2024 ANNUAL REPORT

50 Years of Innovation and Hope:

The Legacy and Future of Mays Cancer Center

UT Health San Antonio
Mays Cancer Center

50 YEARS STRONGER

LOOKING AHEAD AT THE NEXT 50 YEARS

Lei Zheng, MD, PhD

On behalf of our faculty, researchers and staff, we are honored to present the 2024 annual report for Mays Cancer Center at The University of Texas Health Science Center at San Antonio.

The year 2024 marked an important milestone for Mays Cancer Center – our 50th year of exceptional cancer care and research in South Texas. As we celebrate this achievement, I'm excited to share with you some highlights of our accomplishments and our vision for the future.

When we opened our doors in 1974, cancer treatment was much different than it is today. Treatment options were limited. Side effects were often debilitating. Life expectancy was shorter.

Today, a cancer diagnosis is still overwhelming for patients. But thanks to earlier detection and improved treatments, survival rates have increased for many cancer types. We are also much better at supporting patients and families through their cancer journeys.

As a leader in research and education, The University of Texas Health Science Center at San Antonio has played a role in this progress. Our physicians and scientists have fueled important discoveries, including those that advance care for our South Texas population. Our expert faculty members have trained a legion of researchers and health care professionals. Together, we are improving the lives of Texans and beyond.

When I look ahead to the next 50 years, I know we will turn the tide against cancer. It is a bold prediction, but I believe in the ingenuity and determination of the scientific community. With an ongoing commitment to leading-edge research and comprehensive care, Mays Cancer Center will continue to be at the forefront of that effort.

Sincerely,

Lei Zheng, MD, PhD
Executive Director
Mays Cancer Center

50 Years of Innovation and Hope:

The Legacy and Future of Mays Cancer Center

1972
Articles of Incorporation signed

1974
Cancer Therapy and Research Center (CTRC) opens as a radiation therapy center

1977
Charles Coltman, Jr., MD, joins the CTRC as Medical Director

1978
Charles Coltman, MD, and William McGuire, MD, founded the San Antonio Breast Cancer Symposium; First SABCS is held with 140 attendees

1979
Dan Von Hoff, MD, FACP, recruited to lead the Institute for Drug Development (IDD)

1980
Chemotherapy is offered for the first time at CTRC; IDD is formed

1988
CTRC begins Phase 1 clinical trials program

1991
CTRC and the university join forces to become San Antonio Cancer Institute (SACI); SACI becomes a NCI-designated Cancer Center; CTRC signs 150-year lease with the San Antonio Medical Foundation for 14-acre site in the Medical Center.

1995
Burton and Miriam Grossman building opens at new CTRC campus

1996
SACI becomes an NCI Comprehensive Cancer Center

2000
Zeller and Urschel buildings are added to CTRC's campus

2005
Charles Coltman, retires, named President Emeritus

2007
CTRC officially merges with the university; Tyler Curiel, MD, appointed Director

2009
NCI designation is renewed

2010
Ian Thompson, Jr., MD, appointed Director

2014
NCI designation is renewed

2017
Ruben Mesa, MD, FACP, is appointed Executive Director

2018
CTRC renamed the Mays Cancer Center after a $30 million gift from the Mays Family Foundation; UT Health San Antonio partners with MD Anderson Cancer Center

2019
Mays Cancer Center began faculty recruitment to develop a world class DNA repair and cancer research program

2020
NCI designation is renewed; Plans for the cancer-focused UT Health San Antonio Multispecialty and Research Hospital announced

2021
UT Health San Antonio Multispecialty and Research Hospital breaks ground

2024
Lei Zheng, MD, PhD, appointed Executive Director and Vice President for Oncology; UT Health San Antonio Multispecialty and Research Hospital opened

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ELEVATING OUR MISSION

UT Health San Antonio alumnus chosen to be new executive director of Mays Cancer Center

Lei Zheng, MD, PhD, executive director of Mays Cancer Center

Patient care and research are at the forefront of Zheng's goals

In September 2024, Lei Zheng, MD, PhD, alumnus of The University of Texas Health Science Center at San Antonio (UT Health San Antonio), was appointed executive director of Mays Cancer Center and vice president for oncology for the health science center.

Zheng was also named the Mays Family Foundation Distinguished University Presidential Chair of Oncology. Additionally, he was selected to be a professor with tenure in the Department of Medicine at UT Health San Antonio Joe R. and Teresa Lozano Long School of Medicine.

"As the newly appointed executive director of the Mays Cancer Center, Dr. Lei Zheng's leadership and commitment to excellence in cancer care elevate our mission to decrease the burden of cancer in San Antonio, South Texas and beyond," said Robert Hromas, MD, FACP, dean of the Joe R. and Teresa Lozano Long School of Medicine.

Research Driven

Patient care and research are at the forefront of Zheng's goals. He plans to continue enhancing the multidisciplinary cancer care programs at Mays Cancer Center, investing in groundbreaking research to advance drug discovery and innovation, and strengthening our community outreach to expand across the South Texas region.

Leading Pancreatic Cancer Oncologist and Researcher

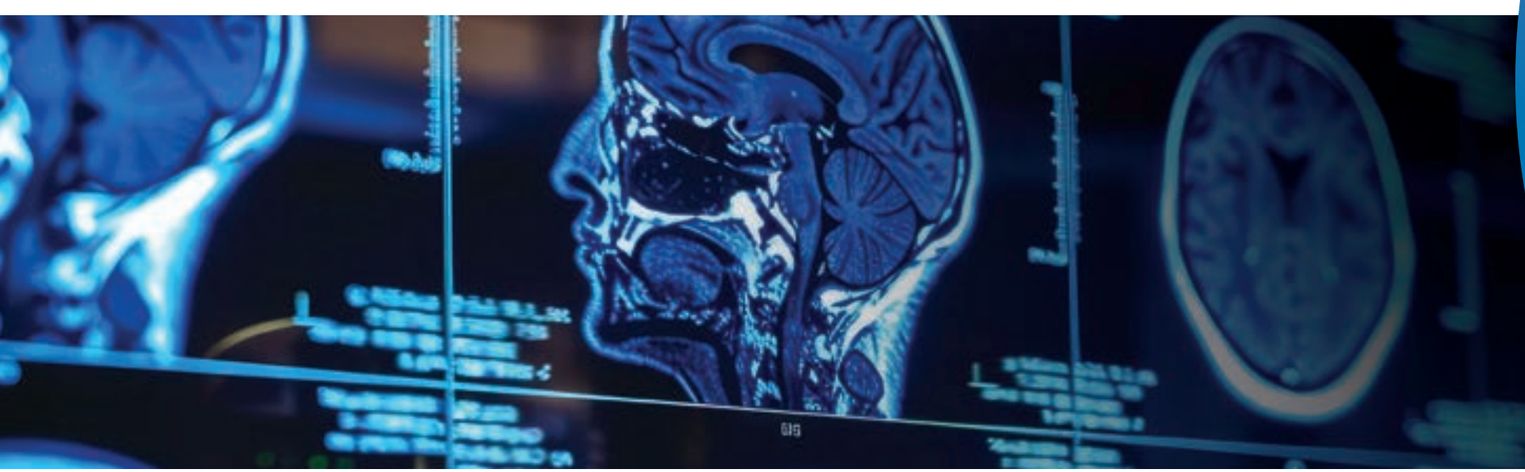
Previously, Zheng led the Pancreatic Cancer Precision Medicine Center of Excellence Program at Johns Hopkins University, where he established a pancreatic cancer immunotherapy research program. He also instituted several preclinical models of pancreatic cancer for developing innovative immunotherapy strategies.

Zheng was a professor of oncology and surgery at Johns Hopkins University School of Medicine. He was also associate cancer center director of precision medicine, director of the Multidisciplinary Gastrointestinal Cancer Laboratories Program and assistant cancer center director of translational research at the Sidney Kimmel Comprehensive Cancer Center.

"An esteemed alumnus of our university, Dr. Zheng is one of the world's leading pancreatic cancer medical oncologists and researchers," said Francisco Cigarroa, MD, senior executive vice president for health affairs and health system at UT Health San Antonio. "Dr. Zheng's leadership will bring a new chapter of innovation." ■

RESEARCH

For 50 years, Mays Cancer Center researchers have pushed scientific boundaries — driving discovery, advancing knowledge and delivering innovations that are transforming the science of cancer care.



Andrew L. Brenner, MD, PhD, professor and chair of neuro-oncology research at Mays Cancer Center

"We knew that the drug has been effective in the treatment of breast cancer, but its usefulness in the treatment of resulting brain tumors has been unclear. Our trial, however, revealed that it could achieve concentrations of inhibitors inside the tumors sufficient to benefit patients, and with minimal side effects, which is very promising for new therapy."

Promising drug for treating brain tumors stemming from breast cancer

A Mays Cancer Center clinical trial revealed a drug that shows promise in treating brain tumors that progress from metastatic breast cancer.

Usually used for treating breast cancer, the drug (sacituzumab govitecan) was effective in treating breast cancer with brain metastases or recurrent glioblastoma and caused few side effects. Patients participated in a "window trial," or one in which patients agree to be treated with a novel drug to test how it affects their treatment before undergoing surgery.
Sacituzumab govitecan (SG) is a drug designed as a targeted therapy to treat cancer. It targets and destroys tumor cells directly while sparing healthy cells.

Andrew J. Brenner, MD, PhD, professor and chair of neuro-oncology research with Mays Cancer Center at UT Health San Antonio, was lead author of the trial's study published in *Nature Communications*, titled, "Sacituzumab govitecan in patients with breast cancer brain metastases and recurrent glioblastoma: a phase 0 window-of-opportunity trial." He is also a clinical investigator for the Institute for Drug Development at Mays Cancer Center and co-leader of its Experimental and Development Therapeutics Program.

Meeting a pressing need

About half of all women with this aggressive and advanced triple-negative form of breast cancer will be diagnosed with brain metastases. The prognosis is usually poor, with a median overall survival rate of just over seven months.

Brain tumors stemming from breast cancer are common. Treatment usually involves radiotherapy, surgery and systemic therapies, which are often unsuccessful. Also, glioblastoma multiforme is the most common and aggressive primary brain malignancy in adults and has poor survival rates.

For those reasons, there has been an unmet need to address breast cancer with brain metastasis and recurrent glioblastoma multiforme. Treatment of both primary and secondary brain tumors is limited by many factors.

About the clinical trial

The Mays Cancer Center clinical trial included 25 patients aged 18 or older who had been diagnosed with breast cancer with brain metastases or recurrent glioblastoma. Each received a single intravenous dose of the drug one day before surgery. They then were given doses on days one and eight of 21-day cycles after recovery.

Patients with breast cancer with brain metastases continued treatment for eight months. Those with recurrent glioblastoma did so for two months.

According to researchers, "The drug was well-tolerated in this population with promising clinical signals of efficacy."

Ongoing research

Given the results, there is currently a phase 2 clinical trial to further investigate the use of SG in recurrent glioblastoma at UT Health San Antonio.

"We expect it will shed further light on the possible effectiveness of SG in treating glioblastoma," said William Kelly, MD, neuro-oncologist with Mays Cancer Center and assistant professor in the Division of Hematology and Oncology at UT Health San Antonio and principal investigator of the phase 2 trial. ■

Breaking new ground with BRCA1 research at UT Health San Antonio

A study led by the UT Health San Antonio sheds light on a novel role of breast cancer gene 1 (BRCA1) in tumor suppression for breast and ovarian cancers.

Individuals with inherited mutations in BRCA1 are predisposed to breast, ovarian and other cancers. BRCA1 helps prevent cancer by repairing damaged DNA, but how it does so is yet to be determined.

The damage in question is the DNA double-strand break, where both strands of DNA are broken and can lead to cancer if not repaired or repaired inaccurately. The new research shows that BRCA1 pushes a DNA break toward an accurate DNA repair mechanism (called homologous recombination, or HR). It also promotes subsequent steps by spurring the activity of "end resection enzymes" that process DNA ends to prepare them for HR.

"Our biochemical analysis with purified BRCA1 protein helps illuminate its role in DNA end processing," said Patrick Sung, DPhil, associate dean for research at UT Health San Antonio and director of its Greehey Children's Cancer Research Institute. He is a senior author of the study.

Sandeep Burma, PhD, is a professor and vice chair (research) of neurosurgery at UT Health San Antonio and its Mays Cancer Center. He is a senior and co-communicating author of the study. He said BRCA1 has been understood to prevent cancer by enforcing a decision-making step when the cell is faced with a DNA break – whether to repair using what's called an "erroneous" mechanism (non-homologous end joining, NHEJ) or an "error-free" mechanism (homologous recombination, HR). BRCA1 acts to channel DNA breaks into HR for repair.

The new findings explain the tumor suppressor function of BRCA1 through promoting key steps in error-free repair. By generating finely crafted mutants of BRCA1 that are deficient in interaction with DNA but normal in all other aspects, they were able to pinpoint exactly how BRCA1 promotes error-free DNA repair.

The findings have important implications for understanding how dysfunction in BRCA1 leads to the complex multi-step process by which normal cells transform to cause cancerous growth in the body (oncogenesis). It also helps inform therapeutic options for breast and other cancers harboring specific mutations in BRCA1. ■

Lei Zheng, MD, PhD, executive director of Mays Cancer Center.

"This investment in research is a commitment to pioneering treatments in cancer care. The funding supports our mission to make significant strides in bringing hope and fighting cancer."

UT Health San Antonio awarded $12.6 million grant for cancer research, understanding drug resistance

The University of Texas Health Science Center at San Antonio received a collaborative $12.6 million program project grant from the National Cancer Institute to define the functions and regulation of BRCA1, BRCA2 and related tumor suppressor genes and find new ways to combat cancer.

The grant supports a multidisciplinary research framework that aims to enhance the understanding of drug resistance mechanisms and drive the development of new therapeutic approaches.

"This investment in research is a commitment to pioneering treatments in cancer care," said Lei Zheng, MD, PhD, executive director of Mays Cancer Center. "The funding supports our mission to make significant strides in bringing hope and fighting cancer."

Spearheading the initiative is Patrick Sung, DPhil, a world-leading expert in the roles of BRCA1 and BRCA2 in DNA repair. Sung is the director of the health science center's Greehey Children's Cancer Research Institute and the Robert A. Welch Distinguished Chair in Chemistry. According to Sung, mutations in BRCA1 and BRCA2 can lead to breast, ovarian, prostate, pancreatic and other cancers.

"Receiving this grant is a testimony to our ability to collaborate and do impactful work as a multidisciplinary team," said Sung, who is also associate dean for research and professor of biochemistry and structural biology at UT Health San Antonio. "This support will continue to enhance synergy among project investigators."

According to Sung, current treatments, such as FDA-approved PARP inhibitors (polyADP ribose polymerase) and platinum-based chemotherapy, are generally effective for most patients. However, many patients eventually build resistance to these drugs when disease recurs. Understanding what causes drug resistance is crucial in determining appropriate treatment options and for developing new therapies.

The research program is organized into several components, including an administrative core, three shared resource cores and three projects. The administrative core manages the overall program and ensures maximal synergy among different elements of the research program. The shared resource cores provide state-of-the-art tools and expertise to facilitate research progress. The research projects address specific questions to help achieve the program's objectives.

UT Health San Antonio will lead all components except for project 1, which is led by Dipanjan Chowdhury, PhD, and Panagiotis (Panos) Konstantinopoulos, MD, PhD, from the Dana-Farber Cancer Institute in Boston.

The program's overarching goal is to create an effective connection between basic mechanistic cancer science and clinical translation. ■

UT HEALTH SAN ANTONIO'S WORLD-RENOWNED EXPERT IN BRCA RESEARCH HONORED FOR GLOBAL CONTRIBUTIONS

Patrick Sung, DPhil, director of The University of Texas Health Science Center at San Antonio's Greehey Children's Cancer Research Institute and associate dean for research at UT Health San Antonio, is the latest recipient of the 2024 Basser Global Prize.

A leading researcher in DNA damage repair and cancer biology, Sung has been awarded the prestigious prize for his groundbreaking contributions in elucidating the DNA repair functions of the BRCA1 and BRCA2 genes. The award recognizes Sung's contributions to advancing the knowledge of these critical genes and their implications for hereditary breast and ovarian cancer.

"I am deeply honored to be recognized by the Basser Center," said Sung, professor of biochemistry and structural biology at UT Health San Antonio. "This recognition reflects the power of collaboration and innovation. It inspires us to continue our mission in advancing cancer care and better outcomes for patients living with cancers caused by BRCA1 and BRCA2 mutations."

"We are proud of the tremendous work Dr. Sung has made in BRCA1/2 and DNA repair research," said Lei Zheng, MD, PhD, executive director of Mays Cancer Center. "His contributions not only deepen our understanding of cancer biology but are also leading to more effective treatments for patients. This prestigious recognition highlights the global impact of Dr. Sung's accomplishments."

Mays Cancer Center identifies possible markers to detect metastatic lung cancer sooner

Researchers at Mays Cancer Center at The University of Texas Health Science Center at San Antonio have identified protein markers that could signal the development of metastatic lung cancer sooner – making it possible for new treatment.

The findings led to a five-year, $1.6 million grant from the National Cancer Institute of the National Institutes of Health, paving the way for a clinical trial for patients with advanced lung cancer.

"For the trial, we are looking to recruit patients with lung adenocarcinoma, the most common primary lung cancer in the United States, and particularly those with a refractory condition for which treatment hasn't been effective," said Josephine A. Taverna, MD, lung oncologist at Mays Cancer Center and associate professor in the Division of Hematology and Oncology at UT Health San Antonio and principal investigator of the grant.

The research by Taverna and her colleagues indicates that certain proteins known as AXL and STAT3 together transmit signals that appear in more advanced stages of lung cancer. This signaling, triggered by lung cancer cells and cancer-associated cells, helps tumors grow and spread to other organs.

"These findings suggest the potential application of AXL-STAT3-related markers to quantitatively assess metastatic potential and inform therapeutic strategies in lung cancer," Taverna said. "It provides a therapeutic rationale for targeting this network."

Josephine A. Taverna, MD,
lung oncologist at Mays Cancer Center

The research may help scientists develop tools for early detection as well as new treatment strategies.

The researchers analyzed 15 lung tumors from 13 patients with lung adenocarcinoma, one patient with squamous cell lung cancer and one patient with pleiomorphic carcinoma. They found predominant and consistent AXL-STAT3 signaling in the tumor and other cancer-related cells.

"Our experiments in the lab suggest that targeting the AXL-STAT3 pathway can prevent tumor cells from recruiting tumor-associated macrophages and other aggressive host cells into the tumor microenvironment, thereby inhibiting tumor growth and spread," Taverna said. ■

Ramon Cancino, MD, MBA, MS, FAACP
executive director of UT Health San Antonio's Primary Care Center

"This support is invaluable in helping our multidisciplinary team provide early detection and life-saving care to those at risk. We are improving outcomes and saving lives in the fight against lung cancer in a way that no other integrated academic health system in our region can do."

Mays Cancer Center partners with American Cancer Society to diagnose lung cancer sooner in South Texans

Early diagnosis of lung cancer in Texas ranks as one of the lowest in the country. Among all 50 states plus Washington, D.C., Texas is 48 out of 51 in lung cancer screenings.

To help Texans get earlier diagnoses, Mays Cancer Center at The University of Texas Health Science Center at San Antonio has partnered with the American Cancer Society (ACS) in an ongoing campaign to raise awareness. The ACS granted a $30,000 contribution to UT Health San Antonio's Primary Care Center locations. The grant funded a lung cancer screening navigator and encouragement of more at-risk South Texans to get screened for lung cancer throughout San Antonio and South Texas.

The program was funded by Crucial Catch, a partnership between the National Football League and the ACS that promotes cancer prevention and early detection. Known as the 2025 Screening Interventions Program, the initiative is a health care program focused on promoting and improving cancer screening practices across the nation. ■

Gene-mutation pathway discovery paves way for targeted blood cancer therapies

About 30% of people with myeloid malignancy diseases have a mutation in a gene called tet methylcytosine dioxygenase 2 (TET2). This gene is known to have a tumor-suppressive function.

"There currently is no specific, targeted treatment or therapy for these TET2-mutated cancers. This pathway opens a door for targeted therapeutics and targeted prevention," said Mingjiang Xu, PhD, a molecular medicine professor at The University of Texas Health Science Center at San Antonio, and the co-primary investigator for the study.

When TET2 is mutated and not working properly, malignant cells can grow out of control. Mutation of this gene was pinpointed years ago as a culprit in blood cancers such as chronic myelomonocytic leukemia, acute myeloid leukemia and myelodysplastic syndromes. But the mechanisms behind how TET2 genetic changes led to disease remained a mystery – until now.

The study published in *Nature* is the first to explain the pathway of TET2's enzymatic activity that is essential for its tumor-suppressing function. The work is a collaborative effort between UT Health San Antonio scientists and University of Chicago scientists led by co-primary investigator Chuan He, PhD.

About 15 years ago, Xu was one of the first scientists to discover that the TET2 mutation is sufficient to cause myeloid malignancies in mouse models. His pioneering work led to further research on TET2 and its tumor-suppressing function. After this discovery, dozens of labs worldwide sought to understand the underlying mechanisms. However, according to Xu, other scientists hit a wall by focusing only on TET2's effect on DNA.

Next step: Targeted therapies

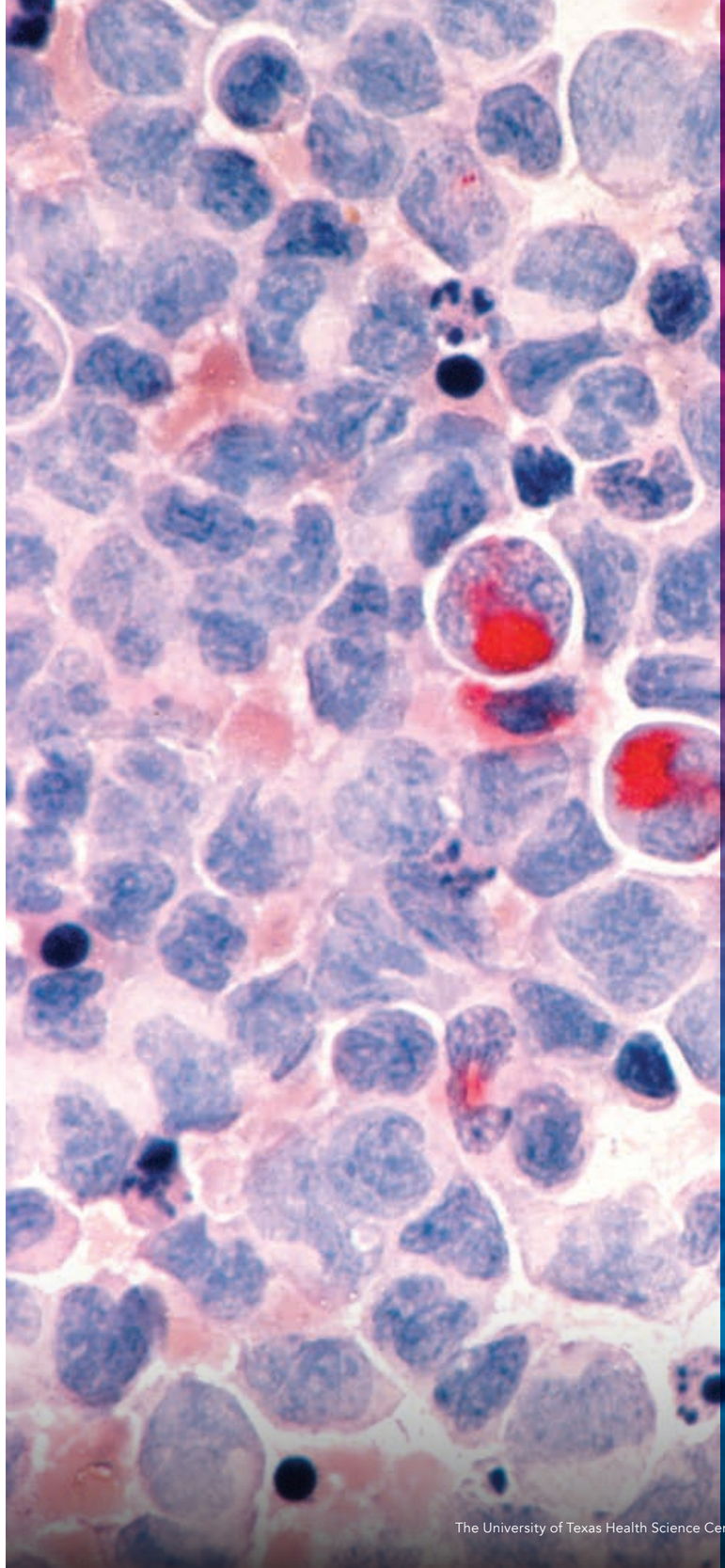
Xu said that the findings from this study could be transformational in discovering treatments and preventive measures for people with TET2 mutation-related diseases. The next steps will be working on molecular inhibitors that can disrupt this pathway and lead to highly targeted therapies.

About a decade ago, researchers discovered that about 10% of people aged 70 and older with a genetic mutation (including, but not limited to, TET2 mutation) develop clonal hematopoiesis of indeterminate potential (CHIP).

"These individuals have a significantly higher possibility of developing myeloid cancer and cardiovascular diseases. This makes our findings even more important because the aging population is growing, and these individuals need preventive interventions," Xu said.

Xu said this study is a turning point, potentially leading to the exploration of several players within this pathway that could be targets for therapeutic intervention.

This groundbreaking work could not be done without the collaborative efforts of his team members from the departments of Molecular Medicine and Cell Systems and Anatomy and from the University of Chicago team, said Xu. ■



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UT Health San Antonio creates innovative method for advancing understanding of pancreatic cancer

Pancreatic ductal adenocarcinoma (PDAC), a certain type of pancreatic cancer, is an ominous diagnosis with an average five-year survival rate of less than 10%. Most patients are diagnosed at a late stage when the cancer has already spread throughout their bodies. And the problem is only growing worse.

By 2030, pancreatic cancer is expected to surpass colorectal cancer as the second-leading cause of cancer-related death in the United States. While many other types of cancer have seen dramatic improvements in early detection and survival rates, pancreatic cancer remains an outlier with few treatment options.

A study by scientists at The University of Texas Health Science Center at San Antonio, published in *Nature Communications*, provides one of the first models to study the progression of normal human pancreatic cells toward tumor cells. This could aid the development of early biomarkers and potential treatment targets for this deadly disease.

Detecting cancer before it's too late

Previously, none of the current models for studying pancreatic cancer provided a path for an early diagnosis strategy. In contrast, primary investigator Pei Wang, associate professor in the Department of Cell Systems and Anatomy at the Joe R. and Teresa Lozano Long School of Medicine, uses a model beginning with normal human organ donor cells that are induced to become cancerous instead of using mice or biopsied tumor cells. A model of this early stage of tumorigenic development had never been conducted with human cells before.

Wang began by separating ductal and acinar cells to see if normal cells from human organ donors could become cancerous by adding the four most commonly mutated genes in pancreatic cancer. Testing showed the patterns remained stable, and each lineage could be traced to either ductal or acinar cells.

Wang said this suggests that pancreatic cancer in humans has the potential to come from both acinar and ductal cells. This means that approaches to pancreatic cancer treatment may need to become more nuanced and additional research must be conducted into the mechanistic properties of tumorigenic pancreatic cells.

Furthering earlier detection and treatment options

By starting with normal cells and forcing mutations in a short amount of time, Wang said they can see the genesis of the tumor in earlier stages. Also, through this novel PDAC model, the research team identified over 50 genes for further study as potential early biomarkers of pancreatic cancer.

Wang said she is thrilled that this model has been established so other researchers can use it to further pancreatic cancer research. It is critical that work continues to discover early detection and treatment options not only for pancreatic cancer, but for all cancers. ■

Pei Wang, PhD, associate professor in the Department of Cell Systems and Anatomy at UT Health San Antonio

"Learning how to prevent cancers from happening or figuring out how to stop them in their early stages is potentially more important than treatment itself. For pancreatic cancer, the biggest problem is that we find the cancer too late."

Pancreatic Desmoplasia
Pancreatic cancer cells (nuclei in blue) grow as a sphere encased in membranes (red). By growing cancer cells in the lab, researchers can study factors that promote and prevent the formation of deadly tumors.

Credit: Min Yu (Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC), USC Norris Comprehensive Cancer Center.

PATIENT CARE

Every patient's story is at the heart of our mission. For 50 years, we've delivered compassionate care with innovative therapies and research that inspire hope for future generations.

New breathing technique at Mays Cancer Center protects healthy tissue from radiation treatment

That simple act of holding a breath during a radiation cancer treatment called deep inspiration breath-hold (DIBH) could mean the difference between irradiating healthy tissue and sparing it, according to Neil Newman, MD, assistant professor in the Department of Radiation Oncology at The University of Texas Health Science Center at San Antonio.

"It has major advantages. When you breathe, your bowels move, and you are actually moving your bowels closer to your tumor and radiation field, which could risk more side effects," Newman said.

How DIBH works

The breath hold moves the heart away from the tumor and the radiation treatment. Cameras in the radiation treatment room at Mays Cancer Center monitor patients as they inhale and exhale. During each inhalation and hold, a machine beams radiation into the planned area of the body. When the patient exhales, the machine stops the treatment.

Holding your breath for 25–30 seconds is not easy for most. Patients in good physical condition are eligible to try the technique and have time to practice ahead of the treatment.

Practice sessions begin at the Mays Cancer Center in a room aglow with green or red lights. Newman said when patients hold their breath, the room is lit green, indicating they are doing a good job. When they exhale, the room turns red. He said the practice sessions allow him to capture images of the position of tumors during the inhale. Then, he creates an individualized treatment plan.

"When the patient comes in for treatment, we take verification scans to ensure everything is in the same position as the practice sessions, and then we treat the patient," Newman said.

One DIBH patient's story

Cruz Jimenez III, a 59-year-old physical therapist, was diagnosed with bile duct cancer in February 2023.

Bile duct cancer is rare—only about 8,000 people are diagnosed each year. Jimenez's cancer began in his bile ducts but quickly became a complicated case.

Survival rates for the disease, according to the American Cancer Society, range from 23% to 11%, depending on whether the cancer is located inside or outside the liver. Jimenez's cancer was both inside and outside the liver. After his initial diagnosis, he was given nine to 12 months to live, so he and his wife planned a bucket list of trips across the country.

Neil Newman, MD, radiation oncologist at Mays Cancer Center

"We know that there is a dose response relationship with tumors, where higher doses yield better outcomes approaching surgery. Usually, the bowel limits the ability to go this high, but this technique can yield more room to dose escalate. I like to offer higher doses when possible, and that only happens comfortably with DIBH."

After undergoing chemotherapy at another location, where the treatment damaged his bone marrow, a doctor told Jimenez that there were very few options for treatment. Seeking a second opinion, Jimenez contacted the Mays Cancer Center. He spoke with Colin Court, MD, PhD, surgical oncologist and assistant professor in the Division of Surgical Oncology and Endocrine Surgery at The University of Texas Health Science Center at San Antonio, who gave him better news.

"Dr. Court said he spoke to his biliary team, and they said, 'We feel like we can get it,'" Jimenez said.

DIBH in action

The location of the tumor made it difficult to remove it surgically, so Jimenez began radiation therapy with Dr. Newman. He was an eligible candidate for DIBH, so Newman aggressively treated the cancerous tumor.

Jimenez was no stranger to DIBH, having used the technique during a CT scan earlier in his life. He was so good at holding his breath that he cut the time of his radiation treatments.

When Jimenez met Newman, his blood test biomarkers (CA19-9) were at 196, much higher than the normal range of less than 37. Biomarkers are characteristics in the blood that may be within a normal range or indicate disease.

After 15 treatments with DIBH, allowing higher doses of radiation, his CA19-9 dropped to 11 with tumor shrinkage on CT scans.

"The radiation treatment totally inactivated the tumor," Newman said.

A new lease on life

By January, the radiation treatment had shrunk the inactive tumor small enough for surgical removal. Now, well past the short life expectancy he was first given, Jimenez is recovering, though it's slow and painful. He said the average recovery time for the surgery to remove the tumor is four to six months.

Jimenez said he is easily fatigued and suffering multiple effects of the surgery; however, he tries to stay active, rehabbing his son's duplex.

"Working on the duplex gets me through the day. I feel so guilty and beat when I have to sit on the couch. But the pain reminds me I'm still here," he said. ■

Concentrated approach to chemotherapy gives some metastatic cancer patients hope

In late 2023, Mays Cancer Center at The University of Texas Health Science Center at San Antonio became the only center in South Texas to offer a specialized chemotherapy delivery system called hepatic artery infusion, or HAI pump therapy.

Approved by the U.S. Food and Drug Administration, HAI therapy is intended for colorectal cancer patients whose tumors have spread to the liver and are inoperable. It is designed to deliver high doses of chemotherapy safely and effectively to patients living with colorectal cancer and bile duct cancer, which have spread to the liver.

HAI therapy both reduces the tumor and improves control of the disease in the liver.

"Having HAI therapy available at the Mays Cancer Center to treat patients whose cancer cannot be removed completely through surgery is pivotal," said Colin Court, MD, PhD, surgical oncologist and assistant professor in the Department of Surgical Oncology and Endocrine Surgery at UT Health San Antonio.

How HAI therapy works

The HAI pump is a palm-sized device implanted below the skin in the abdomen while the patient is under anesthesia. It continuously administers chemotherapy directly through the hepatic artery, a vessel that provides blood to the liver.

HAI therapy is localized to target tumors precisely. It delivers up to 400 times higher drug concentration than standard chemotherapy, limiting side effects elsewhere.

Treatment consists of bi-weekly refills, routine lab testing and any necessary dose adjustments.

Once implanted in the body, the patient's body heat powers the pump, activating it to deliver the medicine. The HAI pump remains in place for the length of the required therapy, depending upon the patient's customized treatment plan.

Hope for stage 4 cancer patients

A National Cancer Institute-designated Cancer Center, Mays Cancer Center is currently one of only two facilities in Texas offering HAI therapy. Offering hepatic artery infusion therapy locally gives patients from San Antonio and throughout South Texas an opportunity to receive care close to home.

Colorectal cancer is the fourth leading cause of cancer death in the United States, with more than 150,000 people newly diagnosed every year. Many patients with stage 4 colorectal cancer can be helped or even cured by surgery or other locoregional therapies such as HAI. ■

HAI therapy is localized to target tumors precisely. It delivers up to

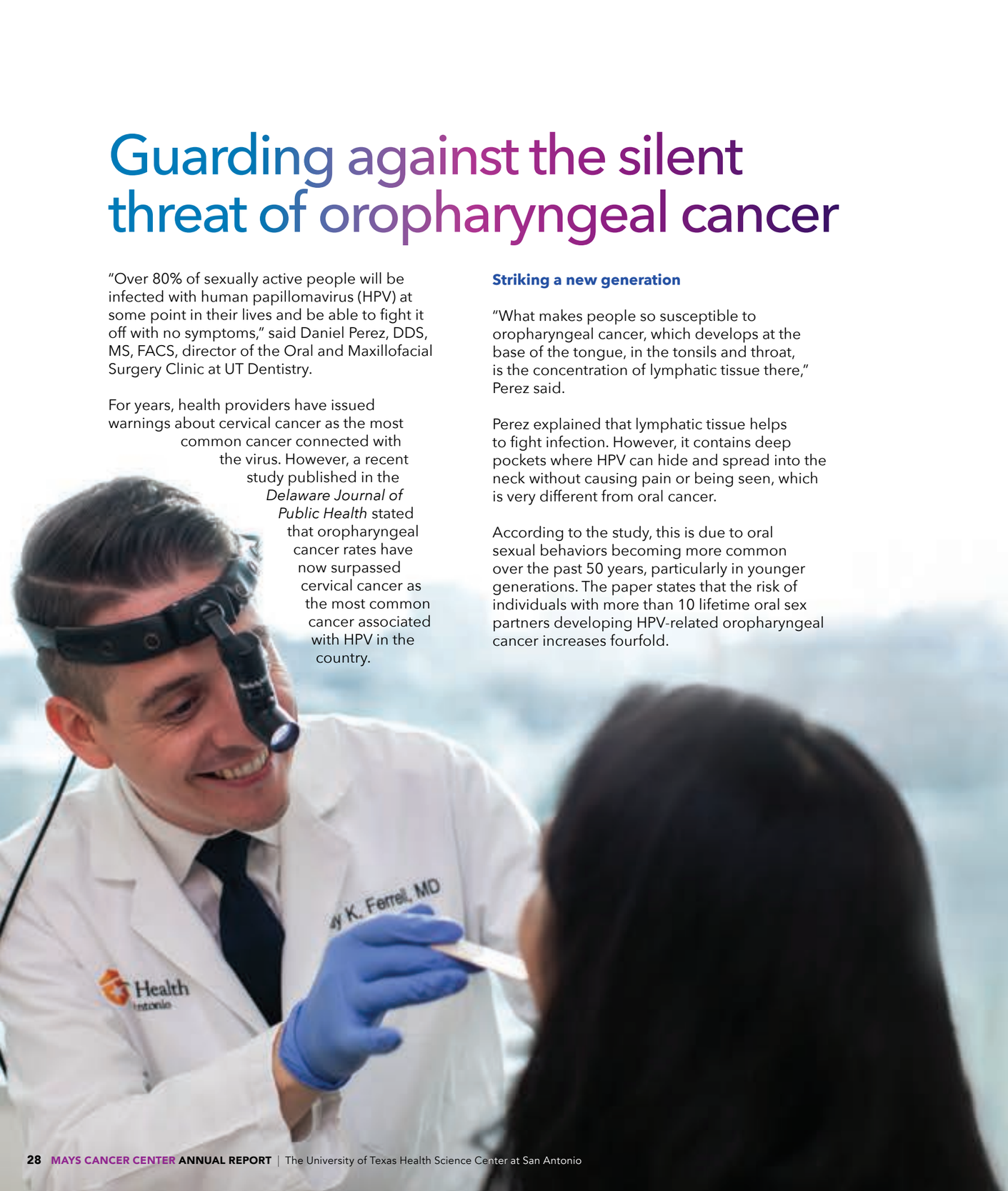
400

times higher drug concentration than standard chemotherapy, limiting side effects elsewhere. Many patients with stage 4 colorectal cancer can be helped or even cured by surgery or other locoregional therapies such as HAI.

Guarding against the silent threat of oropharyngeal cancer

"Over 80% of sexually active people will be infected with human papillomavirus (HPV) at some point in their lives and be able to fight it off with no symptoms," said Daniel Perez, DDS, MS, FACS, director of the Oral and Maxillofacial Surgery Clinic at UT Dentistry.

For years, health providers have issued warnings about cervical cancer as the most common cancer connected with the virus. However, a recent study published in the *Delaware Journal of Public Health* stated that oropharyngeal cancer rates have now surpassed cervical cancer as the most common cancer associated with HPV in the country.



Striking a new generation

"What makes people so susceptible to oropharyngeal cancer, which develops at the base of the tongue, in the tonsils and throat, is the concentration of lymphatic tissue there," Perez said.

Perez explained that lymphatic tissue helps to fight infection. However, it contains deep pockets where HPV can hide and spread into the neck without causing pain or being seen, which is very different from oral cancer.

According to the study, this is due to oral sexual behaviors becoming more common over the past 50 years, particularly in younger generations. The paper states that the risk of individuals with more than 10 lifetime oral sex partners developing HPV-related oropharyngeal cancer increases fourfold.

Jay Ferrell, MD, FACS, head and neck cancer surgeon at Mays Cancer Center

"It's going to sound cliché, but cancer treatment is a team sport. For head and neck cancers, a team approach is very much a prerequisite of care. These are challenging cancers to treat — no two tumors are created equal."

Prevention and early detection

Early detection is key to managing any medical condition. However, the silent progression of oropharyngeal cancer poses a challenge for patients and health providers. Unlike cervical cancer, which can be detected early through a pap smear test, there is currently no equivalent testing available for other HPV-related cancers, making prevention a priority.

"The best preventative measure for HPV-related cancers is going to be an early HPV vaccination before being exposed to the HPV virus," said Jay Ferrell, MD, FACS, co-director of the Division of Head and Neck Surgery within the Mays Cancer Center.

A team-based approach

Ferrell and Perez represent two specialties that are part of a larger multidisciplinary cancer care approach at Mays Cancer Center. The collaboration is a patient's line of defense in the face of a cancer diagnosis. Medical, dental, nursing and allied health professionals can easily connect patients directly with specialists at the Mays Cancer Center at the first sign of any concern.

Patients can then receive diagnostic services and cancer treatment at the only National Cancer Institute-designated Cancer Center in South Texas.

Ferrell chairs the cancer center's Head and Neck Multidisciplinary Tumor Board, a body of specialists who meet weekly to review patient cases and decide their treatment plans. The membership of the board includes representatives from specialty surgical teams like Ferrell's, radiation oncology, medical oncology, radiology, dietary and nutrition, speech-language pathology and plastic and reconstructive surgery.

The board stays invested in each patient by remaining in communication and reviewing a patient's progress throughout their treatment and recovery.

And recover they do.

"Thankfully, with treatment, these patients have high cure rates. We observe overall cure rates of 80-90% in HPV-associated oropharyngeal cancer patients with radiation and chemotherapy," Ferrell said. ■

1 in 8

men will develop prostate cancer in their lifetime. Of those,

1 in 44

will die from the disease. But men facing an advanced prostate cancer diagnosis who are seeking additional treatment options now have more options for fighting the disease.

Research and innovation drive advanced prostate cancer treatments.

One in eight men will develop prostate cancer in their lifetime. Of those, one in 44 will die of the disease. Those statistics from the American Cancer Society are startling.

But men facing an advanced prostate cancer diagnosis who are seeking additional treatment options now have more options for fighting the disease. University of Texas Health Science Center at San Antonio continues to expand treatment options, now and into the future.

Pluvicto, a game-changing molecular therapy treatment

UT Health San Antonio was the first civilian institution in South Texas to offer a novel targeted molecular therapy using a radioactive drug to fight metastatic castration-resistant prostate cancer. It's called Lutetium-177 PSMA therapy for prostate cancer (Pluvicto).

According to Penny Vroman, MD, a nuclear radiologist and associate professor in the Department of Radiology at UT Health San Antonio, the new treatment is a game changer for men when multiple other types of treatment, including chemotherapy, have failed.

"What's unique about this therapy versus traditional chemotherapy that affects the whole body is that this is a targeted molecular therapy," she said. "So, whereas chemotherapy kills both cancer cells and good cells throughout the entire body, which is why patients tend to have more side effects, this new treatment binds only to the prostate cancer cell and kills those prostate cancer cells."

Vroman said that because of the treatment's precise nature, patients are more likely to tolerate it better than other treatments. ■

A FUTURE LIFE TOGETHER

At 67, George Moore appears to be the picture of health despite living with dementia and aphasia, which limits his ability to speak. His wife, Denise, often speaks on his behalf.

The couple married in their 40s while living in Austin and moved to California in 2001. In 2017, while they were living in California, George was diagnosed with metastatic prostate cancer.

"He went into treatment right away but we were both a little shocked," Denise said. "At the time, he had just turned 60 and had just never had any issues."

When he was diagnosed, George was told his prognosis was fewer than 10 years. The couple asked for an aggressive treatment plan and experienced years of disease stability and instability through various therapies.

Now settled in San Marcos, Texas, George receives care at Mays Cancer Center, where he recently completed Pluvicto treatment. The most difficult part of his six infusion treatments, Denise said, was the physical distance they had to maintain afterward. To minimize exposure to radiation, patients must stay six feet from loved ones for three days and seven days from pets.

"We had to be very, very careful with exposure. I must have said 100 times a day, 'six feet,'" she said. "We didn't leave the house for three days. After seven days, we talked about going out to dinner, but I said, 'What if the waitress is pregnant? We can't take a chance of doing that.' So, we took long walks."

In May of 2024, George received his final treatment at Mays Cancer Center. His prostate-specific antigen (PSA) level had dropped significantly and is nearly undetectable.

Asked what the future holds for him, George looked at his wife and said, "Our life together."

Christien Kluwe, MD, PhD, radiation oncologist at Mays Cancer Center

"This technology is a game-changer for patients who need to travel to San Antonio. The treatment is less intrusive, and the recovery time is minimal. For loved ones, it means more time spent with family and less time worrying about treatment."

Minimally invasive stereotactic body radiation therapy

Stereotactic body radiation therapy (SBRT) uses high amounts of radiation with millimeter precision to destroy tumors in the prostate. SBRT has been around for years and is intended for patients with low- to intermediate-risk prostate cancer. Traditionally, it uses beams of energy to target tumors precisely while minimizing damage to healthy tissue. However, the latest method in treating prostate cancer has been available at Mays Cancer Center at The University of Texas Health Science Center at San Antonio since May 2023.

The latest version of the therapy is known to deliver faster and more efficient forms of radiation compared to conventional radiation treatment. Past methods required 40 to 45 daily sessions, while the newer method reduces treatment sessions to five days. SBRT is done on an outpatient basis, allowing the patient to drop in for appointments and avoid overnight stays.

"Having stereotactic body radiation therapy available for patients with prostate cancer means more access to care," said Christien Kluwe, MD, PhD, radiation oncologist at Mays Cancer Center and assistant professor in the Department of Radiation Oncology at UT Health San Antonio.

Refining treatment through research

While SBRT represents a leap forward in efficiency and convenience, experts at Mays Cancer Center are engaged in a national clinical trial to learn the best ways to treat patients based on the severity of their disease while providing a better quality of life.

Prostate cancer patients are being diagnosed younger and living longer than ever before. Through participation in the national NRG-GU010 phase 3 clinical trial, the center is helping to determine how much treatment is truly necessary for patients with unfavorable intermediate-risk prostate cancer.

"There's some aspect of prostate cancer where it really is a very long-term problem, and doing something today just puts a patient at risk of side effects," said Kluwe.

As part of the trial, a biopsy from the participant's tumor is tested for a variety of genes that can predict the risk of cancer spreading. Patients are given a score from 0–1 based on the results. A low-risk score is less than .45, an intermediate-risk score is .45–.60, and a high-risk score is more than .60.

Kluwe said the standard of care for a patient with unfavorable intermediate risk is radiation therapy and hormonal therapy based on the results of a physical exam, biopsy and blood tests. This hormone therapy, called androgen deprivation therapy, lowers the level of testosterone and dihydrotestosterone in the body. Kluwe likens it to women going through menopause. "It affects the entire body. The patients may experience fatigue, weight gain, arthritis, aches and pains in odd places, mood changes and hot flashes," Kluwe said. "But we also know that this hormonal therapy stresses the heart. When you take away somebody's testosterone, they are actually at increased risk for adverse cardiac events including stroke and even heart attacks."

"When I see a guy who's 50, I tell myself, we really have to know the best thing for him," he said. "I expect him to live another 35 years." ■

Where tomorrow's breakthroughs begin: UT Health San Antonio's first hospital opens, merging comprehensive care and innovation

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As the golden sun peeks over the Hill Country skyline, UT Health San Antonio Multispecialty and Research Hospital begins to stir with the promise of a new day. A physician-scientist steps purposefully through the sleek glass entrance into an atrium bathed in natural light. Their path leads to an expansive lab equipped with the latest in diagnostic technology, ready for breakthroughs to come.

"UT Health San Antonio Multispecialty and Research Hospital brings unparalleled, comprehensive patient care and cutting-edge clinical research directly to the heart of South Texas. Our goal is to not only advance the science of medicine but ensure our community has access to the latest breakthrough treatments close to home. We are setting a new standard for health outcomes in our region," said UT Health San Antonio Multispecialty and Research Hospital Chief Executive Officer Jeff Flowers, MBA, FACHE.

From the beginning, the hospital's planning team knew they wanted a place where a deep commitment to patient care merged seamlessly with cutting-edge research and the use of the latest technology. Every aspect of the facility was thoughtfully designed to foster clinical innovation while prioritizing patient well-being. The hospital was specifically designed to support care teams in all their missions—clinical, educational and research.

Continuity of care during clinical trials

A top priority was providing continuity of care for patients involved in clinical trials, many of whom are highly immunocompromised or have other comorbidities. At the new hospital, patients can have testing completed and processed immediately in one convenient location.

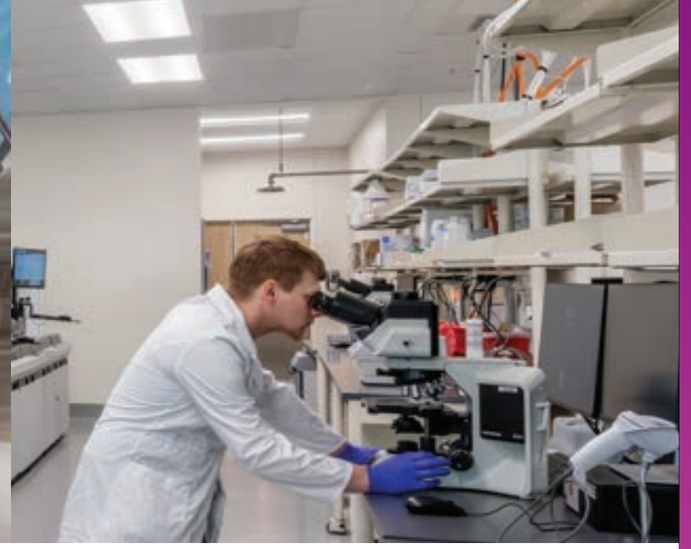
The hospital also provides a protective environment (PE) unit, meeting the highest safety requirements for an inpatient setting. Patients staying at the hospital for long periods of time such as those undergoing stem cell transplants, cellular therapy or other oncology services, can be continuously monitored and have immediate access to a higher level of care delivery.

A first for UT Health San Antonio, this hospital will be able to support experimental pharmacy research through fully United States Pharmacopeia (USP)-compliant non-sterile compounding, or food compounding, along with typical sterile compounding. Additionally, the hospital's 22,000 square-foot laboratory is nearly double the capacity needed for a hospital this size, providing ample room for researchers and hospital personnel.

At the forefront of new technologies, treatments

UT Health San Antonio Multispecialty and Research Hospital will be at the forefront of adopting new technologies and providing leading treatments for patients. As an academic-research hospital, this will significantly enhance patient care by delivering innovations and discoveries from UT Health San Antonio investigators directly to the bedside, seamlessly integrating these advancements with clinical care.

In the 2024-2025 *U.S. News & World Report's* Best Global Universities rankings, UT Health San Antonio ranked No. 51 among the world's top 1,000 universities with clinical medicine research programs and No. 32 among U.S.



health care institutions in the 2024 Nature Index for its research output. The hospital's affiliation with UT Health San Antonio means it can integrate research and education into its operations, offering specialized services and treatments previously unavailable in this region. The academic connection ensures that leading experts in various medical fields are deeply involved in both patient care and research.

Current and future efforts will be significantly enhanced, particularly in areas that disproportionately affect our South Texas community. This includes expanded research in complex diseases such as cancer, aging, brain health and neurosciences. These focused efforts will drive advancements in understanding and treating these critical health issues, ultimately benefiting our community.

Exceeding expectations in cancer care, research

Oncology patient care and research, in conjunction with the Mays Cancer Center, is expected to account for the majority of the clinical services at the hospital. Cancer research is an interdisciplinary effort, and this innovative multispecialty hospital elevates their research capabilities, said Lei Zheng, MD, PhD, executive director of Mays Cancer Center and vice president for oncology at UT Health San Antonio.

Some of the upcoming clinical trials made possible through their connection to the new hospital include novel CAR-T and TCR-T cell therapies and innovative surgical procedures that can only be conducted in a hospital setting.

"We will make the hospital a national resource where personalized, clinical care and scientific discovery are conducted, focusing on the unique population of San Antonio and South Texas," Zheng said.

Quoting Sir William Osler, the father of modern medicine, Zheng said the practice of medicine "is an art, not a trade; a calling, not a business."

"Our academic connection makes UT Health San Antonio Multispecialty and Research Hospital a place where the best art of medicine is practiced for the benefit of our patients," said Zheng. ■

Hospital images by © Joe Aker/Aker Imaging

In the 2024-2025 U.S. News & World Report Best Global Universities rankings, UT Health San Antonio ranked No.

51

among the world's top 1,000 universities with clinical medicine research programs and ranked No.

32

among U.S. health care institutions for research output in the 2024 Nature Index.

Former university president and new hospital supporters recognized at Luminary event

The annual President's Luminary Honors event took place at the UT Health San Antonio Multispecialty and Research Hospital. Guests paid tribute to the legacy of William L. Henrich, MD, MACP, the university's former president, who passed away in early 2024.

A historic inflection point

During the event, the more than 700 guests got a first look at the new hospital with a sneak peek of the Healing Arts gallery showcasing the work of Texas artists.

"We are indeed at a historic inflection point, a turning point toward greatness. This moment calls upon each of us to ask ourselves this question: What will we do with this opportunity? What will we do with this great responsibility?" Taylor Eighmy, PhD, president of The University of Texas at San Antonio and acting president of The University of Texas Health Science Center at San Antonio, said. "It is this moment that is everything. As I move forward, I promise you I will continue to champion our shared vision – what we have achieved, what we are becoming and what we will be one day together as one world-class university. We will always continue to make lives better."

A lifetime of contribution

The night included the presentation of the President's Legacy Award, bestowed posthumously to Henrich and accepted by his wife, Mary Henrich. The award was created last year to recognize individuals who made a lifetime contribution to health care innovation to break the status quo.

"Your guidance was always the cornerstone of Bill's success. We know you shared his long hours and endless planning. The sacrifices you made in pursuit of this vision are as much yours as his," said, Robert Hromas, MD, FACP, dean of the Long School of Medicine.

Additionally, supporters of the new hospital were recognized, including the Carlos Alvarez family, Patty and Bob Hayes, Karen and Ronald Herrmann, Margie and Bill Klesse, Dacia and Lanham Napier and Linda and Ed Whitacre, as well as several local foundations and businesses.

The event exceeded its $1 million fundraising goal, with all funds benefiting the new hospital, which will feature cutting-edge research and top-tier patient care for various specialties. ■

AWARDS & ACCOLADES

These recognitions honor the extraordinary achievements of Mays Cancer Center, reflecting our leadership in compassionate care, pioneering research, and bold innovation built on 50 years of excellence.

AWARDS & ACCOLADES

$2 million CPRIT award brings top cancer researcher to UT Health San Antonio

As part of a $52 million Cancer Prevention and Research Institute of Texas (CPRIT) grant, The University of Texas Health Science Center at San Antonio received $2 million in funding to bring a top cancer researcher on board in 2024. Maria Falzone, PhD, will join as a full member of UT Health San Antonio's Mays Cancer Center and the Greehey Children's Cancer Research Institute. She will also be an assistant professor in the Department of Biochemistry and Structural Biology at UT Health San Antonio.

Falzone will devote her efforts to studying the regulation of phospholipase enzymes, key signaling intermediates and their role in physiology and human diseases, particularly cancer. These enzymes are involved in important signaling pathways and play roles in the regulation of cellular growth and metabolism.

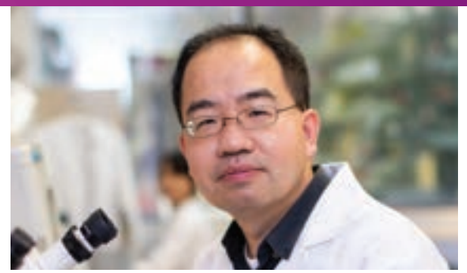
"One of my main research goals is to contribute to an increased understanding of cellular signaling and its dysregulation in cancer. It is my hope that our work can make a small contribution to something that eventually helps people, whether it's therapeutic development or an increased understanding of the underlying cellular processes," Falzone said.

Mays Cancer Center receives life-saving gift from American Heart Association to support cancer patients

Mays Cancer Center at The University of Texas Health Science Center at San Antonio has partnered with the American Heart Association (AHA) to support breast cancer patients undergoing treatment. The AHA has contributed a $2,000 grant for hypertension and food insecurity clinical programs, 75 blood pressure monitors and 100 $25 Healthy Rewards Coupons for boxes of fresh produce to be delivered to patients' homes.

The initiative will enable cancer patients to regularly monitor their blood pressure at home and assist in purchasing nutritious food while receiving care. It is an opportunity to recognize the need to address overall health and nutrition of breast cancer patients and the challenges they may face during their care.

"We are grateful for the relationship we have with the American Heart Association and their support for the Mays Cancer Center," said Ramon S. Cancino, MD, MBA, MS, FAAFP, executive director of the UT Health Primary Care Center and co-chair of the Mays Cancer Center and UT Health San Antonio Joint Cancer Prevention and Screening Committee. "Their heartfelt gift to our patients will make a significant difference in reducing the burden of cancer while managing their overall health, including the burden of social determinants of health."



American Cancer Society awards nearly $1 million to UT Health San Antonio cancer researcher

Zhijie "Jason" Liu, PhD, associate professor in the Department of Molecular Medicine at The University of Texas Health Science Center at San Antonio, received a $960,000 grant from the American Cancer Society in 2024. A Cancer Prevention and Research Institute of Texas (CPRIT) Scholar in Cancer Research, Liu will use the funding to enhance his research into the mechanisms of endocrine resistance in breast cancer and the role of estrogen receptor-bound enhancers.

Liu, who joined the health science center in 2016 with a $2 million CPRIT Scholar (recruitment) award, is a research member of the Mays Cancer Center. A noted cancer investigator, he was recognized by the Mays Cancer Center for having the 2019 Discovery of the Year for his research on endocrine resistance and breast cancer.

Hyundai Hope on Wheels® grant funds life-saving research

Gail Tomlinson, MD, PhD, a pediatric oncologist and director of the Division of Pediatric Hematology-Oncology at UT Health San Antonio, received two grants totaling $500,000 at the Hyundai Hope on Wheels® event. Tomlinson is a physician-scientist studying hepatoblastoma and other aggressive liver tumors in children at the Greehey Children's Cancer Research Institute.

The first was a $400,000 Hyundai Hope Scholar Grant Award to study new methods for treating liver tumors, including those resistant to conventional therapies. The second grant – a $100,000 Hyundai Impact Grant Award – was also given to Tomlinson's genetics team in the division of pediatric oncology to expand the availability of genetic testing at University Hospital's pediatric clinic. With these grants, research support from Hyundai Hope on Wheels® has exceeded $2.1 million at UT Health San Antonio.

"The Hyundai Impact Grant Award is going to permit our genetic counselors to see more patients. Hopefully, every child … will have access to genetic testing if that seems appropriate for that child," Tomlinson said.

AWARDS & ACCOLADES

Dr. David Gius accepted into Association of American Physicians

David Gius, MD, PhD, a physician-scientist at UT Health San Antonio, has been accepted into the prestigious Association of American Physicians (AAP) for the advancement of scientific and practical medicine.

Gius is the associate cancer director of translational research at the Mays Cancer Center and assistant dean of research and professor of radiation oncology at The University of Texas Health Science Center at San Antonio.

Election to the AAP is an honor extended to physicians with outstanding credentials in basic or translational biomedical research and is limited to only 70 people per year.

"This is a significant recognition as the AAP is one of the country's oldest and most prestigious physician-scientist honor societies," said Robert A. Hromas, MD, FACP, dean of the Joe R. and Teresa Lozano Long School of Medicine at UT Health San Antonio. "Dr. Gius is preeminent in research of the relationship between aging, mitochondrial bioenergetics and breast cancer."

Gius was recruited in 2020 to UT Health San Antonio from the Robert H. Lurie Comprehensive Cancer Center at Northwestern University with a grant from the Cancer Prevention and Research Institute of Texas (CPRIT). The following year, he earned a $1.6 million UT System Faculty STARs award to support his research on aging and breast cancer.

The overarching goals of the AAP include promoting professional and social interaction among biomedical scientists, disseminating important information related to biomedical science and teaching, recognizing outstanding, diverse physician-scientists through membership, and establishing role models to kindle new generations of high achievers in medicine and medical science.

MAYS CANCER CENTER RADIATION ONCOLOGIST RECOGNIZED AS AN OUTSTANDING MENTOR TO NEXT-GENERATION LEADERS

David Gius, MD, PhD, was also named the recipient of the prestigious American Society for Radiation Oncology (ASTRO) Career Recognition Mentorship Award for 2024.

Gius was among three awardees to receive this recognition. The award honors individuals who have made significant contributions to mentorship and education in radiation oncology. It highlights the importance of guidance and development of future professionals in the field of radiation oncology.

CPRIT awards approximately $16.4 million to advance children's cancer research and attract top researchers to South Texas

The Cancer Prevention and Research Institute of Texas (CPRIT) has awarded The University of Texas Health Science Center at San Antonio roughly $16.4 million in funding to help advance research into cancers that affect children and teens, as well as bring three noted cancer researchers on board.

Advancing Ewing's sarcoma research

Katsumi Kitagawa, PharmD, PhD, associate professor in the Department of Molecular Medicine at The University of Texas Health Science Center at San Antonio and investigator in the health science center's Greehey Children's Cancer Research Institute, received $1.4 million to advance research into Ewing's Sarcoma.

"CPRIT's support will enable Dr. Kitagawa to develop novel therapeutic strategies for treating Ewing's sarcoma, a common pediatric bone cancer," said Patrick Sung, director of UT Health San Antonio's Greehey Children's Cancer Research Institute.

Renowned cancer researcher joins UT Health San Antonio

Simon Gayther, PhD, a cancer researcher from Cedars-Sinai Medical Center, joined Mays Cancer Center at The University of Texas Health Science Center at San Antonio and the Department of Medicine through CPRIT funding. His breakthrough studies have focused on understanding the underlying causes of ovarian cancer initiation and development.

Gayther joined as professor of medicine, Mays Family Endowed Chair in heritable oncogenesis and inaugural director of the school's Center for Heritable Oncogenesis (the formation of tumors). He will be part of the Mays Cancer Center's Population Science and Prevention Program. Gayther will focus mainly on his internationally acclaimed research program in genetic epidemiology and functional biology of risk variants associated with ovarian, breast and prostate cancers.

New chair in DNA repair genetics

A $6 million CPRIT recruitment (CPRIT Scholar) funding brought Anna Malkova, PhD, to UT Health San Antonio. Formerly at the University of Iowa, she joins UT Health San Antonio as a full professor in the Department of Biochemistry and Structural Biology. She will be a member of Mays Cancer Center's Cancer Development and Progression Program and the Greehey Children's Cancer Research Institute. Malkova will also serve as the Mays Family Endowed Chair in DNA Repair Genetics and a mentor in the Integrated Biomedical Sciences Graduate Program.

Blood cancer research at Greehey Children's Cancer Research Institute

A $2 million CPRIT recruitment grant also brought Yu Luan, PhD, to UT Health San Antonio from Northwestern University. Luan is an assistant professor in the Department of Cell Systems and Anatomy and an investigator with UT Health San Antonio's Greehey Children's Cancer Research Institute.

Luan's laboratory is dedicated to detecting and characterizing epigenetic and chromatin topology alterations during tumorigenesis (the formation or production of tumors). It is focused on developing algorithms and computational tools to elucidate the impact of genetic variants and transposable elements on human diseases and establishing role models to kindle new generations of high achievers in medicine and medical science.

AWARDS & ACCOLADES

CPRIT grant to support HPV vaccination of childhood cancer survivors

The Cancer Prevention and Research Institute of Texas (CPRIT) provided a $1 million grant to The University of Texas Health Science Center at San Antonio to expand a vaccination program for human papillomavirus (HPV) among childhood cancer survivors.

HPV is the most common sexually transmitted infection and can also cause cancer. However, vaccination rates for HPV are lower in Texas than the national average, which is most concerning in areas where HPV-related cancers disproportionately affect the state's Hispanic population.

With the $1 million CPRIT grant, UT Health San Antonio aims to expand to 10 partner pediatric oncology centers across the state over three years to increase vaccination rates among more than 3,000 eligible childhood cancer survivors in 225 counties.

"Despite the increased vulnerability of childhood cancer survivors to secondary HPV-related cancers, this population has largely been neglected in the research, education and large-scale HPV vaccine initiatives," said Allison Grimes, MD, MSCI, associate professor in the Division of Pediatric Hematology-Oncology and director of the adolescent and young adult program at UT Health San Antonio, and co-director of the project along with L. Aubree Shay, PhD, MSSW, UTHealth Houston School of Public Health.

At the start of the previous CPRIT-funded project from 2018 to 2023, only 23% of age-eligible childhood cancer survivors had started the HPV vaccination series, and just 8% had completed it. That means 11 of every 12 survivors were unprotected from HPV-related cancers. However, the project's efforts led to a 485% increase in completed HPV vaccinations.

The new project will include the five continuing project sites, including Mays Cancer Center at UT Health San Antonio, as well as five expansion sites. The overall goal is to increase HPV vaccination rates among eligible childhood cancer survivors who are actively followed within each of the 10 participating sites.

The effort aims to deliver a provider and staff HPV continuing education program focused on the unique risks and needs of childhood cancer survivors; implement practice changes for an HPV vaccine-friendly culture and monitoring of HPV vaccine eligibility; and offer on-site delivery of the HPV vaccine to eligible survivors.

At all participating sites, the continuing education program is expected to reach approximately 250 oncology providers and staff to increase HPV vaccine recommendation practices. The effort will target just more than 3,000 childhood cancer survivors ages 9 to 45 who are at least six months off active treatment to increase both initiation and completion of HPV vaccinations.

"Targeting this population within the oncology follow-up setting," Grimes said, "is both novel and risk-directed."

UT Health San Antonio scientists awarded V Foundation grants to advance cancer research

Elizabeth Wasmuth, PhD, assistant professor in the Department of Biochemistry and Structural Biology at The University of Texas Health Science Center at San Antonio, was named this year's V Foundation Abeloff Scholar. The award is for her proposal related to steroid receptor aberrations in cancers such as prostate, breast, uterine and ovarian. The grant is for $600,000 over the next three years. Her unique reductionist system can test what current therapies are working, how resistance develops and what new drugs may provide a more nuanced approach.

Wasmuth's award is funded through the Stuart Scott Memorial Cancer Research Fund. The V Foundation for Cancer Research was founded in 1993 by ESPN and the late basketball coach Jim Valvano with a mission statement to achieve "Victory Over Cancer."

Josephine Taverna, MD, associate professor in the Department of Molecular Medicine and the Division of Hematology and Oncology, also received a V Foundation grant. The grant is for her proposal to investigate checkpoint inhibitors for lung cancer treatment that can block cancer signaling within tumor habitats. She also received the A Grant of Her Own: The Women Scientists Innovation Award Translational Research grant. She is one of only six recipients in the United States to earn the $800,000, four-year grant.

"We predict that triple combination therapy will result in longer remissions so that our patients can stay on the immunotherapy and targeted therapy longer," Taverna said.

AWARDS & ACCOLADES

UT Health San Antonio faculty receive $1.6 million in STARs Awards to advance cancer research

Mays Cancer Center Executive Director Dr. Zheng earns $500,000 UT System STARs award

Lei Zheng, MD, PhD, executive director of the Mays Cancer Center at The University of Texas Health Science Center at San Antonio, has been awarded a $500,000 Science and Technology Acquisition and Retention (STARs) award from The University of Texas System to elevate his research into monitoring pancreatic tumor progression and treatment efficacy.

Zheng, who joined the institution in 2024, is the vice president for oncology for the health science center and the Mays Family Foundation Distinguished University Presidential Chair of Oncology. He is also a professor with tenure in the Department of Medicine at The University of Texas Health Science Center at San Antonio.

"My research focuses on the understanding of pancreatic cancer development and treatment. Pancreatic cancer is an aggressive malignancy often with metastasis at the time of diagnosis and broadly resistant to current treatment modalities," Zheng said.

"We have used an orthotopic mouse pancreatic cancer model to study factors involved in the tumor environment that contribute to tumor metastasis, which is one of the major causes of death in this devastating disease. The mouse orthotopic pancreatic cancer model has allowed us to evaluate the efficacy of different combinations of treatment regimens for potential clinical applications. The second area our lab focuses on is the development of platform trials to translate concepts proven in the preclinical level to the clinical stage."

Renowned cancer researcher brings $500,000 UT System Faculty STARs award to UT Health San Antonio

Simon Gayther, PhD, professor of medicine in the Division of Hematology and Oncology and founding director of the school's Center for Inherited Oncogenesis at The University of Texas Health Science Center at San Antonio, received a $500,000 UT System STARS award to support research infrastructure. The funding will help advance a basic and clinically translatable research program, including laboratory refurbishments and the purchase of general and specialized equipment.

Gayther, who also serves as co-director of the Population Sciences and Prevention Program at UT Health San Antonio's Mays Cancer Center, joined the university in 2024 as part of a $16.4 million recruitment award from the Cancer Prevention and Research Institute of Texas.

"We have established the Center for Inherited Oncogenesis with the goal to use leading-edge technologies to better understand the functional role of genetic risk variation in causing cancers that are common in South Texas and to develop clinical biomarkers that improve screening, diagnosis, prevention and treatment strategies for these cancers," Gayther said.

Radiation oncology associate professor receives $500,000 UT System Faculty STARs award

Justin Leung, PhD, associate professor in the Department of Radiation Oncology at The University of Texas Health Science Center at San Antonio, received a $500,000 STARs award from The University of Texas System in 2024.

Leung plans to use the funding to outfit his lab with cutting-edge equipment to enhance the local research community and establish key collaborations. He has appointments in several programs in UT Health San Antonio's Graduate School of Biomedical Sciences.

"This award will allow us to purchase three pieces of state-of-the-art instrumentation, including a microscope that can capture high-resolution DNA repair events in real-time, a high-content screen instrument for cataloging protein localization dynamics and kinetics, and a self-calibrated X-ray irradiator for radiation studies," Leung said. "Our research program will be able to develop a pipeline to study the DNA repair machinery regulations and identify new cancer therapeutic targets. This will also build a foundation for biochemical and structural studies in the future."

Luan receives $100,000 UT System Rising STARs award to research pediatric blood cancers

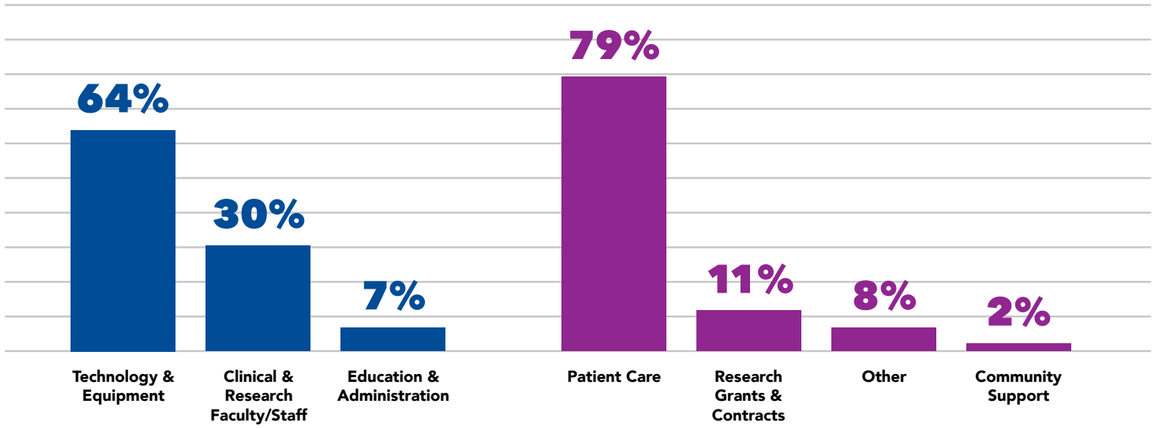
Yu Luan, PhD, assistant professor in the Department of Cell Systems and Anatomy at The University of Texas Health Science Center at San Antonio, received a $100,000 STARs award in 2024. The award will help lead breakthrough research in cancer genomics, especially in treating blood cancers among Hispanic children.

Luan, also an investigator with the UT Health San Antonio's Greehey Children's Cancer and Research Institute, joined the institution in early 2024 as a Cancer Prevention and Research Institute of Texas (CPRIT) Scholar.

"UT Health San Antonio is home to experts across various fields of cancer research, especially blood cancer, and houses the largest Hispanic biobank in South Texas," Luan said. "My work is also particularly relevant for advancing the health of South Texas with its large Hispanic population. I feel that this aligns perfectly with my research strategy and offers a unique resource for advancing our understanding of cancer through a comprehensive genomic and epigenomic approach."

MEASURES OF SUCCESS

USE OF FUNDS



FUNDING SOURCE

144,214
TOTAL PATIENT ENCOUNTERS

4,917
NEWLY DIAGNOSED PATIENTS

2,752
CANCER SURGERIES

$160M
ECONOMIC IMPACT

259
ACTIVE RESEARCH PROJECTS
162 peer-reviewed grants and
97 non-peer-reviewed grants and contracts

180+
CLINICAL STUDIES
Prevention, treatment and survivorship clinical studies, including 55 new clinical research studies opened in FY24

IN FY24, MAYS CANCER CENTER SAW A

114%

GROWTH IN GRANT FUNDING FROM THE NATIONAL CANCER INSTITUTE

MAYS CANCER CENTER **SENIOR LEADERSHIP**

Lei Zheng, MD, PhD
Executive Director, Mays Cancer Center
Vice President for Oncology, UT Health San Antonio

Patrick Sung, DPhil
Director, Greehey Children's Cancer Research Institute

Tim H.M. Huang, PhD
Deputy Director, Mays Cancer Center
Associate Director, Basic Science

Nicholas DeLapo, MBA
Chief Operating Officer, Mays Cancer Center
Associate Vice President for Oncology, UT Health San Antonio

Gwen Tate, MBA, MSN, RN, NEA-BC
Chief Nursing Officer

Travis Corwin, MBA
Sr. Administrator, Finance and Administration,
Radiation Oncology

Amelie Ramirez, DrPH
Associate Director, Community Outreach and Engagement

Susan Padalecki, PhD
Associate Director, Research Administration

David Gius, MD, PhD
Associate Director, Translational Research

Daruka Mahadevan, MD, PhD
Associate Director, Clinical Research

Robin Leach, PhD
Associate Director, Education

Teresa Johnson-Pais, PhD
Assistant Director, Education

Luzhe Sun, PhD
Associate Director, Shared Resources

Gang Huang, PhD
Assistant Director, Shared Resources

Daohong Zhou, MD
Associate Director, Drug Development

Daniel Dent, MD
Associate Director, Workforce Development

Angel Gonzalez, PhD
Assistant Director, Workforce Development

Anand Karnad, MD
Chief, Division of Hematology and Medical Oncology

Elizabeth Bowhay, MD
Vice Chief, Hematology

Sukeshi Arora, MD
Vice Chief, Medical Oncology

Danielle Fritze, MD
Interim Chief, Division of Surgical Oncology
and Endocrine Surgery

SCIENTIFIC **PROGRAM LEADERS**

Ratna Vadlamudi, PhD
Co-leader, Cancer Development and Progression

Sandeep Burma, PhD
Co-leader, Cancer Development and Progression

Patricia Dahia, MD, PhD
Co-leader, Cancer Development and Progression

Andrew Brenner, MD, PhD
Co-leader, Experimental and Developmental Therapeutics

Manjeet Rao, PhD
Co-leader, Experimental and Developmental Therapeutics

Gail Tomlinson, MD, PhD
Co-leader, Population Science and Prevention

Simon Gayther, PhD
Co-leader, Population Science and Prevention

CLINICAL AND RESEARCH **OPERATIONS**

Josh Asper, PA-C
Vice Chair, Clinical Operations, Radiation Oncology

Sonia Lisa Creighton, MBA
Director, Clinical Trials Office

Lydia Herrera, PharmD, MBA, BCPPS
Director, Pharmacy Operations

Roseanna Martinez, MPH
Director, Practice Operations, Patient Access

Melissa Nashawati, MPA
Director, Quality Assurance and Training

Jeanie Paradise, MA, LPC-S
Director, Clinical Operations, Social Services

Lixin Song, PhD, RN, FAAN
Director, Caregiver Research

Elizabeth Thompson, MLS
Director, Laboratory Operations

SHARED **RESOURCES**

BIOSTATISTICS AND BIOINFORMATICS
Yidong Chen, PhD
Co-director

Jonathan Gelfond, MD, PhD
Co-director

DRUG DISCOVERY AND STRUCTURAL BIOLOGY
Sean Olsen, PhD
Co-director, Structural Biology

Daohong Zhou, MD
Co-director, Drug Discovery

FLOW CYTOMETRY
Michael Berton, PhD
Scientific Director

Yue Li, PhD
Director

NEXT-GENERATION SEQUENCING
Zhao Lai, PhD
Director

OPTICAL IMAGING
James Lechleiter, PhD
Director

Exing Wang, PhD
Co-director

MULTIDISCIPLINARY **PROGRAM LEADERS**

Sukeshi Arora, MD
Gastrointestinal Oncology

Andrew Brenner, MD, PhD
Neuro-Oncology

Adolfo Enrique Diaz Duque, MD
Hematology Oncology

Ramon Cancino, MD, MBA, MS, FAAFP
Oncology Primary Care

Virginia Kaklamani, MD, DSc
Breast Oncology

Usha Perepu, MD
Classical Hematology and Blood Disorders

Debra Kent, DNP
Oncology Survivorship

Daruka Mahadevan, MD, PhD
Phase I Oncology
Director, Institute for Drug Development

Georgia McCann, MD
Gynecologic Oncology

Prince Otchere, MD
Cardio-Oncology

Montaser Shaheen, MD
Melanoma and Immunotherapy

Deepak Pruthi, MD
Urologic Oncology

Gail Tomlinson, MD, PhD
Pediatric Hematology Oncology

DEPARTMENT CHAIRS/ **DIVISION CHIEFS**

Francisco G. Cigarroa, MD
Director, Transplant Center

Mark Bonnen, MD
Chair, Department of
Radiation Oncology

Lacy Harville
Interim Chair, Department of
Cardiothoracic Surgery

Daniel DeArmond, MD
Chief, Division of Thoracic Surgery

John Floyd, II, MD
Chair, Department of Neurosurgery

Marsha Kinney, MD
Chair, Department of Pathology
and Laboratory Medicine

Frank Miller, MD, FACS
Chair, Department of Otolaryngology

Robert H. Quinn, MD
Chair, Department of Orthopaedics

Sandra S. Osswald, MD
Chief, Division of Dermatology
and Cutaneous Surgery

Randal D. Robinson, MD
Chair, Department of Obstetrics
and Gynecology

Georgia McCann, MD
Chief, Division of
Gynecologic Oncology

Ronald Stewart, MD
Chair, Department of Surgery

Anton Fries, MD, PhD
Chief, Division of Plastic
and Reconstructive Surgery

Rajeev Suri, MD, MBA, FACR, FSIR
Chair, Department of Radiology

Steven Kraus, MD
Chair, Department of Urology

Deepak Pruthi, MD
Chief, Division of Oncologic Urology

Gail Tomlinson, MD, PhD
Chief, Division of Pediatric
Hematology Oncology

MAYS CANCER CENTER NEW MEMBERS

The Mays Cancer Center is an Organized Research Unit of The University of Texas Health Science Center at San Antonio. As a National Cancer Institute-designated Cancer Center, Mays Cancer Center has a formal membership policy in support of the center's mission to promote interdisciplinary research in cancer-related areas of basic science, clinical research and cancer prevention and control, and to foster the application of the results of that research in the community setting, especially in the South Texas community served by the center. Mays Cancer Center members include those who serve as a principal investigator on a National Institutes of Health research project grant or other equivalent peer-reviewed, cancer-related grant or who are a principal or co-investigator of cancer center clinical trials.

NEW MAYS CANCER CENTER **MEMBERS**

Lily Q. Dong, PhD
Professor, Cellular and Structural Biology
Cancer Development and Progression Program

Elosie Dray, PhD
Assistant Professor, Biochemistry and Structural Biology
Cancer Development and Progression Program

Kimi Kong, PhD
Associate Professor, Division of Hematology and Oncology
Cancer Development and Progression Program

Anna Malkova, PhD
Professor, Biochemistry and Structural Biology
Cancer Development and Progression Program

Hyoung-gon Lee, PhD
Associate Professor, Neuroscience, Developmental and Regenerative Biology
Experimental and Developmental Therapeutics Program

Gary D. Lewis, MD
Associate Professor, Radiation Oncology
Experimental and Developmental Therapeutics Program

Dongwen Lyu, PhD
Assistant Professor, Biochemistry and Structural Biology
Experimental and Developmental Therapeutics Program

Marcela Mazo Canola, MD
Assistant Professor, Division of Hematology and Oncology
Experimental and Developmental Therapeutics Program

Neelam Mukherjee, PhD
Assistant Professor, Urology
Experimental and Developmental Therapeutics Program

Gerardo Rosas, MD
Assistant Professor, Division of Hematology and Oncology
Experimental and Developmental Therapeutics Program

Saba Shaikh, MD
Assistant Professor, Division of Hematology and Oncology
Experimental and Developmental Therapeutics Program

Lei Zheng, MD, PhD
Professor, Division of Hematology and Oncology
Experimental and Developmental Therapeutics Program

Simon A. Gayther, PhD
Professor, Division of Hematology and Oncology
Population Science and Prevention Program

Michael Halpern, MD, PhD
Professor, Health Policy and Health Services Administration
Population Science and Prevention Program

Kate Lawrenson, PhD
Associate Professor, Obstetrics and Gynecology
Population Science and Prevention Program

Jia Liu, MSN
Assistant Professor, School of Nursing
Population Science and Prevention Program

Yu Luan, PhD
Assistant Professor, Cell Systems and Anatomy
Population Science and Prevention Program

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UT Health San Antonio
Mays Cancer Center

50 YEARS STRONGER

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO