarvik was one of the earliest researchers in the new field of neuropsychogeriatrics. While a graduate student at Columbia University, she began conducting research that would ultimately demonstrate that mental decline was not a part of the normal aging process. Her study would help to guide future research into Alzheimer’s disease. In the 1970s, she joined the faculty of UCLA, where she established the first inpatient psychogeriatric unit.

Dr. Charles R. Kleeman, Factor Family Foundation Professor of Medicine and Nephrology emeritus, died August 15, 2021. He was 97 years old. Dr. Kleeman joined the UCLA faculty in 1956 as chief of metabolic diseases at the West Los Angeles Veterans Administration Medical Center. He founded the Mark Taper Center for Health Enhancement, Education and Research at UCLA, the first university-based center for health promotion and disease prevention.

Dr. Ronald K. Tompkins, former chief of the Division of General Surgery, died August 17, 2021. He was 86 years old. He joined the UCLA faculty in 1969. In addition to serving as chief of general surgery and gastrointestinal surgery, Dr. Tompkins was director of the basic-surgical-training program, director of the general-surgery residency program and inaugural director of surgical education. In 2004, the Department of Surgery named the Ronald K. Tompkins Gold Apple Award, given to a surgical resident for outstanding student teaching.

How Far His Candle Throws Its Beam

By Nancy Sokoler Steiner



PHOTO: COURTESY OF THE KIBEL FAMILY

Harvey and Isabel Kibel.

HARVEY KIBEL AND HIS WIFE, ISABEL, EXPERIENCED

some tough breaks early in their marriage. The day after their wedding, in 1959, the couple planned to drive from New York to California to begin their new life together. They discovered their car, packed with all their worldly possessions, had been stolen. "Some people start out with a low net worth. We began with a negative net worth," Harvey Kibel said.

Eight years later, at the age of 30, Kibel was diagnosed with malignant melanoma and required extensive treatment. After his scare, he and Isabel resolved to devote their volunteer activities

to eradicating cancer. He became active with the American Cancer Society, eventually serving as the chairman of the California chapter and the organization's national board. There, Kibel met Helene Brown, then director of community applications of research at the UCLA Jonsson Comprehensive Cancer Center (JCCC). Brown introduced him to then-director Dr. Richard Steckel.

The rest, as they say, is history. Kibel has remained active as a JCCC volunteer and donor ever since. He and Isabel, whose professional endeavors quickly overcame their "negative net worth," have donated more than \$1 million to the JCCC and UCLA.

Soon after becoming involved with the JCCC, the Kibels conceived Lifeline Connection, a fund that provides seed grants to investigators new in their careers or who are pursuing a novel idea. These grants allow researchers to generate the preliminary data needed to secure funding from entities that look for studies further along in the process, including the National Institutes of Health and the National Cancer Institute.

Kibel invited friends and associates to join Lifeline Connection, which requires an annual unrestricted contribution of \$1,000 or more. As co-founder and president of the business consulting firm Kibel Green Inc., Kibel was a member of the Young Presidents' Organization, a society for chief executive officers. He quickly focused on his peers. "I invited people I knew had the capacity to join and, even more important, who I thought would get further involved and contribute even more of their time and money," he said. Isabel kept literature in her car in case she encountered potential recruits.

Lifeline Connection launched more than 35 years ago, and today it has more than 120 members who contribute annually and hear directly from JCCC scientists about advances in cancer care. Kibel continues to chair the group, which has collectively raised nearly \$20 million from its members and the major gifts that members made for leading-edge cancer research.

One of the early grant recipients was Dr. Dennis J. Slamon (FEL '82), Bowyer Professor of Medical Oncology, director of Clinical/Translational Research and director of the Revlon/UCLA Women's Cancer Research Program at the JCCC. "As a long-standing member of the UCLA Jonsson Comprehensive Cancer Center, I have witnessed the continuous and tremendous impact Lifeline Connection has made on research at the cancer center," said Dr. Slamon. "Many of the JCCC's now well-established physician-scientists, myself included, benefited from this unrestricted philanthropy early in our careers."

Dr. Slamon's work led to the development of the breast cancer drug Herceptin, which targets a specific genetic alteration found in about 25% of breast cancer patients. "Without this assistance, people like him might have been bypassed in the beginning," Kibel said.

Adds Dr. Slamon, "Isabel and Harvey's visionary leadership and steadfast commitment to funding early-stage research at the JCCC has truly enabled our faculty to translate promising, leading-edge ideas into less toxic, more effective cancer treatments, which has improved the lives of countless patients facing these devastating diseases."

From the start of his involvement, Kibel appreciated the proximity to the work his contributions supported. "In the case of the American Cancer Society, we were dealing with enormous amounts of

money, but we were distant from the research," he said. "What I like about the Jonsson Center is, first, the leadership, but also that we are hands-on in dealing with issues. A scientific committee shares the priorities and allows us to be much more connected. I also like that it is local. It is our community."

The Kibels continued to expand their philanthropy, and in the early 2000s, they established the Isabel & Harvey Kibel Fellowship. The funding supports graduate students pursuing cancer research. According to Kibel, a lot of medical school graduates go into private practice or join a group practice. "We wanted some of those people to stay and do research," said Isabel Kibel.

To date, 13 Kibel fellows have moved into successful careers at institutions including UCLA, Cedars-Sinai Medical Center and Memorial Sloan Kettering Cancer Center, as well as scientific firms such as Genentech and United Kingdom-based MiNA Therapeutics. The Kibels continue to meet each year with the current fellows and remain in touch with many fellows.

Kibel has served on the board of the JCCC since 1985 and on the Board of Visitors for the David Geffen School of Medicine at UCLA since 2000. Board of Visitors members help promote the medical school by providing advice and guidance to leadership, and by serving as ambassadors and advocates to the public.

When asked why he's stayed involved with UCLA

"What I like about the Jonsson Center is, first, the leadership, but also that we are hands-on in dealing with issues. A scientific committee shares the priorities and allows us to be much more connected. I also like that it is local. It is our community."

and the JCCC for such a long time, Kibel doesn't hesitate to answer: "It's not cured yet. To me, it's that simple. Until cancer is cured, there's a need for our help." While survival rates have advanced significantly, "there's still a way to go and a lot of work to be done," he said.

Kibel is retired from his 40-year career in real estate development and executive management, as is Isabel from her profession as an occupational therapist. The couple remain active in the PLATO Society, a Westside-based organization devoted to lifelong learning through classes that members chose and teach themselves. And they are self-described

"Shakespeare nuts." Each year, they gather their two adult children and spouses, grandchildren and significant others for a family trip to the Oregon Shakespeare Festival in Ashland.

Just as Portia said in *The Merchant of Venice*, "How far that little candle throws his beams! So shines a good deed in a weary world," so have the Kibels used their generosity and influence to amplify their impact on the cause of cancer research. ●

Nancy Sokoler Steiner is a freelance writer in Los Angeles.

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

9th Annual Tour de Pier Logs Another Record-Breaking Event



PHOTO: ZOOM THEORY/TOUR DE PIER

Pedaling for a cause in Manhattan Beach.

ON SEPTEMBER 12, 2021, MORE THAN 1,000 stationary cyclists gathered at the Manhattan Beach Pier and Strand to pedal for a cancer cure at the 9th Annual Tour de Pier. For the first time since the COVID-19 pandemic, the unique outdoor stationary-cycling fundraiser returned to its in-person format, filled with high energy and hope. Once again sponsored in part by UCLA Health, the event raised more than \$1 million for cancer research and social-emotional support services, benefiting three

“Cancer did not stop during the pandemic, so it was up to us to ensure that we continue the fight to help advance cancer research and finding a cure. The passion, dedication and determination of our cyclists and donors reminded us that the fight is not over.”

nonprofit cancer charities, including two that provide vital funding for UCLA cancer services — the Hirshberg Foundation for Pancreatic Cancer Research and the Uncle Kory Foundation for brain-cancer investigations.

“The last time we gathered together was pre-pandemic, in May 2019, so the excitement of seeing each other again was certainly a highlight,” said Lisa Manheim, co-founder of Tour de Pier. “Cancer did not stop during the pandemic, so it was up to us to ensure that we continue the fight to help advance cancer research and finding a cure. The passion, dedication and determination of our cyclists and donors reminded us that the fight is not over.”

Nearly 250 stationary bikes (including adaptive bikes for people with

physical disabilities) lined the Strand that overlooks the Pacific Ocean as the area’s best instructors and celebrity guests spun riders through five, 45-minute sessions with energizing music and live entertainment. In addition to cycling, the Tour de Pier hosted a free health and fitness expo.

Television stars and sports celebrities took center stage to inspire riders. Among them were actor Jacob Bertrand, from the Netflix show *Cobra Kai*; Mia Hamm, former United States Women’s National Soccer Team player and founding investor of Angel City FC; Alexi Lalas, Fox Sports commentator and a member of the National Soccer Hall of Fame; Dustin Brown, of the Los Angeles Kings; Cobi Jones, former soccer player and sports commentator; Rob Stone, emcee of Tour de Pier and Fox Sports commentator; Matt Leinart, former National Football League quarterback and Fox Sports analyst; John Thorrington, co-president of the L.A. Football Club; Jake Olson, former University of Southern California football player and cancer survivor; Adam Krikorian, head coach of the gold medal-winning U.S. Women’s National Water Polo Team; and Allison Compton, paralympics bronze medalist.

Since debuting in 2013, Tour de Pier has raised more than \$9 million for cancer research and support services. The event will return on May 22, 2022 to celebrate its 10th anniversary. ●

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

Generous Bequest Establishes Palumbo Chair in Hepatology Research and Education

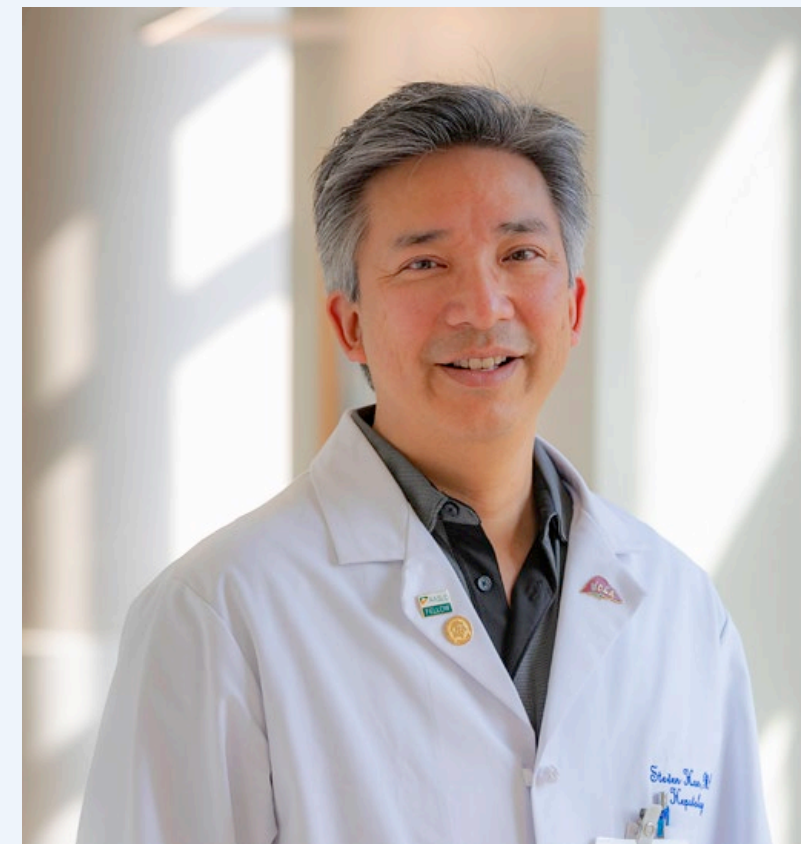


PHOTO: UCLA HEALTH

Dr. Steven-Huy Han.

A BEQUEST OF \$4.9 MILLION THROUGH THE PHILIP L. PALUMBO LIVING TRUST has established the Philip L. Palumbo Chair in Clinical Hepatology at the David Geffen School of Medicine at UCLA. Dr. Steven-Huy Han (FEL ’98), program director of the Transplant Hepatology Fellowship,

“The Palumbo Trust’s bequest will ensure that our scientific and clinical advancements directly benefit the health and well-being of our patients living with liver conditions such as hepatitis, cirrhosis and cancer.”

director of the Hepatology Clinical Research Center, assistant director of the UCLA Asian Liver Center and a senior clinician in the Vatche and Tamar Manoukian Division of Digestive Diseases, was named the inaugural chair holder in August 2021.

“I am deeply humbled by Mr. Palumbo’s high regard for our clinical work and research,” said Dr. Han. “His generosity will position the Manoukian Division at the forefront of scientific discovery and therapeutics in hepatology and liver transplantation, which will radically transform how we diagnose and manage liver disease. The Palumbo Trust’s bequest will ensure that our scientific and clinical advancements directly benefit the health and well-being of our patients living with liver conditions such as hepatitis, cirrhosis and cancer.”

Palumbo, who died in 2015, began facilitating the contribution prior to his death. Funding through the chair will provide resources for Dr. Han, who specializes in research and treatment of chronic viral hepatitis B, the prevention of recurrent viral hepatitis after liver transplantation and the prevention of liver malignancies.

Dr. Han serves as the principal investigator for clinical studies involving the treatment of chronic hepatitis B and C and acute liver failure. He recently initiated a program that aims to develop an effective blood-based method for the early detection of liver cancer that centers on tumor DNA circulating in the blood. He has authored many published articles in the area of hepatitis, liver transplantation and liver cancer, and he is a frequent speaker on these subjects. In addition to his research in hepatology and liver transplantation, Dr. Han plays an active role in the clinical training of medical students, medical residents and subspecialty fellows.

Palumbo, together with his family, owned and operated 34 McDonald’s franchises throughout San Diego County. During his time as a business leader in San Diego, he served on the Ronald McDonald House Board of Directors and supported local schools and sports teams throughout the county. ●

For more information, contact Laurel Zeno at: 310-418-2364

Making a Personal Choice



PHOTO: KATHY VOLZ

Donald H. Volz and his wife, Kay.

THOSE DIAGNOSED WITH A TERMINAL DISEASE ARE confronted with fears and questions that can dominate their life and the lives of those around them. One of the biggest concerns for many is what it will be like for them as they approach death. Will I be in pain? How of much “me” will still exist to experience what time is left?

In 2016, the California End of Life Option Act (EOLOA) went into effect, allowing adults diagnosed with a terminal illness to make medical decisions that include obtaining a

prescription for an aid-in-dying medication from their attending physician, if certain conditions are met. Essentially, the EOLOA allows the terminally ill to have more control over their lives as they approach the end. UCLA Health created a “gold standard” integration of the EOLOA into end-of-life care, which fits with the core principle that patients’ goals should guide the medical treatments they receive. However, not infrequently, questions arise regarding the EOLOA process.

In October 2021, Kathy Volz contributed more than \$100,000 to establish the Donald H. Volz Memorial Fund, in memory of her father, Donald Volz. The fund, administered by the UCLA Health Department of Care Coordination and Clinical Social Work, will support education and services that help foster awareness and understanding of the EOLOA and its use.

“My dear father had ‘lived’ with Parkinson’s disease for over 20 years,” said Kathy Volz. “Courage and dignity were his trademark throughout an adventurous life. Upon

“My dear father had ‘lived’ with Parkinson’s disease for over 20 years. Courage and dignity were his trademark throughout an adventurous life. Upon learning of the California End of Life Option Act from a hospice worker, he proudly declared this was his desire.”

learning of the California End of Life Option Act from a hospice worker, he proudly declared this was

his desire. With the rest of the family in concert, I acted as his point guard in navigating the requirements in order to qualify through the UCLA Health system,” she said. “It became evident to me that many patients might not have the information, or the support of loved ones around them. I am hopeful the Donald H. Volz Memorial Fund will help qualifying patients assess if this unique option is right for them.”

“At UCLA Health, we give our patients access to a wide variety of treatments to provide healing and comfort,” said Dr. Neil Wenger (MD ’84, RES ’87, ’90, FEL ’89), medical director of the UCLA Advance Care Planning Program. “When a prognosis worsens, patients may shift their focus and change treatment goals. Most patients want to be in charge of their lives until they die; UCLA Health strives to ensure that all patients are fully informed and able to access all of their treatment options. For some patients, that means a choice to explore aid in dying.”

UCLA developed a process to ensure that this option will be available to eligible patients who wish to use it. Since EOLOA went into effect, more than 300 UCLA patients have explored this option; while about half obtained a prescription for an aid-in-dying medication, not all have chosen to use it. The UCLA model for implementation of the EOLOA includes a clinical consultant who works to inform and assist the patient in parallel with ensuring that UCLA is providing the best possible

treatment and affording the patient maximal support for the best experience at the end of life. Most patients inquiring about the EOLOA have advanced cancer, and these patients work with clinical consultants from the Simms/Mann-UCLA Center for Integrative Oncology. The health system also wants to ensure that no patient will ever request aid-in-dying due to inadequate support, while at the same time assuring access to the EOLOA.

UCLA trains clinical consultants and physicians in their roles to carry out the EOLOA, and the health system developed a set of materials to guide patients and their families, as well as clinicians, physicians and pharmacists. Despite development of a comprehensive program, not all physicians and other clinicians are well-versed in the implementation of EOLOA. In addition, patients and families may be unaware of this option, even though it could potentially fit with their goals.

“This generous fund will provide the resources to educate clinicians across the health system regarding the End of Life Option Act, including some of the upcoming changes to the law in 2022,” said Codie Lieto, clinical social worker for advance care planning and palliative care. “This gift also will provide funds for a clinical-consultant social worker who engages with noncancer patients who wish to consider aid in dying. These clinical consultants support the patient, their family and clinicians in navigating the EOLOA process.”

Currently, no medical center support is available to provide these vital services to patients without cancer. Thanks to the Volz funding, UCLA Health will be able to work with UCLA Health physicians, nurses and social workers to identify gaps in knowledge and implement education for groups of clinicians as needed. In addition, it will provide resources for a social work clinical consultant who will offer EOLOA guidance to patients and physicians.

“Considering an aid-in-dying medication is a very personal choice,” said Mary Noli Pilkington, RN, senior director for care coordination and clinical social work. “Clinicians need a deep understanding of all aspects of performing this crucial task, and through this thoughtful gift, the Donald H. Volz Memorial Fund will help provide patients and their families the much-needed support from our specially trained social work clinical consultants who work with them and the physicians throughout the process.” ●

For more information, contact Ellen Haddigan-Durgun at: 310-206-3878

IN MEMORIAM

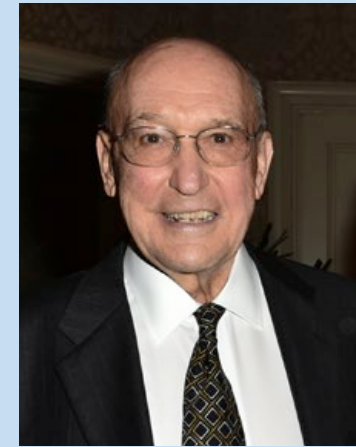


PHOTO: JESSIE COWAN

Dr. Thomas C. Calcaterra.

Dr. Thomas C. Calcaterra, professor emeritus of surgery, died October 1, 2021. He was 84 years old. A UCLA faculty member for more than 35 years, Dr. Calcaterra was one of the founders of the Department of Head and Neck Surgery. In 2019, Dr. Calcaterra and his wife established the Thomas C. Calcaterra, M.D., Chair in Head and Neck Surgery. He trained more than 175 surgeons, and is remembered as a “great mentor for many residents and faculty at UCLA and around the globe,” said Dr. Maie St. John (RES ’05), chair of the Department

of Head and Neck Surgery and holder of the endowed chair that bears Dr. Calcaterra’s name. “Through his work and generosity, Dr. Calcaterra shaped our future, that of numerous mentees and innumerable patients.” His numerous awards included the American Academy of Ophthalmology and Otolaryngology Award of Merit and the American Laryngological Association deRoaldes Award. He authored more than 220 published papers and more than 20 books. Dr. Calcaterra is survived by his wife, Ellen, and several grandchildren. ●

“Through his work and generosity, Dr. Calcaterra shaped our future, that of numerous mentees and innumerable patients.”

IMPROVING CARDIOVASCULAR CARE

A \$225,000 contribution, facilitated through the **Lawrence and Annette Ades Unitrust**, has established the Heart Transplantation and Mechanical Support Fund. Under the direction of Dr. Ali Nsair (FEL '10, FEL '11), director of the UCLA Heart Transplantation and Mechanical Circulatory Support Program, the fund will advance groundbreaking research, innovative clinical care and training to improve cardiovascular outcomes for patients living with advanced heart failure. Dr. Nsair's efforts in heart transplantation led UCLA to reach a milestone of 2,500 heart transplant surgeries, only the second heart transplant program in the United States to do so. ●

For more information, contact Laurel Zeno at: 310-418-2364

PAYING IT FORWARD

Alumni from the David Geffen School of Medicine at UCLA class of 1976 organized a mini reunion in October 2021 that raised \$25,000 for their class scholarship fund. The alumni have set a grand goal of raising \$1 million for their scholarship fund. ●

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



PHOTO: COURTESY OF DR. RANDY JOHNSON (76)

Class of '76 alumni at the mini reunion.

HELPING HEAL WOUNDED WARRIORS

Lynn Booth has directed a gift of \$500,000 from the **Otis Booth Foundation** to benefit the surgical and physical-injuries programs of Operation Mend. "Our young people put their lives

on the line for us, and we should help them in any way we can," she said. Established in 2007 as a partnership between UCLA Health and the United States military, Operation Mend continues to address ongoing complex reconstructive needs of service members injured in the Iraq and Afghanistan conflicts. "The lifeblood of the program is the generous financial support we receive from our friends and partners across the nation," said Dr. Christopher Crisera (RES '04, FEL '05), executive medical director of Operation Mend. ●

For more information, contact Nicholas Middlesworth at: 310-206-2089

BLENDING GIFTS FOR BLENDED HEALTH CARE

Jessica Iclisoy and **Beth Friedman** have each given a \$75,000 gift to support a fellow in the UCLA Center for East-West Medicine (CEWM), which blends the best of Western medicine with Traditional Chinese Medicine (TCM) to provide safe and effective health care. The fellowship, under the direction of Dr. Katie Hu (RES '15, FEL '17), "emphasizes practical clinical training and prepares physicians for board certification in integrative medicine utilizing TCM modalities," said Friedman. "These evidence-based integrative therapies are key to wellness, and I am excited to see how the fellowship program develops," said Iclisoy. ●

For more information, contact Lori Gremel at: 310-869-2774

ADVANCING MEDICAL INNOVATION IN CARDIAC SURGERY

A bequest of \$953,000 from the **Bert M. Dahl Trust**, **Patsy Weedon Charitable Remainder Trust**, **Lanny B. Clifton Charitable Remainder Trust** and **Mildred O'Neal Dahl Trust** is enabling the UCLA Division of Cardiac Surgery to spearhead pioneering research under the direction of Dr. Richard J. Shemin,

chief of the Division of Cardiac Surgery and Robert and Kelly Day Chair in Cardiothoracic Surgery. The funding will help ensure that UCLA remains at the forefront of medical innovations in cardiac surgery, where scientific discovery translates to lifesaving procedures for countless patients. "The future is bright for the development of groundbreaking treatments for cardiac diseases," said Dr. Shemin. "We are grateful for the Dahl family's shared commitment to advance innovations in the treatment of cardiac diseases." ●

For more information, contact Laurel Zeno at: 310-418-2364

SUPPORTING LOW-VISION PATIENTS THROUGH ROBOTIC TECHNOLOGY

Hana and **Kelvin Davis** have contributed \$100,000 to UCLA Stein Eye Institute to establish the Hana and Kelvin Davis Low Vision Fund. The gift was made in honor of Dr. Jennie Kageyama (FEL '00) for her dedication to the innovative programs of the Vision Rehabilitation Center. The fund will provide visual assistive devices not covered by insurance for those who cannot afford them, training



PHOTO: COURTESY OF UCLA STEIN EYE INSTITUTE

Socially assistive robot.

for low-vision patients to improve their accessibility of screen-based technology and the use of a socially assistive robot for research. The family's previous gifts to Stein Eye

have benefited the UCLA Mobile Eye Clinic and the research of Dr. Steven Schwartz (RES '92). ●

For more information, contact Joy Kruger at: 310-825-3381

GIFT ESTABLISHES EDGERTON FOUNDATION FUND FOR PANCREATIC CANCER RESEARCH

The **Edgerton Foundation** made a contribution to the UCLA Jonsson Cancer Center Foundation, creating a named fund under the direction of Dr. Timothy Donahue (RES '09), chief of the Division of Surgical Oncology and professor of surgery at the David Geffen School of Medicine at UCLA. The donation will support Dr. Donahue's efforts to develop new treatments for patients with pancreatic cancer, which has a median survival of approximately one year and a five-year survival rate in the U.S. of 9%. "A radical shift in pancreatic-cancer research and care is imperative to improve the survival of patients with this devastating disease," said Dr. Donahue. "I am hopeful about our research and clinical trials and grateful for the philanthropy that supports this essential work." ●

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

SUPPORTING CRITICAL CARE AND RESEARCH

Through the Omaze platform, \$925,000 was granted by **Charities Aid Foundation America** to support the President's Strategic Fund/UCLA Health, the UCLA ECMO (extracorporeal membrane oxygenation) Program and research activities that will advance medical care and patient outcomes. The Mobile ECMO Transport Service, which utilizes a newly purchased ECMO-equipped ambulance, will provide treatment to critically ill individuals whose lungs and hearts are not functioning properly. The funding will also benefit research efforts in cardiac surgery and endocrine surgery and the work

of Dr. Peyman Benharash (MD '02, RES '08, FEL '10), director of UCLA Adult ECMO Services and associate professor-in-residence of surgery and bioengineering, and Dr. Michael Yeh, director of the UCLA Endocrine Center. ●

For more information, contact Laurel Zeno at: 310-418-2364

STEWART AND LYNDA RESNICK FUND SPECIALIZED CARDIAC TRAINING FOR NURSES

Stewart and **Lynda Resnick** have contributed \$500,000 to further training, professional development and self-care for nurses in the Cardiac Intensive Care Unit at Ronald Reagan UCLA Medical Center. This comes at a crucial time, when the current shortage of clinical staff, especially among experienced nursing specialists, has been worsened by the emotional and physical demands of the COVID-19 pandemic. The gift supports the acquisition of a new simulation manikin and other training tools that enhance proficiency among this specialized team of nurses.

In addition, this funding established the Resnick Nursing

Scholarship, which will enable clinicians to attend national conferences to continue building their expertise and disseminate what they learn among their colleagues, and provides resources for an annual symposium for cardiac nursing that will give nurses more opportunities to increase their clinical and decision-making skills. Stewart and Lynda Resnick, through their business The Wonderful Company, also provided care packages for more than 700 nurses who work in the unit.

"Lynda and I understand the sacrifices nurses make every day," Stewart Resnick, alumnus and longtime UCLA supporter said of the gift. "We want to acknowledge the exceptional care these nurses provide by ensuring they have opportunities to build new skills, while providing the best care in the nation. We are grateful for the work nurses do every day with selflessness, dedication and passion."

In recognition of the gift, UCLA Health named a nurses station on the cardiac unit in the medical center for the Resnicks as a visual reminder of the resources invested in nurse training. ●

For more information, contact Ellen Haddigan-Durgun at: 310-206-3878



UCLA clinicians in front of the named Resnick nurses station.

PHOTO: REED HUTCHINSON

Disability is not Binary

By Zina Jawadi

NOT LONG AGO, A FRIEND ASKED ME HOW I, with hearing loss, have been able to actively engage in conversations when widespread use of face masks prevents utilization of reading lips or facial expressions. It is an excellent question, one that I have frequently received since the start of the COVID-19 pandemic. While I do have significant hearing loss, I am hard-of-hearing, not deaf, and I use my residual hearing to communicate with others. It is a process I have perfected over years of intense speech therapy, auditory verbal therapy and practice.

Nevertheless, my friend was surprised to learn that I could hear at all. Her response was not unusual. Most people, upon discovering my significant hearing loss, cannot understand how I navigate a world that is heavily based on hearing. Undoubtedly, such activities as speaking over the phone, paying attention in the classroom setting and enjoying music require intense effort on my part to listen and comprehend, relying on my residual hearing and my hearing aids and capitalizing on favorable acoustical settings.

But many people — perhaps nearly everyone, in fact — think of disability in binary terms, like an on-off switch. Either one can or cannot hear. They think of hearing loss as akin to switching off the audio of a video rather than playing the video with the sound turned way down so it is muffled, soft and difficult to discern.

Like many people with a disability, I fall somewhere in the middle of the spectrum. With my residual hearing, I am “too hearing” to be considered medically deaf but, at the same time, “too deaf” to be considered hearing. Yet, hearing loss is often perceived as a binary condition: A person either has the disability or does not. In reality, disability is highly complex, nuanced and diverse, with a wide range of experiences. It is anything but binary.

For example, like many people with hearing loss, I can hear some sounds better than others, depending on the frequency and volume of the sound and the level of background noise. In particular, I hear low-frequency sounds, bass, better than high-frequency sounds, treble. The sounds I am least able to hear are those within the range of speech.

All-or-nothing — binary — categorizations of disabilities hurt people with disability. This is especially true for those with “invisible” disabilities, such as hearing loss. One of the biggest challenges is trying to convince others that the disability exists. Any appearance of being “normal” by someone with a disability makes it all the more difficult for others to appreciate the wide prevalence of “ableism” — discrimination against people with disabilities — and the constant physical and attitudinal obstacles people with disabilities face. Sometimes “normal appearance” is perceived as a compliment along the lines of, “You don’t seem disabled.” Other times, it is meant to imply that we are exaggerating or faking our disabilities. I often am told that I “hear just fine.”

Regardless of where along the spectrum any of us with a disability fall, most of us require accessibility accommodations, which, in turn, necessitate disclosing our disability. What people fail to realize is that disclosing a disability and requesting accommodations involves divulging personal conditions, swallowing pride and expending a tremendous amount of time and effort. Even with accommodations, we almost always are still at a significant disadvantage since, at best, accessibility addresses access — equality, not equity. Having to constantly prove our disabilities often prevents us from securing the proper accommodations and support we desperately need.

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A binary classification of disability suggests that disabilities and diagnoses within the middle of the spectrum are somehow less challenging. For example, the degrees of hearing loss are innocuously named mild, moderate, severe and profound. Whether we realize it or not, the language used to categorize disability influences the way patients are diagnosed and how they view their disabilities. Admittedly, specialists may have encountered thousands of people with a particular disability, but medical severity does not correlate with personal struggle. The experiences of people with moderate disabilities should not be relegated as less difficult; rather, they should be understood as different.

Treating disability as something that occurs along a spectrum will transform the way society understands and empowers people with disabilities. As the world begins to prioritize social justice, I hope that the public starts to include one of the largest minorities in America, people with disabilities, in conversations about justice, equity, diversity and inclusion. ●

Zina Jawadi is a second-year medical student at the David Geffen School of Medicine at UCLA and a member of the national Board of Directors of the Hearing Loss Association of America. This Epilogue is adapted from an essay originally published in January online in AAMCNews.

405 Hilgard Avenue
Box 956923
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