

A PUBLICATION OF THE UC DAVIS SCHOOL OF MEDICINE

UC DAVIS HEALTH

Fall 2022

**'WE
ARE
MAKING
HISTORY'**

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Sparking innovation in health care



We have profound issues in health care, and the most important considerations now are how we're interacting with our patients and our communities — especially how we're leveraging our best technological and social assets to serve every patient equitably and optimally, delivering “tomorrow's health care today.”

As you'll see in this issue, we're addressing health equity and public health, using AI to improve our capabilities, empowering our teams to deliver the best possible patient experiences, and closing up gaps in care for the underserved.

One example is our new BioIntelliSense data-driven clinical intelligence platform, that will create a new standard of remote care delivery that reduces costs, medical staff time, and the burden of traditional methods of vital sign collection. Patients will benefit from lower levels of necessary monitoring and shorter hospital stays. Providers will benefit by immediately being able to note any deviations from expected recovery or treatment. Both will benefit, along with family caregivers and referring providers, by knowing as soon as the always-on monitoring predicts an unexpected turn in health.

UC Davis is also launching an exciting, national-scale center designed to improve real-time decision-making support during surgery. Founded with the help of a prestigious \$6.3 million NIH P41 grant, our National Center for Interventional Biophotonic Technologies will advance two noninvasive optical imaging technologies — both developed at UC Davis — that measure fluctuations in light from bodily tissues. By adding artificial intelligence capabilities to analyze the data, researchers intend to create new instruments for robust tissue analysis during surgery, and for blood flow monitoring across a variety of conditions.

These and other innovations will change how care is delivered — potentially everywhere. In our facilities, we're changing care delivery as well. Construction is starting on a new ambulatory surgery center — what we believe is the largest such project in the U.S. — and the first patients will be seen there in spring 2025. The center will include

12 major operating rooms, five minor procedure rooms, 60 recovery bays, diagnostic imaging, lab services, pharmacy services and seven specialty clinics. This new center on the UC Davis Sacramento Campus will ease OR crowding in the UC Davis Medical Center, improve patient experience by reducing wait times, expand surgical service line options and increase the availability of new therapies.

Our researchers continue to do nation-leading work in prevention as well. The Violence Prevention Research Program continues to share its findings with policymakers and community leaders. Recent research showed how valuable “red flag” laws were for California law enforcement officers in preventing 58 possible firearm assaults and homicides.

Belonging is a human value and at the core of the Redwood SEED Scholars program, which is grounded in diversity, equity and inclusion. It helps fulfill the promise that students with intellectual disabilities deserve to be on college campuses and have university-level opportunities available to them. This amazing program was created by the UC Davis MIND Institute and our Office of Diversity, Equity and Inclusion, and it's featured in more detail in this edition.

Finally, I'd like to quote the late Paul Farmer, a physician and anthropologist who provided free health care to people in the world's poorest communities. He once said, “The only way to do the human rights thing is to do the right thing medically.” I couldn't agree more and I am proud UC Davis Health is helping to lead the way.

Doing the right thing is reflected in our mission to create a healthier and more equitable world, something we think this issue compellingly demonstrates.

Yours in health,

A handwritten signature in black ink that reads "David Lubarsky".

David Lubarsky, M.D., M.B.A., F.A.S.A.
Vice Chancellor of Human Health Sciences
Chief Executive Officer, UC Davis Health

Trailblazing new paths to create a diverse physician workforce — while reaching new heights as a research powerhouse



As fall arrives, I am pleased to share several exciting UC Davis School of Medicine successes and milestones. We continue to lead the nation in training a diverse, culturally humble physician workforce and have reached new heights in research funding, enabling us to deliver tomorrow's health care today.

UC Davis recently achieved a historic milestone in its research mission, with \$1.07 billion in external funding in fiscal year 2021-22. We are now part of a distinc-

tive group of fewer than 20 public universities in the nation to surpass \$1 billion in research funding.

The School of Medicine was pivotal to this accomplishment, bringing in a record-high \$396 million — nearly 40 percent of the UC Davis total. This achievement is a testament to our groundbreaking faculty scientists and transdisciplinary research teams that are transforming lives with their discoveries.

On July 30, we welcomed 133 talented and diverse incoming first-year medical students in our first "White Coat" ceremony with students' families and friends in attendance since 2019. Half of our Class of 2026 identifies with groups that are under-represented in medicine, including 30 percent who are Hispanic/Latinx, 14 percent who are African American/Black and 3 percent who are American Indian/Alaska Native. Women make up 60 percent of the class. Our new students are an inspiring addition to our mission-driven School of Medicine community.

As one of the many support programs we offer our students, this year, I initiated the Dean's Student Assistance Fund to help meet our medical students' emergency and unforeseen needs. Thank you to the many donors who have joined me in supporting this and many other programs benefiting our students.

This summer, the Liaison Committee on Medical Education (LCME) awarded the School of Medicine a full 8-year reaccreditation, which is the best possible outcome. Our success attests to

years of meticulous preparations and extraordinary work by Vice Dean for Education Dr. Mark Servis, the Office of Medical Education, and leaders from across the school and UC Davis Health. It affirms our school's commitment to excellence, continuous quality improvement, and listening to and addressing our students' concerns and needs.

We've also launched a new collaborative pre-med pathway program for community college students, Avenue M, to address the shortage of primary care physicians in California's rural, medically underserved areas. This is one of seven of our innovative pathway programs to help diversify California's physician workforce to better reflect the state's population, and thus advance health equity and improve the health of diverse communities statewide.

We are also implementing our new 5-year strategic plan in alignment with the UC Davis Health NEXT Clinical Strategic Plan and Betty Irene Moore School of Nursing plan. Developed with the input of more than 200 School of Medicine constituents, the school's plan is a comprehensive framework to advance our education, clinical care, research, and community partnership missions. We've launched five strategic plan workgroups to ensure we translate our new strategic plan into action plans with measurable outcomes.

The School of Medicine continues its groundbreaking innovation and growth trajectory in all our mission areas. Thank you for being an invaluable partner in our mission-driven work!

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Murin".

Susan Murin, M.D., M.Sc., M.B.A.

Interim Dean, UC Davis School of Medicine

Professor, Pulmonary Critical Care and

Sleep Medicine

*A publication for alumni,
donors, faculty and friends
of UC Davis Health*

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Highlights from the Redwood SEED Scholars, a first-in-California college program for students with intellectual disabilities.

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NEW NATIONAL BIOPHOTONICS CENTER

A prestigious \$6.3 million NIH grant will help advance technologies that could transform interventional health care.

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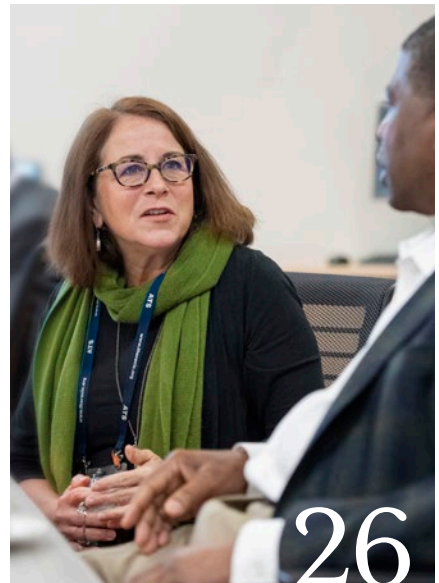
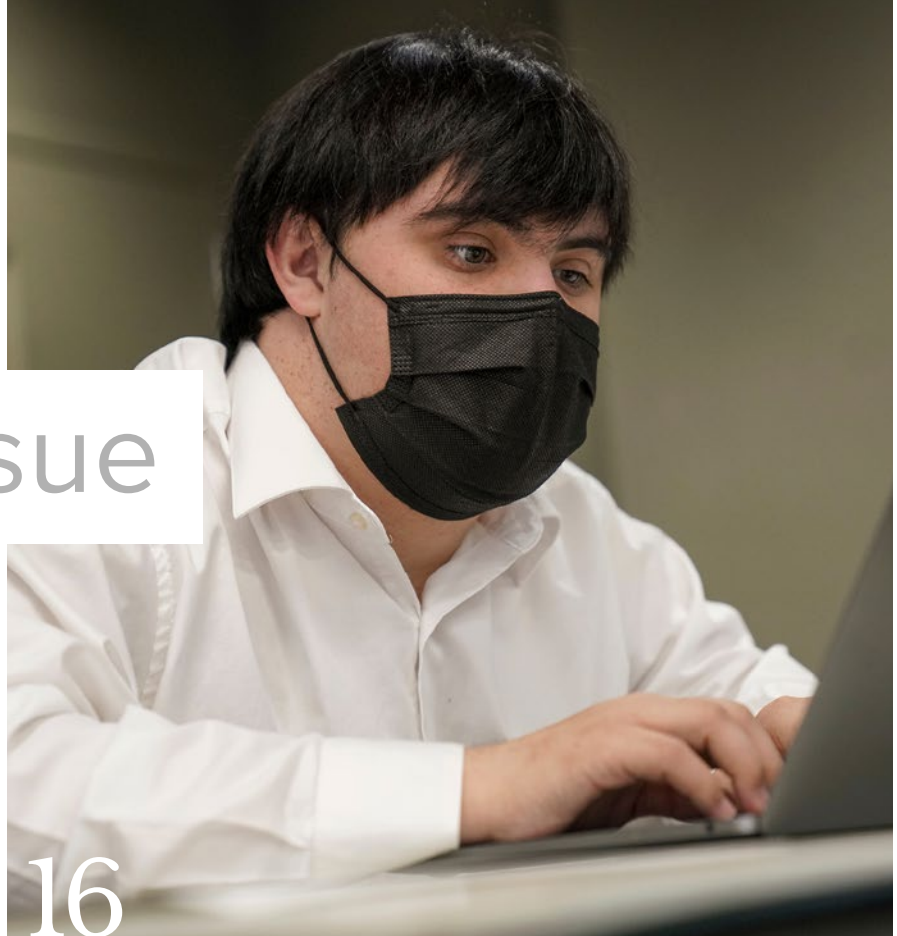
MEET SUSAN MURIN

The longtime UC Davis Health leader is interim dean of the nationally ranked UC Davis School of Medicine.

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'FIREARM VIOLENCE IS PREVENTABLE'

How UC Davis' unique Violence Prevention Research Program is influencing policy.



On the cover: Redwood SEED scholar Ryan Fitch hugs his mom, Melissa, at a fall exposition where scholars presented what they were learning in their classes. See story on page 16.

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Ranked among *America's* best



NATIONALLY RANKED IN 9 ADULT SPECIALTIES

U.S. News & World Report ranked UC Davis Medical Center among the nation's top 50 hospitals in nine adult medical specialties for 2022–23, including:

- cancer (#39)
- cardiology & heart surgery (#32)
- diabetes & endocrinology (#26)
- ear, nose & throat (#37)
- geriatrics (#23)
- neurology & neurosurgery (#36)
- obstetrics & gynecology (#21)
- orthopedics (#50)
- pulmonology & lung surgery (#27)

The hospital also earned “high-performing” acknowledgement in the gastroenterology & gastrointestinal surgery and urology specialties. *U.S. News* ranked the medical center the No. 1 hospital in Sacramento and No. 6 in California.

HIGH-PERFORMING IN MULTIPLE ADULT PROCEDURES AND CONDITIONS

U.S. News also released ratings for common types of adult procedures and conditions, with “high-performing” considered the highest level of recognition. UC Davis Medical Center earned that rating in 13 common adult procedures and conditions, including:

- Back surgery (spinal fusion)
- Chronic obstructive pulmonary disease (COPD)
- Colon cancer surgery
- Diabetes
- Heart attack
- Heart failure
- Kidney failure
- Lung cancer surgery
- Ovarian cancer surgery
- Pneumonia
- Prostate cancer surgery
- Stroke
- Transcatheter aortic valve replacement (TAVR)

NATIONALLY RANKED IN 5 PEDIATRIC SPECIALTIES

U.S. News ranked UC Davis Children's Hospital among the nation's best in five pediatric specialties for 2022–23, including:

- neonatology (#29)
- pediatric diabetes & endocrinology (#47)
- pediatric nephrology (#19)
- pediatric orthopedics (#19)
- pediatric pulmonology & lung surgery (#35)

The orthopedics ranking was awarded in collaboration with Shriners Children's Northern California, UC Davis Children's Hospital's longstanding partner in caring for children with burns, spinal cord injuries, orthopedic disorders and urological issues.

LADO-ABEAL APPOINTED CHIEF OF ENDOCRINOLOGY



Jose Joaquin Lado-Abeal, M.D., Ph.D., has been appointed chief of the Division of Endocrinology, Diabetes and Metabolism in the Department of Internal Medicine, succeeding Sidika Karakas who recently retired. Lado-Abeal is an internist who specializes in thyroid diseases, diabetes and neuroendocrinology. He previously served as a tenured professor at the University of South Carolina School of Medicine and director of the Division of Endocrinology, Diabetes, and Metabolism at Prisma Health-Midlands, and as a professor of internal medicine and director of the Division of Endocrinology at Truman Medical Center and the University of Missouri-Kansas City, and Texas Tech University Health Sciences Center, and a professor of medicine at the University of Santiago de Compostela in Spain.

INTERNATIONALLY RENOWNED RESEARCHER JOINS CANCER CENTER LEADERSHIP



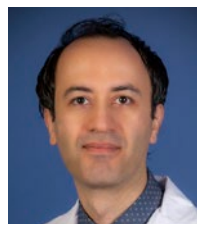
Xiao-Jing Wang, M.D., Ph.D., has joined the UC Davis Comprehensive Cancer Center as chief science officer. She is also the center's associate director for basic science, a role previously held by Luis Carvajal-Carmona who was appointed the cancer center's chief diversity officer and director of the new Center for Advancing Cancer Health Equity. Wang has also been named the Stowell Endowed Chair in Experimental Pathology. Wang comes to UC Davis from the University of Colorado Anschutz Medical Campus, where she was the John. S. Gates Endowed Chair of Cancer Stem Cell Biology, founding director of Head and Neck Cancer Research Program, director of T32 Training Program of Lung, Head and Neck Cancer, and co-director of the Colorado Head and Neck SPORE Program for translational research.

HIROSE SURGEON-IN-CHIEF OF CHILDREN'S HOSPITAL



UC Davis chief of fetal and pediatric surgery **Shinjiro Hirose, M.D., F.A.C.S.**, has been appointed surgeon-in-chief of UC Davis Children's Hospital. He has served as chief of pediatric surgery, vice chair of surgery and founder and director of the UC Davis Fetal Care and Treatment Center. Hirose succeeds internationally renowned fetal and neonatal surgeon Diana Farmer, M.D., F.A.C.S., F.R.C.S., chair of the UC Davis Department of Surgery. Hirose is one of the creators of the University of California Fetal Consortium, a statewide collaboration at all five fetal treatment programs at UC medical centers. Farmer and Hirose also serve as co-presidents of the International Fetal Medicine and Surgery Society. Hirose has a joint appointment as director of pediatric surgery at Shriners Children's Northern California.

GHASEMIESFE NEW DIVISION CHIEF OF CARDIOTHORACIC IMAGING



Ahmadreza (Reza) Ghasemiesfe, M.D., has been appointed the new chief of the Division of Cardiothoracic Imaging. Ghasemiesfe joined UC Davis Health as an assistant professor in 2020 with expertise collected both nationally and internationally. He finished medical school and his radiology residency at the Tehran University of Medical Sciences, then continued with another residency and two fellowships at Yale Newhaven Health, Rush University Medical Center and Northwestern. As a cardiothoracic imaging specialist, Ghasemiesfe has a particular interest in adult and pediatric cardiac MRI and advanced tissue characterization sequences utilized in diagnosis of different heart diseases.

New nursing dean for faculty practice, workforce development

Deb Bakerjian, Ph.D., A.P.R.N., F.A.A.N., F.A.A.N.P., F.G.S.A., has been appointed interim associate dean of practice at the Betty Irene Moore School of Nursing at UC Davis.

Bakerjian is board chair for HealthImpact, the California Nursing Workforce Center; serves on the National Quality Forum's Skilled Nursing Facility Technical Expert Panel for Serious Reportable Events and Common Formats; serves on two committees for AMDA — The Society for Post-Acute and Long-Term Care; and is vice-chair elect of the Health Sciences section of the Gerontological Society of America.



ATREJA AMONG TOP 30 HEALTHCARE IT INFLUENCERS



Ashish Atreja, M.D., M.P.H., F.A.C.P., A.G.A.F., UC Davis Health's chief information and digital health officer, has been recognized among the nation's top 30 Healthcare IT influencers by *Health Tech Magazine*. A leading voice on evidence-based digital health and artificial intelligence, Atreja oversees UC Davis Health's expansion of its digital footprint, which includes bridging the gap between IT, academia, research, and innovation. Atreja has led a variety of impactful projects at UC Davis Health, such as a Digital CoLab working to make health care more accessible to patients; a partnership with Amazon Web Services to launch the first Cloud Innovation Center by an academic medical center; and a new collaboration with BioIntelliSense that advances remote patient monitoring (see p. 15).

LI APPOINTED CHAIR OF EYE BANK ASSOCIATION OF AMERICA



Jennifer Li, M.D., a professor of ophthalmology and director of the Cornea and External Disease Service at UC Davis Health, has been appointed chair of the Eye Bank Association of America (EBAA). In this prestigious role, Li will work with the EBAA President and CEO to set the

association's strategic direction, provide oversight and manage the board's activities and discussions. She was elected in 2020 and spent two years as chair-elect before beginning her term as chair in June. Li is also the medical director for Sierra Donor Services Eye Bank. In 2021 Li was awarded the R. Townley Paton Award, the EBAA's highest honor for corneal physicians.

FEJERMAN MEETS WITH FIRST LADY FOR CANCER MOONSHOT



UC Davis Comprehensive Cancer Center's **Laura Fejerman, M.Sc., Ph.D.**, director of the Women's Cancer Research and Care Program (WeCare), met Jill Biden in February during a Cancer Moonshot 2022 event at the Mays Cancer Center in Texas, and was one

of three scientists who presented on cancer health disparities research. Fejerman, who also co-directs the cancer center's Latinos United for Cancer Health Advancement (LUCHA) initiative, presented findings regarding cancer risk assessment in Latinas. She also reported on the Tu Historia Cuenta program, which connects Latinas to "promotores" – health educators who refer Latinas to breast cancer resources in their communities.

ROSS APPOINTED TO STATE BOARD OF OPTOMETRY

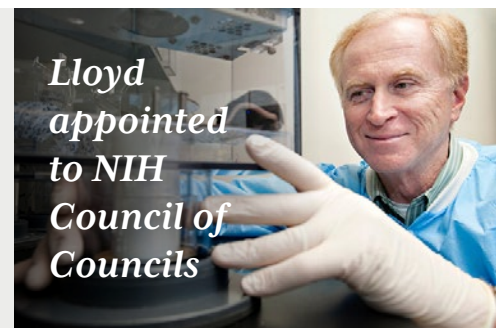


California Governor Gavin Newsom has appointed UC Davis Health principal optometrist **Jonathon Ross, O.D., M.S., F.A.A.O.**, to the State Board of Optometry, responsible for licensing and regulation of the practices of optometry and opticianry. Prior to the governor's

appointment, Ross earned Young Optometrist of the Year from the California Optometric Association in 2017. He has also served as president of the Sacramento Valley Optometric Society in 2018 and as a diplomate for the American Board of Optometry in 2019.

Kent Lloyd, D.V.M., Ph.D., associate director of the UC Davis Comprehensive Cancer Center, director of the UC Davis Mouse Biology Program and Department of Surgery professor, has been appointed a member of the National Institutes of Health

Lloyd appointed to NIH Council of Councils



Council of Councils. Appointees provide professional and expert advice to NIH leaders on numerous areas of activities and policies in the Director's Office. The council is made up of 27 members, selected from the advisory councils of NIH institutes and centers, representatives nominated by Office of the Director program offices, and lay representation. This will be Lloyd's second time serving as a member; his prior appointment spanned from 2011 to 2014. He has authored more than 180 scientific publications.

School of Medicine earns full accreditation



UC Davis School of Medicine has been granted full accreditation for eight years by the Liaison Committee on Medical Education (LCME), the accrediting authority for medical education programs leading to the M.D. degree in the U.S. The LCME team met with more than 150 faculty, staff, students and hospital leaders during the process. “I want to thank everyone involved in our successful re-accreditation,” said **Susan Murin, M.D., M.Sc., M.B.A.**, the school’s interim dean. “Our success is the result of years of meticulous preparations and extraordinary work by the Office of Medical Education and all who served on committees, assisted with preparations and participated in survey visits.” The School of Medicine ranked 3rd in the U.S. for diversity, 7th in family medicine, 8th in primary care, and 51st for research in 2023 *U.S. News & World Report* ratings.

A TOP-25 HOSPITAL FOR ENVIRONMENTAL EXCELLENCE



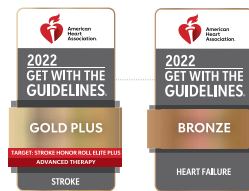
UC Davis Health has been recognized by Practice Greenhealth as a national leader in environmental sustainability, and for the first time was named one of the country’s Top 25 hospitals. This is the highest honor awarded by Practice Greenhealth, which has more than 1,400 U.S. hospitals and health systems part of its network. The Top 25 award examines the hospital’s success in a range of sustainability programs, including leadership, greening the OR, sustainable procurement, green building, energy, water, climate and transportation.

Comprehensive Epilepsy Program receives highest national accreditation rating

UC Davis Medical Center’s Comprehensive Epilepsy Program has been accredited as a Level 4 center for adult and pediatric epilepsy, the highest designation awarded, by the National Association of Epilepsy Centers (NAEC). The program is a leader in the surgical management of refractory epilepsy, with a wide array of services that includes a new 11-bed monitoring unit scheduled to open at the end of the year. As a Level 4 center, the program provides more complex forms of intensive neurodiagnostic monitoring, as well as more extensive medical neuro-psychological and psychosocial treatment. Level 4 centers also offer complete evaluation for epilepsy surgery and a broad range of surgical procedures, such as minimally invasive laser surgery and devices such as responsive neurostimulation, deep brain stimulation and vagal nerve stimulation.



National awards for stroke and heart failure care



UC Davis Medical Center has been recognized by the American Heart Association with multiple Get With The Guidelines® awards for its commitment to following researched-based guidelines for

treating stroke and heart failure:

- Stroke Gold Plus: For reaching an aggressive goal of treating patients to core standard levels of care for at least two consecutive years.
- Target Stroke Honor Roll Elite Plus: For meeting quality measures to reduce time between hospital arrival and clot-busting treatment.
- Advanced Therapy Award: Recognizing speed of delivery for clot-busting drugs to stroke patients upon hospital arrival: 90 minutes or less for ED arrivals, and 60 minutes or less for transfers.
- Heart Failure Bronze Award: Honors proven dedication to ensuring all heart failure patients have access to best practices and life-saving care.



Rogers receives lifetime achievement award for autism work

Developmental psychologist **Sally J. Rogers, Ph.D.**, who co-developed a leading form of behavioral therapy for autism, has received the Lifetime Achievement Award from the International Society for Autism Research (INSAR). Rogers, a UC Davis MIND Institute faculty member and psychologist, is a professor emeritus in the Department of Psychiatry and Behavioral Sciences. The INSAR award acknowledges “significant fundamental contributions to research” with lasting impact on the field. Rogers and

Geraldine Dawson created the Early Start Denver Model (ESDM), an intervention designed for infants, toddlers and young children with autistic characteristics. ESDM manuals have been translated into more than 16 languages and are used by clinicians around the world. The MIND Institute offers training and certification classes in the approach.

FARMER RECEIVES NATIONAL AWARD FOR WORK ON SPINA BIFIDA



UC Davis Health Department of Surgery Distinguished Professor and Chair Diana Farmer, M.D., is one of 11 recipients of the 2022 Harrington

Scholar-Innovator Awards, given by the Harrington Discovery Institute at University Hospitals of Cleveland. The awards support a diverse set of drug discovery projects and include grants of at least \$100,000, with the opportunity to qualify for up to \$1.1 million. Farmer’s spina bifida research has produced a unique “patch” engineered from placental mesenchymal stem cells, applied to a baby’s exposed spinal cord during an in-utero surgery. In 2021, Farmer launched the first-in-human clinical trial to test the procedure and patch for treatment of spina bifida. Farmer’s award will support further development of this technology for adult acquired spinal cord injury.

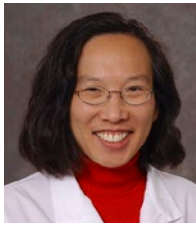
AMSN PRISM Award® for exemplary practice

The Orthopaedic/Trauma Unit and Tower 4 Ear, Nose and Throat/Internal Medicine Unit at UC Davis Health have received the prestigious AMSN PRISM Award®, an honor recognizing exceptional nursing practice, leadership, and outcomes in hospital medical-surgical units.

The 28-bed Tower 4 medical-surgical unit, which specializes in pre- and post-operative ENT cancers, is a two-time recipient, and in April became only the second unit west of the Mississippi River to receive the recognition twice. Out of a possible 600 points, they earned 576 — the 3rd-highest ever recorded by AMSN. The Orthopaedic/Trauma Unit recognition in May marked UC Davis Health’s eighth AMSN PRISM Award®, the most for any hospital west of the Mississippi River and tied for the most earned by any institution. The unit is home to eight orthopedic services — orthopedic trauma, spine, joint replacement, pediatrics, tumor, sports, hand, and foot and ankle — and achieved 560 of a possible 600 points in their application, the fifth highest recorded.

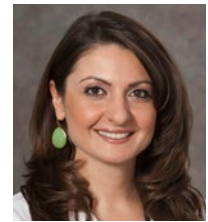


National leadership award for peds residency program director



Su-Ting Li, M.D., M.P.H., vice chair of education and residency program director in the UC Davis Department of Pediatrics, has received the Robert S. Holm, M.D. Leadership Award from the Association of Pediatric Program Directors (APPD). The award honors one APPD member each year for extraordinary contributions in leadership and support of other program leaders as a mentor, advisor or role model at the organization's national level. Li helped develop, implement, and chair the APPD's Leadership in Educational Academic Development Council, a nationally recognized program for pediatric medical education leaders who learn from seasoned program directors, pediatric educators, and other national pediatrics leaders.

Aghamohammadi new Chief Wellness Officer



Sara Aghamohammadi, M.D., is UC Davis Health's new Chief Wellness Officer (CWO), replacing Peter Yellowlees, M.D. who is retiring. Aghamohammadi will lead and direct wellness and well-being programs and initiatives for the medical staff and the health system, and also oversee the Medical Director of Physician Coaching and Onboarding. She attended medical school at Oregon Health and Science University, completed her pediatrics residency and pediatric critical care fellowship at Children's Hospital of Los Angeles, and has served more than eight years as a pediatric critical care attending at UC Davis Children's Hospital and Shiners Hospital for Children. At CHLA, she co-created a resident wellness support group and a fellows reflection conference as safe spaces to discuss emotionally difficult aspects of the specialty.

Specialty pharmacy honored for high patient satisfaction

UC Davis Health Specialty Pharmacy has been honored for high patient-satisfaction ratings by the National Association of Specialty Pharmacy (NASP), which conducts patient-satisfaction studies for specialty pharmacies around the country. UC Davis received a net promoter score of 88.1, the highest score the specialty pharmacy department has ever received. It's also the second highest in the nation among accredited specialty pharmacies who took part in the survey. In comparison, the industry standard score for specialty pharmacies is 66. The net promoter score measures how many customers or patients would recommend your services minus the ones who would not.



'Best Employer' according to *Forbes*

UC Davis Health is 11th and UC Davis 18th on *Forbes'* latest ranking of best employers in California. The publication partnered with market research company Statista to compile the fourth annual list of America's Best Employers By State, compiled by anonymously surveying 70,000 Americans working for businesses with at least 500 employees. The final list ranks the 1,382 employers that received the most recommendations.

Robotic lung cancer diagnosis and removal in a single surgery

A leading-edge robotic lung cancer treatment now available through the UC Davis Comprehensive Cancer Center is



shrinking the time between diagnosis and potential cure. This spring, UC Davis teams performed the UC system's first single-anesthesia diagnosis-to-treatment of lung cancer using a fully robotic approach known as robotic-assisted bronchoscopy. Combined with established robotic general thoracic surgery expertise, it allows for diagnosis and

removal of a lung cancer mass during a single anesthetic rather than an anxious wait between procedures. Special CT software creates a 3D path for a catheter to collect biopsies, analyzed on site. If early-stage cancer is detected, the patient – still asleep – has a second precision robotic surgery, called a lobectomy or segmentectomy, to remove it the same day.

New multidisciplinary fragility fracture program

A multidisciplinary collaboration among UC Davis Health's departments of orthopedic surgery, endocrinology, rheumatology and geriatric care has formed a Fragility Fracture Program to ensure that patients who suffer a fragility fracture receive comprehensive treatment to prevent future fractures,



and also to identify patients at risk for future fractures. The program includes tests and treatments to identify and manage underlying causes of bone fragility and improve bone stability, as well as nutritionist visits and physical therapy. Upon discharge, fragility fracture patients 65 and older are referred to UC Davis Health's mobility program at the Healthy Aging Clinic, which evaluates vision, neuropathy, orthostatics, cognitive impairment and any medicines that could increase fall risk.

New dedicated pediatric pulmonary hypertension program

UC Davis Health has launched a pediatric pulmonary hypertension outpatient clinic that provides a one-stop shop experience for patient and family, allowing them to see multiple physicians, a respiratory therapist, registered dietitian and a social worker all within a single visit. Specialists from pediatric cardiology, neonatology, pediatric critical care, pediatric cardiothoracic surgery, pediatric pulmonology and pharmacy are all part of the collaborative PH team.

Marshall joins UC Davis Cancer Care Network

Marshall Medical Center and UC Davis Health have announced an affiliation for cancer services that allows Marshall patients access to the National Cancer Institute-designated UC Davis Comprehensive Cancer Center through the UC Davis Cancer Care Network. The affiliation offers Marshall patients leading-edge care without leaving the western slope of El Dorado County, with collaborative cancer services based in Cameron Park and known as "Marshall Cancer Center, a UC Davis Health Affiliate." Network inclusion allows Marshall oncologists to work directly with UC Davis oncologists to ensure the latest diagnostic and treatment options for patients, with CME opportunities available for Marshall providers as well. University medical residents and fellows correspondingly can participate in clinical rotations with instructors at the Marshall Cancer Center. UC Davis Health has similar arrangements with several other community hospitals.



Cancer news now available via podcast

The UC Davis Comprehensive Cancer Center has launched



Beat Cancer, a new podcast that offers an in-depth discussion of the science, research, and advancements taking place at the center. The podcast also shares the latest cancer news including prevention, screening and treatment. Cohosts are former broadcasters Chris Joyce and Stephanie Winn. Find Beat Cancer on health.ucdavis.edu/cancer or your favorite podcast platform. Email beatcancer@ucdavis.edu to suggest topics.

Continuing Medical Education

- Education calendar
- Online education

health.ucdavis.edu/cme

Notable quotes

“Assault weapons ... cause a condition called cavitation, meaning that as the projectile passes through tissue, it creates a large cavity. And that does a ton of tissue damage, both initially at the impact, and then even further as that tissue begins to necrose, or die off.”

UC Davis Health trauma surgeon **Ian Brown, M.D., Ph.D.**, in a June *National Public Radio* report headlined “This is how handguns and assault weapons affect the human body.”

“It’s really important to grasp any area of control we have, even if it’s only our voice. We need to get louder, we need to join our voices and that in itself can keep us going. That in itself can make us step out of our paralysis and get out of the door every day.”

UC Davis trauma psychiatrist and professor **Caroline Giroux, M.D.**, in a July *Washington Post* report headlined “Trying to stay safe in a mass shooting, and to overcome the fear created.”

“It’s really hard from the vantage point of being a psychiatrist to prevent violence since most violence is not caused by mental illness. About 4 percent of community violence is attributable to severe mental illness.”

Inpatient and emergency psychiatrist **Amy Barnhorst, M.D.**, director of the BulletPoints Project, in a 2018 *New York Times* podcast rebroadcast after the Uvalde shootings.

“For the last 20, maybe even 25 years — except for the two years of the pandemic, which have increased homicides and suicides across the country — our rates of firearm violence have trended downward. And this has been at a time when most of the rates in the rest of the country have gone up.”

Emergency medicine physician **Garen Wintemute, M.D., M.P.H.**, director of the UC Davis Violence Prevention Research Program, in a May *New York Times* report headlined “California Has America’s Toughest Gun Laws, and They Work.”

“There’s no such thing as a perfect, 100 percent effective policy or suite of policies. But there is a chance to make a real difference.”

Wintemute in a June *New York Times* staff report headlined “The Mass Shootings Where Stricter Gun Laws Might Have Made a Difference.”

A summary of recent findings
in clinical, translational and
basic-science research at UC Davis

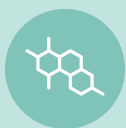
Body of Knowledge



A UC Davis study published in the *Journal of General Internal Medicine* shows some people may be overlooked for cessation counseling based on the way care providers ask about tobacco use. The study determined asking about “tobacco use in the past five days” or measuring cotinine would help identify current smokers better. It also recommends asking about type of tobacco product used, if others in the household smoke, and whether there is indoor exposure (i.e., at work).



A study by UC Davis MIND Institute researchers found that the severity of a child's autism symptoms can change significantly between the ages of 3 and 11. Published in *Autism Research*, the study built on previous work by the same researchers on changes to autism characteristics in early childhood. The children studied were all part of the MIND Institute's long-term Autism Phenome Project (APP). The results opened up questions about why some kids change and some don't, and whether researchers can determine the influence of biology and daily living.



A team of UC Davis researchers found that the levels of certain polyamine molecules in saliva and urine samples of head and neck cancer patients were significantly higher than those in healthy individuals. Their proof-of-concept study, published in *Diagnostics*, might help lead to a noninvasive low-cost method to screen for this cancer. Head and neck cancer is currently the seventh most common cause of cancer-related death, with approximately two-thirds of patients advanced stage III or IV tumors at the time of diagnosis.



Research from UC Davis Health scientists provides clues for how probiotics may help eradicate bacterial pathogens like *Salmonella* by competing with them for needed resources. The study, published in *Cell Host & Microbe*, shows that availability of needed nutrients alone doesn't define where bacteria — including pathogens — can survive and thrive in the gut. Authors said the insights provide better understanding of the nutritional basis of intestinal colonization, and can help inform efforts to develop probiotics to combat infection.



An international team of researchers led by UC Davis geneticists has discovered a new gene implicated in a neurodevelopmental condition called DPH5-related diphthamide-deficiency syndrome. The syndrome is caused by DPH5 gene variants that may lead to embryonic death or profound neurodevelopmental delays. UC Davis led the project with collaborations from Germany, Saudi Arabia, Sweden, Massachusetts and California, with findings published in *Genetics in Medicine*.

A UC Davis Health multidisciplinary team has conducted the first human study using a full-body positron emission tomography (PET) scan to identify the biomarkers for autoimmune inflammatory arthritis. Published in the *Journal of Nuclear Medicine*, the study offers promising results that introduce novel means to assess joint inflammation that would aid clinicians in monitoring and treating patients. The study utilized UC Davis Health's EXPLORER, the first total body PET scanner approved by the FDA in the U.S.

New ambulatory surgery center project approved



A key goal is to improve the patient experience, by reducing wait times for elective procedures while expanding surgical service lines and therapies.

UC Davis Health will begin construction on a \$579 million ambulatory surgery center this fall.

Earlier this year the UC Board of Regents approved the design of the building and authorized UC Davis to raise money for the 48X Complex, the project name for the new center. The project could break ground in October and begin accepting its first patients in March 2025.

The 48X Complex's design features a four-story, 262,000-square-foot building with 12 major operating rooms, five minor procedure rooms and 60 recovery bays. Diagnostic imaging, lab services, pharmacy services and seven specialty clinics will also be included. A key goal is to improve the patient experience by reducing wait times for elective procedures while expanding surgical service lines and therapies.

The center will encompass the entire block between 48th and 49th streets and X and Y streets, to the east of the main hospital building. The naming of surgery centers based on the intersections involved is designed to help patients more easily find the proper location.

"It's probably one of the largest ambulatory surgical centers in terms of the number of ORs and procedure rooms that actually exists in the U.S.," UC Davis Health CEO and Vice Chancellor of

Human Health Sciences David Lubarsky, M.D., M.B.A., F.A.S.A., recently told the *Sacramento Business Journal*.

Ambulatory surgery centers focus on outpatient care and procedures that don't typically require hospital admissions. The 48X Complex will move some outpatient surgeries out of the main hospital, opening up hospital space for more acute cases while also decreasing wait times for elective procedures.

Complements new hospital tower

The regents approved the California Tower project, which will be more focused on ICU capacity and very complex surgeries. Some 56 percent of surgeries at UC Davis Health's main hospital are currently outpatient because the system doesn't have facilities to accommodate outpatients in the right type of environment – which the 48X Complex will offer.

UC Davis Health will also plan to move procedures to the new operating rooms

while the 30 existing operating rooms inside the hospital get seismic upgrades and renovations.

The California Tower is a replacement for existing parts of the hospital that must be closed due to state seismic laws, and will be added to the eastern side of the existing UC Davis Medical Center. It will feature a 14-story hospital tower and five-story pavilion, with ground-breaking slated for 2023 and patient opening in 2030.



The tower design "incorporates lessons from the pandemic, and those lessons will help us to deliver superior care for Northern Californians for the next 50 years," Lubarsky said at a make-ready event this spring. "The California Tower will triple our ICU capability, making half of our patient rooms ICU-ready. This investment will be a cornerstone in the critical care we provide our patients and the region moving forward."

\$1.7 million for digital health equity

New federal funding supports creation of a regional digital public health platform

Rep. Doris Matsui (CA-06) announced \$1.7 million of federal funding for UC Davis Health's Digital Health Equity Program at a June press conference on the Sacramento campus.

The funding, which Matsui championed as part of H.R. 2471, the government funding omnibus package, will support the creation of a regional digital public health platform to improve access and continuity of care for vulnerable populations in Sacramento and Northern California.

The program will address health disparities, especially in underrepresented minority and low-income populations, partnering with Federally Qualified Health Centers and community-based organizations.

"To truly achieve health equity, we need to ensure everyone can access the highest quality healthcare that enables and empowers individuals to optimize their well-being," Matsui said. "The work

this program will do to reach vulnerable populations is transformative. Here at UC Davis Health, they are building a digitally inclusive and accessible society, which is critical to ensuring health care

delivery and empowering underserved communities."

The program will fund four digital health navigator positions, as well as IT infrastructure that will expand UC Davis Health's ability to collaborate with community organizations to join the digital platform and bring more services to vulnerable patients and make access to health care easier.

"As the statewide leader in telemedicine and digital health, UC Davis Health will continue to build on our medical center's long history of reaching out to the most vulnerable, underserved populations in the region," said David Lubarsky,

M.D., M.B.A., F.A.S.A., CEO of UC Davis Health and vice chancellor of Human Health Sciences. "The patient is at the center of everything we do, and we must innovate and challenge conventional wisdom to truly deliver digital health equity to all our patients — no matter their circumstances."

For decades, health disparities have been an ongoing U.S. public health challenge, especially for racial and ethnic minority populations. On average, racial and ethnic minorities are in poorer health, suffer worse health outcomes, and have higher morbidity and mortality rates than their white cohorts.

"The patient is at the center of everything we do, and we must innovate and challenge conventional wisdom to truly deliver digital health equity to all our patients — no matter their circumstances."

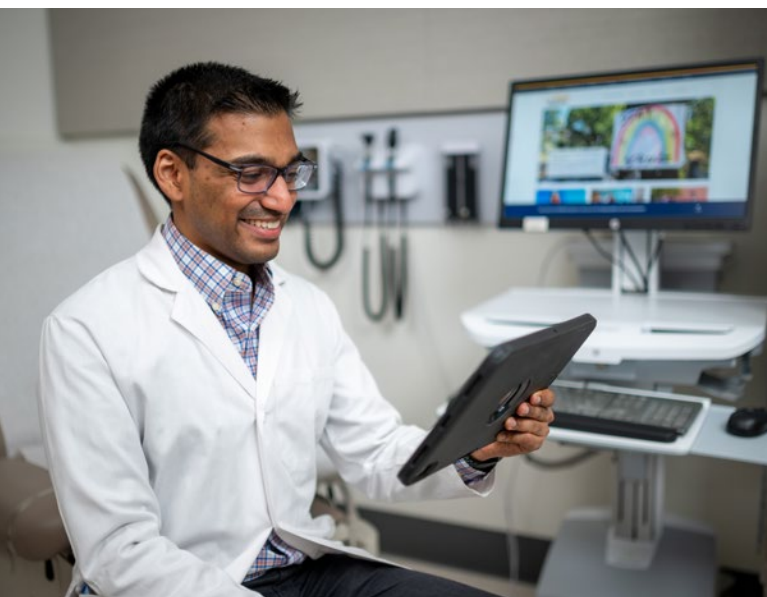
DAVID LUBARSKY, UC DAVIS HEALTH CEO

Underrepresented minority and low-income populations experience disproportionately high rates of preventable disease and premature death across many conditions.

Such disparities can result in severe medical, social and economic consequences, including increased mortality.

"Who has access to health services and quality care are issues we deeply care for at UC Davis Health," said Sergio Aguilar-Gaxiola, M.D., Ph.D., director of the UC Davis Center for Reducing Health Disparities and lead for the Digital Health Equity Program. "For underserved communities, there is little access to needed health services regardless of location or point of entry.

"This funding helps address these health inequities and enables us to expand on our ability to further health care access for all patients."



\$1.2 million to study synthetic data use

How to design machine learning techniques that preserve privacy?

Sharing health care data is crucial for understanding patterns and trajectories in diseases to develop personalized medicines and treatment. However, patient privacy regulations can make it tricky to share detailed data for analytical purposes.

The challenge is to balance privacy concerns with data access, and to answer the overarching question: How to develop privacy-preserving machine learning techniques to make the data accessible for analytics?

Enter synthetic data — which is generated by a computer program, but uses real-world data as a model.

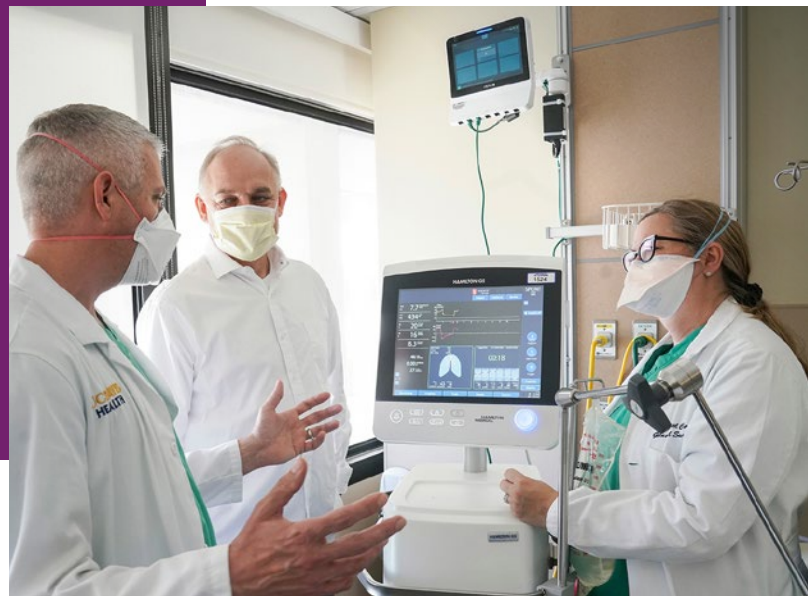
This spring, UC Davis researchers were awarded a four-year, \$1.2 million National Institutes of Health grant to generate high-quality synthetic data. The team will use artificial intelligence and machine learning (AI/ML), and hopes the research may help predict, diagnose and treat diseases.

The team involves principal investigator Thomas Strohmmer, Ph.D., director of the UC Davis Center for Data Science and Artificial Intelligence Research (CeDAR); Rachael Callcut, M.D., M.S.P.H., F.A.C.S., professor of surgery and chief research informatics officer; and Jason Adams, M.D., M.S., associate professor of pulmonary, critical care and sleep medicine and director of data and analytics strategy.

‘Differential privacy’

Synthetic data can be generated from real-world sources such as images, videos, text or speech in a way that preserves statistical properties without the risk of exposing sensitive information. Machine learning techniques should be able to analyze the different modalities and combine them in a privacy-preserving way to generate the synthetic data.

Strohmmer explains that for medical records, one may first want to preserve “one-dimensional marginals,” such as the number of people who smoke or who have diabetes. Then researchers may want to expand preservation to other condi-



Shown right to left, synthetic data research team members Jason Adams, Thomas Strohmmer, and Rachael Callcut.

tions, such as how many people who smoke also have diabetes, or how many people who smoke have diabetes and COVID-19.

He warned that this detailed method has its own pitfalls — and may break privacy rules when questions are too detailed.

“The goal, therefore, is to define privacy in a rigorous, mathematical way — known as differential privacy in the literature — and design privacy-preserving machine learning techniques that will not break even when additional information becomes available,” Strohmmer said.

The team is using Acute Respiratory Distress Syndrome (ARDS), which often involves ICU patients, as a model to test their methods. The condition has evidence-based life-saving treatments that can provide beneficial results with timely diagnosis. The data that classifies ARDS is also multimodal, and can help test robustness of machine learning algorithms.

“A huge amount of multimodal health data is collected from ICU patients, much more than from typical hospitalized or outpatient clinic patients,” Adams said. “(It) presents an ideal opportunity to precisely describe the clinical state of a patient, and then use the data to develop predictive algorithms that can do the same.”

Callcut’s training as a data scientist helps her understand computational approaches, and she’s creating clinical use cases to help develop data sources.

“At our lab, we are looking at a panel of almost 40 different markers on patients to try to understand how those pathways are interacting with one another. Our real goal is to try to identify those patients early,” she said. “We can then create novel therapies and interventions that can potentially abate the development or severity of ARDS, and that’s why AI/ML algorithms will be so important in this field.”



New collaboration to advance remote care

BioIntelliSense technology will enhance options for virtual and continuous care

UC Davis Health has announced a new collaboration with BioIntelliSense that advances remote patient monitoring of vital signs across care settings. The effort will involve the FDA-cleared BioIntelliSense wearable technology and algorithmic-based BioCloud™ data analytics.

At the center of the endeavor is a committed virtual care strategy that includes the deployment of BioIntelliSense's data-driven clinical intelligence platform. The goal is to create a new standard of remote care that reduces the cost and burden of traditional methods of vital sign collection.

"Remote care represents a safe and effective way for many people, especially in rural and low-income communities, to access necessary health care services in more convenient ways," said David Lubarsky, M.D., M.B.A., F.A.S.A., CEO of UC Davis Health. "As one of the nation's leaders in telehealth, we've seen how real-time technology connects expertise with need, closing large time-lapse gaps in health care delivery.

"Now, with continuous and simultaneous Internet connectivity enabling even more remote care, we can have

hospital-level monitoring of multiple vital signs wherever patients are — hospital, traveling, or at home."

Patients will benefit from lower levels of human monitoring and shorter hospital stays, Lubarsky said. Providers will immediately be able to note deviations from expected recovery or response to treatment, and then communicate with the patient, family caregivers and other providers as soon as the always-on

"This real-time remote monitoring will lead to more timely interventions and better health outcomes, achieved in lower acuity settings that are more patient- and family-friendly."

DAVID LUBARSKY, UC DAVIS HEALTH CEO

monitoring predicts a potential or real negative turn in health.

"This real-time remote monitoring will lead to more timely interventions and better health outcomes, achieved in lower acuity settings that are more patient- and family-friendly, such as the patient's home," Lubarsky said.

The introduction of BioIntelliSense's medical-grade continuous data and smart-alerting technology within the inpatient setting will give clinicians a high-resolution view of a patient's health. Passive collection of continuous multi-parameter data and sophisticated algorithms enables better recognition of hemodynamic stability that can lead to earlier hospital discharge, resulting in increased patient satisfaction. After discharge, patients can monitor vital

signs, symptoms, and physiologic biometrics for earlier detection of possible problems.

"We formed the Digital CoLab at UC Davis Health to support open innovation with industry, pharma and payers by co-designing, co-validating and co-transforming breakthrough technologies in digital health, devices and AI," said Ashish Atreja, M.D., M.P.H., F.A.C.P., A.G.A.F., UC Davis Health's CIO and

Chief Digital Health Officer. "We are thrilled about partnership with BioIntelliSense that supports our strategic goal of delivering high-acuity care at home that is grounded in equity, so no patient gets left behind."

In coming months UC Davis Health, Digital CoLab and BioIntelliSense will test continuous-care models and learn how best to deliver exceptional experience while prioritizing safety and efficacy.

"With cost effective, data-driven continuous care, we can bend the cost curve and extend the reach of advanced remote care technologies to improve how we treat and care for patients with complex conditions including oncology, orthopedics, cardiac, infectious disease and renal disease," said BioIntelliSense founder and CEO James Mault, M.D.



**'WE
ARE
MAKING
HISTORY'**



Highlights from
the inaugural year
of the Redwood
SEED Scholars,
a first-in-California
college program
for students with
intellectual
disabilities

When Ryan Fitch moved into his dormitory at UC Davis last fall, he had to leave his drum set at home in Santa Barbara.

“We figured that was a little too much for the dorms,” laughed Melissa Fitch, Ryan’s mom, as family members unloaded a fridge, clothing, and family photos to display in his new room.

Luckily, he was able to bring his guitar. Ryan is a musician and amateur photographer who aspires to a career as a band manager. He’s 19 and gregarious, with an infectious grin. He also has Down syndrome, a genetic condition that can cause developmental delays, intellectual disabilities and physical challenges.

Ryan is part of the inaugural group of Redwood SEED (Supported Education to Elevate Diversity) Scholars, a first-in-California, four-year residential program on a college campus for students with intellectual disabilities. Instead of bachelor’s degrees, students work toward a practical credential while preparing for employment.

Many of the first class of nine scholars have Down syndrome or are somewhere on the autism spectrum. All have an intellectual disability that makes traditional college nearly impossible. Most had spent little time away from home prior to this past school year with the program.

“I wasn’t nervous at all,” said Ryan, who took the major life change in stride. “I already have friends here.”

He makes friends easily. His sister Jordan said he’s always asking people to join his band.

“It’s basically like, you come across him in life and you’re in the band. It’s not about the music — it’s a metaphor.”

In the Fitch family, if you’re “in the band,” you belong.



Vice Chancellor Renetta Tull listens in as Ryan Fitch shares his work with his parents, Chris and Melissa Fitch, during a student exposition

Post-secondary options are extremely limited for the students, with just a handful of four-year residential programs around the country — and no others in California.



“I wasn’t nervous at all. I already have friends here.”

**SCHOLAR
RYAN FITCH**

A vision of inclusion

Belonging is at the core of Redwood SEED Scholars. It’s grounded in the principles of diversity, equity and inclusion and the promise that students with intellectual disabilities deserve to be on campus. Post-secondary options are extremely limited for them, with just a handful of U.S. four-year residential programs — and no others in California.

The new program was created by the UC Davis MIND Institute, which specializes in the research and treatment of neurodevelopmental disabilities, and the UC Davis Office of Diversity, Equity and Inclusion. But the vision comes from Beth Foraker, a high-energy instructor in the School of Education who now co-directs the program alongside MIND Institute Director Leonard Abbeduto.

Foraker’s 22-year-old son, Patrick, has Down syndrome and attends a similar program at a university in Virginia. She’s been working for years to bring an inclusive program to UC Davis. This is her passion.

“Just 3% of adults with intellectual disabilities make a living wage, which means 97% of adults with intellectual disabilities in our state are isolated socially and in poverty. That shouldn’t be

tolerated,” she emphasized. “We should all be in the streets losing our minds about it, and we aren’t.”

Together, she, Abbeduto and Vice Chancellor for Diversity, Equity and

Inclusion Renetta Garrison Tull successfully applied for a \$2.1 million U.S. Department of Education grant to create Redwood SEED Scholars and fund it for five years. The California Department of Rehabilitation also agreed to pay tuition for students this past year, a major boost for creating equitable opportunities.

“The UC Davis version of DEI [diversity, equity and inclusion] is focused on inclusion of all, and when we think about equity and equitable education and experience, we really want everybody to have that,” Tull said.

Redwood SEED was designed using the model standards from Think College, the national coordinating center for post-secondary programs for students with intellectual disabilities. Foraker pointed out that inclusion is symbiotic; benefits are not limited to the scholars.

“There’s something really important about elite institutions having these students on campus, because students who are here to get their degrees can get into an academic grind,” she explained. “But when you’re in a community with someone who has an intellectual disability that all changes because they [are people who] tend to live in the moment and prioritize other things. That influence matters. It’s a 100% value-add that really transforms the campus.”

The team hopes that transformation isn’t limited to UC Davis. The goal is to create a framework that other UCs and public universities can adopt.

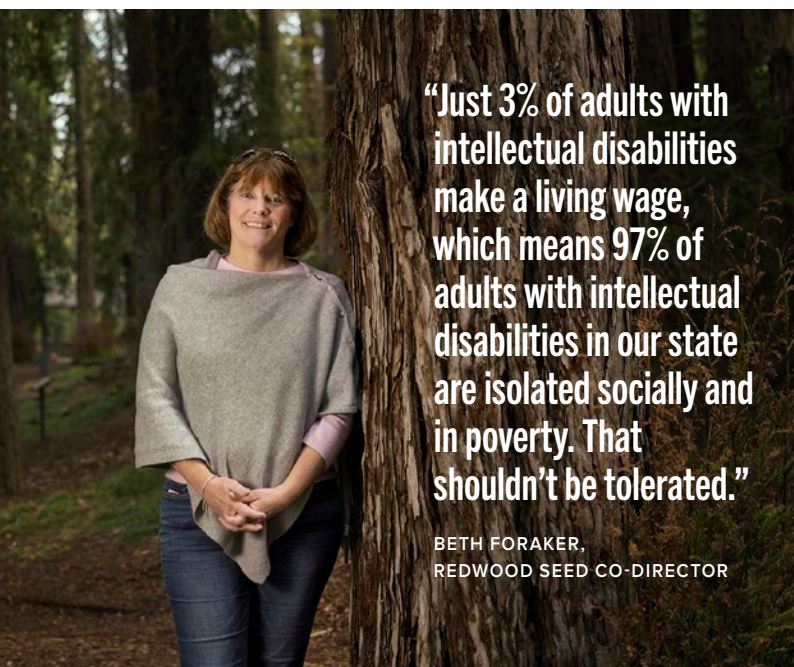
For his part, Abbeduto said he is optimistic about that prospect. “I see a very bright future and an expansion of post-secondary options, largely because of the level of support and excitement for the program that we’ve encountered from everyone at UC Davis,” he said.

A path to meaningful employment

Sophie Howarth knew the career she wanted to pursue before she enrolled in Redwood SEED. “I want to do public speaking,” said the 23-year-old from Oakland. Sophie is confident and friendly. She has had experience with public speaking, too, as a global ambassador for the Special Olympics. She gave a speech to 500 people at the 2019 Torch Run Fundraiser.

She attended community college previously, and loves to sing and dance so much that she brought a karaoke machine with her to school.

A typical week for Howarth and other scholars includes six foundational courses designed just for the program: literacy



“Just 3% of adults with intellectual disabilities make a living wage, which means 97% of adults with intellectual disabilities in our state are isolated socially and in poverty. That shouldn’t be tolerated.”

**BETH FORAKER,
REDWOOD SEED CO-DIRECTOR**



“I love living in the dorms. It makes me happy. I like being with friends and doing fun things like going to Target and arranging birthday parties.”

SCHOLAR SOPHIE HOWARTH

and writing, math and budgeting, sexual health, self-regulation, civics, and communication and technology. Some are taught by regular UC Davis instructors who also teach traditional courses. Other instructors — Sacramento County Office of Education specialists, a UC Davis Health postdoctoral fellow, a California Department of Fair Employment and Housing attorney, a former elementary teacher — are on

campus just for Redwood SEED courses.

Students take their first UC Davis course — Nutrition 10 — in the winter quarter, with support from a teaching assistant. Spring quarter, the scholars start taking traditional courses of their choice.

Howarth was worried about math. “I’m very nervous, because math is not my best friend,” she said back in September. Come January, it was one of her favorite courses, along with literacy.

Regarding the residence halls, “I love living in the dorms. It makes me happy,” Howarth said. “I like being with friends and doing fun things like going to Target and arranging birthday parties.”

Independence and inclusion are key, said Howarth’s mom, Maeryta Medrano. “To really have the whole student body embrace this idea of integration and inclusion, it’s remarkable. Having it wrapped under the MIND Institute at UC Davis and the concentration of that focus and interest of students that are coming here to study that, it really makes it a unique situation,” she said.

In addition to classes, organizations and businesses on and off-campus have also agreed to host scholars for internships. The goal is a path to a living wage.

“We’ve created ladders of opportunity,” Foraker explained. “Let’s say they’re interested in animals; they might work on campus at the sheep, cow or goat barn or the Equestrian Center, then if they enjoy it, they could work at a horse stable

A typical week includes six foundational courses: literacy and writing, math and budgeting, sexual health, self-regulation, civics, and communication and technology.



The Redwood SEED Scholars celebrate a successful first quarter during a student exposition event at the UC Davis International Center, Dec. 4, 2021.

in the city of Davis. They’re gradually learning how to take transportation, plan [their] meals, have a longer day, so that by the end of the four years they should be working three or four days a week, full-time.”



“Back home, I was never really that social. Here, I’m around other people who are like me, so being around them, it’s like I have less pressure.”

SCHOLAR KARIS CHUN

Sharing success

On a Saturday near the end of fall quarter, scholars and family members gathered with instructors at the International Student Center on campus. The students had prepared essays, presentations and work to share. Some were a little nervous as several dozen people filled large tables.

“I actually feel proud,” said Olivia Adams-Falconer, a 23-year-old from Diamond Bar who has Down syndrome. She’d visited UC Davis several times when her brother was an Aggie, and told her mom she wanted to attend college here.

“I felt like it was meant to be. I could not be more happy to be here,” she said. “For me, it felt like a home.”

Adams-Falconer said her favorite classes are civics and math. “I would love to have a job someday and an internship would be really cool.” She likes photographing landscapes, and even has her own Etsy business selling photos, T-shirts and notecards.

“People with disabilities should be able to have the opportunity to take classes on a college campus,” Adams-Falconer said. “With us being the first program here, I feel like we are making history and I really like that.”

She added that it’s been fun to live in the dorms with a roommate. “She feels

like a sister to me. We get along well, we do everything together, and we're always being silly."

Adams-Falconer's roommate, 22-year-old Karis Chun, also has an intellectual disability and said the social aspect has been an unexpected joy. "Back home, I was never really that social," she explained. "Here, I'm around other people who are like me, so being around them, it's like I have less pressure."

Twenty-two-year-old Kai Gardizi echoed the focus on social connections and relationships with his roommates. "I can tell them what I've been going through, I can tell them what's been going on in my life and they will understand."

Gardizi has Lujan syndrome, a condition that usually includes intellectual disability and poor muscle tone. He hopes to study history, photography or music.



"I'm hoping to take some music classes and photography actually, and hopefully anthropology."

**SCHOLAR
KAI GARDIZI**

"I feel like I can actually make an impact on other people who are basically like me. I'm hoping to make this world a better place for people with disabilities and people without disabilities. It's about coming together."

The experience is also about life skills and independence. Some students mentioned laundry and making beds as new challenges.

"The toughest thing is I've been sleeping in a lot and I've actually missed a couple of classes," Ryan Fitch said. "Getting up is really tough." He admitted that he was learning how to manage his time. "One night I was working on my homework in the middle of the night."

"They're drinking coffee, taking naps and doing late-night Target runs — like other college students," said Jonathan Bystrynski, who teaches the self-regulation course. He's a clinical psychology postdoctoral fellow in developmental behavioral pediatrics at the MIND Institute researching intersections of trauma, disability and justice.

"The students have shown such creativity but also bravery, taking the plunge in this big unknown of college — and in a program that's very new. They've taught me new things about not only the content I teach, but also how I can be as an instructor. I feel indebted to the students for their work and for the future that they're going to push for."



"People with disabilities should be able to have the opportunity to take classes on a college campus. With us being the first program here, I feel like we are making history and I really like that."

**SCHOLAR
OLIVIA ADAMS-
FALCONER**

A system of peer support

The program team has built a broad support network, including about 40 peer mentors who tend to academic, social, residential, health and wellness needs. Mentors come from a variety of majors and from both the Sacramento and Davis campuses.

English major Elizabeth Twomey signed up to be a residential mentor after taking a seminar Foraker teaches about being an ally for individuals with intellectual disabilities.

"I want to go into education policy and improving education equity and things like that with my career," Twomey said.

Once in the morning and once in the evening, Twomey or another mentor come into each quad of students to check in. They may grab a meal, take a walk or just chat about how things are going. There are also regular social outings, like bowling, sporting events and crafts.

Twomey said the experience affected her deeply.

"It's really ignited a passion in me that I didn't really know was there," she said.



Cristina Riegos on the first day of her internship at Outdoor Adventures.

"Diversity, equity and inclusion needs to include all types of people, not just focus specifically on race or gender or anything like that, but also intellectual disabilities, physical disabilities, all of those things."

Developmental psychology doctoral student Tonya Piergies is a health and wellness mentor, meaning she meets with a different scholar each week for an activity and to chat about daily habits and how they can influence overall well-being.

"I've shared lovely moments with all the students!" she said, remembering one anecdote over a dorm dinner. A scholar asked to sit at a table with other UC Davis students unaffiliated with the program, and was instantly welcomed into their conversations — and also invited to a get-together later.

"The ease at which acceptance and integration were achieved in this moment exemplified that, when given the opportunity, the students do belong and can thrive at a higher education institution," Piergies said.

Systems change

For Foraker, this is just one example of what drives her. The growth and integration aren't limited to one program: They're systemic.

"All of these mentors will go into their future jobs and change the systems there," she said. "We have a second-year medical student who is a mentor. Imagine her as a doctor! Even the head of Picnic Day is a mentor, so imagine that event now through the lens of disability-forward thinking. There's a bus driver who's a mentor and a volleyball coach who wants all their players to take my mentor seminar. It just starts transforming systems, and that's how you become visible when you're currently invisible."

Self-regulation instructor Bystrynski agreed and pointed out that the program's impact goes far beyond direct benefits to the scholars themselves. "I believe the program's real power may be in teaching our systems to dispel the practice of underestimating and marginalizing the disability community."

Melissa Fitch, Ryan's mom, said she knows exactly how that works. Ryan went to a small neighborhood school and because he was outgoing, everyone knew him.

"He brought something to that school, that community, that nobody else ever could," she explained. "To have a kid with a disability be included and be just part of the community and just another kid on campus, he taught families and so many people about acceptance. Being included helps everybody."



"It feels to me that this program is like a family."

**SCHOLAR
CRISTINA RIEGOS**



"I see a very bright future and an expansion of post-secondary options, largely because of the level of support and excitement for the program that we've encountered from everyone at UC Davis."

**MIND INSTITUTE DIRECTOR
LEONARD ABBUDUTO**

Bittersweet summer

When we checked in with the program again in June, most scholars expressed bittersweet emotions about the end of the inaugural year.

"I have no words to be honest, because it's been a lot of fun and the year went by really fast and to be honest, I don't really want to go home," Adams-Falconer said.

For many, friendships and social connection were key to their happiness and success. "I'm going to miss the whole campus. I'm going to miss my friends, my dormmates and I'm going to miss my classes and my teachers," scholar Cristina Riegos said. "It feels to me that this program is like a family."

"It was really awesome to hang out with my friends and I love them so much," scholar Ryan Fitch said.

Fitch also noted that he had gotten a lot more comfortable living on his own. He said early in the school year it was sometimes hard to get up for class, but by the end it was no problem, just like household tasks. "I've been cleaning my room ... and I've been cleaning the common room and my desk," he said.

Like most parents who send their kids off to college, Ryan's family missed him this year. A few months before he started the program, his sister Jordan got a small tattoo on her right hand. It reads, "In the band."

Ryan chatted most days with his parents, and Melissa admitted during the year that she even missed hearing his drums. But she was glad to see him thriving: "happy, making friends, growing up and doing great!" she said.

You could say his "band" is getting a lot bigger.

Twelve new scholars join Redwood SEED this fall. Learn more at redwoodseed.ucdavis.edu.

‘We’re developing a new technological paradigm for surgical and interventional medical decision-making’



A prestigious \$6.3 million NIH grant is creating a new national center at UC Davis focused on light-based, AI technologies that could transform interventional health care.

A new center that stands to transform surgical procedures and brain monitoring on a national scale using light-based, artificial intelligence-informed technologies will soon be part of Aggie Square at UC Davis, thanks to a recent \$6.3 million P41 grant from NIH's National Institute of Biomedical Imaging and Bioengineering.

The National Center for Interventional Biophotonic Technologies, or NCIBT, will advance two optical imaging technologies developed at UC Davis – interventional fluorescence lifetime imaging, or iFLIM, and interferometric diffuse optical spectroscopy, or iDOS – and combine them with an AI-deep learning platform to provide real-time guidance of decision-making during medical and surgical procedures.

The center will support research and development, clinical application, and training and education of the new technologies and promote their adoption to improve the quality of interventional health care.

“We are developing a new technological paradigm for surgical and interventional medical decision-making,” said Laura Marcu, Ph.D., founding director of NCIBT and professor in the UC Davis College of Engineering's Department of Biomedical Engineering. “This technology will help surgeons and other physicians make decisions in real time by assessing the local tissue's constituents, physiology and pathology, and integrating this imaging data with preoperative and other intraoperative

imaging data and information from a patient's history, to optimize the procedure.”

The grant will also support the establishment of a physical center at UC Davis' Aggie Square. This will include state-

of-the-art laboratories, teaching space, learning centers and the organizational headquarters of the center's training and education programs.

“Aggie Square supports advancements of biomedical technologies and close collaborations among engineers, clinician-scientists and industry. These promote development of clinically useful tools and dissemination of these discoveries and tools through teaching, training and commercialization,” said Griff Harsh, M.D., professor and chair of neurological surgery at UC Davis Health,

are leaders in their fields, and promotes clinical collaborations for developing, testing and disseminating imaging technologies that will positively impact human health.

“Decision-making about how extensive surgery must be to completely remove tumors relies heavily on the surgeon's experience, and sometimes requires repetitive and time-consuming lab analysis of tissue around the cancer to make sure all the tumor is gone,” said David Lubarsky, M.D., M.B.A., F.A.S.A., CEO of UC Davis Health and a fellow of the American Society of Anesthesiologists. “This new national center will build on strengths unique to UC Davis' School of Medicine and College of Engineering, developing new optical tools to help surgeons everywhere more often provide complete cures for their patients.”

The scale and collaborative nature of the proposal led the team to enlist help from the Interdisciplinary Research and Strategic Initiatives division in the

AN ELITE COHORT OF TWO DOZEN U.S. INSTITUTIONS HAVE A P41 CENTER, INCLUDING STANFORD, JOHNS HOPKINS, MIT AND NYU.

and deputy director and training leader of NCIBT. “We believe that the NCIBT embodies the mission and vision of Aggie Square.”

NCIBT adds to the growing number of AI-based centers at UC Davis, including the AI Institute for Next Generation Food Systems, or AIFS, and Center for Data Science and Artificial Intelligence Research, or CeDAR.

Recognizes engineer leaders, clinical collaborators

The highly competitive P41 grant is one of the NIH-NIBIB's primary means for supporting the development and clinical application of very promising technologies in optical imaging and engineering. It recognizes the efforts and potential of highly productive teams of scientists who

UC Davis Office of Research in organizing the team and preparing a successful proposal. That support included hosting multiple workshops, coordinating collaborations with partner institutions, developing the proposal and preparing for the sponsor's site visit.

In being selected, UC Davis joins an elite cohort of two dozen institutions in the country with a P41 center, which are supported by the National Institute of Biomedical Imaging and Bioengineering, or NIBIB. Other universities include Stanford University, Johns Hopkins University, Massachusetts Institute of Technology and New York University School of Medicine. The P41 grant has an initial five-year term and is potentially renewable for a total of 15 years. These P41 grants historically have engendered

NCIBT founding director Laura Marcu, right, is a professor in the UC Davis College of Engineering's Department of Biomedical Engineering. NCIBT deputy director and training leader Griff Harsh, left, is a professor and chair of neurological surgery at UC Davis Health.

numerous other NIH grants for further development and applications of a center's technologies.

According to NIBIB Director Bruce J. Tromberg, the UC Davis P41 center has the potential to rapidly advance optical imaging technologies that use AI-informed instruments. Such technologies could have a significant impact on the management of common afflictions, including cancer, stroke, heart disease, trauma, infection and degenerative diseases. Tromberg also noted the center's opportunity to both collaborate on a wide range of research projects and eventually translate its discoveries into clinical applications.

"The NCIBT provides a unique opportunity, with its outstanding team of lead investigators at UC Davis and national network of engineers and clinician-scientists, to develop and validate a series of game-changing technologies, while expanding their use and impact through collaborative research, training and commercialization," Tromberg said. "This effort could bring about significant

CLINICAL APPLICATIONS INCLUDE IDENTIFICATION OF TISSUE TYPES DURING OPEN OR INTRAVASCULAR SURGERY, AND THE MEASUREMENT OF BRAIN BLOOD FLOW IN THE INTENSIVE CARE UNIT OR CLINIC.

improvements in patient outcomes, as well as improved access to life-saving surgical procedures."

How it works

The center's scientific focus is to integrate UC Davis' expertise in iFLIM, iDOS and AI to create state-of-the-art optical imaging instruments for tissue characterization during surgical procedures and monitoring of blood flow in a variety of medical conditions.

"We are bringing these three technologies together to develop a new generation of fiber-based, scalable and easily deployable optical devices," Marcu said. "They will interface with an analytical platform that will provide a surgeon or physician with instant information and analysis to guide clinical decision-making during the actual process."

Both imaging technologies are nonin-

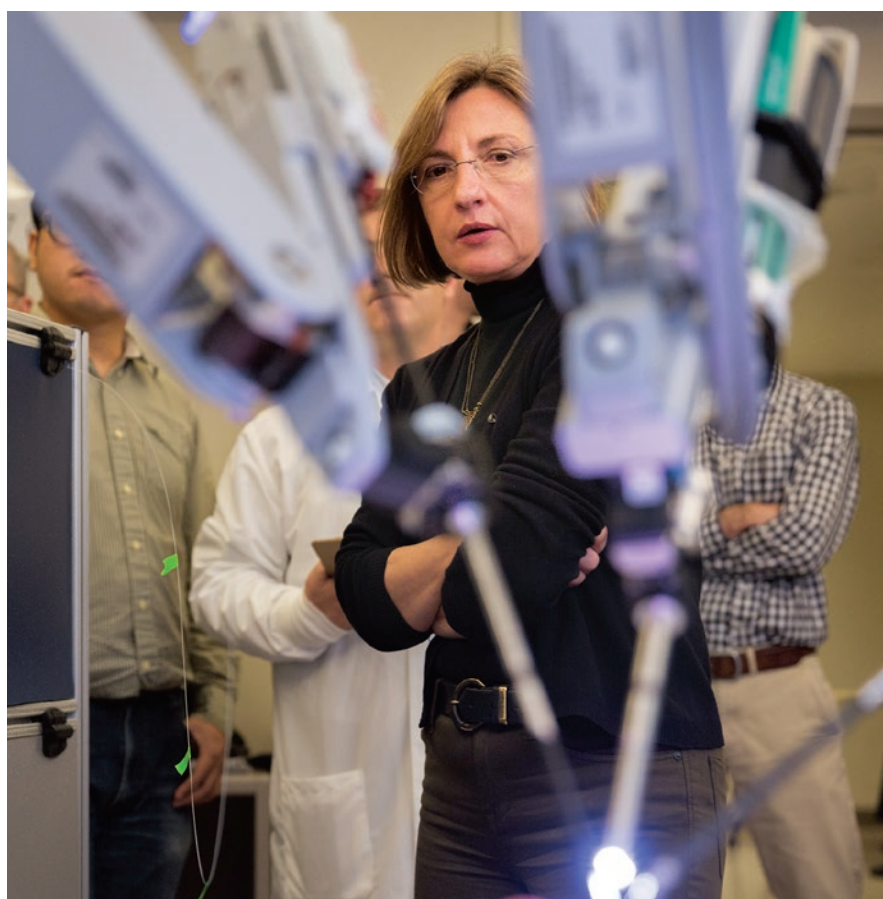
vasive and measure fluctuations in light emanating from tissues — meaning how light is diffused or absorbed or emitted by the tissue or cells. IFLIM, developed by Marcu's lab, uses light measurements through a hand-held, penlike diagnostic probe in an open or endoscopic procedure to determine the tissues' molecular constituents. This information helps determine the prevalence of healthy versus altered tissue.

IDOS, developed by Adjunct Professor of Biomedical Engineering at UC Davis Vivek Srinivasan, Ph.D., uses similar, light-based optical imaging that is able to penetrate the scalp and skull to determine brain blood flow.

This raw imaging data is then analyzed by deep learning algorithms, developed in the biomedical engineering lab of Professor Jinyi Qi, Ph.D., in collaboration with other experts in AI from CeDAR, to instantaneously provide information regarding tissue constituents, blood flow and metabolism.

The goal is to provide clinicians with imaging information, data analysis, easily interpretable image presentations and decision-making support in real time during an operation or patient monitoring. This information will then help guide the clinician toward choices that will improve patient outcomes. Clinical applications of this technology include identification of tissue types during open or intravascular surgery and the measurement of brain blood flow in the intensive care unit or clinic.

Laura Marcu is a longtime collaborator with UC Davis Health surgeons on noninvasive optical imaging instruments for tissue characterization during procedures. "We're bringing three technologies together to develop a new generation of fiber-based, scalable and easily deployable optical devices," through the new NIH center, she says.





“We believe that the NCIBT embodies the mission and vision of Aggie Square,” says Griff Harsh, deputy director and training leader of NCIBT and chair of neurological surgery at UC Davis Health.

“It is rewarding to see technologies developed in engineering labs go from bench to patient and, eventually through this center, from patient to population,” Marcu said, “and how engineering principles can provide pathways to create technologies and tools that can impact public health by improving patient outcomes.”

In addition to using machine-learning analysis to promote real-time decision-making, Marcu and the team are partnering with Professor Adyogan Ozcan of UCLA’s Department of Electrical and Computer Engineering to use AI to inform the holistic design of the optical instruments. AI will inform choices regarding the size, fidelity and sensitivity of the instrument to a tissue’s molecular features to optimize data collection and analysis.

Network of innovative, collaborative projects

Support of collaborative clinical projects that could benefit from NCIBT’s technology and expertise is an important aspect of NCIBT’s mission. To implement these projects, NCIBT’s leaders, with support from the UC Davis Office of Research, assembled a consortium of more than 60 research teams from throughout the country.

INITIALLY, 12 CLINICAL PROJECTS, LED BY PRINCIPAL INVESTIGATORS FROM 10 ACADEMIC RESEARCH INSTITUTIONS AND TWO COMPANIES, WILL BE CONDUCTED UNDER THE AUSPICES OF THE CENTER.

Initially, 12 clinical projects, led by principal investigators from 10 academic research institutions and two companies, will be conducted under the auspices of the center. Research projects include:

- definition of surgical margins of brain, breast, head and neck tumors;
- identification of tissue types during fetal repair of spina bifida or breast reconstruction after mastectomy;

- classification of types of retinal disease;
- guidance of intravascular procedures for coronary artery atherosclerosis; and
- measurement of brain blood flow during learning of new tasks, in Alzheimer’s disease, or after trauma or stroke.

NCIBT will also disseminate technologies throughout the University of California’s network of medical schools.

Educating others in these technologies and providing training in the use of the tools that incorporate the center’s technological advancements are also important components of the NCIBT’s mission, according to Harsh, who will lead the

NCIBT’s training and dissemination efforts with Randy Carney, Ph.D., an assistant professor in biomedical engineering. The center will host education and training programs, a biophotonic-focused weeklong workshop at UC Davis, and lectures and demonstrations at national scientific and medical meetings for engineers and clinicians who want to learn to use this new technology.

“Operating at the interface of engineering and medicine, we will train engineers — whether graduate students, postdoctoral fellows, or faculty investigators — to use these technologies in their own tool development, and we will train physicians — whether medical residents, clinician-scientists, or physicians in practice — in the clinical use of the tools developed,” Harsh said. “We are optimistic that, ultimately, patients will benefit.”

Research projects include:

- Definition of surgical margins of brain, breast, head and neck tumors;
- Identification of tissue types during fetal repair of spina bifida or breast reconstruction after mastectomy;
- Classification of types of retinal disease;
- Guidance of intravascular procedures for coronary artery atherosclerosis; and
- Measurement of brain blood flow during learning of new tasks, in Alzheimer’s disease, or after trauma or stroke.



Meet Susan Murin

Murin at a 2019 meeting of UC Davis Health's National Board of Advisors, a group of leaders in medicine, government, business and other fields who advise UC Davis leadership and serve as advocates and ambassadors. Before becoming interim dean, Murin most recently served as Vice Dean for Clinical Affairs, Executive Director of the UC Davis Medical Group, and Associate Clinical Strategy Officer.

The longtime UC Davis Health leader has hit the ground running as interim dean of the nationally ranked UC Davis School of Medicine — and is working to position her permanent successor to do the same.

“Susan Murin’s experience and background is what we need right now to continue our forward momentum into the coming year and beyond,” UC Davis Health CEO David Lubarsky, M.D., M.B.A., F.A.S.A., said upon her appointment last November as interim dean of the UC Davis School of Medicine.

Murin (M.D., M.Sc., M.B.A.) is leading the nationally ranked school’s education, research, clinical care, and community partnership missions during the long-term search for a permanent dean, and recently oversaw successful full reaccreditation from the Liaison Committee on Medical Education (LCME) this past spring.

She succeeds former dean Allison Brashear, who accepted a position as Vice President for Health Sciences and Dean of the Jacobs School of Medicine and Biomedical Sciences at the University at Buffalo, New York.

Murin has held numerous leadership positions throughout her 27-year tenure at UC Davis Health. She most recently served as Vice Dean for Clinical Affairs, Executive Director of the UC Davis Medical Group, and Associate Clinical Strategy Officer. She previously served as Chief of the Division of Pulmonary, Critical Care and Sleep Medicine, Vice Chair for Clinical Affairs and Executive Vice Chair of Internal Medicine, and Chief of the Medical Staff at UC Davis.

Murin is a first-generation college graduate herself and brings an understanding of what many UC Davis School of Medicine students might be facing. She received her undergraduate degree from Rutgers University and completed her medical degree at New York University School of Medicine. She completed her residency in Internal Medicine at NYU-Bellevue and fellowship in Pulmonary and Critical Care Medicine at Yale University/Yale-New Haven Hospital. She subsequently received an M.Sc. in Clinical Epidemiology from the Harvard School of Public Health and an M.B.A. from the UC Davis Graduate School of Management.

Following her clinical training, Murin served as an officer in the U.S. Air Force Medical Corps. She has been repeatedly named to Best Doctors lists both regionally and nationally, while practicing and teaching at both UC Davis and the Sacramento VA Hospital. Her research has focused on two areas: epidemiology of venous thromboembolism, and the effects of smoking on the natural history of breast cancer.

She has a long history of service and national leadership in professional societies and was recently deputy editor of *CHEST*, a leading respiratory journal.

Susan Murin has held numerous leadership positions across her 27-year tenure at UC Davis Health, and brings rich experience to her current service as interim dean of the School of Medicine.

You’ve been part of the UC Davis School of Medicine for 27 years. How has the school and its community changed compared to when you joined?

Our size and scale are the most obvious changes. This actually felt like a pretty small place 27 years ago, where most faculty knew one another. And over time we’ve grown considerably across all of our mission areas. Our faculty, clinical infrastructure, and our class sizes are much larger in the School of Medicine. We used to be a pretty isolated “island” here, and over time we’ve really expanded to provide clinical services in a much, much broader space, where we can bring our care out to the community in ways that are helpful to our patients.

We have also really evolved as a major research institution. We are a relatively young medical school, founded with the goal of training primary care physicians. While we have done that, continue to do that and are nationally ranked because of

that, we’ve really gone beyond that and continue to grow and evolve into a research powerhouse. I think we are fully capable of leading the nation in both primary care and research, and I see that as our future.

Can you describe the current trajectory and position of the School of Medicine and UC Davis Health? It seems like a time of tremendous innovation and growth.

(UC Davis Health CEO) David Lubarsky’s leadership has been really transformative. I think it has changed us from more of an inward focus to more of an external focus, with an emphasis on partnerships and really fulfilling our role in the broader community as an anchor institution. We’re not just a school of medicine, we’re not just a hospital, we are a crucial fixture in our community, and I think we’ve seen that more and more over the last several years.

Meet Susan Murin

What do you hope to do to help pave the way for the next dean to achieve success from the start, and continue our trajectory?

We have to set the stage for the permanent dean who will want to come here and stay here for a long time, so part of my job is to continue advancing our many strengths in innovative education, research, clinical care, and community partnerships that create an attractive environment for the right candidate.

As interim dean, what are some of your key goals and priorities?

Certainly one of my first priorities has been a successful accreditation visit this spring from the Liaison Committee on Medical Education (LCME), and our full accreditation for eight years. We were extremely proud to showcase our many strengths and have them recognized by the LCME with the highest level of accreditation possible. It's very difficult to reach that plane, and not everyone makes it, but we did. The entire community came together to showcase the School of Medicine.

We also are focused on continuing to build upon our research excellence. For fiscal year 2021–22 we received a record \$396 million in external research funding, and we also achieved record-high NIH funding. Our vice dean for research, Kim E. Barrett, Ph.D., joined us last fall and has been helping to drive expansion of our research footprint.

Our main goal and priority is the implementation of the strategic plan that our School of Medicine community developed. That really is our road map for the next five years. It's important to note that it's not the dean's strategic plan, and they're not the dean's goals and priorities. These are the goals and priorities of the organization, developed by the constituents within our school and UC Davis Health. Our people have told us where they want to go — our priority now is to develop the strategies and tactics to get us there.

Murin participated with other School of Medicine faculty, staff, trainees and students in Habitat for Humanity of Greater Sacramento's 2022 Build for Unity event, where volunteers from the Sacramento area's interfaith community helped with construction for the nonprofit housing organization. "I'm so proud to see us engaged with Habitat for Humanity, because it's a very tangible expression of our values and our commitment to our community and the underserved," she said. "This event was especially meaningful because it emphasized unity within the broader community — people from all faiths and backgrounds working together for the greater good."



The School of Medicine is currently implementing that multi-year strategic plan. What are some focus areas you'd highlight?

In terms of education, we are in the midst of transformation. Our class size is growing, we have implemented a new curriculum, and we continue to develop innovative pathways to recruit and support individuals to meet the health care needs of our diverse communities in California. Our evolution has led us to become the third most diverse medical school in the country, an evolution that's taken almost two decades to achieve. Most recently we launched a pathway from community college to medical school, called Avenue M, which I think is really exciting.

Our strategic plan aligns closely with plans from the health system and the School of Nursing. We're working with the hospital and the broader enterprise to build out the clinical services needed in our region, trying to deliver those services as close to our patients as possible, and serve as broad a community as possible. The interplay with the School of Nursing's plan also reflects our longstanding partnership and commitment to multidisciplinary team-based learning.

In the area of community, we are really embracing being an anchor institution. One definition describes anchor institutions as "place-based, mission-driven entities that leverage their economic power alongside their human and intellectual resources to improve the long-term health and social welfare of their communities." That is something we are very much doing right now. While we were a bit of an island in the past, under Dr. Lubarsky's leadership we've really leaned into our mission to elevate the entire community, not just in health care but economically and in other ways.

And we want to continue our upward trajectory in research, which we will do with Dr. Barrett's leadership and that of her associate deans and our outstanding research faculty.

What do you find inspiring about the School of Medicine, and its students and community?

The individual stories of our students are so inspiring. Many have come here from less-traditional pathways. They've had further to travel to get here. Many are first-generation college students. So to make it to medical school, to thrive in medical school and then to go on and serve our communities, that to me is profoundly inspiring. The more I meet our individual students and hear their stories and aspirations, the more inspired I am to be here.



Murin at a ribbon cutting for the WellSpace Health care transitions center in Sacramento, where people experiencing homelessness recover from illness after discharge from area hospitals. UC Davis Health provides meals for residents at the facility. "We've really leaned into our mission to elevate the entire community, not just in health care but economically and in other ways," Murin said.

I also find the sense of commitment here inspiring. We have faculty who have served as long as 50 years. We have a great retention of faculty. People come here and they love it. They're very committed to the organization. Being a part of a community like that is pretty special.

And watching us grow — it's so tangible when you look around the campus and see all of the construction cranes. It's an inspiring reminder of our evolution and stability as an organization. I tell people that even though I'll probably retire in a few years, I'm not going anywhere. I plan to stay in Sacramento and get my health care at UC Davis for the rest of my life. Having the organization maintain its excellence and improving our ability to meet the needs of the region is very personal for me. My grandkids get their care here. This is the culmination of work we've been doing for so long — it's all coming to fruition right now.

You served as an officer in the U.S. Air Force Medical Corps — how has that influenced your career and leadership style?

The military is great at teaching leadership and allowing you to put leadership skills into practice far earlier in your career than in the private sector. So even as a very young Air Force physician, I was put in charge of programs and units and made to lead. I gained valuable experience that stays with me to this day. I had some amazing leaders and bosses in the military who modeled excellent leadership, and I benefitted from that. My direct boss for most of my career here was (UC Davis Health internal medicine chair) Timothy Albertson, who has led as a general in our military reserves. We have that shared military background and he's an exemplary leader. I have learned a lot from him over the years. The military teaches you discipline, and service of something larger than self, and that really influences me. Both of my parents were in the Air Force, and met there, so I have a family history as well!

'Firearm violence is pre



Gun violence is squarely back in the national spotlight, and so are the findings of UC Davis' unique Violence Prevention Research Program.

Whether the topic is highly publicized mass shootings like this summer's tragedies in Uvalde and Buffalo, or the more silent but ongoing epidemic of suicides involving guns, research and context from the UC Davis Violence Prevention Research Program (VPRP) continues to inform national debate and public policy responses around the prevention of firearm violence.

In one example, in July the California Governor's Office of Emergency Services announced \$11 million in new community partnerships that are intended to expand outreach and education about the use of Gun Violence Restraining Orders (GVROs) — commonly known as “red flag laws” — to families, schools and communities most at risk for gun violence. The governor's press release pointed directly to two VPRP studies illustrating how most Californians don't know about red flag laws in the first place.

“Last year, the Violence Prevention Research Program at UC Davis Health released a study highlighting the need for increased public support and awareness about Gun Violence Restraining Orders,” the governor's statement read. “They empower loved ones, or law enforcement, to intervene and temporarily prevent someone in crisis from accessing firearms.”

The VPRP study, published in June 2021 in *JAMA Health Forum*, found that although GVROs have been available in California for five years, two-thirds of the Califor-

preventable, not inevitable'

nians surveyed for the study had never heard of them. However, more than 80% of respondents said they would be somewhat or very willing to ask a judge to issue a GVRO if a family member had threatened to physically hurt themselves, someone else, or a group of people.

"Firearm violence is preventable, not inevitable," said lead author Nicole Kravitz-Wirtz, Ph.D., M.P.H., an assistant professor affiliated with VPRP. "Raising public awareness about proactive ways for people to intervene can be crucial for preventing violence before it occurs."

The Governor's release also cited another VPRP study that examines case details and mortality records from the first three years of California's GVRO law. That research, published this June, noted that the law was utilized for 58 threatened mass shootings (see sidebar page 33).

Contributing to federal policymaking

This April, VPRP researcher and assistant professor Shani Buggs, Ph.D., M.P.H., was in attendance at a White House event where President Joe Biden announced a new rule to crack down on "ghost guns" and ban the manufacturing of untraceable firearms.

Buggs, whose work focuses on comprehensive approaches to reducing community violence, attended as a representative of the Fund Peace coalition, made up of violence prevention experts, program leaders, advocates and gun violence survi-

vors. The group has provided ongoing consultation to the White House Domestic Policy Council, the White House Office of Public Engagement, and the U.S. House of Representatives Gun Violence Prevention Task Force about the need to invest in community violence prevention efforts.

"Weapons that are unserialized, untraceable and easy to manufacture from parts sold freely on the internet should be of grave concern to everyone," Buggs said.

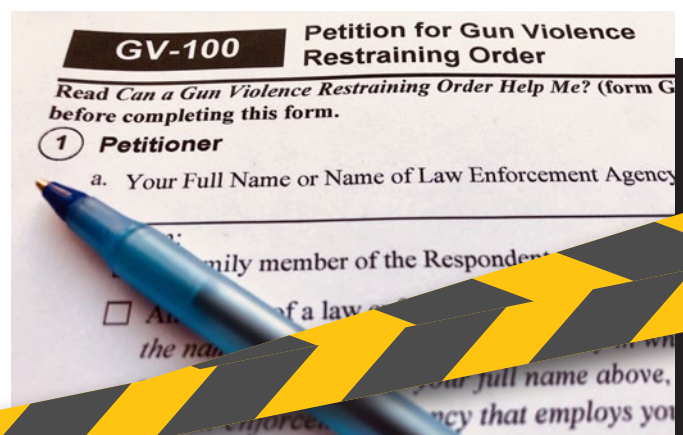
Among other requirements, the new federal rule bans manufacturing of the most accessible ghost guns, such as unserialized "buy build shoot" kits. Individuals can buy these online or at a store without a background check, the White House noted, and readily assemble a working firearm in as little as 30 minutes. The rule also requires federally licensed dealers and gunsmiths taking any unserialized firearms into their inventory to serialize the weapons.

Research on ghost guns by Garen Wintemute, M.D., M.P.H., director of VPRP and the California Firearm Violence Research Center at UC Davis and a physician in UC Davis Medical Center's emergency department, was

used by the administration to help outline these new rules curbing their sale and use.

In an April 2021 commentary published in the journal *Injury Epidemiology*, Wintemute highlighted the problem. "Off-the-books, untraceable 'ghost guns' can now be manufactured at home, easily, and in large numbers; they contribute ever more frequently to firearm violence, including hate violence and domestic terrorism," the abstract read. "The Bureau of Alcohol, Tobacco, Firearms and Explosives estimates that in 2019 alone, law enforcement agencies recovered more than 10,000 ghost guns."

The manuscript describes the current situation and suggests specific actions that state and federal governments can take to avert disaster, such as prohibitions on unlicensed manufacture of firearms, and the application of purchase restrictions for fully functional firearms to firearm precursors as well.



Snapshots: So

Informing national discussion

VPRP research and expertise has also been in heavy demand by news outlets to help inform public knowledge and debate about gun violence.

After the tragic shooting in Uvalde, program researchers were interviewed by dozens of print, TV and radio outlets — from the *New York Times* to *Reader's Digest* — and participated in town halls and podcasts. Collectively, media coverage of VPRP reached tens of millions of viewers, listeners and readers.

In June, VPRP issued a memo featuring program research explaining what is currently known about mass shootings, how extreme risk protection orders (ERPOs) work, and their effectiveness in preventing harm to others and self-harm. Also in June, Wintemute joined Amy Barnhorst, M.D., BulletPoints director and vice chair for clinical services in the UC Davis Department of Psychiatry, in penning an op-ed, “We see it firsthand: red flag laws save lives” in *The Hill*. In July, researcher Veronica Pear, Ph.D., M.P.H., M.A., an assistant professor in UC Davis Health’s Department of Emergency Medicine, published an op-ed, “Here’s how to make red-flag laws most effective against gun violence” in the *Washington Post*.

California's 'red flag' law utilized for 58 threatened mass shootings



A VPRP study published this June examined case details and mortality records from the first three years of California’s GVRO or “red flag” law, which went into effect on January 1, 2016.

The law allows law enforcement, family and household members, some co-workers, employers and teachers to work with a

judge to temporarily remove access to firearms and ammunition from people at significant risk of harming themselves or others.

“Extreme risk protection orders, or GVROs, offer a common sense, popular, and promising tool for firearm violence prevention,” said Pear, the study’s lead author. “The findings suggest GVROs are being used as intended — to remove firearms from individuals threatening to harm themselves, their intimate partners, co-workers, classmates or the general public.”

The research, published in *Injury Prevention*, shows:

- GVROs were used most often by law enforcement officers to prevent firearm assault and homicide. About 80% of GVROs were used in cases of threatened interpersonal violence.
- Mass shooting threats occurred in almost 30% (58 cases) of all GVROs during this period. Six cases involved minors, all of whom targeted schools.
- Among the individuals who had firearms temporarily removed with a restraining order, almost 30% had an assault-type weapon such as an AR or AK-style rifle.
- GVROs were also shown to potentially be effective in preventing self-harm, which was threatened in about 40% of the cases. No suicides occurred among individuals subject to the restraining orders.

Many acts of firearm violence are preceded by implicit or explicit threats, including two-thirds of public mass violence. Despite these warning signs, law enforcement officers in most states cannot remove firearms from individuals at risk of violence who aren’t already prohibited from possessing firearms. California’s GVRO law was created to fill this legal gap.

Additional authors: Wintemute, Rocco Pallin, Julia Schleimer, Elizabeth Tomsich, Kravitz-Wirtz, and Aaron Shev from VPRP, and Christopher Knoepke from the University of Colorado School of Medicine.



Robb Elementary School in quieter times

Photo: Don Holloway, courtesy of flickr.com

Some recent VPRP research

Machine learning identifies gun buyers at risk of suicide



A first-of-its-kind VPRP study published in July suggests that machine learning, a type of artificial intelligence, may help identify handgun purchasers at high risk of suicide. It also identified individual and community characteristics predictive of firearm suicide. The study was published in *JAMA Network Open*.

Almost 48,000 Americans died by suicide in 2020, of which more than 24,000 were firearm suicides. Previous research has shown the risk of suicide is particularly high immediately after purchase, suggesting that acquisition itself is an indicator of elevated suicide risk. Other risk factors identified by the machine learning algorithm to be predictive of firearm suicide included:

- older age
- first-time firearm purchaser
- white race
- living in close proximity to the gun dealer
- purchasing a revolver

“While limiting access to firearms among individuals at increased risk for suicide presents a critical opportunity to save lives, accurately identifying those at risk remains a key challenge,” said Hannah Laqueur, Ph.D., M.P.A., M.S., lead author of the study and an assistant professor in the Department of Emergency Medicine. “Our results suggest the potential utility of handgun records in identifying high-risk individuals to aid suicide prevention.”

To see if an algorithm could identify gun purchasers at risk of firearm suicide, researchers examined data from almost 5 million transactions from the California Dealer Record of Sale database — representing almost 2 million individuals — as well as California death records.

The researchers caution that the study was largely “proof of concept.” Still, the results suggest the potential of utilizing handgun records in identifying high-risk individuals to aid suicide prevention. They also noted that many firearm suicides occurred among individuals classified as “low-risk,” so other forms of intervention would be necessary in this group.

Additional authors: Colette Smirniotis, Christopher McCort and Wintemute.

New, free course to help health care providers reduce gun violence



The BulletPoints Project at UC Davis Health has launched a free online continuing education course to help physicians and other health care providers reduce gun violence. Although it’s geared for clinicians, anyone can sign up.

The training shows how to have conversations with patients who have access to firearms and may be at risk of interpersonal violence, suicide, or unintentional injury. It also teaches participants how to intervene according to the type and level of risk of firearm violence.

“Clinicians play an important role in shaping public perceptions about safety and injury prevention,” said Barnhorst, the BulletPoints director. “The same way a health care provider might ask a patient about smoking cigarettes, or a pediatrician might ask about car seats, they can also talk to their patients about firearms in a non-partisan, non-judgmental way.”

The course, “Preventing Firearm Injury: What Clinicians Can Do,” features different scenarios where a patient may be at risk of firearm violence, including suicide, dementia, intimate partner violence, mass shootings and unintentional injury. Clinicians are introduced to the “3A’s Framework” and are walked through scenarios while learning about how to apply the framework and intervention resources, as well as how to talk about risks and interventions in culturally and politically neutral ways.

The course takes about an hour, and can count for one Continuing Medical Education (CME) through the California Medical Association or one Continuing Education (CE) credit through the American Psychological Association. To earn credit, participants must complete all activities, pass a quiz, and complete an unscored evaluation.

» Learn more

Course info:
continuingeducation.bulletpointsproject.org/courses/preventing-firearm-injury

BulletPoints website:
bulletpointsproject.org



Avenue M seeks to boost number of doctors in rural areas

UC Davis creates new pathway to medical school that starts in community college

UC Davis has received a \$1.8 million grant to create a robust pre-med pathway for rural college students. It's the university's latest initiative to boost the number of primary care physicians in underserved parts of Northern California.

The new pathway, known as Avenue M (the M is for Medicine) will identify community college students interested in studying health sciences. Staff will provide academic support, ensure students' seamless transfer to any of three participating four-year colleges, then steer them toward the UC Davis School of Medicine.

Avenue M is the newest pathway developed by UC Davis in response to the shortage of primary care physicians in rural, medically underserved areas of California, most of which are challenged by health disparities.

"The new Avenue M program is critical for students who have the aptitude and desire to enter the medical fields yet may not have believed attainment was within their reach," said UC Davis Provost Mary S. Croughan. "Like its predecessors Avenue E and Avenue B, which focus on engineering and biological science respectively, Avenue M will help us better fulfill our commitment to serve students from all backgrounds as well as our region as a whole."

The three-year grant was awarded through state legislation to the Foundation for California Community Colleges under its California Medicine effort, a coalition of educational leaders, medical providers, elected officials and others committed to producing a diverse physician workforce to advance health equity. The foundation extended the award to UC Davis and three other institutions that will work with partner community colleges to establish Hubs of Healthcare Opportunity: UC Riverside, UCSF-Fresno and UC San Diego.

Avenue M is part of a collaboration with the School of Medicine, the

UC Davis STEM Strategies group, Sacramento State University, Cal Poly Humboldt and Kaiser Permanente Northern California. It also includes other medical and health serving organizations creating an ecosystem of more than 20 community colleges in 14 California counties that feed into the universities. Community college districts are Los Rios, Sierra, Solano, Yuba, Redwoods, Siskiyou, Mendocino, California Tribal College and Shasta-Tehama-Trinity.

"The new Avenue M program is critical for students who have the aptitude and desire to enter the medical fields yet may not have believed attainment was within their reach."

UC DAVIS PROVOST
MARY S. CROUGHAN

Targeting rural, medically underserved areas

The initiative places an emphasis on drawing students from certain underserved regions, such as rural Northern California, in hopes they will return to those areas as primary care physicians. Ample evidence shows that an effective way to produce doctors to practice in rural, medically underserved regions is to recruit and train students who have deep ties to those communities or completed residency there.

The School of Medicine's Center for a Diverse Healthcare Workforce has researched the critical role of community colleges in the academic pathway of primary care physicians. A recent national study of family medicine found that 51% of Latino and 33% of Black or African American residency trainees attended community college.

The School of Medicine has launched numerous initiatives over the past 15 years to improve the health of California's diverse population, especially in areas where there's a shortage of doctors, through its Community Health Scholars (CHS) pathways like the REACH program (see page 36). In addition, the school was among the nation's first to adopt holistic admissions practices which prioritize multiple factors beyond a student's test scores, including their journey getting to and through college.

"UC Davis School of Medicine is a nationally recognized leader in training the next generation of diverse physicians who will help solve California's health challenges," said Susan Murin, the school's interim dean. "The Avenue M collaborative is an exciting new way we are partnering to advance health equity and significantly improve the health of diverse communities statewide."

Will likely improve student diversity

The CHS pathways and holistic admissions have also significantly boosted the number of students from backgrounds underrepresented in medicine. The

"By strengthening relationships across education, clinical, and research sectors, Avenue M disrupts the dominant culture and reduces barriers to entry to medical and health care careers."

CHARLENE GREEN, SCHOOL OF MEDICINE DIRECTOR OF OUTREACH, RECRUITMENT AND RETENTION AND AVENUE M PRINCIPAL INVESTIGATOR

school recently ranked No. 3 in diversity for medical schools nationally, according to *U.S. News & World Report*.

UC Davis is an ideal fit for Avenue M because of its extensive experience in community college partnerships, said Beth Broome, senior advisor to the provost and head of UC Davis STEM Strategies.

Broome's office was instrumental in establishing the university's Avenue B and Avenue E pathways.

UC Davis also has a long track record of opening its doors to community college students — 21% of the students admitted to the fall 2021 term were transfer students. In addition, 42% of UC Davis undergraduates are first-generation college students. Students from such backgrounds are more likely to be primary care doctors, according to UC Davis medical school leaders.

Avenue M will soon hire staff and begin outreach at community colleges from Sacramento to the Oregon border. The first cohort of 50 students is expected to join in early 2023 and transfer to UC Davis, Sacramento State or Cal Poly Humboldt within two years of enrollment, a much quicker timetable than the average community college student. Each year, another 50 students will join the initiative.

Providing critical support to students

Students will receive financial support and access to mentors, networking and academic resources if needed. Once at the four-year university, they will continue to receive support, including advising and cohort meetings, tutoring, wrap-around services, and test prep skills. Students will also have opportu-

nities to shadow health professionals at Kaiser Permanente.

"Building and diversifying the health care workforce is a common goal we share with UC Davis," said Roderick Vitangcol, physician-in-chief, Kaiser Permanente Sacramento. "Avenue M will provide new opportunities and experiences for students from backgrounds that are currently underrepresented in health care, and it will help Northern California health care providers meet the needs of our increasingly diverse communities."

If scholars decide they no longer wish to pursue medicine, Avenue M will provide off-ramps to other allied health careers, ensuring successful career trajectories for all cohort members while increasing the regional health professions workforce.

One of the highlights of Avenue M is how it will bolster diverse STEM talent from underrepresented and historically excluded backgrounds throughout Northern California, said Charlene Green, director of outreach, recruitment and retention for the School of Medicine and principal investigator on the grant.

"By strengthening relationships across education, clinical, and research sectors, Avenue M disrupts the dominant culture and reduces barriers to entry to medical and health care careers," she said.

The co-principal investigator is Tonya Fancher, associate dean workforce innovation and education quality and director for the Center for a Diverse Healthcare Workforce at UC Davis.

» Learn more

Email UC Davis STEM Strategies at stemstrategies@ucdavis.edu.



UC Davis medical students move to Modesto to provide care, improve health equity



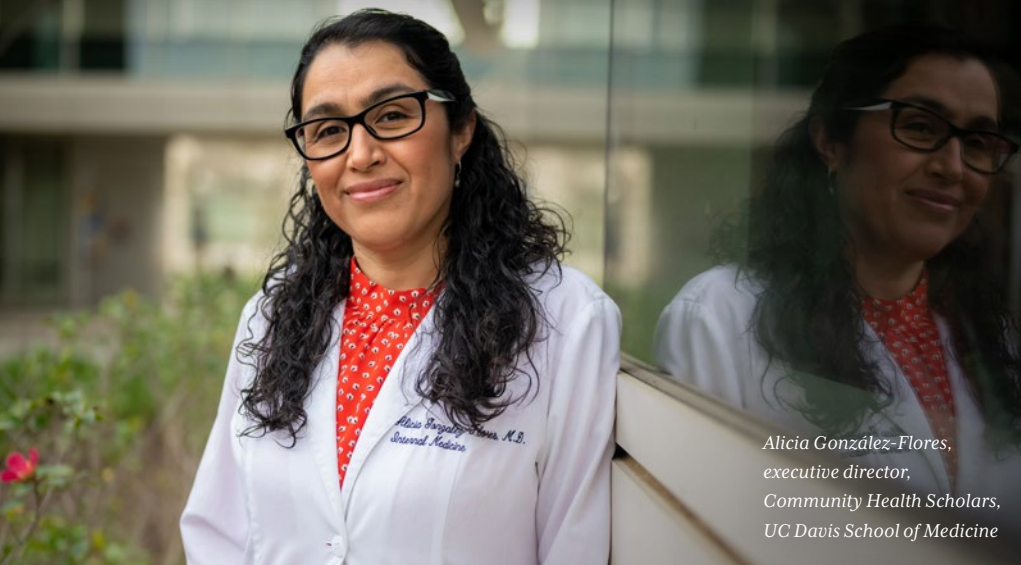
REACH pathway launches year-long clinical training experiences in partnership with Kaiser Permanente

The UC Davis School of Medicine is transforming health care for the Central Valley.

A group of seven students has relocated to Modesto for an entire school year as part of a new initiative to bring better health to a region that is medically underserved, short on doctors and struggling with health disparities.

The students care for patients at hospitals and outpatient clinics under the direction of Kaiser Permanente physicians who are also committed to improving health equity. The Central Valley clinical experience, a new requirement of the REACH pathway, happens during the third year of medical school, a time when most students are serving at hospitals in Sacramento. REACH stands for Reimagining Education to Advance Central California Health.

“It makes a big difference to put students back in their community for their clinical training,” said Alicia González-Flores, M.D., a UC Davis Health internal medicine physician who moved to the Central Valley from Mexico as a teenager and now leads the medical school’s pathway initiatives.



“It makes a big difference to put students back in their community for their clinical training... This program allows our students to continue making connections and strengthening the community bonds that will motivate them to go back and practice medicine in the San Joaquin Valley.”

ALICIA GONZÁLEZ-FLORES,
EXECUTIVE DIRECTOR,
COMMUNITY HEALTH SCHOLARS,
UC DAVIS SCHOOL OF MEDICINE

The students also have roots in the Central Valley — and are thus eager to practice medicine there.

“This program allows our students to continue making connections and strengthening the community bonds that will motivate them to go back and practice medicine in the San Joaquin Valley,” González-Flores added.

Last academic year marked the first in which a cohort of UC Davis students lived and trained entirely in the Modesto area.

Training near the neighborhood where he was raised

Benjamin Vincent, a REACH student, likes to peer through the large windows on the fourth floor of Kaiser Permanente Modesto Medical Center to spot the neighborhood where he and his two brothers were raised. The house is just across Highway 99 in Salida, a Stanislaus County community of about 14,000 people and bountiful almond orchards.

“It still, at its core, has a small-town feel,” Vincent said. “If you ever watched Cheers, it’s an everybody-knows-your-name type of place.”

Now he’s back living at that house in his old upstairs bedroom, down the hallway from his parents’ bedroom, with his wife Jacqueline who is six months pregnant with their first child.

Vincent can’t wait to return to the area permanently. “To be able to come back

home and do what I’m passionate about with people in our community, it’s just very, very fulfilling and seems like a calling,” he said.

During his first two years of medical school, Vincent attended lectures and laboratory science classes, and lived near the UC Davis Health campus in Sacramento. Now he spends full days at the Modesto hospital. Under the guidance of a Kaiser Permanente physician preceptor, he cares for patients in a different clinical area every six weeks in a role similar to that of a resident physician.

One of the highlights is bonding with patients, which is easier when the provider is from the area and can relate to anything from local politics to traffic tangles. Studies show that patients who have positive, trusting relationships with their primary care providers tend to have better health outcomes. In rural areas, however, many new doctors don’t stick around. Instead they move to larger cities with better salaries to pay down their student loans.

Vincent, who moved to Salida in May, tells of a patient during his family medicine rotation who asked the aspiring doctor, “So, where are you going to go after this?” Vincent’s response: “Well, I was born here, and hopefully I get to come back.” The answer prompted the patient to smile enthusiastically.

Vincent was touched, too, as he heard himself speak about his future career. “I was grinning from ear to ear,” he said. “You know, it kind of sent chills down my spine because not many people get to have a dream and have it become a reality.”

There’s value in being a local doctor, Vincent said. “To know that there’s not only just a patient, but an entire community that really believes in you, and wants you there, and is happy to have you there, that really just means a lot.”

A solution to the Central Valley’s provider shortage

A long-established goal of the UC Davis School of Medicine is to train physicians for practice in diverse communities

where they are most needed to bridge California's health equity gap.

The San Joaquin Valley, from about Lodi to Bakersfield, has faced a physician shortage for decades, in part because there's no medical school in the region, despite efforts to open one at UC Merced. Research shows that most doctors start their careers in or near the area where they trained as residents.

However, there's also a lack of residency programs in the Central Valley. UC Davis uses REACH to expose medical students to community-based clinical experiences early in their education.

It wasn't the medical school's first foray into medical education in the center of the state. In 2011, UC Davis, in partnership with UC Merced and UC San Francisco, launched San Joaquin Valley (SJV)-PRIME, a pathway for students hoping to practice medicine in the valley. The program educated students in Sacramento, then moved them to Fresno for their final two clinical years, resulting in greater numbers of UC Davis graduates returning to pursue residency training and practice in the region. But in 2018, the UC Regents decided to transfer SJV-PRIME to UCSF, which prompted UC Davis to start REACH that same year.

The highlight of REACH is the partnership between UC Davis School of Medicine and Kaiser Permanente. It provides the students robust clinical experience within the largest integrated health system in California, which lately has focused greater attention on reaching underserved communities. Kaiser Permanente's Central Valley Service Area includes Modesto Medical Center, Manteca Medical Center, and medical offices within Stanislaus and San Joaquin counties.

By introducing students to its hospitals and clinics, Kaiser Permanente also sets itself up as a potential workplace for the students once they graduate and complete their residencies.

"It's very clear that UC Davis has an exceptional reputation for developing amazing physicians and learners," said

Sanjay Marwaha, M.D., the physician-in-chief for Kaiser Permanente Central Valley. "We wanted to partner with this incredible organization to help develop future physicians, consistent with UC Davis and Kaiser Permanente's focus on improving the health and welfare of the communities in which we serve."

The valley, Marwaha said, has approximately 45 physicians to every 100,000 residents, while the Bay Area's average physician-to-patient ratio is nearly 70 to 100,000. "Those numbers are staggering, and they haven't changed probably in about 20 years," he said. "We have a lot of work to do to build up our health care workforce here in the San Joaquin Valley, in the Central Valley."

The partnership, he said, brings tremendous benefits to both UC Davis and Kaiser Permanente.

"It's actually a two-way street where we can provide medical knowledge, information and teaching, and expose them to a vast array of pathology which they may not see in their home institution."

Drawing students who are already connected to the area also helps them to develop relationships with patients. "They understand the community, they know the community," Marwaha said. "So here they have an opportunity to give back to their families and friends and loved ones."

A student eager to break down barriers to care

Najiba Afzal, a REACH student who immigrated with her family to Manteca from Afghanistan when she was five, has personal experience with the health equity gap. Her parents lacked English fluency and didn't have much rapport with their doctors.

She often had to translate for her Pashto-speaking parents at their medical appointments, which made her feel awkward.

Afzal graduated from Stanislaus State University in Turlock. She initially encountered resistance from men in her family when she expressed interest in becoming a physician — because it's more

culturally acceptable to be a stay-home wife and mother, she said. But she now looks forward to a medical career near her hometown to serve the growing population of Afghan refugees facing challenges with the new language, culture and access to quality care.

"I can be that person to help somebody when they're struggling, not only because they need health care, but also because I'm able to understand them based on our culture," she said, "and I love that."

Afzal is amazed by the breadth of her clinical rotations at Kaiser Permanente. One of her physician mentors allowed

"I can be that person to help somebody when they're struggling, not only because they need health care, but also because I'm able to understand them based on our culture."

REACH STUDENT NAJIBA AFZAL

her to place an umbilical vein catheter into a newborn, a procedure more commonly offered to an experienced resident.

The director of medical education for Kaiser Permanente Central Valley, Howard Young, M.D., said the partnership with UC Davis is successful because of the common values held by both organizations.

"UC Davis and Kaiser Permanente share very similar missions and visions of not just serving our communities but also helping improve the health of our communities."

He added: "And what better way of doing that than by sharing our collective educational knowledge and educational learning experiences to create an incredible learning environment for our students."

Together again

New School of Medicine alumni liaison



Lisa Dicce is joining UC Davis Health Sciences Development and Alumni Relations as the new Director of Alumni Engagement for the

School of Medicine. Dicce (pronounced “deechay”) previously served as Director of Alumni Engagement at Brooklyn College in Brooklyn, NY, a position she held since 2016. Although she has lived in New York since 2004, she’s originally from California and delighted to be moving home to work for her mother’s alma mater. Dicce begins work with UC Davis in October.

In April, we welcomed back classmates, friends, and faculty at our first in-person Alumni Weekend since 2019. Thanks to all who participated, especially the Class of 1972 who marked the School of Medicine’s first-ever 50th reunion. Stay tuned for upcoming announcements about next year’s Alumni Weekend coming soon.

Until then, stay connected with UC Davis School of Medicine through the School of Medicine Alumni Association (SOMAA) website. Visit health.ucdavis.edu/medalumni to:

- Submit a class note to share your latest news with classmates and friends.
» Click **Connect**
- Nominate outstanding alumni for our annual Alumni Awards.
» Click **Awards**
- Consider serving as a resource to our student community.
» Click **Volunteer**
- Learn more about the SOMAA and our Board of Directors.
» Click **About Us**
- Indicate your interest in serving the SOMAA in a leadership role.
» Click **Volunteer**
- Stay informed about upcoming alumni events.
» Click **Events**
- Update your contact info when anything changes!
» Click **Connect**
- Give a gift to the SOMAA Scholarship or the School of Medicine Annual Fund.
» Click **Give**
- Provide feedback and ideas so we can better serve alumni.
» Click **Contact Us**

We value your input. Tell us how we can better engage you, keep you informed, and motivate you to find the time to be an active part of the UC Davis medical alumni community. Please be in touch at medalumni@ucdavis.edu or 916-734-9410.

Finally, watch your email for our “Dean’s Update” newsletter featuring alumni and School of Medicine news, coming to your inbox soon.



Doug Gross (M.D., '90)

President
UC Davis School of
Medicine
Alumni Association

School of Medicine Alumni Updates

1979

Harry B. Skinner



I was fortunate to start practice just as a major revolution in orthopedics was occurring, and was able to take part in making major improvements in patient care. After practicing at UCSF for 12 years, 12 years at UCI as Chair of Orthopedics, and 13 years in

a multispecialty group, I find the state regulations and taxes are just too burdensome. California used to be a great place to practice and live, but it is time to move to Texas, Florida or Tennessee to practice. My family also needs a place with less crime, friendly people, good schools, and lower taxes so that I can safely and comfortably enjoy my “golden years.” I hope the thousands of people I have treated over the years have benefited from my care.

1980

Gary R. Watson

I completed an internship and orthopedic residency at Stanford in 1985, and have practiced in Modesto, CA from 1985 until the present.

1981

David Manske

“Retired” since October 2019, I stay busy as an expert medical witness for orthopaedic cases, as the president of the Lipscomb-Chapman Orthopaedic Alumni Society, and on the board of directors for the UC Davis School of Medicine Alumni Association. My beautiful wife, Rebecca, and I hope to do more traveling, if and when it’s “safer out there.” In the meantime we enjoy our home, family and friends. (And time on our 47’ houseboat in the Delta!) I loved seeing my old classmates, Bob Decker, Steve (Alex) Prescop and Saul Schaffer, at

our Covid-delayed 40th reunion in April. Oh! And I had my left knee replaced on March 1. An easy recovery and great outcome! (It was distinctly different being on the other side of the scalpel.) I hope you are all happy and well???

1983

Paula E. Brentlinger, M.D., M.P.H.

Still at it! But focusing more on Hepatitis B and Hepatitis C management as opposed to general primary care, because I love preventing liver cancer (not a consideration in the 1980s, but should have been, as I look back). Hope everyone is well in these ever-so-complicated times. Miss running around the almond orchards!

1994

David Lin

Hello! I am still enjoying work as a family



physician and teaching faculty for Sutter Health and being on the UC Davis alumni board. Still happily

married to my wife Jo-Ann of 27+ years, and reminiscing about medical school with my sons Joshua (4th year at our UC Davis Med) and Matthew (2nd year at Cornell Med) and most excited about their recent engagement. They got engaged in the same week but to different young women.

2008

Alan Chiem

Celebrated his tenth year as full-time faculty in the Department of Emergency Medicine at UCLA-Olive View. He also co-edited a textbook, *Emergency and Clinical Ultrasound Board Review*, published by Oxford University Press. In addition, he was recently appointed the inaugural Director of Ultrasound Education at the David Geffen School of Medicine at UCLA. In this role, he oversees the longitudinal, four-year, fully integrated POCUS curriculum at DGSOM.

Residency/Fellowship Alumni

1975

Paul Forrest, M.D. – Neurosurgery



Still kicking around at 82. Living in Louisville, KY, enjoying life pretty much. Some things not so great. My youngest sister passed away

in November. Went to her memorial in June in Flagstaff. My dear beloved girlfriend wife Mary Lou passed away in April. Took a driving trip in June to the western states to see old friends and family. Mostly to see my second great-granddaughter in Bloomington, MN. (Only problem is my daughter is a grandmother.) Active in Rotary. Still doing my annual motorcycle trip with friends. Heading for Michigan for a week. This is the 20th annual for the “Band of Gypsies.”

David Manske

Residency 1986 (Orthopaedic Surgery)
See M.D. 1981

1991

Robert (Bobby) Sloan – PM&R

Moved back to Hawaii to retire, but returned to the mainland during Covid to work at the Kansas City VA in PMR running the spinal cord program and continuing my TBI work for our veterans from Iraq and Afghanistan. A bit scary back to work during Covid, but it was worth it. My wife and remaining two children found a lake house in Blue Springs, Missouri, and I may never leave. We still visit my other children in Hawaii and California frequently, but love it here. I have returned home where my mother was born and my grandfather is buried close by. With my first bass boat in my backyard, I fish or swim when I’m not teaching my boys to water ski. The Colorado Rockies, Minnesota Boundary Waters, Chicago and the Indy 500, and family in the South are all within a day’s drive. Love it!



Investing in health care's future, partnering for transformative impact



Stephen Cavanagh, Ph.D., M.P.A.,
R.N., F.A.C.H.E., F.A.A.N.

Energized. Inspired. Committed. Focused.

As I enter my fourth year as dean for the Betty Irene Moore School of Nursing at UC Davis, I feel the energy many of you do in this post-pandemic world. Blockbuster movies are back in theaters. In-person summer classes are in full swing. And 135 School of Nursing graduates entered the world of health care as change agents driven to make a difference in patients' and families' lives.

During our commencement ceremony last month, I was inspired by the tenacity and perseverance our graduates demonstrated in the completion of their programs. The past two years of COVID-19 and the past two months of legal decisions that affect health care underscore the need of those who believe there is a better way to care for the communities we serve. With their newfound abilities, confidence and vision, we are proud to call these future health care leaders our alumni.

A foundational milestone

As a school, we also celebrated a major milestone in our journey — the culmination of the Gordon and Betty Moore Foundation grant that launched the school. The School of Nursing was established in March 2009 through a \$100 million commitment from the Gordon and Betty Moore Foundation. A final report to foundation trustees presented a wonderful opportunity to conduct an in-depth review of the school's progress.

It was an illuminating exercise to better understand the vision for the school's future by looking back at the efforts and achievements since inception.

That future is guided by our Strategic Plan, launched less than a year ago. I'm proud of the team who works hard every day to make all six pillars of this plan a reality. We've already made strides on key elements we set out to achieve. Committed to grow our research program, we aligned and strengthened our research administration team. In

We have not achieved all we have by going it alone. From our very foundation, we've focused on long-term success and sustainability together with our partners.

addition, we are adding tenure-track faculty to our ranks to deepen our contributions to health equity and social justice, healthy aging and family caregiving, and technology-enabled solutions to health and health care.

Our goal to prepare exceptional professionals to become the next generation of leaders in health care is at the heart of our newest degree program. Last month, the inaugural class of the Doctor of Nursing Practice — Family Nurse Practitioner Degree Program began their three years of graduate study. This hybrid program prepares

advanced practice providers to engage in patient- and family-centered, evidence-based primary care.

We're even investing in the pipeline of future nurses. In July, we hosted 38 students from underrepresented Sacramento high schools to our inaugural Summer Health Institute for Nursing Exploration and Success (SHINES) program. Their coursework consisted of hands-on simulations, developing a deeper understanding of the nursing practice and the social determinants of health, as well as resume writing and personal branding workshops. Thanks to generous volunteers, including many School of Nursing alumni, we set a high benchmark for other pathway programs that hold the promise of diversifying our workforce and advancing health equity.

An indispensable partner

We have not achieved all we have by going it alone. From our very foundation, we've focused on long-term success and sustainability together with our partners. Our work with the UC Davis School of Medicine and our other UC Davis Health colleagues is paramount to advancing health in our community.

The contributions of our alumni — now more than 900 strong — are critical to having the lasting impact first envisioned by our founders. Our contributions to the education of future providers and access for our patients are indispensable in achieving the system's vision of "tomorrow's health care today."

Using lessons from school — and from the pandemic — to better serve patients

Irene Cisneros-Fong is exactly where she planned to be.

After working as a pacemaker technician for nearly a decade, today she is a certified cardiac device specialist leading a team of pacemaker technicians in the UC Davis Health Cardiology Clinic.

She got there by becoming a registered nurse through the Master's Entry Program in Nursing (MEPN) at the Betty Irene Moore School of Nursing at UC Davis.

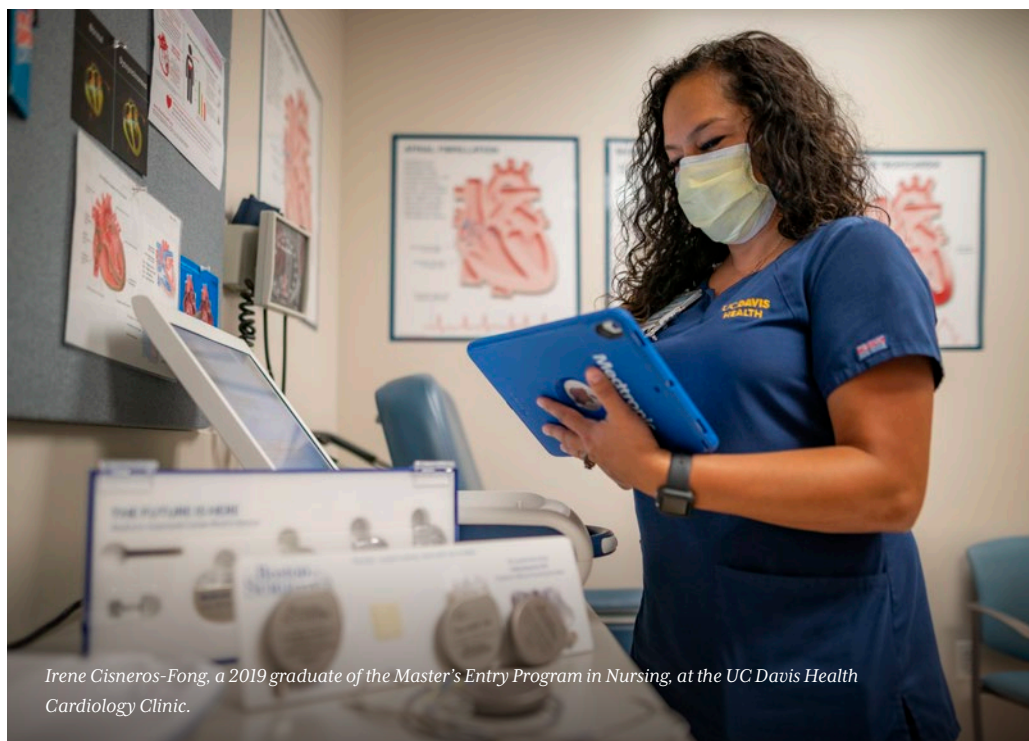
"I saw it was an accelerated program and had a master's degree," Cisneros-Fong (M.S.N., R.N., M.S., C.C.D.S.) said. "I knew that having both of those at the same time would really put me at an advantage to get me back to where I wanted to be."

Cisneros-Fong graduated from the entry-level nursing program in December 2019. She landed her first job in the Emergency Department at UC Davis Medical Center. Three weeks later, the pandemic hit.

"Our class literally jumped into the workforce right when the shutdown happened. And COVID-19 really amplified all the health disparities that we talked about at the School of Nursing. That really made me appreciate it even more," she said.

Those lessons learned at the School of Nursing proved beneficial during COVID-19 and her 10 months in the Emergency Department. Now, that same knowledge of the social determinants of health, emphasized by coursework and a poverty simulation exercise, prove valuable every day.

"We can tell patients to start their medication, say, for heart failure. But, if they can't afford it or get a ride that is a big system issue we need to address," she explained. "Even though we're still pretty-new nurses, we can be future leaders and have an impact on those system issues because we understand them."



Irene Cisneros-Fong, a 2019 graduate of the Master's Entry Program in Nursing, at the UC Davis Health Cardiology Clinic.

“COVID-19 really amplified all the health disparities that we talked about at the School of Nursing. That really made me appreciate it even more.”

IRENE CISNEROS-FONG

Another key takeaway that eased her transition into practice was the interprofessional collaboration she experienced while in graduate school.

"You see how you have to interact with the physicians, case managers, pharmacists, even mental health workers," she recalled. "Having that already set in place from the school made it a lot less nerve-wracking to work with them and get a care plan for the patient."

She also proudly represents her Latino heritage, which, she believes, enables her to reach her patients on an even more personal level.

Today, Cisneros-Fong feels empowered as a Latina to improve the health literacy of her patients, grow the ranks of Latino nurses in the profession and expand her professional impact.

"Even though I've been a nurse just over two years, I've already written policies to make the device clinic more efficient," she said. "Latina cardiac device nurses are not that common. Now, I want to take what I've learned and present at national conferences."



A pivotal grant paves way for a nursing professor's independent research

Julie Bidwell is one step closer to the research role she dreamed for herself. The Betty Irene Moore School of Nursing assistant professor recently received a three-year, \$450,000 grant from the National Institutes of Health (NIH) to fund her study of hospital-to-home transitions for older adult couples managing heart failure.

“As a researcher, this grant is meaningful to me because it provides protected research time, mentorship and training to further develop my research and pursue my goal of improving health and health care for couples and families managing cardiovascular disease,” explained Bidwell (Ph.D., R.N.), who is also a professor in the school’s Family Caregiving Institute.

Bidwell’s grant is a Mentored Research Scientist Career Development Award, also known as the K01 award, developed by the NIH to provide support and protected time for an intensive career-development experience leading to research independence.

K01 grants are extremely competitive, Bidwell said, and she credited both the School of Nursing and UC Davis Health for supporting her with the development of her research program, skills and interprofessional collaboration.

“It’s not possible to successfully compete for these mentored K awards without an excellent mentor team and a supportive institution.”

JULIE BIDWELL

Bidwell’s success is important to the young school’s success in growing its research programs, said Janice F. Bell, Ph.D., M.P.H., M.N., F.A.A.N., the school’s associate dean for research and Family Caregiving Institute director.

The ultimate goal of Bidwell’s study, “The Symmetry-HF Study: Symptom Dynamics and Clinical Biomarkers of Heart Failure in Older Adult Care Dyads After Heart Failure Hospitalization,” is to develop interventions to support better symptom response and management during hospital-to-home transitions.

The project uses intensive methods to examine how couples manage post-discharge symptoms on a daily basis. Bidwell wants to better understand how couple dynamics may support smoother transitions, such as fewer clinical events for the patient, less stressful experiences for the care partner, and better quality of life for both.

She’s supported on the award by a team of mentors who are nationally recognized for their expertise in family caregiving, heart failure, gerontology and intensive research designs. Her primary mentor is Ladson Hinton, M.D., associate director for research in the Family Caregiving Institute and professor in the UC Davis Health Department of Psychiatry and Behavioral Sciences. Other mentors and collaborators include experts from across UC Davis Health.

Bidwell credits this interprofessional collaboration for her successful grant application. She applied for a K01 grant shortly after joining the School of Nursing but was not successful.

In addition to the School of Nursing research department, though, UC Davis Health is also home to the NIH-funded Clinical and Translational Science Center (CTSC), which provides a wide range of services and resources to researchers with the vision to grow research teams to improve human health. Bidwell said participation in the center’s KL2 Mentored Career Development Program expanded her research skills.

“The impact on my research expertise, professional network and overall career development has been massive,” she said. “As a direct result, I developed a completely new line of research, requiring expertise in complex research methods that I would never gain independently.”

Betty Irene Moore School of Nursing Alumni Updates

UNDER 40 AWARDEE BY NATIONAL BLACK NURSES ASSOCIATION

The National Black Nurses Association (NBNA) has named Aron King a 2022 Under 40 Awardee. King (M.S., R.N.), an assistant nurse manager at UC Davis Medical Center and a 2021 graduate from the Betty Irene Moore School of Nursing at UC Davis, is one of only 16 nurses in the nation to receive the honor. After caring for patients as a bedside nurse for 8 years, King entered the master's-degree leadership program at the School of Nursing in 2019 and joined the Capitol City Black Nurses Association, founded by School of Nursing alumni, to advocate for nurses and optimize health outcomes in communities where disparities persist. King is now entering the school's Ph.D. program.

NURSING RESEARCHERS PRESENT ON INTERNATIONAL STAGE

A cadre of Betty Irene Moore School of Nursing nurse scientists were among the more than 800 nurse researchers, students, clinicians and leaders who met in Scotland this summer for the 33rd International Nursing Research Congress of Sigma Theta Tau International Honor Society (Sigma). School of Nursing Dean Stephen Cavanagh, along with six faculty and one Doctor of Philosophy Degree Program alumnus, presented their work on topics ranging from understanding microaggressions and nurse practitioner burnout to wilderness medicine for interprofessional education and multiple patient simulation. Cavanagh also

presented at the International Network for Doctoral Education in Nursing (INDEN) Annual Conference about the value that scholars from disciplines outside of the nursing profession add to nursing Doctor of Philosophy programs.

NURSING GRAD STUDENTS SHOWCASE SCHOLARLY WORK

Nursing Science and Health-Care Leadership Graduate Students presented their scholarly work in a series of online presentations June 3 at the 2022 Academic Symposium on the Sacramento campus. Activities included dissertation and research poster presentations led by doctoral, nursing, physician assistant and family nurse practitioner students. Keynote and select podium presentations, and links to online evidence-based practice posters, are available for viewing at health.ucdavis.edu/nursing/news/Events/2022-academic-symposium.html. Podium presentations include topics such as:

- COVID-19 Mitigation Behaviors in Hmong Americans
- Impact of Hospital and Nursing Factors on Hospitalized Traumatic Brain Injured Patients' Care Transitions and Outcomes
- Perspectives of the Female Spouse in Dementia Caregiving in Formal Resource Use
- Clinician Experiences of Providing Mental Health Services in Rural California Jails
- Correlates of Food Insecurity among Hispanic Immigrant Parents in California
- Public Perceptions of COVID-19 Information and Vaccines: A Survey and Computational Social Science Approach

Research posters explored topics such as maternity care; type 2 diabetes management and care access; COVID anxiety in health care workers; opioid addiction treatment; Alzheimer's and dementia therapy; anxiety in adolescents; and more.

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Cancer fighter

Tyson, 9 years old and suffering from osteosarcoma, receives inhaled immunotherapy as part of a first-of-its-kind Phase I clinical trial at UC Davis. Thanks to its unique partnership with the top-ranked UC Davis School of Veterinary Medicine, the UC Davis Comprehensive Cancer Center is one of the few institutions to study comparative oncology — research in pets that's meant to benefit both animals and humans. The effort including Tyson targets the protein interleukin-15 as a new way of triggering bodily cancer defenses; chief of Surgical Oncology Robert Canter and canine oncologist Robert Rebhun are corresponding authors for the study, published in the *Journal for ImmunoTherapy of Cancer*. “As part of our comparative oncology research, we are strong advocates of clinical trials in companion dogs, especially for immunotherapy, as a way to speed bench-to-bedside translation,” Canter says. “Cancers that afflict dogs... are incredibly similar to cancers humans develop.”