THE MAGAZINE OF **UC DAVIS COMPREHENSIVE CANCER CENTER** VOL 29 NO 1 / WINTER 2026

SYNTHESIS

Expanding cancer care *in the region*

PAGE 22

Inspiring young minds to enter cancer-related careers

PAGE 14

UC Davis tests new advanced bladder-cancer drug

PAGE 20

A's rally for cancer awareness and lift kids' spirits

PAGE 26

UC Davis Health Folsom Medical Care Clinic

Dear Reader,

Welcome to Synthesis magazine. Once again, we have put together a vibrant new issue that reflects the heart of our mission: advancing cancer care through innovation, compassion and community.

One of the most exciting developments is the arrival of new cancer experts at UC Davis Comprehensive Cancer Center. Meet the exceptional talent joining our team and learn how they are rising to address the needs of our patients.

You'll read about a striking scientific revelation: A single genetic mutation may explain why humans are more vulnerable to cancer than our primate cousins. It's a discovery that deepens our understanding of cancer's origins and underscores the urgency of continued research at UC Davis.

Speaking of innovation, artificial intelligence is rapidly transforming the practice of medicine. Because we want to ensure AI improves diagnostic accuracy while streamlining workflows, we are helping lead a groundbreaking $16 million study on AI-assisted mammography.

We also spotlight the unique challenges faced by adolescents and young adults with cancer. These patients often fall between pediatric and adult cancer care, and our new findings help bridge that gap with tailored support and treatment strategies.

Find out why the University of California Office of the President has partnered with CAL FIRE to fund a $9.7 million research grant that will strengthen UC Davis' ability to study the impact of wildfire smoke on cancer risk in firefighters. The trailblazing joint research initiative with UCLA is the largest endeavor of its kind.

Wildfire smoke doesn't just affect firefighters. New findings show that wildfires in California may lower survival rates for lung cancer patients, making environmental health a critical part of the conversation.

Our commitment to compassionate care shines through in stories like that of a patient with pancreatic cancer who returned to the slopes, thanks to a surgeon who understood not just the disease but the patient's love of skiing. Read about his surgical oncologist, Cameron Gaskill, a leader in pancreatic cancer who also donates his time to the global cancer fight.

We will take you inside the newly opened Folsom Medical Care Clinic and its state-of-the-art cancer treatment center. You will meet our first full-time oncologist based at the center and see how we are transforming cancer care in the Sierra foothills region.

There's also a new pediatrician at the Folsom facility who was inspired to become a doctor after becoming a bone marrow donor for her sister, a UC Davis Health patient.

We continue to build connections that heal beyond medicine. One of our prostate cancer patients threw the first pitch at an A's game to remind men in the crowd about the importance of prostate cancer screening.

Finally, you'll also meet Gerald Hecox, a patient whose journey inspires us all. Gerald has stage 4 bladder cancer, but he has returned to golfing after completing a clinical trial testing a promising cancer drug developed right here at UC Davis.

These stories remind us that hope is not just a concept, it's a practice. Thank you for joining us on this journey!

Sincerely,

Primo "Lucky" Lara Jr., M.D., F.A.S.C.O.
DIRECTOR, UC DAVIS COMPREHENSIVE CANCER CENTER

BREAKING BARRIERS TO **BEAT CANCER**℠

Synthesis is published twice each year by UC Davis Comprehensive Cancer Center.

If you receive multiple copies of this publication, please share them. To add your name to the mailing list or change your address, please call 916-734-9450.

EXECUTIVE EDITOR
Primo "Lucky" Lara Jr., M.D.
Director, UC Davis Comprehensive Cancer Center

EDITOR
Stephanie Winn

ART DIRECTOR
Barbara Hennelly

GRAPHIC DESIGNER
Serena Mosley

PHOTOGRAPHER
Wayne Tilcock

WRITERS
Stephanie Buck, Jennifer DeMoss, Lisa Howard, Marianne Sharp, Tricia Tomiyoshi, Stephanie Winn

Scan this code to learn more about UC Davis Comprehensive Cancer Center and its leadership.

UC DAVIS HEALTH
COMPREHENSIVE CANCER CENTER

cancer.ucdavis.edu

in this issue

THE MAGAZINE OF **UC DAVIS COMPREHENSIVE CANCER CENTER** VOL 29 NO 1 / WINTER 2026

Cancer center welcomes renowned breast cancer surgeon and researcher Alexa Glencer


Alexa Glencer

Breast surgical oncologist Alexa Glencer has joined UC Davis Comprehensive Cancer Center, bringing a focus on treating high-risk breast cancer patients and enrolling them in clinical trials. She specializes in caring for patients with inflammatory breast cancer and those with ductal carcinoma in situ (DCIS). Glencer also cares for patients in the I-SPY 2 trial that rapidly screens multiple drugs and matches them to the specific breast cancer subtypes where they can be most effective.

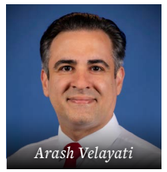
Glencer is also a dedicated researcher. She has studied how the immune system interacts with DCIS and explored new mRNA-based treatments. She is working to open a new clinical trial intended to compare treatments for patients with DCIS. She'll distinguish which patients benefit from surgery and which patients benefit from novel and less toxic endocrine therapy without surgical intervention. She also leads the UC Davis site for the WISDOM trial, which is testing a personalized approach to breast cancer screening using genetic and clinical risk factors.

"We are thrilled to have Dr. Glencer join our team as part of our intentional efforts to increase timely access to unparalleled breast cancer treatments for our communities," said UC Davis Comprehensive Cancer Center Physician-in-Chief David Tom Cooke. "Her clinical expertise and research leadership will help us continue to provide the most advanced, compassionate care to our patients while shaping the future of breast cancer treatment."

Glencer earned her undergraduate degree from Princeton University and her medical degree from UCSF School of Medicine. She completed her surgical training at UCSF and a breast surgical oncology fellowship at MD Anderson Cancer Center.

Arash Velayati joins UC Davis Health after fellowship at Stanford

Malignant hematologist Arash Velayati has joined UC Davis Health's Malignant Hematology/Cellular Therapy and Transplantation program. Velayati brings extensive expertise in treating multiple myeloma and other plasma cell disorders.


Arash Velayati

As a specialist in blood and bone marrow transplantation and cellular therapies, Velayati enhances the nationally recognized program, which is designated as a National Marrow Donor Program transplant center. This status gives UC Davis patients access to more than 41 million registered stem cell donors worldwide and more than 810,000 units of donated cord blood. The program participates in national clinical trials through cooperative groups supported by the National Cancer Institute.

Velayati manages blood and bone marrow transplantation treatments as well as cellular therapies. His research interests center on immunotherapy and other cell therapies that harvest a patient's own immune cells to fight cancer.

"Dr. Velayati's arrival marks a significant step forward in our mission to provide advanced and compassionate care to patients with complex blood cancers," said UC Davis Comprehensive Cancer Center Director Primo "Lucky" Lara Jr. "His expertise in cellular therapies and commitment to research will help us continue to lead in innovation and improve outcomes for our patients."

Velayati's academic background includes a medical degree from Mashhad University of Medical Sciences, an MBA in health finance from the University of Alabama at Birmingham and residency at Brookdale University Hospital and Medical Center. He also completed fellowships in hematology and oncology at the Medical University of South Carolina and a fellowship in bone marrow transplantation and cell therapy at Stanford Medicine.

Radiologist Anne Darrow joins UC Davis Health

Anne Darrow has joined UC Davis Health as associate chair of outreach and engagement for the Department of Radiology. Darrow is a radiologist who specializes in breast imaging. She recently completed a breast imaging fellowship at the University of Chicago and a diagnostic radiology residency at Cook County Health in Chicago.

Darrow earned her medical degree from the University of Illinois Chicago, where she was inducted into the Gold Humanism Honor Society.

Before pursuing a career in medicine, Darrow spent a decade managing health and wellness programs for middle and high school students. She earned a bachelor's degree in anthropology from UC Berkeley and a master's degree in education from the University of Southern California.

She is the chair of the Inclusion, Diversity and Equity Alliance of the Society of Breast Imaging. She has also served on the board of directors of the American Association for Women in Radiology. In addition, she served two terms as president of the resident and fellows section of both the Illinois Radiological Society and the Chicago Radiological Society.

Darrow is passionate about medical education, promoting health equity and working with underserved communities.

Lung Cancer Screening Day

To increase screening rates, the cancer center helped host a Lung Cancer Screening Day at the new 48X Complex on the first Saturday in November. The screenings gave patients access outside of normal work hours to receive a potentially life-saving low-dose CT lung cancer scan. Nearly a dozen people took advantage of the screening day that helped mark Lung Cancer Awareness Month at UC Davis Health.

Lung cancer remains the No.1 cause of cancer death. Each year, more people die of lung cancer than colon, breast and prostate cancers combined.

Low-dose CT scans are quick, non-invasive and use a minimal amount of radiation — far less than a standard CT scan. If caught early, lung cancer can be cured. However, only 16% of Americans who should be screened for lung cancer based on their risk factors are actually getting scanned. California's lung cancer screening rate of just under 14% is considered "below average" according to the American Lung Association.

Sponsors of the UC Davis Lung Cancer Screening Day included:

- UC Davis Health Department of Radiology
- UC Davis Health Division of Thoracic Surgery
- UC Davis Comprehensive Cancer Center Office of Community Outreach and Engagement
- Love Your Lungs Sacramento Lung Health Coalition

(Left to right) Elisa Tong, David Cooke, Lucy Rios, Alex Gori, Nipa Pawar, Cici Zhai and Moon Chen Jr. on Lung Cancer Screening Day 2025.

"Early-stage lung cancer has no symptoms," said UC Davis Comprehensive Cancer Center Physician-in-Chief David Tom Cooke, who is also founding chief of the Division of General Thoracic Surgery. "Awareness and early detection are the keys to tackling this deadly disease together. People who have a history of smoking should talk to their doctor about getting a low-dose CT scan."

Connie Champagne appointed executive director of the Office of Education, Training and Workforce Development

UC Davis Comprehensive Cancer Center has appointed Connie Champagne executive director of its Office of Education, Training and Workforce Development. She has served in that role on an interim basis since July and brings a decades-long commitment to advancing diversity and inclusion in the scientific community.

Previously, she was director of Educational Enrichment and Outreach Programs in the UC Davis College of Biological Sciences. Her portfolio consisted of several programs that promoted students' academic and professional success, including the Continuing Umbrella of Research Experiences program, which she coordinated for the cancer center for more than a decade.

In her new role, Champagne is responsible for developing a strategic vision for dynamic cancer-relevant academic training and education programs for everyone from junior high school students to early-stage investigators.

With more than 30 years of teaching experience in both classroom and laboratory settings, Champagne has served in key leadership roles, including chair of the UC Davis Academic Federation Affirmative Action and Diversity Committee and representative to the Academic Senate's diversity committee. She has been recognized for her work in promoting fairness and access, winning UC Davis' prestigious Deanna Falge Principles of Community Award in 2015 and the College of Biological Sciences' Principles of Community Award in 2019.

Champagne earned her Ph.D. from the University of Regina in Canada, where she studied the evolution of genes that control plant development. She continued her plant biology research as a Katherine Esau Postdoctoral Fellow at UC Davis.

Cancer news via podcast!

Check out the Beat Cancer podcast, offering in-depth discussions of the science, research and advancements taking place at UC Davis Comprehensive Cancer Center. Learn about the latest cancer news including prevention, screening and treatment, and discover how we are breaking barriers to beat cancer in our community and beyond. Find Beat Cancer on the cancer center website or your favorite podcast platform.

Would you like a topic covered? Email us at **beatcancer@ucdavis.edu**.

Cancer center director named one of the 2025 Giants of Cancer Care

Primo "Lucky" Lara Jr. recognized for advancing hope and innovation in oncology

UC Davis Comprehensive Cancer Center Director Primo "Lucky" Lara Jr. received the 2025 Giants of Cancer Care award presented by OncLive. For the past 13 years, the award program has recognized national leaders in oncology whose groundbreaking work has significantly advanced cancer treatment and improved patient outcomes.

The 2025 honorees distinguished themselves through innovative therapies and protocols spanning the full spectrum of cancer care. A committee of more than 115 prominent cancer doctors selected honorees for their pioneering achievements in oncology research and clinical care. Lara was recognized for his exceptional contributions to researching and treating people with cancers of the urinary and reproductive tracts.

Lara has led or co-led numerous clinical trials exploring targeted treatments for advanced kidney, prostate and urothelial cancers. His work encompasses the spectrum of phase 1 through phase 3 clinical trials. Beyond drug development, Lara is a strong advocate for increasing access to clinical trials.

In 2023, Lara rose to the level of distinguished professor, the highest campus-level faculty title that can be bestowed at the University of California. He received the honor for achieving distinction in scholarship, teaching and university and public service.

In 2018, Lara received the Faculty Research Award from the UC Davis School of Medicine's Department of Internal Medicine. He is an active member of several professional societies, including the American Association for Cancer Research, the American Society of Clinical Oncology, the European Society for Medical Oncology and the International Association for the Study of Lung Cancer.

OncLive® PRESENTS Giants® OF Cancer Care

Chair of the Giants of Cancer Care Committee, Yelena Janjigian, presents Primo "Lucky" Lara Jr. with award.

A single genetic mutation may have made humans more vulnerable than chimpanzees to cancer

> “Humans have a significantly higher rate of cancer than chimpanzees and other primates. There is a lot that we do not know and can still learn from primates and apply to improve human cancer immunotherapies.”
>
> —JOGENDER TUSHIR-SINGH, SENIOR AUTHOR OF THE STUDY

New research from UC Davis Comprehensive Cancer Center has uncovered an evolutionary change that may explain why certain immune cells in humans are less effective at fighting solid tumors compared to nonhuman primates. This insight could lead to more powerful cancer treatments.

The study, published in Nature Communications, revealed a tiny genetic difference in an immune protein called Fas ligand (FasL) between humans and nonhuman primates. This genetic mutation makes the FasL protein vulnerable to being disabled by plasmin, a tumor-associated enzyme. This vulnerability seems unique to humans and is not found in nonhuman primates such as chimpanzees.

“The evolutionary mutation in FasL may have contributed to the larger brain size in humans,” said Jogender Tushir-Singh, senior author of the study and an associate professor in the Department of Medical Microbiology and Immunology. “But in the context of cancer, it was an unfavorable trade-off because the mutation gives certain tumors a way to disarm parts of our immune system.”

Tumor environment neutralizes key immune protein

Humans have higher rates of cancer than nonhuman primates. An evolutionary change to an immune protein may hold clues.

FasL is an immune cell membrane protein that triggers a programmed cell death called apoptosis. Activated immune cells, including CAR T cells made from a patient’s immune system, use apoptosis to kill cancer cells.

The UC Davis team discovered that in human genes, a single evolutionary amino acid change — serine instead of proline at position 153 — makes FasL more susceptible to being cut and inactivated by plasmin.

Plasmin is a protease enzyme that is often elevated in aggressive solid tumors like triple-negative breast cancer, colon cancer and ovarian cancer.

This means that even when human immune cells are activated and ready to attack the tumor cells, one of their key death weapons — FasL — can be neutralized by the tumor environment, reducing the effectiveness of immunotherapies.

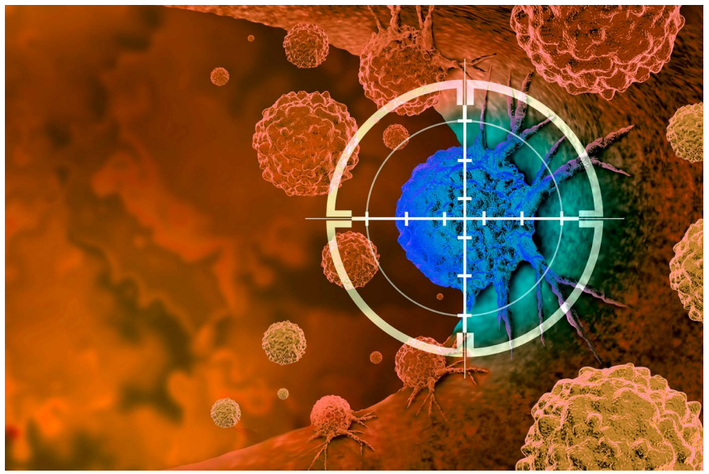
The findings may help explain why CAR T and T-cell-based therapies can be effective in blood cancers but often fall short in solid tumors. Blood cancers often do not rely on plasmin to metastasize, whereas tumors like ovarian cancer rely heavily on plasmin to spread the cancer.

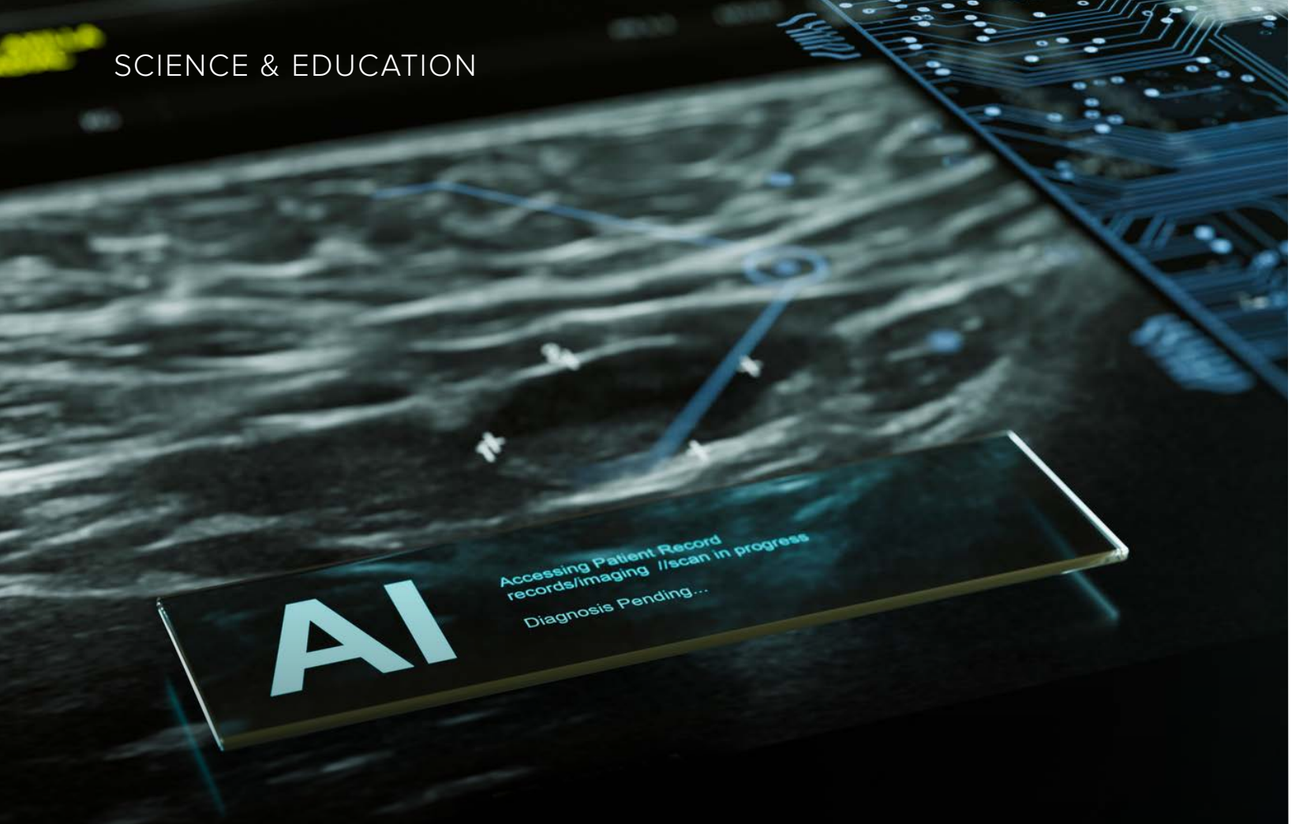
Plasmin inhibitors may enhance immunotherapy

Significantly, the study also showed that blocking plasmin or shielding FasL from cleavage can restore its cancer-killing power. That finding may open new doors for improving cancer immunotherapy.

By combining current treatments with plasmin inhibitors or specially designed antibodies that protect FasL, scientists may be able to boost immune responses in patients with solid tumors.

“Humans have a significantly higher rate of cancer than chimpanzees and other primates. There is a lot that we do not know and can still learn from primates and apply to improve human cancer immunotherapies,” said Tushir-Singh. “Regardless, this is a major step toward personalizing and enhancing immunotherapy for the plasmin-positive cancers that have been difficult to treat.”





$16 million study examines AI's role in reading mammograms


Diana Miglioretti

Women over 40 are encouraged to get annual mammograms because early detection is key to beating breast cancer. Artificial Intelligence is used in many health settings to help determine the results of breast cancer screenings. But is it effective?

UC Davis Health will help answer that question. It is co-leading a newly funded national clinical trial to evaluate whether AI can help radiologists interpret screening mammograms more accurately.

The goal is to improve breast cancer detection and reduce unnecessary callbacks and anxiety for patients.

The study, known as the PRISM trial (Pragmatic Randomized Trial of Artificial Intelligence for Screening Mammography), is supported by a $16 million award from the Patient-Centered Outcomes Research Institute.

The study will involve hundreds of thousands of mammograms interpreted at academic medical centers and breast imaging facilities in California, Florida, Massachusetts, Washington and Wisconsin.

"PRISM is the first large-scale randomized trial in the U.S. to evaluate the effectiveness of AI in breast cancer screening interpretation," said Diana Miglioretti, dual principal investigator and lead of the study's data coordinating center, which will be based at UC Davis Health.

Miglioretti is professor and division chief of Biostatistics at the UC Davis Department of Public Health Sciences and co-leads the Population Sciences and Cancer Control program at UC Davis Comprehensive Cancer Center.

"We're rigorously evaluating whether AI-assisted interpretation improves screening outcomes," she said. "The goal is not to replace radiologists with AI but to see how effective AI could be as a co-pilot in reading mammography."

PRISM trial's results will be put to immediate use

Breast cancer remains the second leading cause of cancer death among women in the United States. While routine mammography screening reduces mortality through early detection, it also has drawbacks, including false positives that can lead to unnecessary testing, anxiety and costs. Mammography can sometimes miss cancer, too.

"The trial's results will inform clinical practice, coverage decisions, technology adoption and how we communicate with patients about AI in screening," Miglioretti explained. "There's a lot of optimism that AI will improve care, but very few randomized trials have measured its real-world effectiveness."

Study is a collaborative approach to AI research

The PRISM trial was developed in close partnership with patient advocates, clinicians, health system leaders and policymakers.

The trial brings together seven leading academic medical centers. UCLA will serve as the administrative coordinating site. Other sites include UC San Diego, Boston Medical Center, University of Miami, University of Washington and University of Wisconsin.

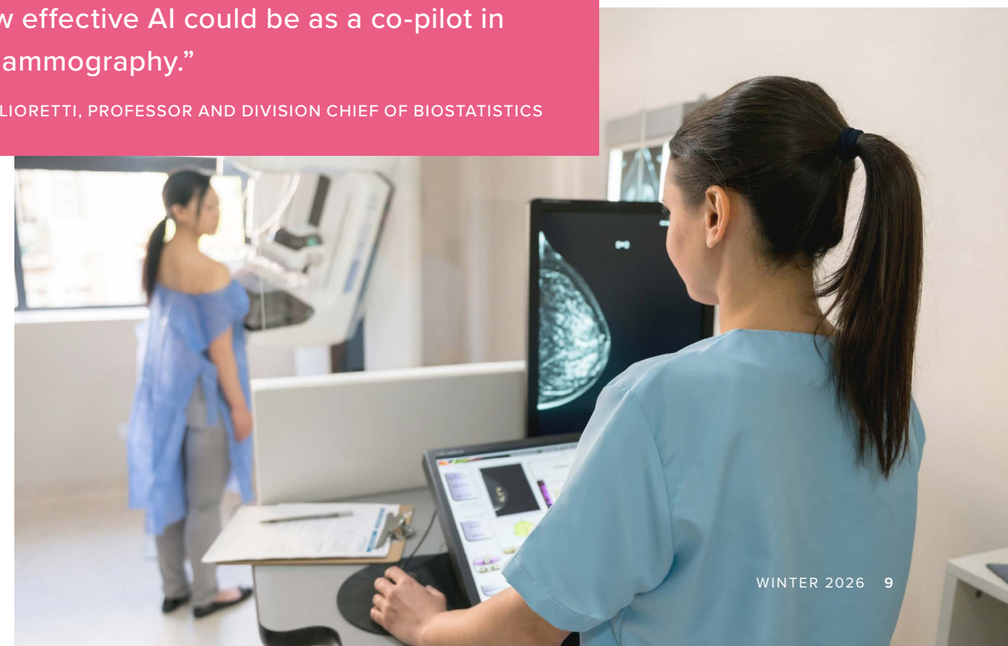
Each participating facility will continue routine screening as usual, with no changes to the patient experience. Mammograms will be randomly assigned to be interpreted either by a radiologist on their own or with assistance from an AI support tool. In all cases, a radiologist will read the mammogram and determine the results.

UC Davis Health will not enroll patients in the study but will collect the data from the participating facilities and conduct the analyses for the study.

In addition to analyzing cancer detection and recall rates, the study will include focus groups and surveys to capture how patients and radiologists perceive and trust AI-assisted care.

"This study is our opportunity to generate independent, trustworthy evidence, with the patient perspective front and center," Miglioretti said.

> "The goal is not to replace radiologists with AI but to see how effective AI could be as a co-pilot in reading mammography."
>
> —DIANA L. MIGLIORETTI, PROFESSOR AND DIVISION CHIEF OF BIOSTATISTICS



Adolescent and young adult cancer research reveals new insights

Study finds higher risk of chronic illnesses among young cancer survivors

UC Davis Comprehensive Cancer Center joined a first-of-its-kind study conducted by researchers at multiple institutions in California to study adolescent and young adult (AYA) cancer patients. The research found that young cancer survivors face significantly higher risks of developing chronic medical conditions compared to their peers without cancer.

The findings were published in Cancer, the journal of the American Cancer Society. Results underscore the urgent need for long-term survivorship care and proactive health management in this growing population.

Researchers found that by five years postdiagnosis, the cumulative incidence of chronic conditions was highest for:

- Thyroid issues (17.4%)
- Respiratory problems (6.6%)
- Cardiovascular disease (5%)
- Liver disease (4.8%)

At the 10-year mark, nearly 40% of cancer survivors had developed at least one chronic condition, compared to 26% in the noncancer cohort.

"AYA cancer survivors had a twofold increased risk of being diagnosed with any chronic medical condition," said UC Davis Comprehensive Cancer Center epidemiologist Theresa Keegan, the principal investigator of the Valuing Opinions and Insight from Cancer Experience (VOICE) study. "This risk was even higher for survivors of hematologic cancers and those diagnosed with distant stage disease."

The study also revealed that survivors were 2.3 times more likely to develop two or more chronic conditions. Elevated risks were consistent across sociodemographic groups, including race, ethnicity and insurance status.

"These findings highlight the importance of long-term surveillance and lifestyle interventions to mitigate risk," said Keegan. "We need to ensure that survivorship care plans include strategies for early detection and management of chronic diseases to reduce premature mortality."

The VOICE study builds on earlier work and fills critical gaps in understanding how cancer impacts long-term health outcomes in young people. It also emphasizes the need for tailored survivorship care that considers cancer type, stage at diagnosis and sociodemographic factors.

The study analyzed data from 14,917 patients from Kaiser Permanente Northern California and Kaiser Permanente Southern California aged 15 to 39. All had survived at least two years after being diagnosed with one of 11 common cancers between 2006 and 2020. These survivors were compared to a cohort of 149,164 individuals without cancer, matched by age, sex, calendar year and Kaiser Permanente location.

As cancer survival rates improve, the number of AYA survivors continues to grow. This study provides valuable insights for health care providers, policymakers and patients, reinforcing the importance of comprehensive, long-term care strategies for this vulnerable population.

AYA cancer researchers Ann Brunson (left) and Theresa Keegan (right).

Another AYA study reveals high risk of metastatic recurrence among young cancer patients

Cancer center researchers also studied AYA cancer patients to see if they were at risk of advanced cancer returning later in their lives. The study looked at seven common cancers and revealed that nearly 1 in 10 patients diagnosed with nonmetastatic disease later developed metastatic cancer.

Metastasis is when cancer cells spread from the initial or primary site to other parts of the body. It causes significantly worse survival outcomes. The findings highlight the urgent need to identify and address survivorship needs for young cancer survivors.

"As treatments improve survival, young patients with cancer face unique challenges," said Ann Brunson, UC Davis research analyst and the study's lead author. "Our research deepens understanding of survivorship and the impact of metastatic recurrence, using statewide data to reveal trends and guide future studies."

The research, based on data from more than 48,000 AYAs in California, was published in JAMA Oncology in November. It is the first study of its kind to examine metastatic disease in this population.

Researchers analyzed data from the California Cancer Registry linked with statewide health care records from the California Department of Health Care Access and Information. The study group included AYAs aged 15 to 39 diagnosed with cancer between 2006 and 2018, with follow-up through the end of 2020.

The median follow-up time was 6.7 years and the median age at diagnosis was 33. Most patients were non-Hispanic white (48%) or Hispanic (32%), lived in high socioeconomic status neighborhoods (43%) and had private or military insurance (76%).

High rates of metastatic disease and recurrence

Among the 48,406 AYAs studied, 9.2% had metastatic disease at diagnosis while 9.5% developed metastatic recurrence later. AYAs with colorectal cancer (44.2%) and sarcoma (41.7%) had the highest overall proportion of metastatic disease, followed by patients with breast (23.9%), cervical (23.6%) and testicular (21.6%) cancers.

For AYAs initially diagnosed with nonmetastatic disease, the five-year cumulative incidence of metastatic recurrence was highest for those with:

- Sarcoma (24.5%)
- Colorectal cancer (21.8%)
- Cervical cancer (16.3%)
- Breast cancer (14.7%)

Cervical cancer had particularly high recurrence rates across all stages, with stage 3 patients experiencing a cumulative incidence of 41.7%.

To make sure their method for detecting metastatic recurrence was accurate, the researchers compared their findings to Kaiser Permanente Northern California and found an overall rate of 96.9% when they accounted for patients who were never completely disease-free.

"These findings highlight the significant burden of metastatic recurrence among adolescents and young adults and the need for tailored survivorship care," said Keegan, the study's senior author. "Understanding these patterns helps us identify inequities and evaluate how well our efforts are working to prevent, detect and treat both early and metastatic disease."

Cancer center to look for connections between firefighting and cancer risk

Sacramento Metropolitan Fire Captain Jeremy Crawford (left) and cancer researcher Shehnaz Hussain (right).

UC Davis Comprehensive Cancer Center and UCLA, in collaboration with CAL FIRE, will investigate how occupational exposures among firefighters may increase cancer risk. The $9.7 million project is a sub study of the California Firefighter Cancer Research Study. It will include 3,500 firefighters from departments across the state over a two-year period.

"Firefighters put themselves in harm's way every day to protect our communities," said Public Health Sciences Professor Shehnaz Hussain, who will lead the research for UC Davis. "This study is about giving back — using research to understand their risks and find ways to keep them healthier and safer."

The Biomarkers of Acute Exposure sub study is funded by CAL FIRE and the University of California Office of the President. Researchers will analyze how exposures to smoke, chemicals and other hazards from firefighting may drive changes in the body that contribute to cancer risk over time. The UC research team is guided by a firefighter advisory board to ensure the study remains grounded in real-world needs and priorities.

"This vital study to understand and reduce cancer risks for firefighters gets to the heart of what UC researchers and scientists do best: save lives and keep our communities healthy and safe," said UC President James B. Milliken. "As wildfires become more common across our state and nation, there's an urgent need to support the firefighters who risk everything to save lives, homes, businesses and communities throughout California. UC is proud to partner with CAL FIRE on this important research."

A specific area of focus will compare exposures and biological changes in firefighters who responded to the 2025 Eaton and Palisades fires in Los Angeles with those who did not.

"This research underscores CAL FIRE's commitment to protecting firefighter health through science, innovation and partnership," said CAL FIRE Director and Fire Chief Joe Tyler.

This research is part of a broader, multiagency effort to protect the health of those who protect our communities. By better understanding the relationship between biomarkers of exposure such as heavy metals and biomarkers of effect such as epigenetic alterations, transcriptomics and markers of inflammation and immune dysfunction, the team hopes to pave the way for new prevention and intervention strategies for firefighters nationwide.

Wildfire pollution may lower survival chances for lung cancer patients

Surbhi Singhal

Breathing in wildfire pollution may make it harder for people with lung cancer to survive, according to a new study from UC Davis Comprehensive Cancer Center researchers.

The study looked at more than 18,000 people in California who had non-small cell lung cancer, the most common kind of lung cancer, between 2017 and 2020. It found that people who were exposed to more wildfire-caused air pollution in the year after their cancer diagnosis were more likely to die from the disease.

The culprit is tiny invisible toxin in the air

Wildfire-related air pollution contains tiny harmful particles called PM2.5 that can get deep into the lungs. The study found that patients who breathed higher levels of PM2.5 had a 20% greater risk of dying from lung cancer.

"The research tells us that there are small particles in the air that could make lung cancer worse," said cancer center oncologist Surbhi Singhal.

The study used advanced modeling to estimate daily air quality at patients' home addresses. It also factored in data from satellites, weather models, smoke forecasts and air quality monitors.

Impact on people with late-stage lung cancer

People with advanced cancer (stage 4) who had never smoked were especially affected — their risk of dying from cancer went up by 55% if they were exposed to high levels of air pollution.

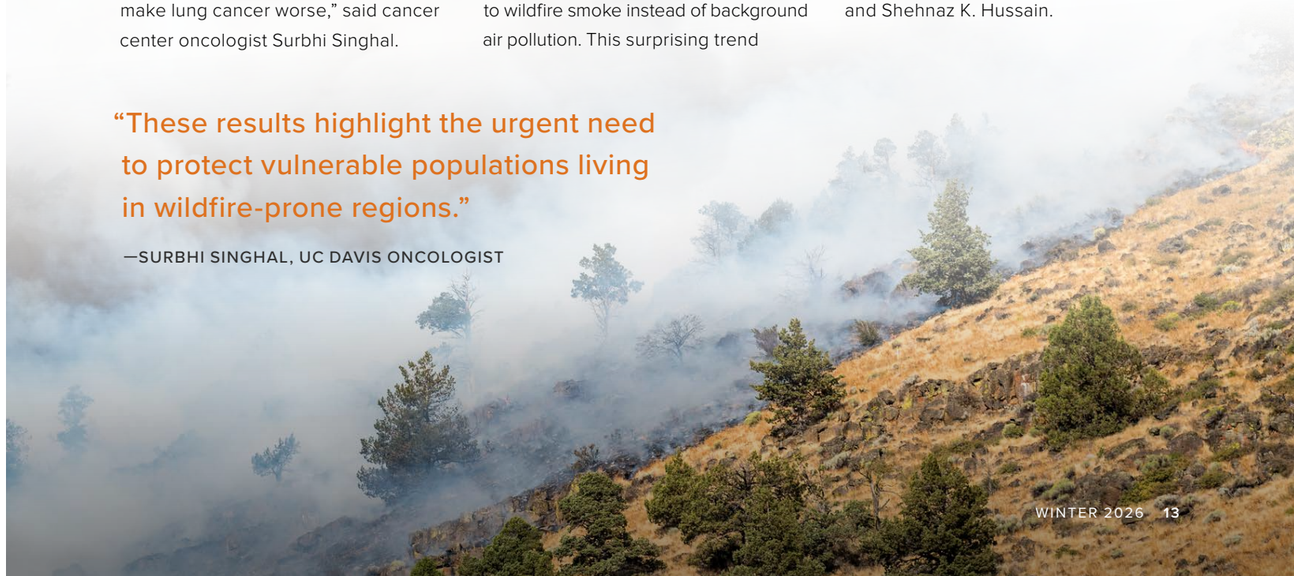
Interestingly, the study found patients with stage 4 lung cancer with a history of smoking who were treated with immunotherapy actually had better survival rates during days of extremely high PM2.5 toxin levels. These levels were likely due to wildfire smoke instead of background air pollution. This surprising trend suggests that smoke-related changes in the body may interact with certain treatments — a finding the researchers say deserves further study.

Action needed to protect people

"As wildfires become more frequent and intense in California and other parts of the U.S., we need targeted health strategies to protect cancer patients and others with serious health problems," Singhal said. "These results highlight the urgent need to protect vulnerable populations living in wildfire-prone regions."

Other UC Davis authors of the study include Jonathan W. Riess, Mariela Alaniz, Sean Raffuse, Shuchi Gulati, Theresa Keegan, Irva Hertz-Picciotto and Shehnaz K. Hussain.

> "These results highlight the urgent need to protect vulnerable populations living in wildfire-prone regions."
>
> —SURBHI SINGHAL, UC DAVIS ONCOLOGIST



Inspiring the next generation of cancer experts:

A unique learning experience at Sheldon High School

In a microscope-lined classroom at Sheldon High School in Sacramento, students aren't just learning about science — they're stepping into the world of cancer, guided by experts who are working on the front lines of the cancer fight.

Called the Cancer Research Immersion Academy, this groundbreaking program is developed by UC Davis Comprehensive Cancer Center in partnership with Sacramento State University. Designed for high school students, it offers a hands-on introduction to cancer research and health care careers. The idea is to help young minds envision a future where they can make a real difference.

From classroom curiosity to career confidence

Each week, more than 60 students in Sheldon High's junior-level microbiology classes dive into the science of cancer. They examine cancer cells under microscopes, explore how DNA influences cell behavior cancer risk, and, on this day, engage directly with professionals from UC Davis Comprehensive Cancer Center.

"Today is all about exploring the breadth of careers in the cancer field," said Kirsten Asher, who is with the cancer center's Office of Education, Training and Workforce Development and created the cancer-related curriculum. "We don't have just doctors and nurses here. We have brought researchers, pharmacists, data and compliance experts, health educators and even a cancer center marketing specialist."

In a format Asher calls "speed networking," students met in small groups with professionals for 15-minute Q&A sessions. They asked anything — from how long it takes to analyze a tumor to what researchers do in their free time. The goal? To spark curiosity and help students discover which careers excite them most.

Cancer topics in the classroom include:

- What does cancer look like as a biological process and as a human experience?
- How do cancer-causing mutations affect a cell's behavior?
- How could specific changes in a tumor's DNA be an important tool in determining treatment?
- How does a person's genetic code as well as zip code affect cancer outcomes?

Oncologist Janai Carr-Ascher talks with students at Sheldon High School.

Participation in the academy engages students in meaningful scientific research, exposes them to a wide variety of medical careers and shows them practical steps to prepare for college.

"It also gives them a sense of empowerment to give back to their communities and shape the future," Asher added.

Real scientists, real stories

One of the visiting experts, Diedre Reitz, a UC Davis cancer biologist, shared how she studies genetic mutations in tumor cells using donated tissue samples. Student Ava Allen asked about the process and was fascinated to learn that Reitz can begin analyzing a tumor the same day she receives it, with results in about two weeks.

Reitz said she was pleased to participate in the day in the classroom, "I wanted to give back and show high school students that you don't have to be an MD to fight cancer."

But it wasn't just the science that resonated. When Allen asked Reitz about her life outside the lab, she learned that the researcher enjoys hiking and spending time with her husband and toddler. "I realize how important it is to be a researcher," Allen said, "but I'm glad to hear she is a mom, too. I want to be a mother as well someday."

Another guest, Felipe Godinez, a UC Davis biomedical researcher, captivated students with his work using artificial intelligence (AI) to distinguish between malignant and benign tumors. "With the knowledge I now have, I wish I was in your seats," he told the class.

UC Davis researcher Felipe Godinez hosts a 15-minute networking session with microbiology students.

Student Amun Wedderburn was inspired. "I'm learning there are lots of different aspects of biomedicine and that AI could give me a way to give back to the community."

Fellow student Matt Kandoth asked Godinez if he gets a regular paycheck or if his salary depends on research grants.

"Every faculty member at UC Davis teaches. If you get research funding, it means you get to spend more time focused on your research," Godinez explained.

Science teacher Tabitha Lai during the Cancer Research Acaemy class.

Kandoth followed up with questions related to Godinez's years spent in college and the degrees he obtained.

"With programs like this, the future of cancer research isn't just in labs — it's growing in classrooms, one motivated student at a time," said cancer center oncologist Janai Carr-Ascher, who is the faculty leader for the Cancer Research Immersion Academy.

A teacher's dream come true

For Sheldon High science teacher Tabitha Lai, this is more than a program — it's personal. A Sheldon alum herself, Lai discovered her love for science in the very classroom where she now teaches. She went on to earn a biotechnology degree from UC Davis and a master's in multicultural education from Sacramento State University.

"My hopes and dreams are that these students will pursue whatever career path they want and not be boxed in by society's expectations," Lai said. "There are so many exciting opportunities in science and you don't need a medical or biotechnology degree to make a difference."

Building bridges to the future

The Cancer Research Immersion Academy is part of a broader effort to create a pipeline for future cancer care providers and researchers, with these high school students hopefully applying to UC Davis or Sacramento State in the near future. By integrating real-world, project-based learning into career technical education programs, the program helps students:

- Practice scientific research and communication
- Apply critical thinking and leadership skills
- Connect science to their personal experiences and communities
- Explore pathways to college and careers in biomedical research

High school teachers who want to bring this experience to their classrooms can email **kasher@health.ucdavis.edu**.

Cancer patient back on the slopes thanks to surgeon who understands love of skiing

Bill Borelli

"When can I get back to skiing?"

That was one of the first questions 68-year-old William "Bill" Borelli asked UC Davis Health surgical oncologist Cameron Gaskill. For Gaskill, a skier himself, the question signaled something powerful: This patient was ready for a fight.

"Bill's biopsy confirmed pancreatic cancer, which is one of the deadliest diagnoses we see," Gaskill said. "But I could tell right away — his spirit, his drive — he was up for the challenge."

A shared passion: Saving lives on the slopes

Borelli and Gaskill share more than a love for skiing — they're both ski patrollers, a tight-knit community of volunteers who brave treacherous terrain to rescue injured skiers.

Gaskill volunteers as a physician ski patroller at Sugar Bowl Resort, just west of Lake Tahoe. He's a resource for ski patrollers when people sustain critical injuries on the mountain.

Borelli serves at Dodge Ridge Mountain Resort in Pinecrest and directs the Mother Lode region for the Far West Division of the National Ski Patrol. He has dedicated his winters to training others how to safely transport injured skiers down the mountain.

"Dr. Gaskill and I immediately connected over ski patrolling," Borelli said. "It's rare to find someone who understands both medicine and the mountain like he does. From the beginning, he looked me in the eye and was completely honest."

"Skiing isn't just a sport — it's a community," Gaskill said. "It's about camaraderie, challenge and being out in nature with people you care about. Whether you're a surgeon or a skier, it's about showing up for others when it matters most."

Beating the odds

Pancreatic cancer is notoriously aggressive and often detected too late for surgery. Only about 20% of patients are eligible for surgical intervention. Borelli, remarkably, was one of them.

"It helped that Bill was in excellent shape and no stranger to tough terrain — physically or mentally," Gaskill said. "He's spent his life helping others in crisis. I saw this as our chance to return the favor."

The cancer had been caught early, thanks to an observant student in Borelli's classroom. A retired history teacher substituting in Sonora, he was approached by a student who asked, "Why are your eyes so yellow?"

That question sent Borelli to the doctor in January 2024 and likely saved his life. The answer was jaundice, caused by a bile duct obstruction that turned out to be a tumor.

The Whipple procedure

To remove the tumor, Gaskill recommended a Whipple procedure. During the complex operation, a surgeon removes the head of the pancreas, the first part of the small intestine, the gallbladder and the bile duct. It's an intensive, technically demanding surgery, best performed at high-volume centers like UC Davis Medical Center.

Bill Borelli was back on the slopes with his wife, Sonja Borelli Kivley, this past ski season.

"It's one of the most complex surgeries but gives the highest chance for cure," Gaskill explained.

Before surgery, Borelli underwent "prehabilitation" — a regimen of daily exercise, high-calorie and high-protein meals, and strict hydration. "We're getting the body ready to handle the stress of surgery. This conditioning makes a difference in how well patients recover after surgery," Gaskill said.

Mind over matter

When the day of surgery arrived in March 2024, Borelli felt ready.

The tumor, measuring 2.4 centimeters, was successfully removed, along with a portion of his digestive system, which Gaskill then reconstructed. The road to recovery was long, but Borelli met each challenge with determination. He quickly recovered from surgery and went on to complete chemotherapy.

"Mentally, I was prepared for my extensive cancer treatment. I've been sober for 30 years, and I've learned not to live in fear," he said. "The Serenity Prayer helped me through my cancer journey just as much as it did in sobriety. What recovery taught me, and cancer drove home, is the importance of living each day like it is your last but to plan for the future. I want to be the best I can be right now."

The only time Borelli said he became emotional was right before surgery, when he kissed his wife, Sonja Borelli Kivley, goodbye. Like Borelli, she and her son are ski patrollers, and the family shares a passion for the mountain.

A triumphant return

Just five months after the Whipple procedure, the couple traveled to England and Ireland for a dream vacation. Ten months post-op, Borelli was back at Dodge Ridge, ski patrolling alongside his family. This, after enduring grueling biweekly chemotherapy for six months.

A scan in November 2024 showed no evidence of disease.

"Cases like Bill's give us hope," Gaskill said. "When he sent me a photo of himself skiing, it brought so much joy. To see someone thrive after such a major surgery — it's why we do what we do."

"Dr. Gaskill made it possible for me to get back to what I love," Borelli said. "I'm back to ski patrolling, and I feel like I've got five or six more great years of skiing ahead of me."

A regional leader in pancreatic cancer care

UC Davis Comprehensive Cancer Center performs more Whipple procedures than any other center in the region, averaging 20 to 30 per year.

The cancer center is also a founding member of the UC Pancreatic Cancer Consortium, a statewide research effort aimed at dramatically improving outcomes for one of the most lethal cancers. Gaskill serves on the consortium's executive committee.

"As the number of pancreatic cancer cases continues to rise, we're committed to turning the tide," Gaskill said.

Bill Borelli is back to ski patrolling and teaching others how to guide a rescue toboggan down the mountain.

Meet Cameron Gaskill, surgical oncologist

Cameron Gaskill is fellowship-trained and board-certified in complex general surgical oncology. He is the section chief for Hepato-Pancreato-Biliary Surgery and specializes in the treatment of patients with cancers of the liver, bile duct, pancreas and duodenum. He has a special clinical interest and expertise in complex surgical care, surgical innovation and robotic techniques.

What are the current trends in pancreatic cancer diagnoses and treatment?

Pancreatic cancer incidence and mortality have been slowly increasing worldwide in recent decades. It is projected to become one of the top causes of cancer death in many high-income countries. Most patients are still diagnosed at an advanced stage because early disease is often asymptomatic.

Cancer treatment is becoming more tailored to each person and uses more than one approach. Doctors are using chemotherapy before surgery more often, doing more tests to find specific gene changes, offering treatments that target those changes and working harder to catch cancer early — like using blood tests and closely watching people at higher risk.

Have you seen any shifts in the age or demographics of patients being diagnosed?

Across cancer care in general, we're seeing important shifts in who is being diagnosed. Traditionally, most cancers were diseases of older adults, but we're now seeing a gradual rise in colorectal, breast and pancreatic cancers among younger patients, sometimes in their 30s and 40s. The reasons aren't fully clear but likely involve changes in lifestyle, environmental exposures and perhaps even our microbiome and metabolism.

Pancreatic cancer still remains most common in older adults, but a gradual increase in risk in younger and more diverse patient populations underscores the need for earlier recognition, better risk stratification and more equitable access to advanced care and clinical trials.

What recent advancements in treatment or early detection are most promising?

There is a lot of exciting progress being made. We are seeing significant improvements in chemotherapy combinations and in how we sequence treatments. More patients are now receiving chemotherapy before surgery, which we think helps shrink tumors, treats microscopic disease early and improves the chances of a complete resection. There's also growing promise in personalized medicine. This means we use genetic and molecular testing to match patients with targeted therapies or clinical trials tailored to their tumor biology, and can even use the resected tumor in a vaccine to prime our immune systems to fight recurrences.

On the early-detection front, researchers are making progress in identifying blood-based biomarkers and using advanced imaging and artificial intelligence to detect pancreatic cancer earlier, especially in high-risk individuals. Here at UC Davis Health, we are part of a global clinical trial, PRECEDE, that enrolls patients with risk factors for screening with the hope that we will identify new methods of early detection and prevention of pancreatic cancer.

Why did you decide to specialize in pancreatic cancer?

I was drawn to pancreatic cancer surgery as it is one of the most challenging and meaningful areas within surgery — both technically and intellectually. Pancreatic cancer remains one of the most lethal malignancies, with limited treatment options and a devastating prognosis for many patients. Yet for some, surgery (particularly complex operations such as the Whipple procedure) offers a real chance at cure. The technical precision and meticulous judgment required in these operations are deeply compelling to me; they demand not only surgical skill but also a deep understanding of anatomy, cancer biology, physiology and multidisciplinary care.

Beyond the technical challenge, I cherish the opportunities to walk alongside patients and their families through an extraordinarily difficult journey. Caring for individuals with pancreatic cancer requires honesty, compassion, grit and persistence. It is an honor to help guide patients through decisions that often carry profound emotional weight and to be part of a team working toward hope in the face of adversity.

Specializing in pancreatic cancer allows me to combine the aspects of surgery I find most fulfilling: technical excellence, complex decision-making and deeply human connection

Aside from skiing, what are your other interests?

I love spending time with my wife and three daughters. I also sail and kiteboard. I spend significant time in Africa doing global cancer surgery work.

Cancer center joins elite group

UC Davis Comprehensive Cancer Center has been recognized as a Pancreatic Cancer Clinical Center and Academic Center of Excellence by the National Pancreas Foundation. It reflects the cancer center's commitment to research, clinical trials, training and advanced clinical care for pancreatic cancer.

The National Pancreas Foundation

New drug developed at UC Davis offers hope to bladder cancer patients

Kit S. Lam

Imagine a targeted approach to bladder cancer that spares healthy cells while delivering chemotherapy directly to cancerous ones, offering hope for patients with advanced stages of the disease.

For Sacramento resident Gerald Hecox, that has become a reality.

Hecox recently completed a life-changing clinical trial of a new drug delivery system called PLZ4-coated paclitaxel-loaded micelles (PPM). UC Davis and the U.S. Department of Veterans Affairs funded the preclinical work required to get PPM approved for clinical trials in humans.

So far, 3 out of 4 patients have complete remission of their tumors at the first-dose level of the trial.

The breakthrough demonstrates the critical importance of continued federal funding of cancer research.

The drug was developed at UC Davis by Kit S. Lam, a distinguished professor in the School of Medicine's Department of Biochemistry and Molecular Medicine and Division of Hematology and Oncology, and Chong-Xian Pan, an associate professor of medicine who is now at Brigham and Women's Hospital in Boston. Pan is a former professor of medicine and urology at UC Davis Health.

"I'd been treated three times before, but the cancer kept coming back," Hecox said. "My doctor referred me to UC Davis to have my bladder removed. I wasn't going to do that without putting up a fight."

When Hecox found out he was eligible for the PPM trial, he signed up immediately. Just six weeks after starting treatment in July 2025, his scans showed no sign of bladder cancer. At 74, he's now back to golfing and hanging out with his family's three corgis: Molly, Walter and Callie. He's even planning a camping trip with his wife, Judy.

Hecox is one of four people who have received the novel therapy, including three patients at the VA Boston Healthcare System. UC Davis Health is currently enrolling more patients to test how recurring noninvasive bladder cancer responds to the new therapy.

"Mr. Hecox is a great example of a patient who could benefit from our treatment," said Mamta Parikh, an associate professor of hematology and oncology. Parikh is a bladder cancer researcher and the trial's principal investigator. "The next step for his bladder cancer would have required extensive surgery. As a very active person, he was looking for an alternative, and he's done quite well in the study."

Bladder cancer and its recurrence

Hecox was diagnosed with non-muscle invasive bladder cancer, the most common form of the disease. It grows within the bladder lining, called the urothelium. For about 50 years, oncologists have relied on surgical removal of visible tumors followed by an immunotherapy treatment called Bacillus Calmette-Guerin.

Clinicians deliver BCG via a catheter to a patient's bladder, exposing the entire urothelium to the substance. Once in the bladder, the drug activates a local immune response to attack cancer cells. It can also trigger side effects such as flu-like symptoms, fatigue and painful urination, since treatment isn't confined to the tumor.

While BCG can be an effective treatment for bladder cancer that hasn't metastasized, Lam and his colleagues noted that around 75% of cancers treated with BCG recur, as Hecox's did. When treatment fails, the only option left for many patients is complete bladder removal, also called a cystectomy.

Bladder removal requires lengthy anesthesia, which can be risky for patients. Cystectomy patients must either wear a bag on the outside of their bodies to drain their urine or receive a new bladder constructed from intestinal tissue.

"Radical cystectomy is a major surgery, and although patients can live healthy lives afterwards, it does impact their quality of life," Parikh said. "Mr. Hecox is an active person who wants to remain that way and he came to us looking for an alternative."

Delivering chemotherapy while reducing side effects

Lam's new treatment, PPM, takes a different approach to cancer treatment.

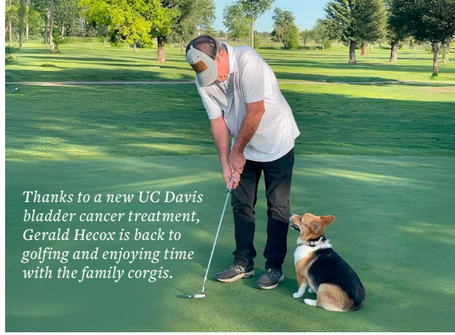
PPM is made of lipid-polymer hybrid molecules that self-assemble to form tiny spherical nanoparticles called micelles that can carry other substances. In this case, micelles encapsulate the chemotherapy drug paclitaxel, which is used to treat a variety of cancers, including bladder, breast and non-small cell lung cancer.

PPM is coated with the molecule PLZ4 that binds to receptors on the surface of bladder cancer cells. The nanoparticles are then taken up by the cancer cells, where paclitaxel is released to prevent cancer growth.

"With treatments that don't take a targeted approach, there's always the concern that not enough drugs will be delivered to the cancer cells," Parikh said. "Our hope is that this treatment might be more effective since it does target the cancer."

As Parikh noted, when healthy cells are exposed to standard paclitaxel, the drug can cause significant irritation to bladder tissue and difficulties with urination. However, Hecox reported no side effects during the trial. This is because PPM targets only cancer cells, not normal bladder tissue.

Mamta Parikh examines clinical trial patient Gerold Hecox.



Thanks to a new UC Davis bladder cancer treatment, Gerald Hecox is back to golfing and enjoying time with the family corgis.

Clinicians administered PPM to Hecox's bladder through a catheter once a week for six weeks. He was monitored regularly by having his bladder lining examined through a camera inserted into the bladder in addition to blood tests and CT scans. He'll continue to be tested in the months to come, but so far, his examinations have shown no signs of cancerous cells.

Hecox's wife, Judy, explained that they both were scared about their lack of options before he entered the trial. They felt other doctors had given up on him, and neither of them wanted his bladder to be removed.

"We've been immensely impressed with UC Davis," she said. "Everyone is so thoughtful and nice. They let us know exactly what to expect every step of the way. We're very pleased with the treatment we got and he's going to stay with his doctors at Davis."

Parikh and the rest of the research team will continue to recruit patients to measure PPM's safety and effectiveness. Patients can talk to their primary doctor about obtaining a referral to the Urologic Oncology clinic to discuss participation in the trial.

"This is an innovative treatment that could provide an alternative to major surgery for patients with non-muscle invasive bladder cancer and potentially prevent them from losing their bladders," Parikh said. "It offers hope for people who have tried BCG and had their cancers come back."

To learn how to enroll in a clinical trial, visit **health.ucdavis.edu/patients-visitors/clinical-trials/** or call **916-734-0565**.

Cancer services come to Folsom, serving growing foothills region

Folsom Medical Care Clinic offers new infusion center, radiology services and a full-time oncologist

Patients in the foothills region served by the new Folsom Medical Care Clinic can now get cancer care close to home.

The three-story, 114,000-square-foot building is the first on the new Folsom Center for Health campus. It consolidates three existing UC Davis Health facilities in Folsom and adds additional services. The expansive facility offers a large state-of-the-art infusion center. There are also expanded radiology services, including MRI, CT and contrast-enhanced mammography.

"This is a historic moment for health care in our region," said Chief Medical Officer for Ambulatory Care Debbie Aizenberg. "This will become a one-stop shop for many patients as they navigate between their primary care, specialty care, imaging and labs, and it will allow for better collaboration among providers."

Designed for healing

The clinic's design reflects a strong connection to nature and healing. Each area of the light-filled building is themed around different native plants, such as sunflowers, milkweed, lupine and poppies. Artwork fills the space, including photographs by the clinic director.

"Everything is laid out so wonderfully. The colors are vibrant. Every different area that you go to, it's a different color, it's a different flower," said Christina Bachman, a mammographer who has been working at UC Davis Health in Folsom for 17 years. She's thrilled with the new building. "They put a lot of thought into how they wanted this place to look, and it really shows."

Patients and staff can take a break or share a meal at the outdoor tables, and children can enjoy a new playground outside the facility. Infusion center patients can look out onto a healing garden reflecting the natural biome of the area while receiving treatment.

Bernice Ann Cruz is a clinical nurse who works in adult infusion at the Folsom Medical Care Clinic. She says the new location is especially helpful for cancer patients in the region.

"Driving home from the treatment can be tiring, and patients are fatigued," she explained. "It will be very beneficial to have this infusion center closer to home so they can travel less."

New UC Davis Health C Street Clinic adds to expanded infusion services

New infusion services are also now located at the UC Davis Health C Street Clinic in East Sacramento. The facility features a spa-like atmosphere with calming colors and a thoughtful design that is soothing and protects privacy. There are two private rooms and 12 semi-private infusion bays. Additionally, the C Street location is now home to the cancer center's Breast Cancer Survivorship Clinic. The clinic addresses mental wellness, physical functioning, fertility, nutrition and other issues for breast cancer survivors. It is open to all breast cancer survivors.

First full-time oncologist based in Folsom


Kanishka Patel

Kanishka Patel is the first full-time oncologist to be based in Folsom. Patel is a hematologist and oncologist who brings a deep commitment to compassionate, personalized care for patients facing blood disorders and cancer. She has a special interest in breast cancer and is passionate about helping patients feel supported and informed throughout their treatment journey.

Patel grew up in the San Francisco Bay Area and studied neuroscience and religion at Swarthmore College. She later spent a year at the National Institutes of Health researching how certain molecules work in the body. She earned her medical degree from Albert Einstein College of Medicine in New York and completed her training in internal medicine and hematology/oncology at UC Davis School of Medicine.

During her time at UC Davis, Patel was involved in research related to COVID-19 and cancer and was honored with an Excellence in Teaching award. She also served as chief fellow in her final year of training. Her clinical interests include breast, urinary and reproductive system cancers.

Patel believes in working as a team — with nurses, pharmacists, social workers and other specialists — to make sure every patient receives complete and thoughtful care. She stays up to date with the latest treatments and she takes the time to create care plans that are tailored to each person's unique needs.

At UC Davis Health in Folsom, Patel looks forward to building strong relationships with patients and their families, expanding access to care and helping improve cancer outcomes in the community.

‘The Sister Act’: How family and faith helped a young woman beat Hodgkin’s lymphoma

Elisabeth Lucien (left) and her sister (and donor) Rebekah Fenton (right).

Bound by blood, bone marrow and bravery, two sisters celebrate one triumphant transplant

Before she fell asleep for surgery, Elisabeth Lucien had an ‘A’ blood type. After she awoke from anesthesia, she had an ‘O’ blood type. That’s not a surprise because following a bone marrow transplant, a patient’s blood type often changes to that of their donor.

In Lucien’s case, the blood type — and the bone marrow — came from her sister, Rebekah Fenton.

This was Lucien’s second bone marrow transplant at UC Davis Comprehensive Cancer Center.

She was diagnosed with Hodgkin’s lymphoma in 2009, at the age of 17, and had an initial bone marrow transplant in 2010. That one was autologous, meaning physicians collected Lucien’s own stem cells then returned them back into her body after intense chemotherapy and radiation. Unfortunately, the lymphoma came back. Lucien would need another round of chemo and a second transplant, this time from a donor.

Luckily, a donor wasn’t hard to find.

Care should feel like home

Fenton (formerly Lucien) is a little more than a year older than Elisabeth. They were both born in Sacramento although they insist they “grew up” at UC Davis Medical Center. Their father, Michael Lucien, attended UC Davis School of Medicine, stayed for his residency and is the current associate chief of the UC Davis Health Community Physicians Group. Their mother, Darreis Lucien, is a nursing professor at Sacramento City College; her students rotate at UC Davis Health.

In September, Fenton also joined UC Davis Health as a pediatrician and adolescent medicine physician. Her approach to adolescent care grew from her sister’s journey with cancer.

“I was inspired by her determination to be a normal high school student,” remembered Fenton. “She was literally bargaining with her doctors.”

Rebekah Fenton during bone marrow retrieval.

Photos courtesy of Darreis Lucien

‘Finding’ a match

Upon learning she would need a bone marrow donation, Lucien faced the odds. Though five-year survival rates are 90% for Hodgkin’s lymphoma, 70% of patients won’t match with their family members. And the chance of finding a match through a donor registry is significantly lower for African American people (29%).

Both of Lucien’s siblings were tested. While her brother was not a match, her older sister was a slam dunk. For Fenton, it was a “no-brainer” that she would donate.

But her sister wasn’t so sure. “I’m not letting her do it,” thought Lucien. “She’s leaving for med school. I don’t want her to sacrifice anything.”

For a while, Fenton let her little sister process her feelings, her sense of guilt for needing help. She knew she would come around; she just needed some space. Meanwhile, Fenton had her own fears: “What if the transplant doesn’t work and I’m responsible for any negative outcomes?” she thought.

She leaned on a medical school mentor for emotional guidance and found a donor support network. There, she bonded with another woman who had also donated to a sibling. Her own strong faith sustained her spirit.

“Before my sister was born, God knew I was going to be a match for her,” Fenton said. “My blood is a gift that I have no control over. I trust it, I surrender. I hope, because of God, that it becomes the life I get to see her live.”

Soon, Lucien sent her older sister a text. It read, “Fine, you can do it.”

As if it were ever a question. Fenton donated her sample.

“I’ll never forget it,” said Lucien, through tears. “Like, she is my hero. There are no words for that day, seeing her do that. I feel like I owe her my life.”

But in the weeks leading up to the transplant, guilt weighed on her. “I have to find some way to repay her,” she repeated.

The day before the transplant, Lucien was in a dark place, overwhelmed by years of treatment and her upcoming procedure. She froze. She wouldn’t move or talk to anybody in the hospital. Her doctor called it “playing possum.”

Then her sister called. She had filmed a video to lift her little sister’s spirits. Lucien watched it through tears. She was finally ready for the procedure.

The ‘Sister Act’

As soon as she woke and learned her new blood type, Lucien called her sister. “You’re in me,” she joked.

Thereafter, in honor of a successful transplant and Lucien’s remission, the sisters celebrate each anniversary of the procedure. November 9, 2025, marked 13 years. They call it “Sister Act Day.”

Lucien doesn’t often talk about what she went through. Years of battling Hodgkin’s lymphoma took a heavy emotional toll. However, it inspired her to earn a Master of Social Work in 2019 from the University of Southern California and a Ph.D. in sociology in 2025 from Howard University. She is a speaker for mental health awareness and plans to open a virtual psychotherapy practice.

She hopes sharing her story will not only inspire patients but help educate care teams. She wants medical professionals to remember the human behind the diagnosis.

“I’m really thankful for each and every one of them,” said Lucien. “At UC Davis, it’s like you become family.”

Lucien doesn’t remember it, but her father actually carried her as an infant across the stage as he accepted his diploma from UC Davis Medical School.

“It’s like coming back home,” added Fenton, two months into her new role. She chose to share their story to honor “the gift this institution has given my family.”

> “Like, she is my hero. There are no words for that day, seeing her do that. I feel like I owe her my life.”
>
> —ELISABETH LUCIEN

Adult and pediatric stem cell transplant programs earn recognition

UC Davis Health’s stem cell transplant program and its pediatric bone marrow transplant program received reaccreditation in 2025 from the Foundation for the Accreditation of Cellular Therapy (FACT). A globally recognized organization, FACT sets standards for high-quality medical and laboratory practices in transplantation and cellular therapies.

This is the first year the pediatric program has received FACT accreditation since UC Davis Health revived the program in 2023.

“Serving the kids in our region is what drives us every day,” said Lisa Madden, a pediatric hematologist-oncologist who leads the pediatric bone marrow transplant program at UC Davis Health. “It’s so rewarding. The look on parents’ faces and the quality of relief they express when they hear they can stay here for transplant makes everything worthwhile.”

Located at UC Davis Comprehensive Cancer Center, the program offers a full spectrum of transplant and cellular therapy options, including autologous and allogeneic transplants. Autologous transplants are when healthy stem cells from a patient are collected prior to cancer treatment and then re-infused. Allogenic transplants are when donor cells are infused, either from a donor registry or from a family member.

The program is also designated a National Marrow Donor Program transplant center, providing access to a global network of stem cell donors and cord blood units.

“FACT accreditation is a testament to the exceptional quality and dedication of our stem cell transplant teams,” said Joseph Tuscano, the director of UC Davis Health’s Cellular Therapy and Stem Cell Transplantation Division. “It assures our patients that UC Davis Health meets the highest international standards in cellular therapy.”

UC Davis Health’s pediatric bone barrow transplant program is the only provider of pediatric stem cell transplantation in the Sacramento area. It offers advanced therapies for high-risk leukemia, hemoglobin disorders, metabolic diseases and immune deficiencies.

fact FOUNDATION FOR THE ACCREDITATION OF CELLULAR THERAPY

A's spread cancer awareness and spirit of fun

Cancer survivor George Evans throws first pitch for prostate cancer

George Evans had the opportunity of a lifetime as he stepped up to the mound to throw the first pitch at the Athletics game against the Houston Astros last summer in West Sacramento. At that moment, he was also hitting a home run for prostate cancer awareness.

Evans, a UC Davis Health patient, has been a longtime A's fan after moving to Northern California from Los Angeles, where he met his wife, Yvonne. The retired grandfather of three said he and his wife were thrilled to be invited onto the field.

"I couldn't believe I'd get the opportunity to throw the first pitch at an A's game while bringing awareness to prostate cancer," said Evans, who played baseball in high school. "I think it is especially important to share that African American men suffer significantly higher rates of the disease."

Indeed, Black men are more likely to be diagnosed at a younger age and with more aggressive, advanced-stage prostate cancer. They are also twice as likely to die from prostate cancer.

That cancer burden is what encouraged Evans to join a support group specifically for African American men.

Evans is one of the lucky ones

"Cancer changed my life," said Evans. "I met so many supportive people and went from a person with cancer to a person who is cancer-free."

Minutes before the ballgame, Evans, in a green jersey with "Athletics" emblazoned on the front, made his way to the edge of the dirt mound closest to home plate. The right-hander tossed the first pitch toward the plate, into the glove of third base coach Eric Martins.

Evans triumphs over cancer

The 70-year-old was diagnosed with prostate cancer in 2022 and treated at UC Davis Comprehensive Cancer Center by Marc Dall'Era, chief of the Department of Urologic Surgery.

Evans fought and beat the cancer with the help of a series of radiation treatments. He said he's feeling great now.

"I knew George would be the perfect representative for prostate cancer patients and survivors. He has a zest for life and a passion for bringing awareness to the disease," said Dall'Era, who added that 1 in 8 men will be diagnosed with prostate cancer in their lifetime.

Darell Hernaiz and A's mascot Stomper visits with a young pediatric patient at UC Davis Children's Hospital.

A's visit UC Davis Children's Hospital

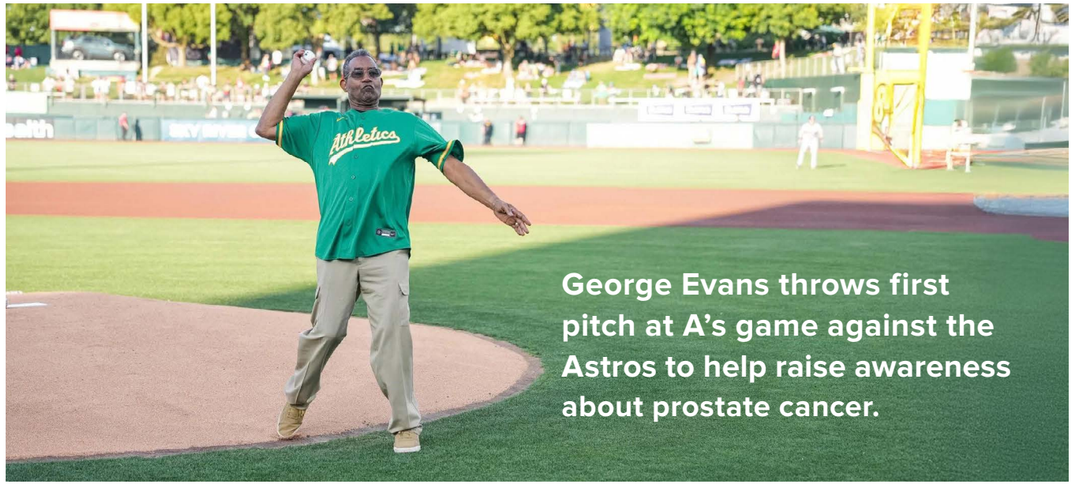
A's players also visited the Panda Cares room at UC Davis Children's Hospital last summer. A's players Darell Hernaiz, Brett Harris and Lawrence Butler hit a grand slam with pediatric patients when they presented a Nintendo Switch handheld gaming console to the Child Life and Creative Arts Therapy Department. The donation was possible thanks to the Major League Baseball (MLB) partnership with Starlight Children's Foundation.

All 30 MLB clubs received Nintendo Switch handhelds from Starlight for donation to pediatric cancer hospitals or nonprofits in their local communities across the country.

The gaming console is available for any pediatric patient staying at UC Davis Children's Hospital and can be brought to a patient's bedside.

Diana Sundberg, manager of the Child Life and Creative Arts Therapy Department, said the visit by the A's players spotlighted the healing power of joy.

"When A's players walked through our doors and gifted the Starlight Nintendo Switch, they didn't just bring a gaming console. They brought smiles, laughter and a sense of normalcy to children facing incredibly tough battles," Sundberg said. "We're deeply grateful for MLB and the Starlight Children's Foundation for helping us create brighter days for our patients, one game at a time."



George Evans throws first pitch at A's game against the Astros to help raise awareness about prostate cancer.

New grants fueling outreach programs on MobileMammo+ bus

Two new initiatives will enhance access to breast cancer screening

BLOSSOM

expands access to lifesaving breast cancer care

UC Davis Comprehensive Cancer Center is expanding access to its new mobile breast cancer screening clinic thanks to a $32,000 grant from the Safeway Foundation. The grant will help fund mammograms for under-resourced women onboard the MobileMammo+ bus.

The funding will help grow a new program called BLOSSOM (Breast Lifesaving Outreach Screening Services on the Move). The initiative will bring high-quality breast cancer screenings directly to underserved neighborhoods across the region.

"Early detection saves lives. BLOSSOM is increasing access to care and helping women who need assistance paying for their screenings, including those who are uninsured or underinsured," said Julie Dang, assistant director for Community Outreach and Engagement at UC Davis Comprehensive Cancer Center, who is leading the program.

If women can't come to UC Davis Health, we'll go to them

The MobileMammo+ bus is staffed by certified breast imaging technologists and delivers the same level of care found at UC Davis Health clinics, but with the added convenience of meeting women where they are. The 45-foot-long clinic-on-wheels is equipped with advanced 3D mammography technology.

Inside the MobileMammo+ bus.

"Safeway is proud to support the launch of BLOSSOM, a clinic that meets people where they are, physically, culturally and emotionally," said Karl Schroeder, division president of Safeway Northern California. "We take great pride in raising funds to advance breast cancer research and treatment, and UC Davis Comprehensive Cancer Center is one of more than 30 organizations we're honored to partner with in this important work. Together, we're strengthening the health and well-being of the communities we serve."

The program aims to reach approximately 500 women through outreach, education and screenings, with five major community events planned this year and next.

"The Safeway grant will support these events, covering costs such as equipment setup, educational materials, venue fees, transportation and comfort items to create a welcoming environment," Dang said.

Making a difference in the breast cancer fight

By bringing care directly to the community, BLOSSOM is working to close the gap in breast cancer outcomes.

"BLOSSOM is more than a mobile clinic — it's a promise to our communities that no woman should be denied access to lifesaving breast cancer screenings because of where she lives or what language she speaks," said Laura Fejerman, associate director of Community Outreach and Engagement. "With the MobileMammo+ bus, we're bringing leading-edge technology and compassionate care directly to the neighborhoods that need it most."

Partnering with trusted local organizations, including faith-based groups, community health clinics and the Sacramento Food Bank, BLOSSOM will host screening events at familiar and accessible community locations. These events will also offer culturally and linguistically tailored breast health education to encourage participation.

MobileMammo+

EMBRACE

program unites mobile screening and community education

In yet another boost to MobileMammo+ outreach efforts, the cancer center has received a $250,000 research grant by the National Comprehensive Cancer Network (NCCN) Oncology Research Program to improve breast cancer outcomes.

The grant will fund a new program called EMBRACE (Education and Mobile Mammography for Breast Cancer Resources, Access and Adherence via Community Engagement).

EMBRACE combines mobile screening with community-driven education and support to make breast cancer care more accessible, timely and culturally responsive. The initiative will employ the MobileMammo+ bus and will also be led by Dang.

"By integrating trusted community approaches with mobile services, EMBRACE will create a model that not only increases screening but also ensures timely care after abnormal results," Dang said. "The ultimate goal is to reduce persistent disparities in breast cancer outcomes and build a program that can be adapted and scaled in diverse communities."

Building on BLOSSOM's foundation, EMBRACE empowers women to feel informed and confident throughout their breast cancer screening experience, including what to expect before, during and after their mammogram. The program also implements innovative strategies to improve follow-up rates, including tailored behavioral messaging, and uses patient navigators to guide women through additional imaging and any subsequent steps needed for timely care.

Enabling timely follow-up care

To make sure no one is left behind, the program provides patient navigation services for women who need follow-up care after their screening. From diagnosis to treatment, BLOSSOM will help guide patients every step of the way.

"More than 10% of those screened require additional imaging, with even higher rates observed among women from medically underserved communities," said Diana Miglioretti, professor and division chief of biostatistics at UC Davis and a breast cancer researcher who will study outcomes from BLOSSOM. Miglioretti also heads up the mobile mammography program for the cancer center.

The overall goal is to increase breast cancer screening and reduce delays in follow-up care by addressing barriers at multiple levels — personal, social and structural.

"We're honored to support these researchers as they seek to improve the quality of care across the breast cancer continuum of care," said NCCN CEO Crystal S. Denlinger.

Novartis provided the funds for the two-year program.

‘Fall Gathering at the Ranch’ benefits cancer center research

The Amador Cancer Research Foundation held a fundraiser on Sept. 27 at Casino Mine Ranch in Plymouth to benefit research at UC Davis Comprehensive Cancer Center. Called the Fall Gathering at the Ranch, the event raised $60,000.

The foundation raises money for the Christine and Helen Landgraf Memorial Fund, which gives annual research grants to UC Davis cancer center researchers. John and Helen Landgraf created the Landgraf Award to honor their daughter, Christine, who died of Hodgkin’s disease in 1971 at the age of 27.

After Christine’s death, the Landgrafs were determined to raise money for local cancer research and treatment. Started in 1973, the fund was modest in the early years and was supported mostly by close family friends. After Helen and John died, the Landgraf family, with the support of long-time donors David and Diane Logan, created the foundation to continue their work.

The list of past recipients of the Landgraf Award is extensive. This year’s award went to Andrew Birkeland, an associate professor in the UC Davis Department of Otolaryngology – Head and Neck Surgery. His research focuses on developing novel technology to improve surgical outcomes, investigating biological drivers of head and neck cancer, and advancing liquid biopsy tests for cancer detection. Birkeland accepted the Landgraf Award at the Casino Mine Ranch fundraiser.

At the event, wine and appetizers were served. Silent and live auction items included a Bishop Creek backpacking adventure and other getaways as well as art and wine cellar dinners. There will be another Fall Gathering at the Ranch fundraiser in 2026.

Amador Cancer Research Foundation board member Jim Schnepp and Cathy Landgraf (left) present check to cancer center’s Andrew Birkeland, Frederick J. Meyers and Reese Olander.

Say goodbye to your hair for a good cause at a local St. Baldrick’s head-shaving event

It’s time for the annual St. Baldrick’s Brave the Shave. Join the fight against childhood cancer by shaving your head to stand in solidarity with young cancer warriors while raising money for cancer research.

Each year, Keaton’s Child Cancer Alliance partners with the St. Baldrick’s Foundation and Supercuts to bring two shave events to the Sacramento region. These events raise money to support national pediatric cancer research, including local efforts at UC Davis Comprehensive Cancer Center.

This year’s Brave the Shave takes place on Saturday, March 14, from 1:00 -3:30 p.m., at Westfield Galleria at 1151 Galleria Blvd, Roseville. To find out more or donate, go to **stbaldricks.org**.

“Bald is beautiful when you are raising money to fight childhood cancer,” said Jessica Alonso, executive director of Keaton’s Child Cancer Alliance. “Register your team now so you can have fun at our Brave the Shave events, knowing that every dollar raised helps fund life-saving research.”

The first St. Baldrick’s head-shaving event began on St. Patrick’s Day 2000 as a challenge between three friends at a New York City bar. It has since grown into the world’s largest charity funder of childhood cancer research. The name St. Baldrick’s is a combination of the words “bald” and “St. Patrick’s.”

Local fundraising benefits pediatric cancer research at UC Davis

“These events are a great example of how Keaton’s Child Cancer Alliance and UC Davis Comprehensive Cancer Center are working together to improve the quality of care for children with cancer, ensuring they receive top-tier treatment close to home,” said Marcio Malogolowkin, chief of pediatric hematology-oncology at UC Davis Health.

Brave the Shave events are held in communities nationwide. So far, they have raised more than $9.6 million for pediatric cancer research.

According to the St. Baldrick’s Foundation, every two minutes a family gets the devastating news that their child has cancer. One in 263 children in the United States will receive a cancer diagnosis before turning 20 years old. While survival rates have improved due to research, for some children, there is still little hope for a cure.

“It is critical that we continue funding cancer research close to home,” said Alonso. “This is why we are proud to contribute to the groundbreaking research at UC Davis Comprehensive Cancer Center.”

You can sign up online to join the UC Davis Health Brave the Shave team or to donate to St. Baldrick’s Foundation.

St. Baldrick’s FOUNDATION | CONQUER KIDS’ CANCER

Cancer research funding riding a wave thanks to Scott's Seafood

Frederick J. Meyers and Primo "Lucky" Lara Jr. accept donation from Scott's Seafood General Manager Iain Irvine and employee golf tournament organizer Sheilah King.

For more than two decades, Scott's Seafood on the River has been quietly making a powerful impact in the fight against cancer. General manager Iain Irvine recently presented a $35,000 check to leaders at UC Davis Comprehensive Cancer Center. It brings the restaurant's total contribution to more than $500,000 in support of research at the cancer center.

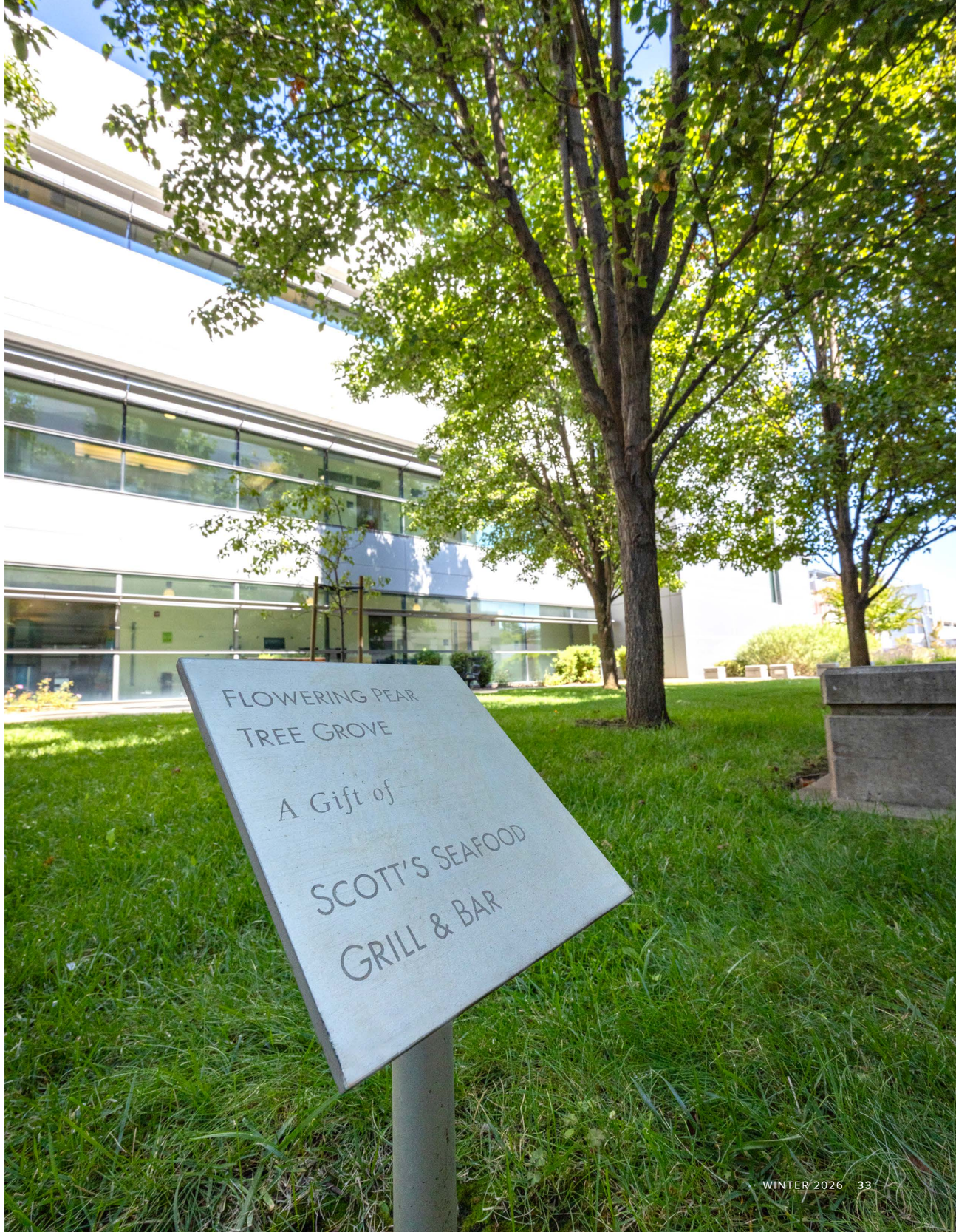
"We all have a connection to cancer or a cancer scare," said Irvine, who lost his grandfather to the disease. "It means a lot to bring people together to do some good."

Irvine's father, Alan, started working for Scott's Seafood in the Bay Area in 1980 and became a managing partner of the Sacramento restaurants in 1991. He and his wife, Sigrid, later founded Scott's Seafood on the River in 2008. Nestled along the scenic Sacramento River, the restaurant has become a beloved local institution — not just for its cuisine but for its commitment to community.

The company's involvement with the cancer research funding began nearly 30 years ago when Frederick J. Meyers, a frequent patron, oncologist and UC Davis Comprehensive Cancer Center leader, approached the Irvine family with an idea to join the fight against cancer. That conversation sparked the creation of an annual employee golf tournament, which has since become a cornerstone of the restaurant's fundraising efforts.

"That's how we hatched the plan for the employee golf tournament as a way to raise money for cancer research," said Sheilah King, who manages the restaurant's finances and oversees the tournament. Held each June at Valley Hi Country Club in Elk Grove, the event draws employees and customers together for a day on the greens.

The funds raised have directly supported UC Davis cancer researchers in their pursuit of innovative treatments and cures. Meyers emphasized the importance of community partnerships in advancing cancer research.

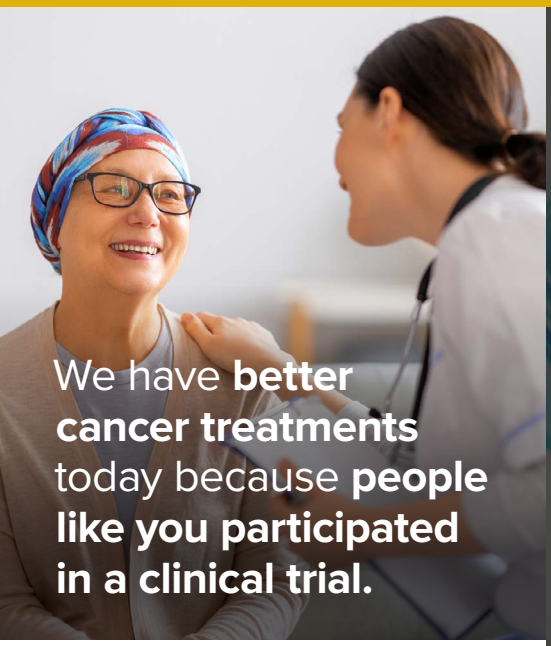


UC DAVIS HEALTH | COMPREHENSIVE CANCER CENTER

2279 45th Street
Sacramento, CA 95817

Address service requested

NONPROFIT ORG
US POSTAGE
PAID
Davis, CA
Permit No. 3



We have **better cancer treatments** today because **people like you participated in a clinical trial.**

If you're interested in exploring new treatment options, a clinical trial may be right for you. **Ask your doctor today about clinical trials.**

Breaking Barriers to Beat Cancer

UC DAVIS HEALTH | COMPREHENSIVE CANCER CENTER

NCI Comprehensive Cancer Center
A Cancer Center Designated by the National Cancer Institute

Synthesis — the art of bringing distinct elements together to form a cohesive whole — is the name of our magazine and our strategy as the Central Valley's only National Cancer Institute-designated comprehensive cancer center. Leveraging UC Davis strengths in innovative cancer models and technologies, precision therapeutics, transformative imaging and mitigation of cancer risks and disparities, we aim to reduce the cancer burden in our region and beyond. Uniting physicians, scientists and public health experts, we are committed to making cancer discoveries and delivering them quickly to patients so they have the best possible outcomes.

Synthesis — linking the best in cancer science to improve patients' lives — is our promise.