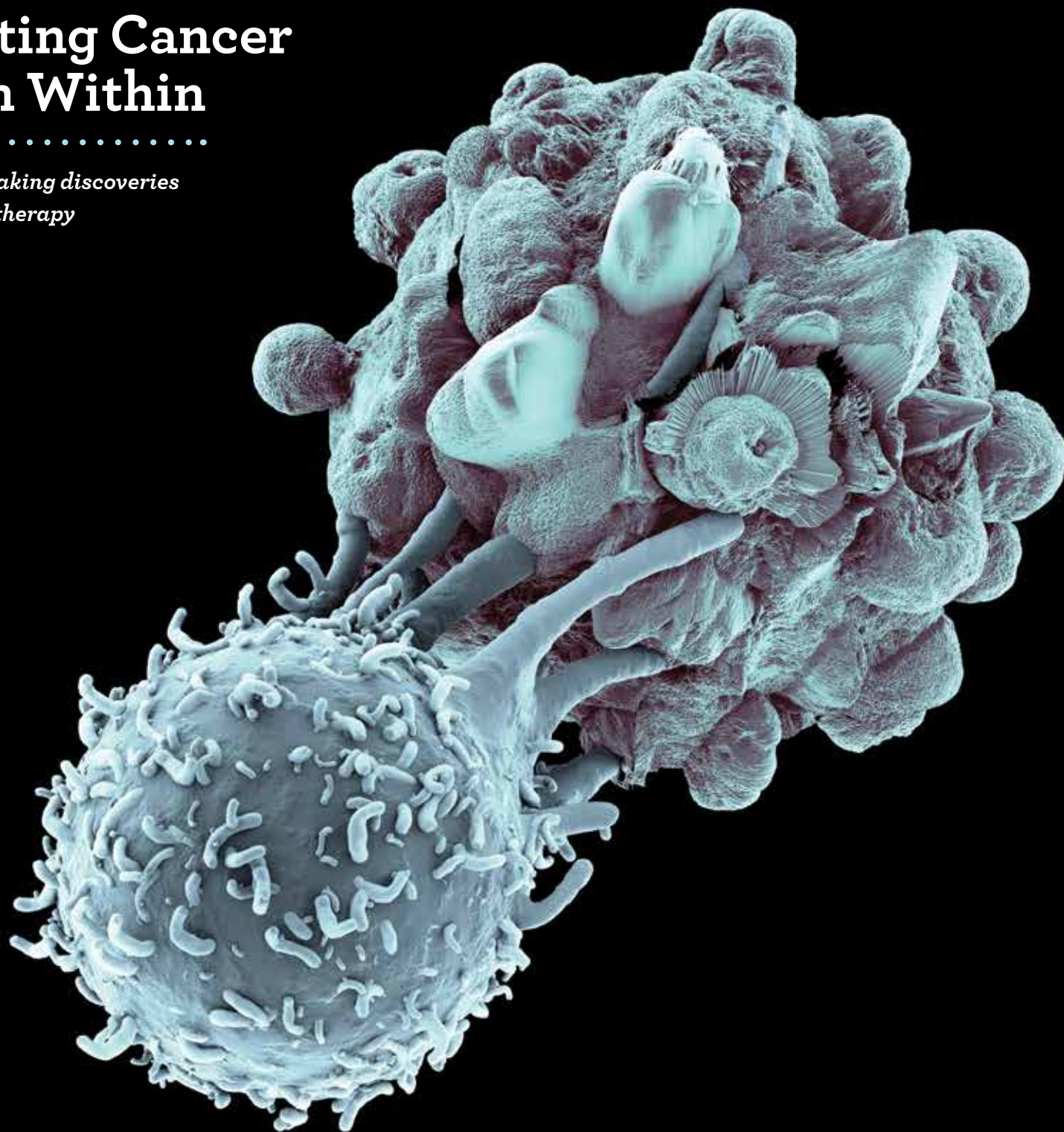


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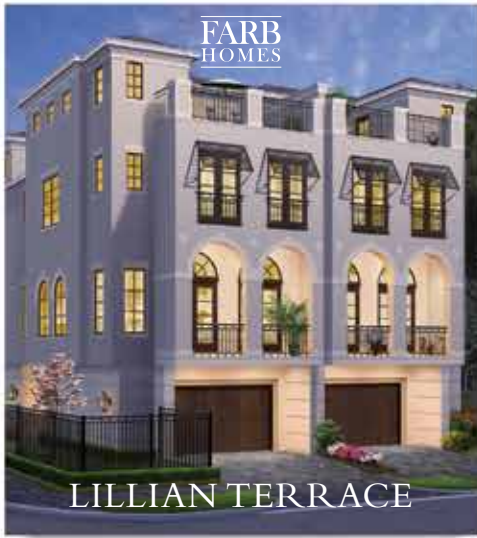
THE OFFICIAL NEWS OF THE TEXAS MEDICAL CENTER — VOL. 2 / NO. 5 — JUNE 2015

Fighting Cancer From Within

.....
*Groundbreaking discoveries
in immunotherapy*



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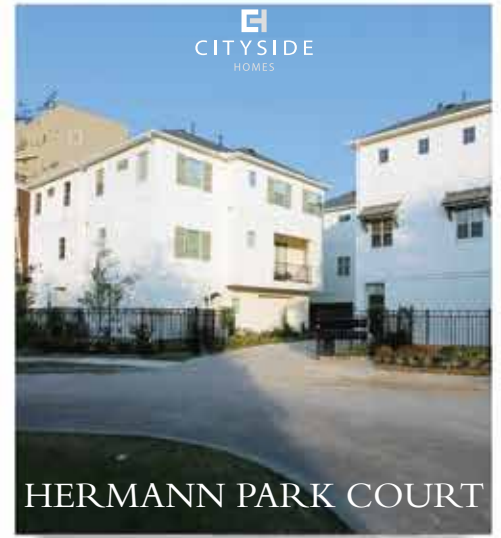
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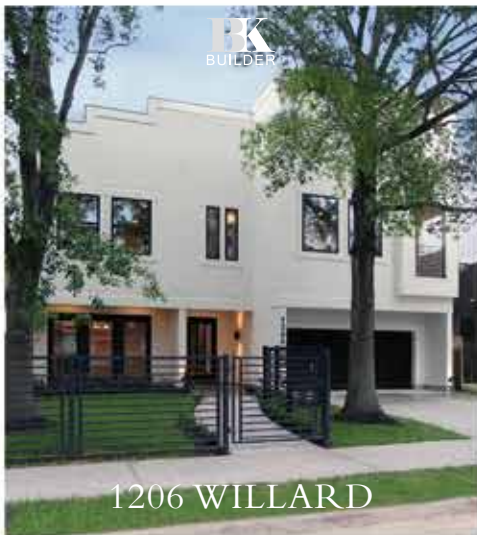
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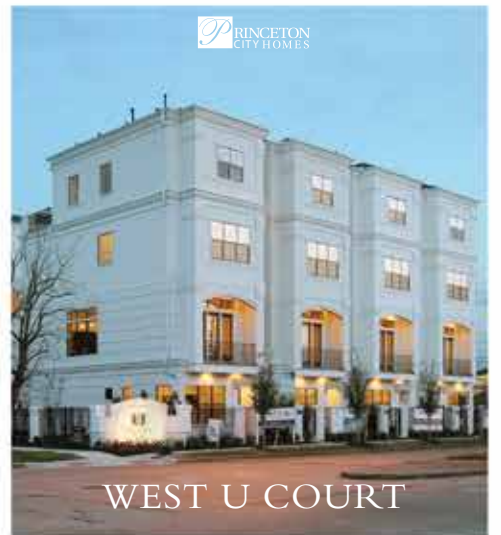
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#EndPandemics

Global leaders convene in Houston to discuss issues surrounding prevention, preparedness and response regarding global infectious diseases.

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Going for Gold

Twelve-year-old Adrianna, diagnosed with congenital glaucoma as an infant, hopes to inspire others as she somersaults toward her Olympic dreams.

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Spotlight:
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The president of The University of Texas MD Anderson Cancer Center discusses how his institution is passionately fighting to eliminate cancer.

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Fighting Cancer From Within

Cancer immunotherapy, engaging a patient's own immune system in the fight against cancer, is quickly becoming one of the most promising frontiers of cancer treatment.



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Star for a Day

For the second consecutive year, Ronald McDonald House Houston teamed up with Magnolia Hotels to provide residents and their families a much-needed day of leisure.

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Closing the Gap in Fetal Surgery

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MEDICAL WORLD AMERICAS // p. 22

THE ANNUAL MEDICAL WORLD AMERICAS CONFERENCE BRINGS TOGETHER A DIVERSE SET OF HEALTH CARE PROFESSIONALS TO DISCUSS CORE ISSUES AND EXPLORE WAYS TO TRANSFORM THE FIELD FOR A BETTER FUTURE.

ON THE COVER: A computer-generated illustration showing one of the immune system's attack cells, known as T-cells, forcing a cancer cell into programmed cell death.

PRESIDENT'S PERSPECTIVE



ROBERT C. ROBBINS, M.D.
*President and
Chief Executive Officer,
Texas Medical Center*

The human body is incredibly complex. It is only fitting that we have an equally complex and ever-vigilant defense system to help maintain balance and prevent disease. The immune system is made up of a network of cells—T-cells, B-cells and NK cells—capable of identifying and targeting unhealthy and potentially dangerous cells, including, importantly, cancer cells.

This system is not always perfect, as those who suffer from autoimmune diseases know. An overly active immune system can attack otherwise healthy cells, causing conditions like rheumatoid arthritis, lupus, Crohn's disease and others. The immune system is also carefully monitored in those undergoing organ transplantation, as the system often attacks new tissue, potentially leading to the body's rejection of a transplanted organ.

There are some researchers and physicians who argue that the immune system is so important to human health, it warrants a national research program on the scale of the Human Genome Project. On a daily basis, our immune systems are monitoring our bodies for cancerous cells, identifying and killing them.

In this issue of TMC Pulse, you will read about the incredible work being done at MD Anderson in the field of cancer immunotherapy—using a cancer patient's own immune system to fight cancer cells. Dr. Jim Allison and his team are making tremendous strides in their work with checkpoint inhibitors, which you will read more about in this month's cover story, "Fighting Cancer From Within." Allison has dedicated decades to researching how the body's T-cells can be "unleashed" to help specifically target and fight off cancer cells. It's exciting and potentially game-changing work, and it is happening right here on this campus.

Independently and collaboratively, researchers in the Texas Medical Center and around the world continue to explore new ways to not only harness the immune system to fight off infection and disease, but to also bring balance to those suffering from an overly or low functioning immune system.

With these passionate and dedicated researchers committed to harnessing the body's own built-in defense system, there is no telling what the future may hold for the treatment of cancer and other deadly diseases.

Robert C. Robbins

TMC | PULSE

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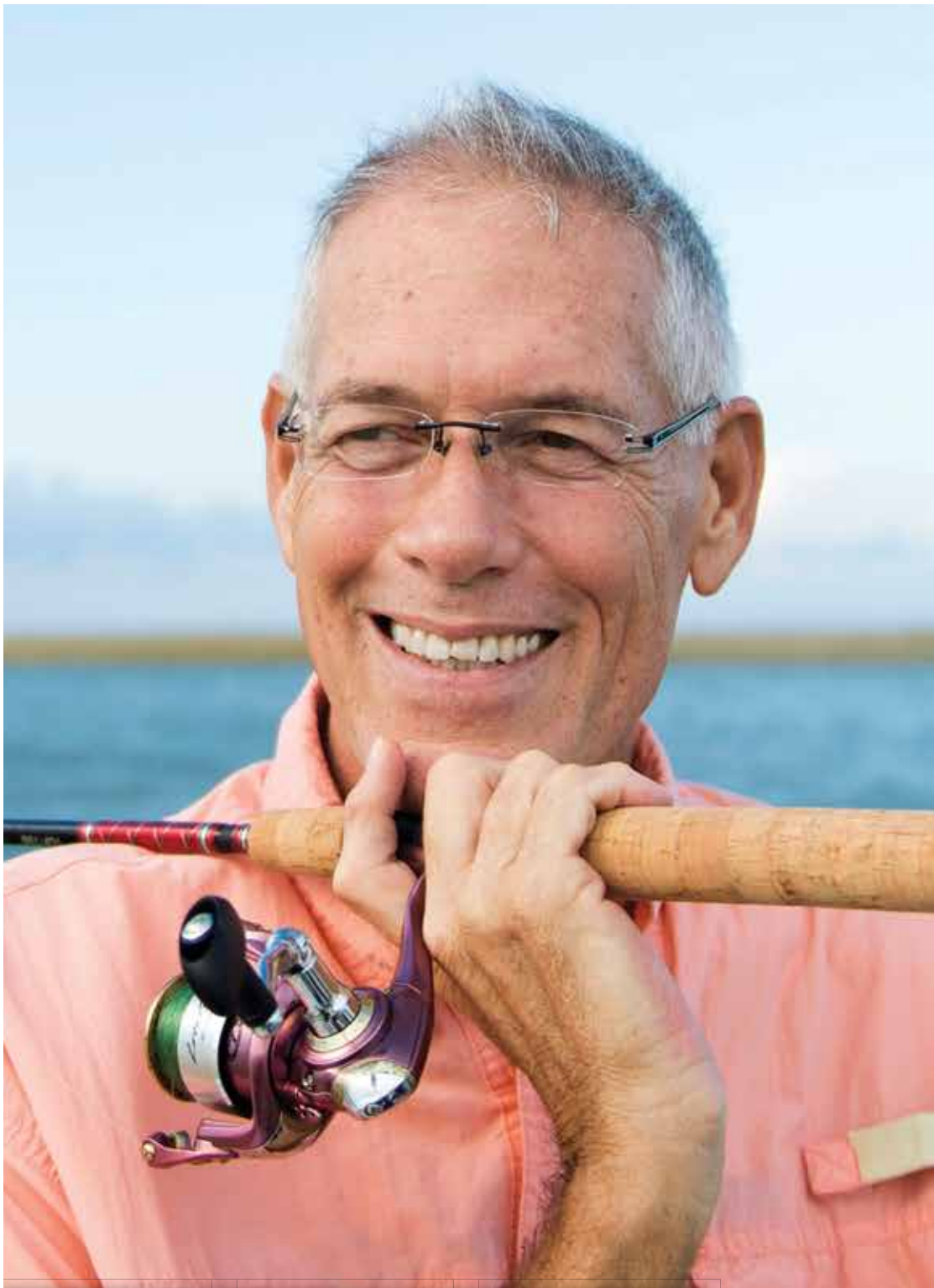
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Cardiovascular care at UTMB.

It's about getting your life back.

John has always enjoyed fishing with the guys and dancing with his wife. After having coronary bypass surgery at age 42, he got back to his life. But this year, 17 years later, he knew something wasn't right.

Tests confirmed John's suspicions. Because he'd already had a bypass, the only option appeared to be getting on a heart pump and waiting for a transplant. Then the cardiovascular team at UTMB Health took another look and saw another way. They recommended an aggressive bypass graft procedure. It was a high risk procedure given John's history, but it offered a greater chance of getting his full life back. And he trusted the UTMB team.

John benefited from a team of skilled specialists, subspecialists, surgeons, nurses, and technicians. These gifted clinicians teach others their art, using the latest equipment, technology and techniques. Today John is back on his boat and before long he'll be back doing the cha-cha.

Cardiovascular care at UTMB is comprehensive and state of the art, from heart rhythm studies to bypass to transplants to cardiac rehab. We're also close by, which makes visiting easy and appointments convenient. And we're accessible 24/7 through our nurse-staffed Access Center.

If your heart is holding you back, do what John did.

Take charge of your health and call us at 800-917-8906, or go to utmbhealth.com to work wonders for you.



Left: Emmanuel Amulraj, MD
Minimally Invasive Cardiac Surgery, Heart and Lung Transplantation

Center Left: Michael Silva, Jr., MD, FACS
Chief, Division of Vascular Surgery and Endovascular Therapy

Center Right: Shreyas Modi, MD, FACC
Director, Heart Station, Cardiac Rehabilitation, Inpatient Services and CCU

Right: George Carayannopoulos, MD
Director, Heart Rhythm Center

The four clinicians featured here are representative of the whole team of specialists spanning our cardiovascular services.

*The University of Texas Medical Branch
Member, Texas Medical Center*



Working together to work wonders.

#EndPandemics

Texas A&M Health Science Center hosts the 6th George H.W. Bush China-U.S. Relations Conference to promote collaboration and cooperation in the fight against global infectious diseases

BY ALEXANDRA BECKER



“It would be wonderful if one of the collaborations between the U.S. and China would be to help strengthen, identify and support national public institutions like CDCs in countries in Africa and Asia and all over the world, because they provide the sustainable basis for keeping people safe.”

— THOMAS FRIEDEN, M.D.

Director of the U.S. Centers for Disease Control and Prevention

On the morning of May 12, the pitch-perfect voices of the Texas A&M University Singing Cadets filled the Phantom Ballroom at Houston’s Hotel ZaZa with the sound of the National Anthem of the People’s Republic of China. The serenade was immediately followed by the Star-Spangled Banner, thus formally commencing the opening ceremony for the 6th George H.W. Bush China-U.S. Relations Conference, which took place at the hotel over the course of three days.

Hosted by Texas A&M Health Science Center (TAMHSC) and Chinese People’s Association for Friendship with Foreign Countries, and co-hosted by Peking University Health Science Center, Texas A&M University, and the Texas Medical Center, the conference was attended by an elite group of representatives that included physicians, researchers, policymakers, government officials and leaders in the public, private and academic sectors from China and the U.S.

The formal symposium, which was first held in 2003 under the leadership of President George H.W. Bush, works to advance his vision and legacy of establishing better understanding, closer ties and collaboration between the two countries. By concentrating on issues surrounding prevention, preparedness and response regarding global infectious diseases, this year’s event marked the first time the traditionally broader diplomatic meeting focused on one specific, actionable topic.

“Microbes respect no national boundaries, no political affiliations and no ethnicities,” said Brett Giroir, M.D., chief executive officer of TAMHSC, who served as moderator for the conference. “Given today’s global connectivity, an epidemic anywhere will rapidly become a threat everywhere.”

That threat—be it Ebola, MERS, SARS, drug-resistant tuberculosis, bioterrorism, pandemic influenza, or a host of lesser known microbes and viruses—served as the springboard for the keynote addresses, plenary panels and roundtable discussions that took place over the course of the gathering. Ultimately, the goal was to not only create potential solutions and strategies for moving forward, but to also establish new networks for ongoing collaboration between industry leaders in the U.S. and China.



From left to right, conference co-chair Neil Bush, keynote speaker Thomas Frieden, M.D., director of the U.S. Centers for Disease Control and Prevention, and Brett Giroir, M.D., chief executive officer of Texas A&M Health Science Center.

“ Sometimes, curing and preventing infectious diseases means more about economic development than it does a specific vaccine. There can never be global economic development until we release the poorest 1.5 billion people on the planet from the traps of poverty and illness. ”

— BRETT GIROIR, M.D.
Chief Executive Officer of
Texas A&M Health Science Center

“The point of this conference is to develop a sustainable, close tie between the two most powerful and influential countries on earth so that we can act more efficiently and effectively in preventing and responding to an outbreak of infectious disease,” said Neil Bush, son of George H.W. Bush and a co-chair of the conference.

Robert C. Robbins, M.D., president and CEO of the Texas Medical Center, added, “While the conference provides many opportunities for collaboration and cooperation between clinicians, scientists and educators around important issues such as emerging pathogens and emergency preparedness, it also promotes discussion on other topics critical to health care today, including cancer genomics and cardiovascular diseases.”

The event was co-chaired by Bush and Madame Li Xiaolin, president of the Chinese People’s Association

for Friendship with Foreign Countries, and featured several of the world’s most renowned scientists and policymakers. Participants were encouraged to share their experiences on social media using the hashtag #endpandemics to increase awareness of the issues discussed, and both Chinese and English translation services were available at all sessions.

The dialogue addressed many facets of the issue at large, including vaccine development, policy guidelines, ethics, research advancement, the role of commercialization and corporate programs in promoting global health security, insights from the front line of the Ebola outbreak, and more. Roundtable symposia provided the opportunity for attendees to convene and review the critical role of research collaboration between China and the United States. Each roundtable encompassed multiple sessions, giving participants time to outline an agenda for future collaboration in science and policy for the topics addressed, which ranged from new tuberculosis diagnostics to mobile health technology to natural remedies and products.

One of the predominant themes of the conference was the importance of assisting less developed countries in the global fight to promote health for the poorest populations.

During a plenary session focused on public health preparedness in the developing world, and how China and the U.S. could provide leadership, Nils Daulaire, M.D., senior visiting scholar on Global Health Security at the Norwegian Institute of Public Health and U.S. Representative to the Executive Board of the World Health Organization, discussed the policy roles of the two countries in developing ongoing and robust programs at home while assisting less developed countries as a whole—and not just when a pandemic strikes.

“The bottom line is that we’re in this together,” he said. “We’re talking a lot about pandemics and global infectious diseases, but we also recognize that the emerging health issues in the least developed countries is this overlap of two great sets of issues. One is what I call the unfinished agenda—maternal and child health, infectious diseases, the spread of anti-microbial resistance—and that is an area that requires ongoing attention, assistance and work, but on top of that, we now have emerging, throughout the world, the non-communicable diseases catastrophe.”

Classified under this umbrella are the exploding rates of cancer, heart diseases, chronic lung disease and diabetes.

“We recognize that while we call them non-communicable diseases, they are, in fact, communicable. I call them socio-communicable diseases, because they are spread from society to society, often from rich western societies to some of the poorer societies,” Daulaire explained. “The drivers there are not just the health interventions, but what we call the social and economic determinants of health. Trade policy is relevant, economic development priorities, the ways in which food is processed and distributed and used—all of these things need to be a part of our common dialogue between the two strongest economies in the world in order to help protect those that are less fortunate than we are.”

Peter Hotez, M.D., Ph.D., who serves as U.S. Science Envoy (North Africa and Middle East), dean of the National School of Tropical Medicine at Baylor College of Medicine, professor of pediatrics and molecular & virology and microbiology and head of the Section of Pediatric Tropical Medicine at Baylor College of Medicine, Texas Children’s Hospital Endowed Chair of Tropical Pediatrics, and director of the Sabin Vaccine Institute Texas Children’s Hospital Center for Vaccine Development, expanded on Daulaire’s remarks and stressed the importance of addressing poverty in the context of global health.

“If you look at poor people across the planet, every single poor person living in poverty has at least one neglected tropical disease,” Hotez explained. “We all know about Ebola, but the rest are what I call the most important diseases you’ve never heard of. They occur in the setting of poverty and they also cause poverty. Many of these neglected tropical diseases and chronically debilitating infections actually shave IQ points off children. We’ve shown that hookworm actually reduces your future wages by 40 percent, that many of these diseases make individuals too sick to go to work, or they affect the health of girls and women—the point is that every single person living in poverty has them, and these are the stealth diseases that trap the bottom 1.5 billion people in the world in this vicious cycle of poverty.”

Giroir echoed these sentiments in a later session. “Sometimes, curing and preventing infectious diseases means more about economic development than it does a specific vaccine,” he said. “There can never be global economic development until we release the poorest

FIRST HELD IN 2003 UNDER THE LEADERSHIP OF PRESIDENT GEORGE H.W. BUSH, THE INTERNATIONAL CONFERENCE WORKS TO ADVANCE HIS VISION AND LEGACY OF ESTABLISHING BETTER UNDERSTANDING, CLOSER TIES, AND COLLABORATION BETWEEN THE U.S. AND CHINA.

1.5 billion people on the planet from the traps of poverty and illness.”

Thomas Frieden, M.D., director of the U.S. Centers for Disease Control and Prevention (CDC), who delivered one of the keynote addresses, focused on the Ebola outbreak in West Africa and the importance of early intervention and preparedness in the future, including an increased focus on biosafety and security, immunization, surveillance of zoonotic diseases in humans and the growing threat of antimicrobial resistance. By utilizing surveillance technology, lab-work and enhanced information systems, and increasing disease detectives and other public health staff throughout the world, Frieden explained that nations could respond more rapidly and effectively to the emerging and ongoing public health crises. He encouraged conference attendees to commit resources to field epidemiology training programs and national public health institutes throughout the world.

“It would be wonderful if one of the collaborations between the U.S. and China would be to help strengthen, identify and support national public institutions like CDCs in countries in Africa and Asia and all over the world, because they provide the sustainable basis for keeping people safe,” Frieden said.

That the prestigious international conference was set in Houston, in the middle of the Texas Medical Center, was no coincidence. For one, TAMHSC is home to the Texas A&M Center for Innovation in Advanced Development and Manufacturing (CIADM), one of only three centers in the country established as a public-private partnership with the U.S. Department of Health and Human Services to help ensure the development and production of lifesaving vaccines and therapies in the event of a pandemic or other national emergency. Even more, Houston is famously driven by innovation in medicine, and it is only fitting that some of the world’s most celebrated scientists and policymakers would convene here to collaborate on such pressing issues.

“We are known as an oil and gas capital, and that is still very much a part of who we are as a city and what fuels our economy,” said Mayor Annise Parker during the opening ceremony. “But the single biggest destination for foreign visitors to Houston is the Texas Medical Center—as doctors, as researchers, as patients, as thought leaders—and in our examination of what we are as a city, we’ve discovered some things: oil is what drives our economy, space is what fuels our imaginations—because we are the home of NASA and the astronaut corps—but medicine is our future.” ■



Political and scientific leaders from the U.S. and China speak at the opening reception program for the 6th George H.W. Bush China-U.S. Relations Conference.



Going for Gold

She's a 12-year-old Olympic hopeful—oh, and she's legally blind

BY ALEXANDRA BECKER

Adrianna salutes the judges' table and mounts the balance beam. She pauses briefly to raise both hands before beginning a series of judiciously rehearsed cartwheels and handstands, executing each until she hears the punctuated thump of a perfect landing. Amid cheers, her gaze shifts once more to the judges' table and she smiles, though she can barely make out their faces. Diagnosed with congenital glaucoma as an infant, Adrianna, who is now 12 years old, is legally blind.

"We could tell something was wrong really early on," recalled Asha Kenebrew, Adrianna's mother. "She was so sensitive to light. Her eyes would water a lot, and she was very uncomfortable whenever we took her outside. When I voiced these concerns to her pediatrician, I remember she checked her eyes three different times and then told us to go straight over to Texas Children's Hospital, that there was a pediatric ophthalmologist waiting for us there. They determined that night that she had glaucoma."

A rare disease of the eye affecting children at birth, congenital glaucoma is characterized by abnormally high intraocular pressure, or pressure within the eye. The disease originates from an imbalance in the mechanisms responsible for circulation; in a healthy eye, fluid flows in and out through a network of cells and tissues, but with glaucoma, the fluid does not drain properly, causing pressure to accumulate. The buildup of pressure often causes permanent

damage to the optic nerve, resulting in varying degrees of vision impairment.

Symptoms of the disease include photophobia, or light sensitivity, excessive tearing, and involuntary closure of the eyelids, known as blepharospasm. If diagnosed and treated early, congenital glaucoma does not always lead to vision impairment, and many pediatric patients will not experience lasting symptoms. If suspected, parents should contact their pediatrician immediately so any pressure inside the eye can be relieved as soon as possible.

Despite detecting her glaucoma at just four months old, Adrianna's disease has been aggressive and difficult to treat. As an infant, she underwent multiple surgeries to relieve the intraocular pressure and has since completed numerous additional procedures including shunt implants and various incisions designed to drain the excess fluid from her eyes. She has subsequently developed cataracts, had an additional surgery as a result, and follows extensive maintenance and treatment guidelines including the use of three different eye drops, twice a day. Just this past October, after an unexpected further deterioration in her sight, she underwent a laser procedure to help suppress her eyes' fluid production.

"She's responded very well to this last surgery and her vision is definitely better than before, but there was a long healing time associated with it," said Kenebrew. "The crazy thing is,



Adrianna, who was diagnosed with congenital glaucoma as an infant, practices gymnastics at the Texas Academy of Acrobatics and Gymnastics.

throughout all of this, she hasn't let anything get in the way of her gymnastics. After the laser procedure, she was using dilating drops for a month, but even with her eyes dilated she still competed and went to her state qualifier meet."

Of course, Adrianna's persistence was no surprise to her parents. At just four years old, she already knew she wanted to be a gymnast after watching competitions on television. She begged her mother for lessons, and a few short years later found herself in her very first gymnastics class at the Texas Academy of Acrobatics and Gymnastics.

“She’s an inspiration. Everyone has deficits, and it doesn’t matter what they are, you just have to learn to work with the things you have been given, and she’s done a great job of that.”

— KIMBERLY G. YEN, M.D.

Pediatric Ophthalmologist at Texas Children's Hospital and Associate Professor of Ophthalmology and Pediatrics at Baylor College of Medicine

“The crazy thing is, throughout all of this, she hasn’t let anything get in the way of her gymnastics.”

— ASHA KENEBREW
Adrianna’s Mother



“She really wanted a balance beam and she wanted to do the uneven bars, and we’ve never really said, ‘You know, I don’t think you’re going to be able to do that because you can’t see,’” said Kenebrew. “We haven’t done anything special, we just never held her back. We didn’t want there to be any regrets, where we wished we would have let her try something.”

Originally, Kenebrew never planned on enrolling her daughter in competitions, but Adrianna showed a precocious interest in the sport and has consistently surprised both her parents and coaches with her capabilities.

“Every time she gets to a new level, her coaches say, ‘How is she going to do that? How will she see to jump to the high bar?’ But she just does it,” said Kenebrew.

No one is more impressed than her physicians, who grasp both the clinical and practical challenges the ambitious 12-year-old—who wears customized glasses and uses a special magnifying machine to help her at school—faces.

“Glaucoma narrows the visual field, so in addition to being extremely near-sighted, she has poor peripheral vision,” explained Kimberly G. Yen, M.D., Adrianna’s pediatric ophthalmologist at Texas Children’s Hospital and associate professor of ophthalmology and pediatrics at Baylor College of Medicine. “She can only make out the large ‘E’ on the top of the eye chart and maybe one or two additional letters under that, in one eye. Most people think of gymnasts as having very good vision so they can land on the balance beam and grab the bars, and certainly you would think that peripheral vision is important as well. I think it’s incredible that she’s been able to compensate and, despite her visual disability, be a competitive gymnast.”

In typical Adrianna fashion, overcoming these colossal obstacles to be a competitive gymnast is not enough—she’s planning to be a great one. In 2013, Adrianna was awarded the Texas Amateur Athletic Federation (TAAF) Female Athlete of the Year for her region in recognition of her work ethic, personality, teamwork and skill. She competed in the TAAF State Meet in May and will train with USA Gymnastics in the fall. Ultimately, she hopes to earn a spot on Team USA, traveling with an elite group to a dazzling new stadium in matching red, white and blue, to compete in the Summer Olympics.

“She wants to be the first visually impaired gymnast to win gold at the Olympics,” said Kenebrew. “This has been her answer and she came up with this all on her own. She doesn’t just say she wants to go to the Olympics. She wants to win gold at the Olympics.”

After coming this far, it’s not difficult to imagine Adrianna on television, with millions of young girls watching her expertly executed routines, some of them turning to their parents and, despite their own obstacles, begging for lessons.

“Just keep trying no matter how hard it is,” said Adrianna, when asked what advice she might give to others with similar ambitions. “You can always reach your dreams, no matter what they are and no matter how hard they are to reach.”

She’s living proof, after all.

“She’s an inspiration,” said Yen. “Everyone has deficits, and it doesn’t matter what they are, you just have to learn to work with the things you have been given, and she’s done a great job of that.” ■



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RONALD A. DEPINHO, M.D., PRESIDENT OF THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER, SAT DOWN WITH TEXAS MEDICAL CENTER EXECUTIVE VICE PRESIDENT AND CHIEF STRATEGY AND OPERATING OFFICER WILLIAM F. McKEON TO LOOK BACK ON THE INFLUENCES THAT LED HIM TO MEDICINE, AND HOW PASSION AND DEDICATION DRIVE THE MD ANDERSON TEAM IN THEIR BATTLE AGAINST CANCER.

Q | Tell us a bit about your upbringing and the influences that shaped your life.

A | We're all shaped by our past in a profound and enduring way. We are the product of our culture, our family core values and our educational experience provided by devoted mentors. There are really three major forces that shaped my life and my current position.

The first one, of course, is my family. My mother and father came from a very poor background in Portugal, with limited opportunity. My dad, at age 17, left for Brazil as a means of supporting the family back home. Although he had limited education, he was driven and creative and became reasonably successful in providing some resources to the family back home. But, the

opportunities were limited there as well, so he decided his best way to help his family was to come to the United States. The only problem was that he did not have a formal invitation. Rather, he ended up a stowaway on a ship, in a box for 13 days, and eventually made it to the New York Harbor. He worked construction in the Bronx, right across the street from Fordham University, where I would go to school years later. He shared with me his dreams of those early years of sending his children to college. He would confidently tell his roommate, 'I'm going to be sending my children there [Fordham].' Three of his five children graduated from Fordham College.

With the U.S. entering World War II, his love of country and all that it

stood for inspired him to enlist and earn his citizenship. He fought on the Italian front and was one of the few to come back alive from his company. Following his return to the U.S., he built a construction company, got involved in real estate and started a family. When he reached a certain level of stability, he focused his attention on helping others in need. Driven by Christian values, he would identify families with limited opportunities in other parts of the world and sponsor them to come to the U.S. He did this for many families residing in Africa, South America and Europe. They would come one by one, and he would get them integrated into our country. Many were afforded the opportunity to live the American dream.

That example had a profound impact on me. There are some really heart-wrenching stories. Families that were wiped out by war or suffering from lack of opportunity—in some cases, he supported families for years. He was truly altruistic and expected those core values of us. We were expected to serve, especially among those who are underserved and might not have the same opportunities.

My second influence derives from a string of dedicated teachers, particularly in high school, who inspired me to apply myself and learn. A seminal event for me was the dissection of my first frog, after which I wanted to know everything about how the organ systems work and how this miracle of complexity enabled an organism to function.

“Then I had the unfortunate experience of losing my father at a time when my lab was making meaningful scientific discoveries but none of those insights were able to impact his disease. I felt a profound level of disappointment that I couldn’t help him and other patients suffering from cancer.”

I gravitated toward trying to understand why. I loved biology, and I also loved helping others, so I concluded that the right profession for me was a physician.

The third major influence in my life was my martial arts instructor, Master Ik Jo Kang, a political refugee from Korea and self-made man who had the gift of inspiring others to do the impossible. Martial arts has endured for more than 3,000 years—based on its ability to transform individuals. The practice instills principles of courage, humility, respect, discipline and a hard work ethic to foster inner balance and a positive attitude. I was 16 when I started, training five hours per day. That experience generates fortitude, discipline and the ability to deal with crises in a stable and thoughtful way. That had a profound impact on who I am today. So, it was the influence of my father, my teachers, and my martial arts teacher—all of them gave me attributes that positioned me to contribute to my profession and serve others.

Q | What led to your passion for cancer? Was it your research that led you there? Was it the loss of your father to cancer?

A | First and foremost, I loved clinical medicine. I loved the relationship one develops with the patient and the ability to really help a patient. I then became increasingly interested in understanding the ‘why’ of disease. I wanted to complement my clinical experience with a scientific career. I wanted to go beyond caring for disease and strive to understand disease at a level that would lead to prevention or cure. My pursuit of fundamental science was born, prompting my pursuit of a dual physician/scientist career.

I was very interested, as a physician and scientist, in bridging the divide, so I took time off from being a clinician and I worked full time in a laboratory and eventually returned to a dual

career. I was very fortunate to have great mentors who helped me attain a level of competence in both arenas.

Then I had the unfortunate experience of losing my father at a time when my lab was making meaningful scientific discoveries, but none of those insights were able to impact his disease. I felt a profound level of disappointment that I couldn’t help him and other patients suffering from cancer. His passing had a significant impact on my career, as it solidified my interest in not simply doing science, but doing science that mattered for patients. From that point on, everything we did in the lab was driven by the question of whether a discovery would help patients. With our new knowledge, what can we do to take the next step in the translational process? That impacted my orientation of science in general, but also the emphasis on cancer and its translation into applications that would reduce the pain and suffering from cancer.

We would ask very practical questions such as, ‘Are we systematically converting insights into drugs or diagnostics that can help save lives or prevent diseases from happening in the first place?’ I began studying the processes or the organizational constructs that are needed to systematically enable translation of knowledge. I was surprised to learn of the system’s inefficiencies. The ecosystem allows knowledge that occurs in our academic medical center to eventually reach the private sector, but at each step along the way—clinical research, trials, implementation on a population scale—I thought the handoffs would be more deliberate and organized than they were. I began asking what my team could do to move that forward.

There seemed to be poor coordination between the promise of science and the deliberate application from the private sector in the form of new drugs, diagnostics or devices. I began to consult for large Pharma in an effort to

bring the insights in genetics, genomics, and use of engineered mouse models as a means of reducing unnecessary failures in clinical trials.

I learned a lot from that experience and I also learned large Pharma was risk-averse in adopting science-driven drug discovery. Guided by great mentors with entrepreneurial experience, we sought to create companies that would fill this void of science-driven drug discovery to influence rational drug discovery and development on a larger scale. These companies were driven by the idea that strong preclinical science could help reduce the rate of failure for cancer drug development.

Q | From physician scientist to entrepreneur, how much did that experience shape your decision to come to MD Anderson?

A | As a physician, scientist and entrepreneur, I learned a tremendous amount about how drugs get made. The lessons that I learned from mentors in business and operations had a very significant impact on my trajectory. At Harvard, I founded the Belfer Institute for Applied Cancer Science, which, in 2003, was an attempt to bring the best attributes of science, academia and industry together. It was a concerted effort to deliver on discovery, drive opportunities forward and get higher visibility so the launch point of ideas to the private sector would be more productive. We sought to validate or de-validate concepts more robustly before starting a company or licensing a drug.

I learned a lot from that experience—good things came out of it, lessons were learned and it was clearly contributing toward moving the ball down the field for the benefit of patients. When I was given the opportunity to come to MD Anderson, I reflected on my background and the different attributes and experiences I had, and I asked the question of whether or

not the institution, which was clearly the greatest institution in the world in cancer science and cancer care, would benefit from someone with my background who would bring new ideas or new ways of approaching things that could better organize efforts to help patients more quickly. I was inspired by MD Anderson’s critical mass, its singular focus, its culture of collaboration, its patient-centric efforts, its research-driven patient care—all of these things were astonishing and inspiring at the same time.

Also, what was happening was a true change in the field, where we were afforded new opportunities in cancer that were truly historic. The cancer genome, the advances in imaging physics and nanotechnology, the ability to sequence genomes at clinically active time frames at an expense that’s manageable, the ability to aggregate data and analyze data with artificial intelligence systems. These are all things that came online when I was considering the opportunity—the privilege—of coming to MD Anderson. At this particular point in time, leading MD Anderson was a very compelling opportunity. I was very fortunate to be given the privilege and the honor of leading the greatest institution in the world in cancer care.

Upon arrival here, I met with hundreds of investigators, clinicians and beyond to understand the institution, what its capacity was, what its opportunities were, where its culture and orientation were, and I recognized there was an opportunity to bring the institution and its formidable talent, resources and reach to bear on the cancer problem. I embraced this responsibility and went at it with full force.



(Credit: MD Anderson)

“The greatest challenge and the biggest responsibility we have is to ensure this knowledge is delivered to those in need. It’s not enough to care for folks who can come here and access the world’s best care. We also have to work hard to spread our knowledge and deliver safe, effective care to others through our science and clinical care.”

Q | MD Anderson has had many exciting and bold initiatives over the years. One was the branding campaign which is one of the most brilliant I’ve ever seen—striking through your name to drive home the concept of ending cancer. There’s also the Moon Shots Program and the concept behind it. Can you talk a little bit about how those concepts came about?

A | First, with respect to the marketing and the branding, those things only work if they’re grounded in reality. You walk the hallways here and whether you talk to the valets, or our volunteers, or our neurosurgeons, or our Board of Visitors, everyone is truly focused on the mission. Everyone understands what we’re doing—Making Cancer History—and we want to end cancer in Texas, the nation and the world. All that we do is focused on trying to achieve that mission. The credit for the concept of striking through CANCER and Making Cancer History goes to John Mendelsohn and his communications team. The enduring nature of that brand and the true power that it carries rests on the fact that it’s actually who we are. It’s grounded in the reality of the conviction of all the

21,000 cancer-fighting champions of MD Anderson.

In terms of the Moon Shots Program, this program is a reflection of the historic opportunities in the field. Throughout my career, I’ve had the tendency to look five to 10 years into the future and consider what’s possible. We knew when we started the Human Cancer Genome Project in 2007, that we did not have the technology to sequence the tens of thousands of tumors needed. But we knew if we put our minds and will to a task, we would succeed—history has taught us that when you have a goal and you have ingenuity and determination, you will achieve that goal. You may not know exactly how to get there, but you will achieve that goal. We saw that with the Manhattan Project, we saw that with the moon shot; it was not possible in ‘62 to complete that goal, but we knew it was possible if we put our minds to the task. That’s what Kennedy taught us, that’s what George H.W. Bush taught us in 1989 with the Human Genome Project—again, a daunting task, seemingly impossible, but a decade and \$3.6 billion later, we had the blueprint of life for humans. History has taught

us if you have a goal and articulate a vision at the appropriate time, you can make a difference.

Reflecting on the status of the field, it seemed to me there was a lot of prosecutable information. We had a lot of understanding of what caused cancer; we had technology that could detect cancer earlier, when the chance to cure it is greatest; and a lot of new clinical proof of concept—this was the game-changer, in my mind. I was seeing the early data that came out in 2009 and recognizing we were experiencing the game-changer on the therapy side. Those were early days, but again, looking ahead and thinking, ‘Well, we now better understand the rules here. Can we build on this?’ That conceptual maturity was coupled with the technological prowess, and there were a couple of things there that were really exciting to me. One was the ability to sequence in real time, for a fraction of the cost and a fraction of the time—that was a game-changer from a clinical standpoint. The imaging capabilities that we had, and the maturing of imaging physics, were game-changers as well, and they were there to better detect disease. The advances in serum proteomics, to detect serum proteins, potentially identify early biomarkers of disease, long before you can even see them by imaging. Things of that nature.

If you look out ahead and ask, ‘If we could detect cancers as early as stage 1 or 2, what kind of an impact would we have? Why aren’t we getting there?’ The opportunities there were obvious. Then, what happened with Watson, and artificial intelligence, and the cloud, and mobile technology; those were obvious, so you look at those and say, ‘You’re well positioned as a field to do things.’ The second question you have to ask is, ‘Are we organized to be able to do that? Is the government or our school system doing what’s possible to prevent disease? Are hospitals and medical centers providing state-of-the-art, evidence-based care? Is the biotech industry using rigorous science to drive the best drugs forward?’ and so on and so forth. If you look at the prosecutable information in hand today and the length of time that information has been around, you’d have to conclude that there are opportunities for optimization. So, we set out to build teams, infrastructure and resources to

accelerate the conversion of knowledge into clinical endpoints that would save lives.

Q | How impactful is it to have MD Anderson, the largest cancer hospital in the world, on the campus of the Texas Medical Center?

A | I think it’s immeasurable. I don’t think MD Anderson would be the powerhouse that it is without other world-class institutions that have made us better. To have the best medical school in Texas right next door in Baylor College of Medicine; to have one of the top children’s hospitals in the country right next to us; to have UTHealth and its multiple institutions from bioinformatics to public health; to have great institutions like Rice and their gifted engineers and academicians; Memorial Hermann and its trauma care; the legacy of Texas Heart Institute, and Cooley and DeBakey and Methodist. We are great because we are the TMC. Any of those institutions benefit mightily by the success and well-being of the other institutions. It’s a symbiotic relationship that has driven our collaboration, our competitiveness to be the best, and the facts speak for themselves. We are an engine for discovery and for delivery, the likes of which the world has never seen. Bobby Robbins’ leadership is taking us to a new level of impact.

Q | Do you have any closing thoughts?

A | We’re at a special point in the history of the field of medicine where we’re very excited about the opportunities for science really changing the natural history of diseases like cancer and heart disease. The greatest challenge and the biggest responsibility we have is to ensure this knowledge is delivered to those in need. It’s not enough to care for folks who can come here and access the world’s best care. We also have to work hard to spread our knowledge and deliver safe, effective care to others through our science and clinical care. The TMC, with its reach and its potential, has an opportunity to level disparities and solve diseases through prevention, early detection and definitive treatment. MD Anderson plays a very special and prominent role in that process when it comes to cancer, for the country and the world, and it’s a responsibility we embrace. ■

For the full interview, visit TMCNews.org



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FIGHTING CANCER *from* WITHIN

BY SHEA CONNELLY

GROUNDBREAKING DISCOVERIES MADE BY MD ANDERSON'S JAMES P. ALLISON, PH.D., ARE REVITALIZING THE FIELD OF CANCER IMMUNOTHERAPY.

For decades, the standard of care in cancer treatment consisted of three major pillars: surgery, radiation and chemotherapy. In recent years, however, another type of treatment—immunotherapy—has grown in leaps and bounds, offering new hope to cancer patients around the world.

Over the past year alone, the FDA approved two immunotherapy drugs for use in melanoma treatment, and in March, one of the drugs was also approved for lung cancer treatment. The field of immunotherapy is not new, but this swift progress comes after years of disappointment and unmet potential. Just as hope for the future of immunotherapy began to fade, ground-breaking discoveries made by James P. Allison, Ph.D., chair of the immunology department at The University of Texas MD Anderson Cancer Center, transformed it into one of the most promising frontiers of cancer treatment.

The idea of using a patient's own immune system to fight cancer dates back to the late 1800s. Like so many great medical advancements before and after, the discovery of immunotherapy happened largely due to chance. William B. Coley, M.D., a bone surgeon at Memorial Hospital in New York City, noticed that cancer patients who developed bacterial infections after undergoing surgery fared better than other patients. He hypothesized the infection awakened the immune system, which then fought off cancer cells while also fighting the infection.

Coley tested his theory by injecting bacteria in patients with inoperable cancerous tumors. He achieved successes with the method—notably, one young patient with a malignant tumor survived another 26 years after Coley injected him with “Coley toxins.”

Coley's work created the foundation for the immunotherapy of today, but years passed before significant progress was made in the field. By the early 1900s, radiation therapy entered the scene and quickly became the go-to treatment, alongside surgery. In the 1960s, chemotherapy became the third pillar of treatment.

“These are the three modalities that have persisted,” said Allison. “But of course, they have things wrong with them.”

Surgery, Allison explained, requires early detection—if you can't get all the tumors before the cancer spreads, surgery is not curative. Radiation treatment poses the same problem. Chemotherapy is successful in curing certain types of cancers, but brings with it terrible side effects.

Still, the triumphs of these forms of treatment caused immunotherapy to fall by the wayside, in part because there seemed to be a missing piece in the puzzle of how to achieve a durable immune response. That changed in the 1990s, when Allison and his team found that a molecule on T-cells, the immune system's attack cells, acts as a brake on the immune response.

Before Allison's discovery, “we didn't understand the basic biology of how T-cells were regulated,” said Padmanee Sharma, M.D., Ph.D., professor of genitourinary medical oncology and immunology at MD Anderson. “We tried to give vaccines to turn on the T-cells and attack the tumor, but they didn't work.”

For years, clinical trials focused on engaging T-cell receptors failed. The immune system would respond for a time, but would eventually shut off. No one understood why, until Allison and other researchers identified the first set of brakes on T-cells, CTLA-4, now known as a “checkpoint molecule.”

Allison and the researchers at his MD Anderson labs are seeking new checkpoint targets, as well as more effective combinations of treatments.





“The whole goal now is to extend this to more types of cancer and find the right combinations where we can get the survival rate even higher.”

— JAMES P. ALLISON, PH.D.

Chair of the Immunology Department at The University of Texas MD Anderson Cancer Center

“CTLA-4 interferes with the gas pedal of the T-cells and takes the gas off after a while,” said Allison. His next insight was critical: could turning off those brakes on the immune system be a way to attack cancer? Allison and his team shifted focus to searching for ways to block CTLA-4, thus removing the brakes and allowing T-cells to respond freely. This type of treatment became known as immune checkpoint blockade.

“That was the paradigm shift,” said Sharma. “From trying to turn on T-cells, we’re now trying to block inhibitory pathways. People kept saying, ‘We need to harness the immune response.’ Actually, we’re not trying to harness or turn it on, we’re just trying to unleash it. It’s ready to go, it just has a lot of brakes around it.”

Allison developed an antibody to block CTLA-4, which turned into the drug ipilimumab, used to fight metastatic melanoma. Ipilimumab, now known as Yervoy, showed unprecedented results.

“In a study tracking 5,000 patients who received the drug,” said Allison, “22 percent are alive 10 years after they stopped therapy.” At the time the drug was developed, the median

survival rate for late-stage melanoma was 11 months.

In 2014, the FDA approved the drugs Keytruda and Opdivo, which inhibit another checkpoint molecule, PD-1, for the treatment of metastatic melanoma. In March 2015, Opdivo was also approved for lung cancer treatment. When taken together, anti-CTLA-4 and anti-PD-1 drugs have been shown to dramatically increase survival rates.

“The combination of the anti-CTLA-4 and the anti-PD-1 in melanoma gives you 50 percent of patients responding,” said Allison. “The whole goal now is to extend this to more types of cancer and find the right combinations where we can get the survival rate even higher.”

One key step MD Anderson took to enhance immunotherapy research for treating a variety of different cancer types was establishing it as a platform in the institution’s Moon Shots Program, launched in 2012.

“The Moon Shots are designed to decrease cancer mortality by having major ideas implemented, either through prevention, early detection, or treatment,” said MD Anderson President

Ronald A. DePinho, M.D. “We call it research-driven patient care. We’re not just focused on standard of care. We’re not just focused on experimental modalities. We really bring the whole package together for patients.”

Allison is executive director and Sharma scientific director of the immunotherapy platform of the Moon Shots Program.

“The Moon Shots programs are focused on particular tumor types—for example, women’s cancer or prostate cancer—and immunotherapy plays a role in all of those,” said Sharma. “Trying to integrate an immunotherapy treatment strategy for each tumor type is very important in helping the Moon Shots goals be accomplished, which is, of course, to eliminate and reduce mortality and morbidity of cancer.”

To that end, MD Anderson is engaged in 50 or more clinical trials related to immunotherapy at any given time, in addition to the hundreds of clinical trials MD Anderson manages overall. In fact, the institution’s cancer clinical trial program is the largest in the country.



“People kept saying, ‘We need to harness the immune response.’ Actually, we’re not trying to harness or turn it on, we’re just trying to unleash it. It’s ready to go.”

—PADMANEE SHARMA, M.D., PH.D.

Professor of Genitourinary Medical Oncology and Immunology at The University of Texas MD Anderson Cancer Center

The opportunity to conduct clinical trials and the symbiotic relationship between clinicians and researchers were some of the biggest selling points when Allison decided to move to MD Anderson. Allison’s initial cancer research discoveries took place while he was working in the Cancer Research Laboratory at the University of California, Berkeley. He later became chair of immunology at the Memorial Sloan-Kettering Cancer Center before arriving at MD Anderson in 2012.

“I came here specifically to do this work,” said Allison. “At Berkeley, it was not possible to do any human work.”

Between the clinical work, the surgical work to obtain tissue and tumor samples, and the research done in Allison’s and Sharma’s labs, teamwork plays a vital role in taking on the breadth of trials MD Anderson conducts.

“We try to identify clinicians who are really interested—an oncologist using drugs to treat

patients, who’s interested in immunotherapy—and also try to find surgeons who will work with us, a pathologist who will help us get the tissues. Then we need to have research nurses,” said Allison. “It’s very complex. This isn’t being done anywhere else on the planet, as far as I know. At least not at this scale.”

Allison’s and Sharma’s labs conduct different, but related, research. Sharma works closely with patients. She sees patients one day a week, predominantly bladder and kidney cancer patients. All patients are evaluated for possible inclusion in clinical trials, and many are enthusiastic about the opportunity to help further research at MD Anderson.

“They want us to learn so we can do better for future generations,” said Sharma. “Especially with immunotherapy, because a lot of patients have heard about the potential benefits.”

Sharma’s lab does translational work, trying to understand what is happening in the

patients—what the immune response is when you give a certain drug or drug combination, or how the diseases progress.

“That’s what I call ‘hypothesis-generating information,’” she said. “I can take all the data I learn from patients and say, ‘This information correlates with when the patient did well.’ But it doesn’t really link A to B in terms of why the patient did well. You really need mouse models to understand that.”

That’s where Allison’s labs come in to play.

“They can help us test that hypothesis,” said Sharma. “They’ll use the right mouse model and say, ‘Yup, if you don’t have this gene you don’t get a response.’”

Allison runs two labs, one working in conjunction with Sharma, and his own personal research lab, where he and his team search for new checkpoint targets and try to determine combinations of treatments to further improve survival rates.

BETWEEN CLINICAL WORK, OBTAINING TISSUE AND TUMOR SAMPLES, AND RESEARCH, TEAMWORK PLAYS A VITAL ROLE IN MD ANDERSON'S TRIALS.

The search for effective combinations not only includes pairing multiple immunotherapy treatments, like the anti-CTLA-4 and anti-PD-1 drugs, but also combining immunotherapy with other types of treatment. Allison and Sharma recently published papers in the journals *Cell* and *Science* to discuss the potential of combining genomically targeted therapy with immunotherapy.

"Don't even try to make those targeted genomic therapies curative, because they're not," said Allison. "There are too many resistance factors. Let's start making rational combinations."

For several years, genomically targeted therapies have been touted as the next big thing in cancer treatment, because they garner remarkable responses in a majority of patients. The downside? Those responses don't last.

"The genome of cancer cells is really unstable," said Allison. "By the time you find one you can attack, there are probably other mutations that will take over. You're always following behind."

If combined with immunotherapy, however, Sharma and Allison suggest it would be possible to get a durable response from a high percentage of patients.

"Because immunotherapy works not by targeting the cancer cell but by targeting the immune system, we thought the combination of these two things would be very powerful," said Sharma.

A patient could begin with a genomically targeted therapy to kill tumor cells, which would release antigens for the T-cells to attack and associate with tumors.

"While the tumor cells are dying, you can bring in immunotherapy and start the whole immune process," said Sharma. "You would have a durable response, because immunotherapy allows for the development of memory cells."

Sharma used the polio vaccine as an example. If you received the polio vaccine as a child, you will still have an immune response as an adult. If you encounter polio, your immune system would remember it and kick in to get rid of it, preventing you from contracting the disease.

"If we can get that to happen with cancer and form memory T-cells, you would have that durable response and you wouldn't have patients relapsing with their disease," said Sharma.

In fact, memory is one of the biggest perks of immunotherapy.

"Once you get a big T-cell response, a certain population of those cells acquire stem cell-like capabilities," said Allison. "They're with you for the rest of your life. If the tumor comes back, they get turned on again and kill it."

Despite its recent progress, the field of immunotherapy still has obstacles to overcome in order to reach its full potential. Federal funding is currently "overwhelmingly directed toward genomically targeted therapies as compared to immune checkpoint therapies," as Allison and Sharma wrote in their *Cell* article. They suggest more funds be allocated toward immunotherapy research, given its potential and recent successes.

One of the reasons for this imbalance in funding is the fact that immunotherapy experienced years of failures before Allison's discoveries helped revitalize the field.

"Immunotherapy lost credibility as being something that was really going to make a difference in cancer," said Sharma. "The genomically targeted therapies came along more recently,

but showed benefit so quickly. Immunotherapy couldn't say that. But this is a different kind of immunotherapy."

Though it may take time to convince everyone of the new potential in these immune checkpoint therapies, the message appears to be spreading. Allison and Sharma both noted one significant measurement of how far immunotherapy has come over the last decade is evident at the conferences they both attend, such as recent annual meetings of the American Society of Clinical Oncology.

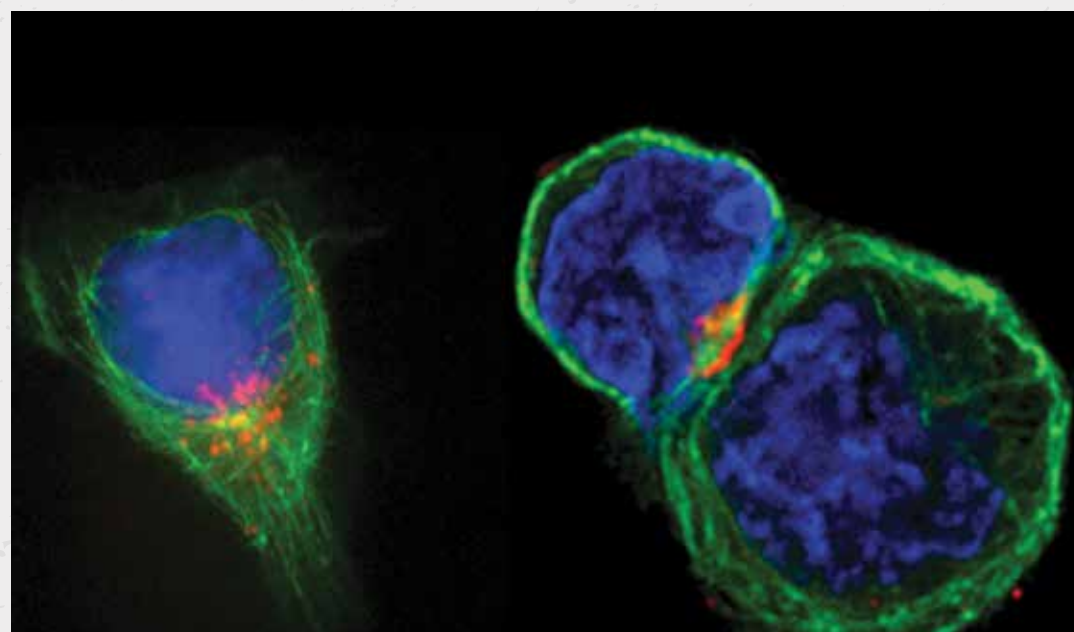
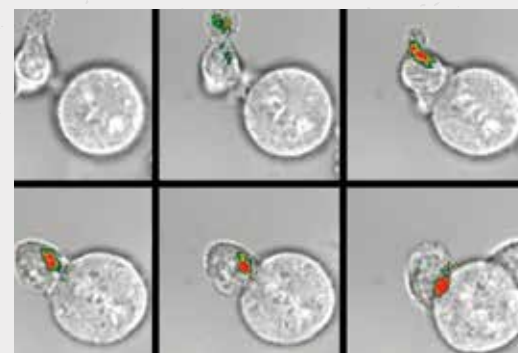
"When I started going to these meetings in 2004, 2005, the immunology sessions would be in a small room. You'd be lucky if there were 50 people there," said Allison. "Two years ago, when the combination of ipilimumab and anti-PD1 was presented, it was in this huge theater where there were over 3,000 people."

The most important change in this new era of immunotherapy research, however, can be seen in the clinic and the lab. Even as recently as five years ago, finding clinicians to provide tissue for research was more difficult. These days, many are eager to participate.

"Right now there is so much enthusiasm," said Allison. "That's one thing I've sensed since coming here. Everybody wants to help—they all see what it's doing for their patients." ■

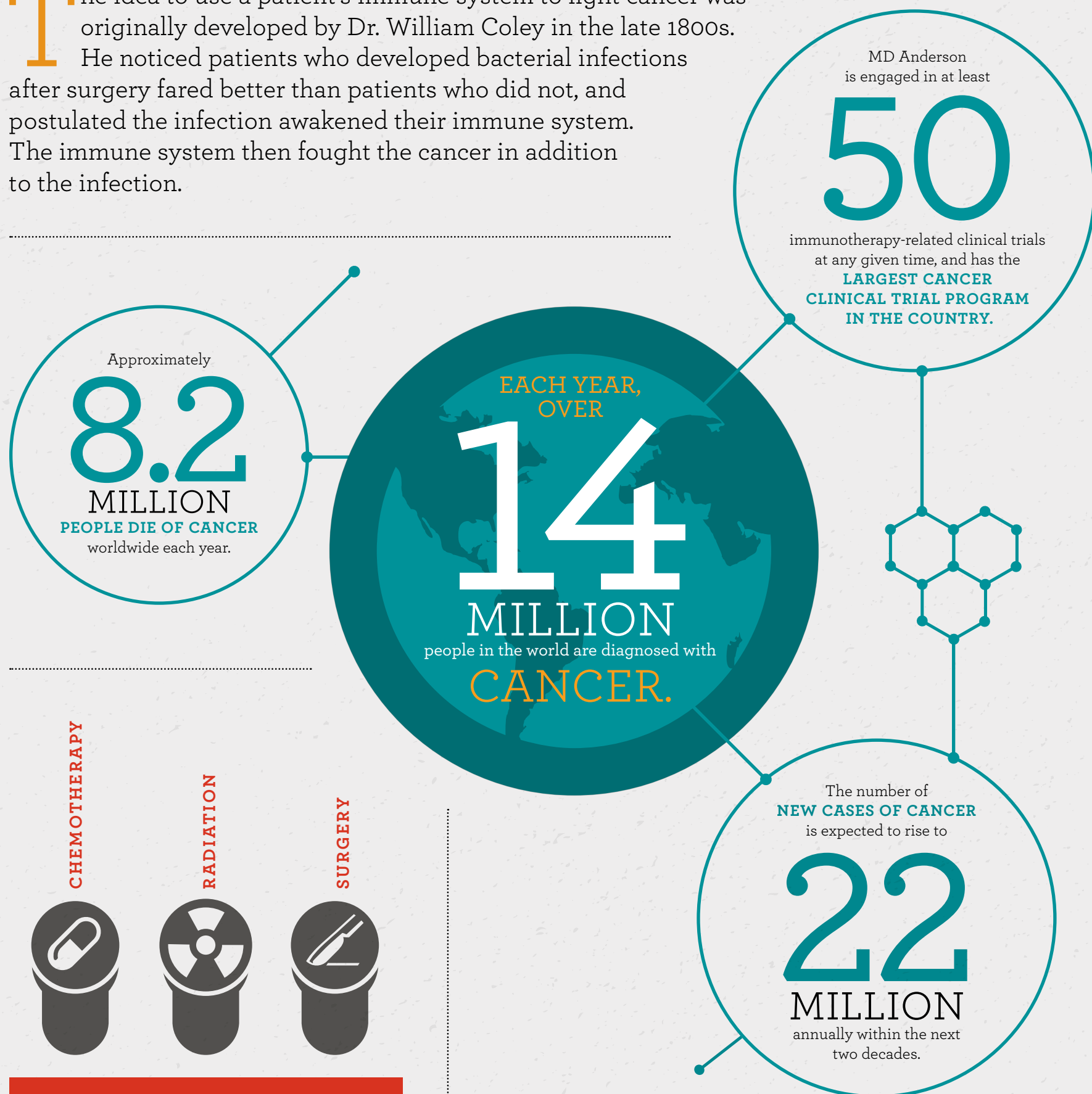
RIGHT: A T-cell connects with a larger antigen-presenting cell, which causes the T-cell to activate against the tumor. After they connect, the red CTLA-4 checkpoint molecule migrates to the connection spot to dial down the immune response.

BELOW: This image shows a T-cell, and to the right is a T-cell connected to an antigen-presenting cell. (Credit: MD Anderson)



CANCER IMM

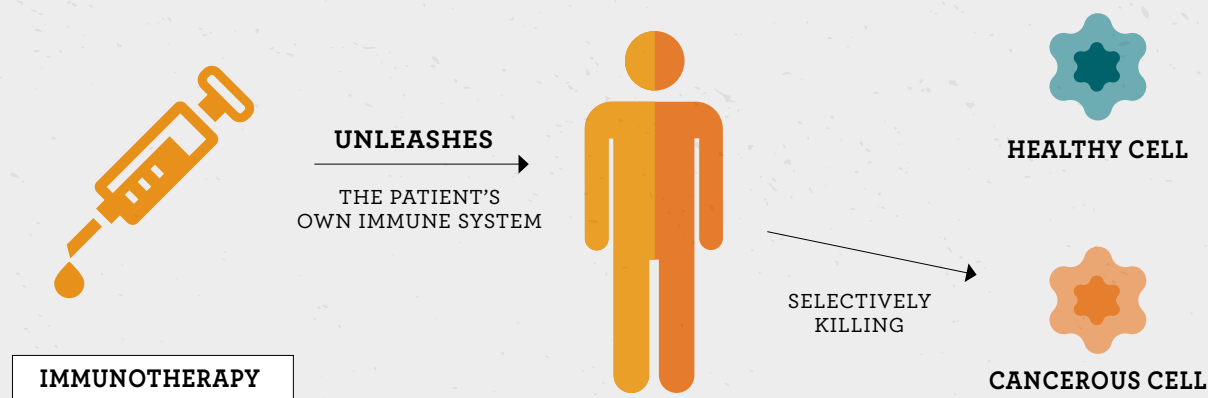
The idea to use a patient's immune system to fight cancer was originally developed by Dr. William Coley in the late 1800s. He noticed patients who developed bacterial infections after surgery fared better than patients who did not, and postulated the infection awakened their immune system. The immune system then fought the cancer in addition to the infection.



IMMUNOTHERAPY

What is Cancer Immunotherapy?

Cancer immunotherapy is a field of cancer treatment that uses the patient's own immune system to fight cancer.



How Does Immune Checkpoint Blockade Work?

T-cells have molecules on them, known as “checkpoint molecules,” that act as brakes on the immune response. Checkpoint blockade drugs inhibit those brakes and allow the immune system to respond freely.



What Drugs Related to Immune Checkpoint Blockade are FDA-approved?

Yervoy, which inhibits the checkpoint molecule CTLA-4, and Keytruda and Opdivo, which inhibit PD-1, have been approved for use in patients with metastatic melanoma. Opdivo has also been approved for use in lung cancer.

What Makes Cancer Immunotherapy Effective?



SPECIFICITY

T-cells, the immune system's attack cells, can recognize and specifically target cancer cells, as opposed to chemotherapy, for example, which can also harm healthy cells.



MEMORY

If the tumor comes back, the T-cells will remember it, turn on again and kill it again.

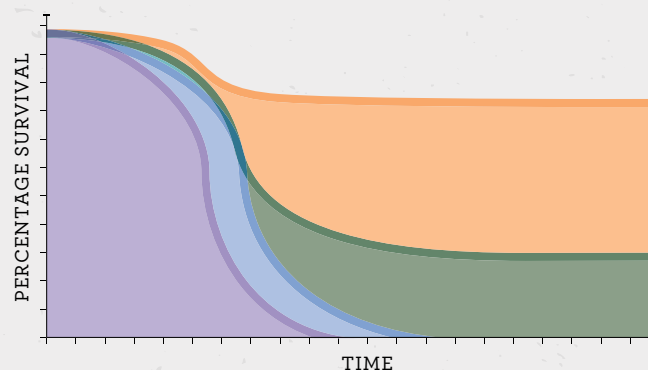


ADAPTABILITY

The genome of cancer cells is highly unstable, but as they mutate, the immune system can adapt and continue to fight.

Can Immunotherapy be Combined with Other Forms of Treatment?

Genomically targeted therapies produce a response from a high percentage of patients, but the response doesn't last. Immunotherapy provides a durable response among a smaller percentage of patients. Dr. Allison and Dr. Sharma suggest combining the two would yield optimal results: a high response rate and durability.



Treatment Effectiveness

- Chemotherapy
- Geonomically targeted therapy
- Immune checkpoint therapy
- Combination of geonomically targeted therapy and immune checkpoint therapy

(Source: Cancer Research Institute)

Solving for the Future

Health care professionals—from clinicians to CEOs—meet at the Medical World Americas conference to discuss innovative solutions for the field's toughest issues

BY SHEA CONNELLY

For three days in late April, over 2,000 health care professionals—from physician assistants in scrubs to hospital CEOs in suits—met at the second annual Medical World Americas conference to examine the key issues facing today's health care industry and discuss possible solutions.

Held at the George R. Brown Convention Center, the unique conference was developed through a partnership between the Texas Medical Center, the Greater Houston Convention and Visitors Bureau (GHCVB), Houston First Corp., and Germany-based Messe Dusseldorf, which hosts MEDICA, the world's largest medical trade fair.

The conference kicked off with a highly anticipated opening plenary session: Arthur "Tim" Garson Jr., director of the Health Policy Institute at the Texas Medical Center, shared the results of the first annual Texas Medical Center Consumer Health Report. The first-of-its-kind Nielsen survey collected data from 1,000 Texans about attitudes towards health insurance and care.

"For each question, we wanted to know the effect of income, age, gender, race, whether you're insured or not, have a chronic disease or not, rural and urban," said Garson, who had the audience answer each question before he shared the results the survey found.

"We noticed that folks stayed longer this year. We think that's a testament to not just the content but also the interactive things we had on the expo floor."

— MICHAEL HECKMAN

Senior Vice President of Partnerships and Event Development for the Greater Houston Convention and Visitors Bureau

Among the results Garson discussed, 83 percent of those surveyed said having health insurance was "very important" or "absolutely essential." Fifty-nine percent thought those who make poor health choices, such as smoking, should have to pay more for insurance, but opinions were nearly evenly split on whether foods that lead to obesity, like sodas, should be more expensive. Fifty-two percent were willing to give up fast food to afford insurance, but only 12 percent were willing to give up their cell phone.

Also during the opening plenary session, Texas Medical Center President and CEO Robert C. Robbins, M.D., moderated a panel of health care executives, including Mark Boom, M.D., president and CEO of Houston Methodist Hospital, Paul Klotman, M.D., president and CEO of Baylor College of Medicine, and Dan Wolterman, CEO of Memorial Hermann Health System.

The panel covered a number of challenges facing the health care

industry—including lack of access to quality care—as well as some of the findings of the Consumer Health Report. All expressed disappointment, but not necessarily surprise, that not one of the people polled in the report said they felt quality was the most important aspect of health care.

"How do we explain to a lay individual what true quality is?" said Wolterman. "That's a lot of education. I think we have to be much more transparent in our industry."

The CEOs also discussed how innovation and new technologies will shape the future of the health care industry and affect cost. Thus far, Boom said, "one of the biggest challenges" regarding technology and health care is that innovation has not necessarily been having the most desired effect on the bottom line.

"Hopefully we're going to see more partnerships and more collaboration, to have that innovation actually produce more efficient health care and cheaper cost," he said.

Wolterman suggested one strategy for delivering more efficient care at a lower cost would be to find ways to get ahead of the curve rather than waiting to care for people once they're sick.

"We need to shift a little bit away from 'How do we cure people?' to 'How do we keep them healthy and well?'" he said.

Other highlights of the plenary sessions held each of the three days included a discussion of data-driven health care and how to use big data to improve care and efficiency and reduce cost, and a panel on "The Realities and Risks of Worldwide Pandemics" led by Brett Giroir, M.D., executive vice president and CEO of Texas A&M Health Science Center and head of the governor-appointed Texas Task Force on Infectious Disease Preparedness and Response.

In addition to the plenary sessions, the event featured smaller discussions focused on specific topics like cancer, stroke, health policy and diabetes; an expo floor featuring over 50 exhibitors; and ancillary and co-located events held by organizations such as the American College of Healthcare Executives Southeast Texas Chapter and the Healthcare Design Academy.

The Texas Medical Center produced multiple events, including a poster session during which a panel of judges, with help from the audience, selected first, second and third place cash prize winners. First place winner, Antentor Othrell Hinton Jr., a graduate student and research assistant at Baylor College of Medicine, was awarded \$1,000 for



LEFT: The judges table at the TMCx pitch event. RIGHT: Representatives from the winning companies pose at the end of the pitch event.



Between plenary sessions featuring leaders from the Texas Medical Center and beyond, smaller discussions focused on more specific topics, and the TMC-sponsored poster session and pitch event, Medical World Americas programming covered a wealth of health care issues and innovations.

his presentation: “Estrogen responsive neurons in the medial amygdala prevent stress-induced hypertension.”

Second place and \$500 was awarded to Mandar Karhade for his project “circulating melanoma cells predicts recurrence in stage IV in melanoma patients,” and the \$250 third place was given to June Cao for his project: “Pharmacological hypothermia by TRPV1 agonism improves the long-term neurofunction and reduces thalamic neuron degeneration in ischemic stroke.”

“We were thrilled to have many talented presenters participate in the poster session and to provide a platform for future leaders in health care to share their work,” said Robbins of the poster presentations.

A highlight of the conference was the TMCx pitch session, during which 20 companies enrolled in the TMCx accelerator program were each given three minutes to pitch their business propositions to the audience and a panel of judges.

“We’ve got 20 outstanding companies for all of you to see,” said TMC COO William F. McKeon, who

introduced the four judges—Lynda Chin, M.D., chief innovation officer for health affairs at The University of Texas System, Thomas DeSouza, managing director at Allegory Venture Partners, Eric Richardson, Ph.D., a bioengineering lecturer at Rice University, and Farzad Soleimani, chief resident of emergency medicine at Baylor College of Medicine.

“You will be voting on the People’s Award,” McKeon said to the audience, “which will select the favorite company for \$500 and third place.” The panel of judges chose first and second place winners.

Balance diagnostics company iShoe won the audience favorite third place. Gauss Surgical, creators of the first FDA-approved real-time monitor for surgical blood loss, and Redox, which is working towards making Electronic Health Records easier to use, tied for second place, each winning \$1,000. Adient Medical, which develops absorbable medical devices, won first place and \$2,000.

Overall, organizers deemed this year’s conference a success.

“We saw substantial progress

over our inaugural year,” said Michael Heckman, senior vice president of partnerships and event development at GHCVB. “We wanted to do a better job of delivering on what we think is the unique value proposition of Medical World Americas, which is cross-disciplinary networking, from CEOs and hospital administrators to clinicians, researchers and students.”

This year, 2,319 people registered for the conference—a 15 percent increase over last year. Even beyond the quantitative growth, Heckman said he and the event organizers received positive feedback regarding the flow of the event, the speakers and the content of the sessions.

“We noticed that folks stayed longer this year,” he said. “We think that’s a testament to not just the content but also the interactive things we had on the expo floor.”

The fact that Messe Dusseldorf chose Houston as the site of Medical World Americas is a testament to what the city has to offer in terms of playing host to major conferences, particularly related to medicine and health care. Heckman said he hopes this conference

will open the door to more medical conferences in Houston.

“They could have chosen any city in the United States to locate their version of MEDICA here in North America,” said Heckman. “They chose Houston.”

Medical World Americas organizers have already identified multiple goals for the annual event, he added. One is to enhance and increase the number of ancillary and co-located events. Towards that end, he noted they are in talks with an international event that is considering partnering with the 2017 conference.

“We also want to get to the point where there are new products that are highlighted on the expo floor,” said Heckman. “For example, a company that has cutting-edge technology or a new product they want to announce at Medical World Americas. If we can raise the stature and the brand, if we can highlight Houston and the Texas Medical Center, and become a PR machine at the same time, we’d consider that a success.” ■

Star for a Day

Ronald McDonald House Houston, in partnership with Magnolia Hotels and local vendors, treats residents to a relaxing day of pampering and fun

BY ALEXANDRA BECKER



Head Clown Ronald McDonald serves as ringmaster during the evening's circus-themed extravaganza.

“We as a company just started thinking: how can we do more? Everyone on staff enjoys it and wants to be involved—we're proud to provide this special day for these families.”

— JOHN REMMERS

*Vice President of Stout Street Hospitality and
Magnolia Hotels*

On April 20, Ronald McDonald House Houston broke all the rules. Renowned as a comfortable and safe “home away from home” for families with children in need of care in the Texas Medical Center, the 50-bedroom House had been transformed into a five-star hotel, spa and circus show. Parents stood in line waiting for massages and haircuts while their two-legged zebras and tigers ran back and forth to the milk and cookies bar, everyone thankful for a much-needed day of leisure.

The annual event, known as Five Star Day, is made possible through a partnership between



Ronald McDonald House Houston, Magnolia Hotel Group, and local vendors who generously donate their time and services.

“These families go through so much, and we just wanted to give them a day where they could relax and feel like guests at a five-star hotel,” explained Leslie Bourne, chief executive officer of Ronald McDonald House Houston. “Moms and dads in this situation never think of themselves, and we found they are so grateful for something as simple as a haircut or eyebrow wax—it makes you think about how much more we can do.”

“It really is such a treat—it's been nine months since I've had my eyebrows done!” exclaimed Kasie Jankovsky. She and her family traveled from Arkansas to Houston so her seven-month-old could be treated for congenital heart disease at Texas Children's Hospital. They have been residents at Ronald McDonald House Houston for nine months, and between appointments, procedures and taking care of her two other kids, Jankovsky's life is anything but calm. “We're very thankful for today.”

In just its second year, the day began with room service for families who had early-morning hospital appointments and a brunch buffet for those with more flexible schedules. The “spa” opened mid-morning, offering a full range of services including massages, makeup applications, makeovers, haircuts and barber cuts, straight razor shaves, shampoo and blow-outs, brow maintenance, satin hands treatment and aromatherapy. The younger crowd enjoyed playing video

“Ronald McDonald House was established in 1981 to provide families dealing with the worst imaginable crisis—a critically ill child—a comfortable and safe place to stay here in Houston. Today we are carrying on that tradition with everything we do, and events like Five Star Day are just little ways we can make this time as comfortable and as positive as possible for these families.”

— LESLIE BOURNE

Chief Executive Officer of Ronald McDonald House Houston



Patients and their families enjoy a day of pampering and entertainment during Ronald McDonald House Houston's 2nd Annual Five Star Day, made possible through a partnership between Ronald McDonald House Houston, the Magnolia Hotel Group and local vendors and volunteers.

games in a state-of-the-art gaming truck, a milk and cookie reception modeled after Magnolia Hotels' daily afternoon tradition, and a princess party offering eye-shadow application, multi-colored nail-painting, crafts and party favors. The children present were also encouraged to get their faces painted as zoo animals or princesses in preparation for the evening's big, circus-themed extravaganza.

Dubbed "Under the Big Top, YOU are a Star," the atrium had been transformed into a circus tent for the show, each dining table boasting an expert arrangement of balloons, popcorn, streamers and other goodies. The gourmet buffet—with dishes ranging from blackened redfish Pontchartrain to mini cheeseburgers—offered festival-themed desserts, including jumbo pretzels, funnel cakes, donut holes, cotton candy and cheesecake lollipops. Families gathered in front of a larger-than-life balloon sculpture for professional pictures before entering the tent—many of them dressed in their best outfits to accompany their fresh hair and makeup. Even Mogie, the beloved Labradoodle house mascot, wore one of his sequined bow ties for the special occasion.

Because no circus is complete without a clown, Ronald McDonald himself was in attendance, serving as ringmaster for the main event. One by one he called the children up to the stage after dinner: the princesses twirled, the tigers jumped through hoops, and

the zebras pranced around, following whatever orders the ringmaster gave. At the end of the performance, each participant earned a certificate verifying their completion of Clown College as well as their very own red nose.

"Our goal here at Ronald McDonald House is to care for the entire family, and the circus really encompasses that theme as we worked to include everyone in the show," said Matt Woodard, director of operations at Ronald McDonald House Houston. "Really it's the theme of the whole day, to take our commitment to the next level and give our families a day of pampering that they truly deserve."

Bourne emphasized that none of it would be possible without the generosity of the local vendors involved, especially Magnolia Hotels. In addition to catering the food throughout the day, their housekeeping staff cleaned all 50 rooms for the families.

"All of their goods and services are donated to us," said Bourne. "Their executive chef was here all day providing breakfast, lunch and dinner, and the general manager for the hotel was here, too—he even brought an additional check, a financial gift, on top of everything. They really went above and beyond."

John Remmers, vice president of Stout Street Hospitality and Magnolia Hotels, explained that the organization was honored to host the event. "It just touches your heart, and the smiles we see on these

families' faces are worth every penny."

In fact, after the success of Five Star Day last year, Magnolia Hotels is working to replicate the service at other Ronald McDonald House chapters throughout the country.

"We as a company just started thinking: how can we do more? Everyone on staff enjoys it and wants to be involved—we're proud to provide this special day for these families," said Remmers.

In addition to hosting Five Star Day at the Holcombe House location, the organization offered many of the same services at the Ronald McDonald House Family Room at MD Anderson Children's Cancer Hospital, including catered brunch and dinner as well as spa services and a family yoga session.

"Ronald McDonald House was established in 1981 to provide families dealing with the worst imaginable crisis—a critically ill child—a comfortable and safe place to stay here in Houston," said Bourne. "Today we are carrying on that tradition with everything we do, and events like Five Star Day are just little ways we can make this time as comfortable and as positive as possible for these families." ■



RICHARD CAMPO, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER OF CAMDEN PROPERTY TRUST, SAT DOWN WITH TEXAS MEDICAL CENTER EXECUTIVE VICE PRESIDENT AND CHIEF STRATEGY AND OPERATING OFFICER WILLIAM F. McKEON TO DISCUSS HOW HIS COMPANY STRIVES TO PUT PEOPLE FIRST, AND THE SMALL GESTURES THAT HAVE CONSISTENTLY MADE CAMDEN ONE OF FORTUNE'S TOP COMPANIES TO WORK FOR.

Q | What was it like growing up in California?

A | I was born in Carmel but we moved to Southern California soon after that. I spent a lot of time in Monterey and Pacific Grove visiting my grandparents, but lived in Southern California through grade school there. My parents moved to Lake Tahoe when I was in the seventh grade and then to Oregon when I was in high school. I stayed in Lake Tahoe to finish high school, then moved to Oregon for college.

Q | So what led you to Oregon State University?

A | I hadn't thought about college much. I didn't have really good grades in high school, but I heard that OSU would let you in if you wanted to be a science major. I started with a double major in chemistry and business, and it taught me how to study and be analytical. After a while, I started getting involved in student government, and I also realized that business was much easier than chemistry. By the time I was a junior,

I decided to drop chemistry and got an accounting degree instead.

Q | And after that you came to Houston?

A | Right. My father was a serial entrepreneur. He had a theater in Oregon first, and then he moved to Houston and opened a restaurant in 1976. I didn't have a job right out of school so I worked with him for a month or two, and then took a job with Century Development Corporation. I worked there for about 10 years, then did a leveraged buyout of my division, and that division became Camden. So really, that one job mutated into this one and I've had no other job.

Q | I've heard about the amount of time you spend on the aspect of people. Do you find that to be unique in the industry?

A | I think it's pretty unique to Camden. We have a wonderful culture. It's a work in progress, but we focus

on it every day. We think about it in the context of our employees and how they feel about where they work. Keith Oden (president of Camden) is my co-founder and business partner. We set out to build a great workplace and wanted to make sure we weren't just focused on or rewarding one particular department rather than our whole team. Real estate companies tend to be deal-oriented and focus on buying a piece of property, improving it, then selling it. The great thing about a public real estate company is that you don't have to sell your properties to make money. You can build long-term portfolios and create value through operating that real estate over a long period of time. You still have to be deal-oriented to a certain extent, but what you really have to do is outperform the market, regardless of market conditions. You do that by buying the right real estate, but you have to manage it with the right people.

We look at our real estate as the equipment, and

the people that operate it are the real assets. If you get them connected, it's a winning team. Why does one team win and another team lose? Often it's because of the chemistry amongst the group. They have the spirit and energy that gives them a lift and a drive to win. We think about that a lot and we spend a lot of time focusing on how to build, maintain and nurture our culture over time. We've been on the FORTUNE "100 Best Companies to Work For" list for the past eight years. And in the eight years that we've been on the list, we've been in the top 10 five times. There are only 10 companies total that have been in the top 10 five times in the 18-year history of that list. It takes a lot of hard work and effort to manage that kind of culture.

Q | How many employees are there at Camden?

A | We have around 1,800 direct employees of Camden. If you include all of the contractors and workers who are employed on our construction sites, that would add another 10,000.

Q | It sounds like you do a lot of fun things for your employees.

A | We spend a lot of time doing little things that add up to culture, and sometimes there are bigger things. We had a really fun thing this year. We recently restructured a \$1 billion joint venture, and it created around \$100 million in profit for Camden. Keith and I have a fundamental philosophy that when Camden wins, the team wins, so we decided to distribute \$10 million of the profit as a special bonus to our employees. We cut real checks (instead of doing direct deposits) so that everyone would get a real, tactile thing in their hand, and then we sent secret boxes to all of our locations with the checks inside. Inside each FedEx box was another box, and then within that box there was an envelope with the checks. No one ever thought that the boxes would create such an uproar, but they did. People went nuts over the boxes, asking, 'What's in the box?' We sent the boxes out on a Monday in January, and then hosted a company-wide conference call that Thursday so everyone could open their boxes at the same time. All of our employees received a check for at least \$1,000 and often more based on their tenure with Camden. We definitely created a 'win' for our people and put big smiles on their faces. We also received hundreds of thank you notes from employees saying, 'I paid off my bills' or 'I used it to buy something special for my mother.'

It's all about the people. If your people do well, then you'll do well. When I talk to our employees about Camden, I tell them that we primarily do three things: 1) We provide homes for people, and that is important because memories are made in homes. 2) We provide jobs—for all of us at Camden, and many others—and that's a very noble thing to do. Without a job, it's hard to have a good quality of life. I remind our team that every dollar we spend at Camden provides revenue to someone else, and that creates jobs as well. 3) We provide income to our shareholders. They use their

investment income to fund retirement, buy homes, pay for medical expenses and put their kids through college. They trust us and buy our stock. We take their capital and invest it in real estate. They trust us to use that capital to grow their investment in the future. That's pretty simple. It's what we do, and it's not that complicated. Basically, if your employees are smiling, then your customers and shareholders will be smiling too. And the owners of the company will smile as well.

Q | It sounds like you are passionate about the way you set a tone for the culture at Camden.

A | I spend a lot of time with people. I try to get out in the field a lot. The other signature thing that I do is wear a Camden maintenance shirt at events. I once went to an industry conference in Las Vegas with 7,000 attendees while wearing my maintenance shirt and jeans. People were asking, 'Isn't he the CEO of that apartment company?' We were talking about onsite motivation and how do you connect with your team, and that sort of thing. I wear that shirt to every major event at Camden, even if I'm speaking to just five or 10 Camden people. It's great nonverbal communication, and I always say the same thing: 'I wear it as a sign of pride and respect for our people in the field. Without our people in the field, we wouldn't have jobs in the corporate office.' I'm not someone who could wear a suit and tie every day, then walk onto our properties and not be able to communicate honestly and directly with our staff. It's not me, number one, and it's just not our culture.

Q | How do you balance your time with the many commitments you have, including Camden, Houston First, the Super Bowl and others?

A | First, the whole outreach towards Houston First, the Super Bowl and other things is really about giving back to the community. Houston has been really good to me. When I moved here, I didn't have anything. Keith and I both raised our families here, and we asked people in the community to support us. When we started Camden we didn't have two nickels to rub together, but we had an idea and we were able to raise enough capital to start our company. I think it would have been really difficult to do elsewhere, but Houston has a 'can-do' spirit. People don't care who you are or where you came from, but they'll listen to your idea and see if you are honest and trustworthy. Will you work hard, and when there's a problem will you tell me quickly instead of hiding the problem? I am at the point where I am able to give back to the community. Houston has been good to me, so I need to be good to it.

The Super Bowl will be played here in 2017. Some people say that I brought the Super Bowl to Houston, but that's just not true. I was the chairman of the Bid Committee. I had 20 people on that committee and an incredible person named Sallie Sargent running it, and she is now the CEO of that entity. There were so many players who all have a vested interest in getting something done—Greater Houston Convention and Visitors Bureau, Houston First, the City of Houston,

“It's all about the people. If your people do well, then you'll do well.”

Harris County, the Houston Texans, the Houston Rodeo, etc. What I do is make sure that the people who are actually doing it have the right direction, the right authority and the right amount of responsibility, and then I just get out of the way and let them do it. From time to time you have to solve a problem or you have to push something out of the way, and that's pretty much what I do. I do that at Camden, too. Keith and I have been working together for over 30 years and we have very different styles. I'm the gas, he's the brakes. I'm the mom, he's the dad. I'm looking at revenue, he's watching expenses. I've never seen a deal I didn't like, and he's never seen one that he did like. It's a magical combination and it's all about balance. There can be conflict, too, and some heated debates, but then we're back on the same page and we get things done.

That's the way I'm involved in the Super Bowl and other things. You have to pick good people, give them the tools and the resources to be successful, and then help them find their way. Once they're down the trail, you have to stay out of the way. If you try to do everything yourself, you won't get anything done.

Q | Tell us what you see for this great city moving forward. There are a lot of different moving parts here, but I think this is an exciting time in Houston.

A | I think this city is on track to be one of the top world-class cities in the world. We're coming into our own. Houston is a very young city relative to San Francisco or New York or some of those other great cities. We don't have an old-school bureaucracy that runs the city, so we have lots of new ideas and fresh thinkers, and a spirit that is very unusual in cities. We've got a lot of good things going on, when you think about the medical center and everything that's going on over there, you think about the heart of the city reinventing itself with downtown living. The light rail programs are interesting because they're creating nodes of livability that weren't there before. The fact is that we are the most diverse city in the country and we get along. You haven't seen any major challenges with people getting along here in Houston, and I think that creates a lot of value long term for us to reinvent ourselves on an ongoing basis. I think with cities, just like companies and people, if you don't move forward, reinvent and adapt to the new reality, then you're moving back or you're staying static, and that's not what anyone wants to do. You don't grow doing that, and you don't thrive without adapting to the new environment. I think Houston is probably one of the most adaptable, interesting cities that I've ever seen when it comes to its ability to change and reinvent itself. ■

For the full interview, visit TMCNews.org

HEALTH POLICY

BY ARTHUR GARSON JR., M.D., MPH

DIRECTOR OF THE TEXAS MEDICAL CENTER HEALTH POLICY INSTITUTE

THE TMC-NIELSEN CONSUMER HEALTH REPORT: WHAT DID WE LEARN FROM THE SURVEY? As health care becomes more consumer-directed, providers are working to better understand what the public wants. We want to know what consumers think about their health insurance, both personally and for the country, and how they want their health care delivered. We recently presented data from a Nielsen-Harris poll of 1,000 Texans to answer some of these questions.

The top five things we learned were a bit surprising:

1. Health insurance | Health insurance (HI) for all citizens was felt to be important by 88 percent of those surveyed; 83 percent said it was “absolutely essential or very important.” This point was driven home in an editorial by the Houston Chronicle (April 28, 2015), referring to the data: “Do the elected officials who purportedly represent these Texans believe that medical insurance is important? Well, not so much. Gov. Greg Abbott respond[ed] with the same, tired tea-party talking points when asked earlier in the week about expanding Medicaid...It’s astounding to us how elected officials can be so hidebound by ideology that they lag behind their fellow Texans on a number of issues, including Medicaid expansion.”

2. Single payer | When asked how they would prefer to have HI, 42 percent—the highest, with the next choice being 27 percent—chose “Citizens who pay taxes get HI—just like Medicare and Medicaid,”—i.e. Single Payer. This is higher than 37 percent from a national poll done in 2014 by Rasmussen.

3. The uninsured | Only 55 percent felt HI was essential, compared with 92 percent of the insured. When asked what they would give up to have HI, 29 percent of the uninsured said they would give up “nothing” compared to 11 percent of those with HI. I wonder how many of the uninsured respondents don’t have it simply because they don’t want it. We previously would have said it’s those “young invincibles” who don’t want HI; however, 77 percent of those 18-34 years old want HI. Maybe it’s the opposite: some of those who can’t get HI decide it is fine to go without?

4. Internet v. doctor | When asked what information source was “extremely important,” 63 percent said the doctor and 27 percent said the Internet; even the youngest 18-37 age group had 65 percent doctors to 37 percent Internet. This did not ask which was the most important, i.e. they could have ranked them both “extremely important.” Therefore it does seem that, at least in Texas, doctors still are important to patients, and not as many as we might have thought rely on the Internet.

5. Lifestyle | Fifty-nine percent agreed that people with poor health habits (e.g. smoking, lack of exercise) should pay more for health insurance. Interestingly, this increases with age: those 18-34 years old said 48 percent, whereas 81 percent of those over 65 agreed with higher insurance rates. Extremely interesting: more than half of Texans support a higher price for unhealthy foods—especially among the those 18-34 years old: 75 percent were in favor of a “fat tax.”

These opinions are so important as they will hopefully guide policymakers to think about what the people said: health insurance, single payer, perhaps a bit less reliance on the Internet as the panacea, higher insurance rates for an unhealthy lifestyle, and even a “fat tax.” We need to understand more about the uninsured. We have many unanswered questions, at the top of the list: “How different are Texans from the rest of the U.S.?”

I thank Jenny Deam for her outstanding coverage of the survey in the Chronicle. Her articles were invaluable in the preparation of this essay. ■

—This column first appeared in the Houston Chronicle

Preparing for the Worst

In a first-of-its-kind simulation, UTHealth students learn what it's like to be a first responder during a disaster

BY SHEA CONNELLY

The skies south of William P. Hobby Airport filled with smoke as an army of nursing students ran out into a scene of chaos. The students organized triage groups based on injury severity, and set to work treating their patients.

This was not the scene of a true disaster, but a first-of-its-kind simulation exercise held by professors at The University of Texas Health Science Center at Houston (UTHealth) and the Houston Fire Department. Playing victims, HFD cadets took to their roles with a flair for the dramatic to help UTHealth students in nursing, public health and biomedical informatics learn what it is like to be a first responder in a disaster.

The event was the brainchild of Elda Ramirez, Ph.D., a professor of nursing in the Department of Acute and Continuing Care at the UTHealth School of Nursing. Ramirez knows firsthand what it is like to be called to action during a tragedy.

"I worked during Katrina. I was the director of nursing for the George R. Brown," she said. "I lived bringing in people from different areas to work together. Things like that may never happen in your lifetime—but if they do, how prepared are people?"

Ramirez previously conducted simulations for students on a much smaller scale, but she always had bigger dreams. Those ideas turned into reality when Deborah McCrea became

an instructor of clinical nursing at the UTHealth School of Nursing in Ramirez's department. Having previously worked for the fire department, McCrea suggested HFD would be the perfect partner.

"I had a vision, I had some funding from a grant and she knew the people," said Ramirez. "The Houston Fire Department brought us out here and when we saw what they had, it was a dream come true."

Prior to the morning of the simulation, students had no idea what they would face. Upon their arrival at HFD's Val Jahnke Training Facility, Ramirez and McCrea described the scenario as a train derailment and bus collision and gave students assignments for the day. Assignments were partially based on level of expertise.

"We had graduate students and undergraduate students," said McCrea. "I put my nurse practitioner students in leadership roles and put undergrad students under them to be mentored."

In an effort to challenge the students, however, Ramirez said they tried to assign them outside their comfort zones.

"The student in incident command today was a flight nurse—we know he knows how to do this pre-hospital stuff," said Ramirez. "We don't want to put him in a place that's comfortable so we put him in incident command."

The simulation worked just as

STUDENTS ORGANIZED TRIAGE GROUPS BASED ON INJURY SEVERITY AND SET TO WORK TREATING THEIR PATIENTS.

it would in real life. Patients were organized by color: red for the most critical, yellow for less critical patients who would still need to be transported to the hospital, green for the walking wounded and black for the dead. Patients were all given colored ribbons and tags describing their injuries, and there were tarps in corresponding colors to organize patients. The students hustled around treating their numerous patients, strapping them to backboards, putting on neck braces and loading them into ambulances.

"It's very beneficial for a student to go through these scenes so that whenever this does happen, we're very prepared for this type of tragedy," said Maritza Ruiz, a post-master's student in the emergency and trauma care concentration. "I didn't know exactly what to expect, but your nursing skills kick in and everything flows."

The simulation was also beneficial for the cadets, who were participating as part of their community service requirements, said Capt. Tony Reed of the Houston Fire Department.

"It only makes sense to work hand-in-hand with those in the hospital setting, because we're the first responders," he said.

Though most of the students will likely receive trauma patients in the hospital rather than treating on the scene of a disaster, seeing what first responders deal with is still helpful.

"It gives an overview for everybody to know what it is to handle first response for the patients coming in to them," said Reed. "They don't know what happens pre-hospital and seeing it hands on is always better."

Ramirez and McCrea hope the simulation will become an annual event, possibly in partnership with additional schools and departments. They also plan to implement more cutting-edge technology, like electronic patient records rather than the identification tags. For the students who participated in this inaugural simulation, the experience is one they will carry with them after they graduate and into their careers.

"Knowing what first responders deal with and go through solidifies the big picture for me," said Ruiz. "Now when these patients arrive to me, I have a better expectation of what I'll be receiving." ■



Houston Fire Department cadets act as patients to help UTHealth students practice treating and transporting disaster victims.

Closing the Gap in Fetal Surgery

Texas Children's Hospital Fetal Center develops new minimally invasive repair technique to treat spina bifida in-utero

BY ALEX ORLANDO



Grayson was the recipient of the first in-utero spina bifida fetoscopic closure.

When Althea Canezaro discovered she was pregnant, she couldn't wait to add a new member to her family. Unfortunately, her routine 22-week ultrasound revealed something she didn't anticipate—spina bifida. In 2014, she and her son, Grayson, became part of a pivotal moment in fetal medicine as the first patients at Texas Children's Fetal Center to undergo a minimally invasive, two-port procedure to repair spina bifida in-utero.

"After the diagnosis, it was like sitting on a roller coaster ride, except you were sitting still and everything else was moving at a fast pace," Canezaro recalled. "My physicians in Baton Rouge immediately referred me to Texas Children's Fetal Center."

On July 30th, 2014, aided by an expert operating room team and nursing staff, a multidisciplinary team of specialists from Texas Children's Fetal Center and Baylor College of Medicine

“Our technique may lower the rate of prematurity—by implementing the two-port procedure, the babies may have a longer gestational age before they're born, which would be an extraordinary benefit.”

— WILLIAM WHITEHEAD, M.D.

Pediatric Neurosurgeon at Texas Children's Hospital

performed the in-utero spina bifida fetoscopic closure on Grayson—their first patient. It is believed that this is the first time this type of two-port fetoscopic procedure has been performed in the United States. Prior techniques used a three-port method.

Utilizing an approach developed by Michael Belfort, M.D., Ph.D., obstetrician and gynecologist-in-chief at Texas Children's Hospital, and William Whitehead, M.D., pediatric neurosurgeon at Texas Children's Hospital, the surgery was over three years in the making. At 25 weeks gestation, the team successfully closed the opening in Canezaro's unborn baby's spine.

"The real innovation here is that we're doing this repair through two ports with a full neurosurgical closure, using a new kind of repair that Dr. Whitehead has developed with a different suture material from what has been used before," said Belfort, who is also professor and chairman of the department of obstetrics and gynecology at Baylor College of Medicine. "We're not compromising on the closure of the spinal cord defect, because the only way that this becomes solidified as a success is if the repair is as good as—or better—than an open fetal repair."

Myelomeningocele, or open neural tube defect (NTD), is a form of spina bifida that occurs in 3.4 out of every 10,000 live births in the U.S. and is the most common permanently disabling birth defect for which there is no known cure. A developmental defect in which the spine is improperly formed and

the spinal cord is fused with the skin, myelomeningocele is usually associated with hydrocephalus—a buildup of cerebrospinal fluid in the brain and a leading cause of morbidity in patients.

"Somewhere between 24 and 28 days from conception, an area of the developing spinal cord doesn't close properly, and the neural tube defect is formed," said Belfort. "The lesion may have a covering of membrane or be totally open, but either way the nerve tissue is still exposed to the surrounding amniotic fluid. In addition, the defect allows the leakage of the fluid that surrounds the brain causing the lower part of the brain to descend towards the top of the spine. It's our belief that the exposure of these nerves to the amniotic fluid, compounded by the trauma of them bumping up against the side of the uterus, leads to ongoing damage."

Previously, closure of the defect occurred either after the birth of the baby or in the first days of life, which had the unfortunate consequence of an 80-90 percent chance that a shunt, a medical device that drains fluid from the brain to the abdomen, would be required and remain for life.

In February of 2003, the National Institutes of Health launched the Management of Myelomeningocele Study (MOMS), a landmark clinical trial in the treatment of spina bifida. Probing the benefits of prenatal surgery, the study demonstrated that a fetal surgical repair leads to lower rates of hydrocephalus, decreases the need for a

cerebrospinal fluid shunt and improves leg function when compared to a standard after-birth repair of the condition. Texas Children's Fetal Center adopted the technique as a treatment option and began open fetal surgery to treat spina bifida in 2011.

"At the same time, with an open fetal surgery, prematurity is a major risk to the fetus, and in the worst cases, fetal death is a possibility," said Whitehead, an associate professor of neurosurgery at Baylor College of Medicine. "Our technique may lower the rate of prematurity—by implementing the two-port procedure, the babies may have a longer gestational age before they're born, which would be an extraordinary benefit."

The current open fetal surgery technique involves a uterine incision to accommodate the repair, which has the potential to cause significant maternal complications. The risks of preterm delivery, the necessity of a cesarean section in that pregnancy and all subsequent pregnancies, and the risks of uterine rupture all loom large. In an effort to build upon the success of the MOMS trial, with a focus on reducing the risks to the mother, the team at Texas Children's Hospital sought an alternative path. Their journey would entail years of preparation and training, both domestically and internationally.

Across the Atlantic, Jose Luis Peiro, M.D., and Elena Carreras, M.D., of Vall D'Hebron Hospital in Barcelona, Spain, had been working on a technique to repair spina bifida in fetal sheep, an initiative that Texas Children's Hospital supported from the beginning. Working together, the teams at Texas Children's Fetal Center and Vall D'Hebron Hospital ultimately developed a new way to perform this fetoscopic surgery. A small telescope that can be combined with tiny instruments to allow surgery inside the uterus, a fetoscope would eliminate the need for the 5-6 centimeter opening required for an open procedure.

Designed to counter the risks associated with an open procedure, such as preterm delivery and poor healing of the uterine scar, the new, experimental technique may permit the fetus to be born vaginally, rather than with the cesarean section required for all other babies with spina bifida.

"Our methodology is different," explained Belfort. "We open the maternal abdomen and exteriorize the uterus—the mother still gets a scar on her belly, but we don't make the 5-6 cm opening that is required in her uterus for an open procedure. What we're trying to do is convert a reasonably morbid open procedure into one where the mother's life is less at risk and her

fertility and future pregnancy history are less impacted."

Refining their technique, the two surgeons performed more than 30 simulated procedures, including two full simulations, gowned and gloved, under actual operating room conditions with a full support team.

"Myelomeningocele repair is a routine part of a pediatric neurosurgeon's practice," said Whitehead, "but I'm not used to taking care of fetal patients—we definitely need each other."

"Incorporating a coordinated approach is absolutely critical when you only have two ports to work through," added Belfort. "A lot of these other groups have had one person trying to do everything by themselves, but in this technique we work together—I hold the scope and a grasper and Dr. Whitehead performs the suturing and repair procedure. Our instruments have to work together and not impede each other, and given that it involves two people doing one task, it's not something that's inherently intuitive. This is an area where nobody has specific expertise, and we're teaching and training each other while simultaneously developing a new field."

Belfort affirmed that while the results of their initial cases have been very encouraging, this procedure is still an experimental operation. "We

only offer this less-invasive option to patients who have already made the decision to have open fetal surgery because we can always opt for that if needed," he clarified. "The Texas Children's Fetal Center is one of the few centers in the United States that performs the open procedure, and the only one to offer both open and fetoscopic approaches.

"We'd love to prove that this technique is the way to go and ultimately end up refining the process further," concluded Belfort. "If this works, it would be a huge win for women and their babies. With ever advancing technology and imaging capabilities, as well as the work of dedicated surgeons, I am excited to see what the future holds when it comes to repairing anomalies fetoscopically."

Thankfully, they can already add one win to the charts—Grayson is progressing well after a successful birth on September 21, 2014. "He has not developed hydrocephalus and has full movement of his legs," said Canazarro. "We are grateful to Dr. Belfort and his team for helping our son achieve this milestone, which would not have been possible without the exceptional care we received at Texas Children's Hospital and Baylor College of Medicine." ■

“With ever advancing technology and imaging capabilities, as well as the work of dedicated surgeons, I am excited to see what the future holds when it comes to repairing anomalies fetoscopically.”

— MICHAEL BELFORT, M.D., PH.D.

Obstetrician and Gynecologist-in-Chief at Texas Children's Hospital



LEFT: At 25 weeks gestation, utilizing an approach developed by Belfort and Whitehead, the team successfully closed the opening in Canazarro's unborn baby's spine.

RIGHT: The procedure was performed by a team of specialists from Texas Children's Fetal Center and Baylor College of Medicine. (Credit: William Stewart Productions)

Artistic Expansion

The Museum of Fine Arts, Houston unveils the designs for a dramatic redevelopment of its campus

BY ALEX ORLANDO



The Faye S. Sarofim Campus, spanning 14 acres and slated for completion in 2019, marks a major contribution to Houston's efforts to enhance the pedestrian experience.

The year is 2019. Punctuated by a chorus of chirping birds and the shuffle of eager footsteps, visitors to the Museum of Fine Arts, Houston (MFAH), prepare for a full day. At the heart of the recently completed Faye S. Sarofim Campus, a translucent exhibition building, allowing natural light to illuminate the three-tiered atrium within, rises up in complimentary contrast to the black steel and limestone structures across the street—once the sun sets, the building will emit a soft, mesmerizing glow. Seven vertical gardens peppered around the exterior of the building evoke a lush, urban oasis. From atop the reimagined Glassell School of Art building, a trellised roof garden allows

visitors a privileged perspective for viewing the interconnected campus.

That vision is steadily becoming reality. This past January, the MFAH revealed designs for a striking redevelopment of its 14-acre campus. Consisting of a unifying master plan, a 164,000-square-foot building for largely unseen 20th and 21st-century works of art and a new, 80,000-square-foot home for the Glassell School of Art, all conceptualized by Steven Holl Architects—as well as the preliminary concepts for a state-of-the-art conservation center by Lake Flato Architects—the campus is beginning to take shape.

The project, which will begin later this year and is slated for completion

in 2019, will transform the MFAH, as well as its surrounding neighborhood, marking a major contribution to Houston's increasing emphasis on enhancing the pedestrian experience of the city. More than \$350 million of the MFAH's \$450-million capital and endowment campaign goal has been raised to date, primarily from Houston-based philanthropists.

"This newly unified campus will allow us to reshape and reinvigorate the museum experience," said Gary Tinterow, director of the MFAH. "I think it will also position the museum to participate in the future of Houston's civic life in ways that are welcoming to everyone—both regular museumgoers and first-time visitors alike."

Housing a collection that now spans 6,000 years of artistic expression and embedded among a rich architectural tapestry, the MFAH has solidified its status as a cradle of culture. Enhancing that foundation, the new structures will be carefully knit into the fabric of the campus—one already marked by architects William Ward Watkin, Ludwig Mies van der Rohe and Rafael Moneo, as well as a sculpture garden by Isamu Noguchi. Overarching landscape plans will unify these distinctive elements, from modernist steel and glass to neo-classical limestone, to create new public spaces and cultivate an accessible urban campus.

"A luminous glass building will anchor the northeast corner of the campus, rising up across the street from the black steel of Mies van der Rohe's Caroline Wiess Law Building and the limestone of Moneo's Audrey

“This newly unified campus will allow us to reshape and reinvigorate the museum experience. I think it will also position the museum to participate in the future of Houston's civic life in ways that are welcoming to everyone—both regular museumgoers and first-time visitors alike.”

— GARY TINTEROW

Director of the Museum of Fine Arts, Houston

Jones Beck Building,” said Tinterow, referring to the 164,000-square-foot Nancy and Rich Kinder Building. “We’ll finally have a space for the largest, and fastest-growing part of our collection: 20th- and 21st-century art. That’s going to be an enormous change, allowing us to show the great strength of our collection in photography and 20th century design and our growing strength in Latin-American art, as well as modern and contemporary painting and sculpture.”

“As you come in and move through the building, everything will be day-lit in the open lobby,” explained Willard Holmes, chief operating officer of the MFAH. “But as you move up to the higher galleries, the light will transition into a more modulated light for items that are light-sensitive, like photographs and paintings in watercolors. Rising to the top galleries, you’ll have natural light, but in this case it will be coming in from the top.

“One of the most dramatic features of the building is that it’s going to be clad in translucent glass tubes that will provide a kind of soft, glazed surface,” he added. “In the evening there will be lighting behind those so that it will actually glow.”

The first building to be fully realized, the Glassell School of Art, will extend the landscape of the campus while animating newly created public spaces—such as the Brown Foundation, Inc. Plaza, which includes a stepped amphitheater leading up to a walkable roof garden. A three-story facility complete with a street-level café, it will replace the school’s existing 35-year-old building.

“We’re trying to have a school that is open, flexible and forward compatible,” noted Holmes. “As technology evolves and as artists start looking at emerging techniques and strategies, we want the school to be able to respond to that.”

The third major component of the new campus—the Sarah Campbell Blaffer Foundation Center for Conservation—will bring the museum’s conservation teams together in close proximity to the museum for the first time. Set atop the museum’s existing parking garage, the project will consolidate operations previously dispersed between the MFAH and a facility several miles away.

“Right now, we’ve got a great conservation department but it’s working

in cramped quarters about five to six miles from campus, so that when curatorial research is being done, it requires a real effort,” admitted Holmes. “By moving conservation to the center of the museum, it means that their kind of work is less like a paramedic coming to the scene of an accident and more like a family physician. It makes them central to the entire continuum, integrating that conservation into the day-to-day culture of the museum.”

More a series of interconnected nodes than a collection of fragmented structures separated by unruly free-ways, the new campus won’t discriminate against visitors on foot. A key element of Steven Holl Architects’ master plan was the idea of submerging all parking below ground—totaling 200,000 square feet in two underground garages—freeing up space on the campus for both the new buildings and outdoor gathering places. A new, dedicated tunnel will guide visitors between the Nancy and Rich Kinder Building and the Mies building. With the existing Wilson Tunnel—housing artist James Turrell’s installation, “The Light Inside”—between the Mies and Moneo buildings, the campus will be fully connected below ground.

“Houston has experienced incredible growth over the last 20 years, and the Museum of Fine Arts, Houston, has grown rapidly with the city,” said Annise Parker, mayor of Houston. “The Museum has embraced other parts of the world, in its collections and in its programs, and so it has become more and more a reflection of the breadth of this city. The redevelopment of the campus and the resulting increase in public access to art and programming will further enhance the Museum’s service to the city.”

“I feel truly privileged to be a participant in and collaborator on what will be one of the most memorable projects in Houston’s history,” concluded Tinterow. “I am absolutely certain that our museum will be recognized as one of the most beautiful in America. For our visitors, the Museum of Fine Arts, Houston, will become a place of wonder and inspiration; for our staff and students, it will be a place of creativity and innovation; and for our community, it will be Houston’s hub for all things cultural.” ■



TOP: The Nancy and Rich Kinder Building, a three-story building to house the Museum’s largely unseen collection of 20th and 21st century works of art, will create 54,000 square feet of gallery space. **MIDDLE:** The Sarah Campbell Blaffer Foundation Center for Conservation will bring the museum’s conservation teams together for the first time. **BOTTOM:** The rooftop gardens perched atop the reimagined Glassell School of Art provide a bird’s-eye view of the campus. (Credit: Steven Holl Architects)

Sister, Sister

Headquartered in Houston, Sisters Network Inc. works tirelessly to provide breast cancer services and social support to African-American women throughout the country

BY ALEXANDRA BECKER



Karen Eubanks Jackson was 50 years old when she was diagnosed with breast cancer. Although it was undetectable on her routine mammogram, Jackson had insisted her doctor perform an ultrasound, citing family history and recent literature she'd come across. It was 1993 and ultrasound technology was not widely used as a diagnostic tool at the time, but Jackson would not take no for an answer.

"It just so happens that I was persistent—I won't say how persistent, but the doctor finally gave me an ultrasound," she recalled. "Lo and behold I had breast cancer—and it had been there for years."

Armed with information unfamiliar to most patients, Jackson's perseverance led to early detection, likely saving her life.

“Knowledge truly is power,” she said. “I think of all of the women who don’t even know the questions to ask. That’s a scary thing.”

While Jackson battled her cancer amid hospital visits and painful treatments, she learned just how widespread the problem was. Recognizing an absence of educational materials and support services geared toward African-American women especially, Jackson set out to create an organization she would have liked to join—one that would be nationally focused, distinguished by broad access to knowledge and services as well as sisterhood and, ultimately, survival.

In the 20-plus years since Jackson founded Sisters Network Inc., the nation's only African-American breast cancer survivorship organization has grown exponentially, with over 40 survivor-run affiliate chapters serving thousands of members nationwide. Headquartered in Houston, the



TOP: Karen Jackson, founder & CEO of Sisters Network Inc., created an organization she would have liked to join after her own battle with breast cancer. BOTTOM: Jackson with Houston Mayor Annise Parker and a group of supporters at the 5th Annual Stop the Silence walk last year. (Credit: Sisters Network Inc.)

organization has extensive ties to the Texas Medical Center, with many prominent oncologists, radiologists and other cancer experts serving on the board or as medical advisors.

Through their various outreach programs and initiatives, Sisters Network helps African-American women gain access to comprehensive medical care and social support while also raising awareness of the staggering prevalence of breast cancer in the community.

Their faith-based educational outreach program, called the Pink Ribbon Awareness Initiative, reaches women through their churches to heighten general knowledge and boost the number of individuals obtaining mammograms. Affiliate chapters also host Gift for Life Block Walks in which survivors and volunteers canvas door-to-door in African-American communities, distributing educational materials while sharing personal stories about diagnosis, treatment and survival.

In April the organization hosted their 6th annual Stop the Silence walk at Discovery Green Park. Breast cancer survivors and supporters from across the U.S. came to Houston to participate in the only national breast cancer walk/run for African-American women to raise money for the organization's Breast Cancer Assistance Program (BCAP), which helps women facing financial challenges gain access to much-needed services.

"The BCAP program helps cover a mammogram and ultrasound for women who can't afford them, because we know that early detection saves lives, and we also know that just getting a mammogram is not enough," Jackson explained. "We promote the ultrasound as part of the yearly checkup because it is not done by everyone and we want women to know to ask for it—you want to have 100 percent information if you are at risk for breast cancer, not 85."

In addition to helping women who qualify obtain screening, the BCAP program can also help cover medical expenses related to lodging and travel, office visits, prosthesis equipment and more.

"We're not always successful in providing for each individual, but we are always making an effort to align ourselves with what's best for the patient," said Jackson. "There was one instance here in Houston a few years ago where a young lady who didn't have any insurance needed a bone marrow transplant. I ended up going on the radio and just sent out a plea to help her, and some anonymous donor paid for the entire procedure at MD Anderson. We never found out who it was."

Inspired by stories like these, Jackson's mission remains vibrant, reaching more cities, age groups and walks of life than ever before.

One of their newest projects, called Teens 4 Pink, trains teen girls to become breast health "Pink Ambassadors." The program educates girls ages 12 to 16 about the importance of early detection and the resources and support services available in their communities to assist their family members. The goal is that these young ambassadors will "break the silence" about the disease and begin conversations that could lead to increased screening, early diagnosis and a better chance at survival.

"It's phenomenal," said Jackson. "The teen Pink Ambassadors are so receptive to learning and they are impacting their families. What better way for a mother, an aunt or a grandmother to hear about breast health than to have their teen ask them, 'Have you had your mammogram this year? Do you do breast self-exams? Here's information about an organization that provides free services and mammograms.' That is power that evokes change." ■

“Knowledge truly is power. I think of all of the women who don't even know the questions to ask. That's a scary thing.”

— KAREN JACKSON
Founder & CEO of Sisters Network Inc.



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ACCOLADES



MARY E. DICKINSON, PH.D., professor and the Kyle and Josephine Morrow Endowed Chair of the Baylor College of Medicine Department of Molecular Physiology and Biophysics, was elected to the American Institute of Medical and Biological Engineer's College of Fellows for 2015. The honorees are comprised of approximately 1,500 clinicians, industry professionals, academics and scientists who have distinguished themselves through their contributions in research, industrial practice and/or education with the shared goal of embracing innovation to improve the health care and safety of society.



MARY ESTES, PH.D., professor of molecular virology and microbiology at Baylor College of Medicine Department of Molecular Virology and Microbiology, was one of three women honored at the annual Women in Science with Excellence (WISE) luncheon, held Jan. 23 at the River Oaks Country Club. Estes, who holds the Cullen Endowed Chair of Molecular and Human Virology, has developed vaccines for gastroenteritis viruses (rotaviruses and noroviruses). WISE, an initiative of BioHouston, is dedicated to advancing women and girls in science, technology, engineering and mathematics.



KATHERINE KING, M.D., PH.D., assistant professor of pediatrics – infectious diseases at Baylor College of Medicine Department of Pediatrics, has received the March of Dimes Basil O'Connor Starter Scholar Award. This award supports young scientists embarking on their independent research careers. King's research focuses on improving engraftment after bone marrow transplantation and understanding aplastic anemia and hydrops fetalis, or fluid buildup in a fetus and newborn.



RICARDO NUILA, M.D., assistant professor of Medicine at the Baylor College of Medicine Department of Medicine, is the recipient of the first annual New England Review Award for Emerging Writers. He will attend the 2015 Bread Loaf Writers' Conference, a nationally renowned literary event, as the first New England Review Bread Loaf Writers' Conference Scholar. His story, "At the Bedside," appears in the New England Review, issue 35.1, and his essay on the care of undocumented immigrants was featured in the Winter 2015 issue of VQR, a national literary journal, and on Longform.com. Other essays and fiction have appeared in the New England Journal of Medicine, McSweeney's and American Short Stories 2011.



BELINDA REININGER, DR.P.H., associate professor at the UTHealth School of Public Health, Department of Health Promotion & Behavioral Sciences, was awarded the Faculty Award for Excellence in Academic Public Health Practice by the Association of Schools and Programs of Public Health (ASPPH) and Pfizer, Inc., for her outstanding commitment to achieving and integrating academic public health practice within research, teaching and service. Reininger's research has focused on evidence-based, community approaches to improving health in minority populations. She has authored dozens of peer-reviewed publications and has been the principal investigator on multiple studies on chronic diseases.



QIANG SHEN, M.D., PH.D., assistant professor at The University of Texas MD Anderson Cancer Center, Department of Clinical Cancer Prevention, Division of Cancer Prevention and Population Sciences, has been awarded a research grant from the Prevent Cancer Foundation to conduct a prevention project in which a new class of preventive agents is tested for the prevention of estrogen receptor (ER) negative breast cancer in preclinical models. Shen studies transcription factors, including AP-1 and STAT3 in the development of breast and other cancers, has published more than 30 peer-reviewed research articles, and is a co-inventor of two patents.



GEETA SINGHAL DAS, M.D., associate professor of medicine and director of the Office of Faculty Development at Baylor College of Medicine Department of Medicine, was selected as the winner of the 2015 Academic Pediatric Association's Teaching Award for Faculty for Mid-level Faculty. The award recognizes excellence in teaching among APA members and supports faculty who demonstrate a superior commitment to teaching. Singhal was recognized for her excellence in medical education and her role as a leading educator in pediatric hospitalist medicine.



ALEXIS WOOD, PH.D., assistant professor of pediatrics at the Children's Nutrition Research Center at Baylor College of Medicine, was the recipient of the Mark Bieber Award for Excellence in Nutrition Research by the American Heart Association. The award recognizes an early career investigator for outstanding nutrition-related research. Wood is currently the director of an infant twin study to develop a bio-behavioral model of obesity from infancy through childhood. She is also focused on researching health disparities, particularly in Latino populations.



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Under the leadership of United Way Community Campaign Chair, Marc Watts, president of The Friedkin Group, health care related campaigns contributed \$1.78 million to support the 2014-15 United Way Community Campaign.

For more information on how your organization can get involved, contact Fred Brieden at 713-685-2330 or fbrieden@unitedwayhouston.org.



Rice Engineers Design Car Seat Accessory to Save Children Left in Dangerously Hot Cars

It's a tragedy that happens multiple times every year: An average of 38 children die each year after being left in hot cars. Five recent Rice University graduates have designed a new car seat accessory that can not only protect infants accidentally left in hot cars but can also notify caregivers and emergency personnel.

Audrey Clayton, Rachel Wang, Jason Fang, Ralph LaFrance and Ge You, who graduated from Rice May 16, spent the past year working at Rice's Oshman Engineering Design Kitchen to develop Infant SOS, a car seat accessory to protect infants left in potentially lethal hot cars. The device is fitted into standard car seats and can

issue auditory, visual and text alerts when it senses the infant is in danger. It also features a passive cooling system designed to keep an infant's core temperature below a critical point (heat stroke begins at 104 degrees Fahrenheit) until emergency responders arrive.

Clayton said it's no surprise most of the tragic incidents involving children left in cars occur in the summer months.

"It works out to about a child every two to three days, which is a shocking statistic," she said. "Our hope is that our device can prevent this from happening."

The alert system is the accessory's

primary means of protection and includes sensors to detect if the car is moving, if the child is still in the seat and if the temperature in the vehicle begins to rise. If the device detects that the car is parked with the child still in its seat, the device's alert responses will be activated after 30 seconds, beginning with visual and auditory alerts. The visual alert is a flashing row of red LED lights that lines the car seat, and the audio alert is an alarm. After five minutes, if the infant has not been removed from the seat, text alerts are sent out. The device can be programmed to send text alerts to up to 10 people, including emergency responders.

"The system is designed to do as much as it can to get to as many people as possible," Fang said. "And hopefully, passersby can see the LED lights and can respond as well." In case of delayed responses, the cooling system can act

as an emergency backup to extend the infant's chance of survival. A heat-triggered material acts as a main heat absorber to keep the infant's core temperature at a safe level for as long as possible.

"The benefit of our project is not only the alert system, but also the cooling system," Wang said. "The best way to keep a child alive is to completely remove them from the car seat inside a hot car. However, if the parents do not immediately return to the car, we need to ensure that the baby stays cool until help arrives."

The project was funded by Dr. Susan Baldwin, '82, through her company, Mamoru Enterprises LLC. She proposed the senior design project after learning that the child of one of her patients had nearly died in an overheated car. ■

— Amy McCaig, Rice University

“The benefit of our project is not only the alert system, but also the cooling system.”

— RACHEL WANG
Rice University Student



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Surgical Saturday Program Aims to Provide Free Surgeries Twice a Year

For many uninsured residents in the Houston area, it's a challenge to pay for a much-needed surgery and to take a day off from work to have it performed. The result is a life with daily pain or frequent emergency room visits because they can't bear it anymore. Neither option is good, so the Texas Gulf Coast Project Access (TGCPA) Surgical Saturday initiative was recently launched to help make a difference in the lives of many.

The TGCPA is a pilot project partnership between Memorial Hermann and Gateway to Care that unites health care providers such as Southwest Surgical Associates, Memorial Pathology Consultants, United Surgical Partners International, Greater Houston Anesthesiology in partnership with USAP and a host of neighborhood primary care clinics in a collaborative effort to provide free surgeries and medical procedures to uninsured residents in the Houston community.

The inaugural Surgical Saturday event kicked off April 25 with Rick Ngo, M.D., a general surgeon with Southwest Surgical Associates, providing three pre-selected patients with pro bono surgeries at their office on the campus of Memorial Hermann Southwest hospital.

"The impetus for the project is to demonstrate that the Houston health care community can join together to measurably and profoundly impact the lives of residents who do not have access to the care they desperately need," said Carol Paret, senior vice president and chief community health

officer, Memorial Hermann Community Benefit Corporation.

"This project encourages local surgeons, nurses, anesthesiologists and other medical professionals to volunteer to perform—at no charge—procedures that patients have sometimes waited months or years to have, but were unable to afford," said Paret.

One of the goals of the TGCPA initiative is to serve as a call-to-action to highlight the "medical missions at home" opportunities available to medical professionals. While many travel abroad to lend a hand, there are thousands of people in their own backyard who also need their expertise and care.

"We are honored to contribute to this year's Surgical Saturday Event in partnership with the surgeons and facilities we serve," said Brandon May with U.S. Anesthesia Partners. "We're happy this year's event was a great success for our community and for those who need access to high quality surgical care."

Ngo volunteered his services for the inaugural Surgical Saturday and performed two laparoscopic gallbladder and cyst removals. Although not life threatening, such conditions can hinder a person's ability to live a pain-free and productive life.

"I have been blessed personally in many ways and Surgical Saturday is my chance to help others who have tried to navigate the normal avenues and resources to attain surgical care without luck," said Ngo, who has traveled to Guatemala several times on medical missions. "I'm really grateful that I have

"This project encourages local surgeons, nurses, anesthesiologists and other medical professionals to volunteer to perform—at no charge—procedures that patients have sometimes waited months or years to have, but were unable to afford."

— CAROL PARET

Senior Vice President and Chief Community Health Officer at
Memorial Hermann Community Benefit Corporation

the opportunity to help them and give back to my community.

"I believe that many physicians do want to volunteer," Ngo continued. "Often it's just a matter of the opportunity presenting itself. I think Surgical Saturday is a great opportunity for physicians in the area to be able to provide their skills and resources to help others without having to travel internationally on a medical mission trip. They can do it in their own backyard."

Idonia L. Gardner, executive director of Gateway to Care, said Surgical Saturday is important because it enables patients to have a surgery performed without missing work during the week. But the project also has another benefit.

"This type of program, with partners coming together for the public good, helps the community," Gardner said. "When you talk about individuals who are sick and experiencing pain, this type of surgery is able to relieve that pain and reduce sick time off. It also helps curtail visits to the emergency room, which we all know is the

most costly kind of care. So, Surgical Saturday is really beneficial to both the patient and the community at large."

Gardner added that the goal is to have Surgical Saturday twice a year and urged health professionals to volunteer their services for future events.

The importance of Surgical Saturday was not lost on Gabriela Arellano, one of three patients pre-selected from neighborhood primary care clinics to receive free surgery. Arellano, 40, was suffering with chronic cholecystitis, an inflammation that can result in the gallbladder becoming gangrenous if left untreated.

"I am really grateful for this surgery," Arellano said. "I was living in pain because I could not afford to pay for surgery. Now, I will be able to do things normally without pain. I appreciate what was done for me. It will make my life better." ■

— James T. Campbell,
Memorial Hermann

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8 **Redefining Early Stage Investments (RESI) Conference**
Monday, 7:00 p.m. – 8:00 p.m.
TMCx
2450 Holcombe Blvd, Suite X
a.zamorano@lifesciencenation.com
617-600-0669

18 **Protecting Our Children: 2015 Summit on HPV-Related Diseases**
Thursday, 8:00 a.m. – 4:00 p.m.
United Way of Greater Houston
50 Waugh Dr
mkmims@mdanderson.org
713-745-8376

11 **Houston Stem Cell Club Seminar**
Thursday, 4:00 p.m. – 5:00 p.m.
Executive Board Room
6th Floor, TMC Commons
6550 Bertner Ave
heffron@bcm.edu
713-798-1246

**James T. Willerson, M.D.,
Cardiovascular Seminar:
David Stewart, Ph.D.**
Thursday, 4:00 p.m. – 5:00 p.m.
Denton A. Cooley Auditorium
Texas Heart Institute
6770 Bertner Ave
Green Elevators, Level B1
vsweed@texasheart.org
832-355-9144

12 **The Affordable Care Act:
What Happens Next?**
Friday, 12:00 p.m. – 1:30 p.m.
Baker Institute Dore Commons
Rice University
6100 Main St
healthecon@rice.edu
713-348-2735

24 **Cameron School of Business
Graduate Open House**
Wednesday, 6:00 p.m. – 7:00 p.m.
University of St. Thomas
Welder Hall, Basilian Room
3812 Yoakum
csbevents@stthom.edu
713-535-6978

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